Sl. No.	Name	Designation	Office	E-mail ID	Phone No.	Signature
1.	Sushmita Mitra	manager	LASA	Sushmita.mitra@lasaindia.com	8777695334	
2.	Kader Mridha	Manager	CTRAN Consultancy	Kader.Mridha@ctranconsulteng.com	8337932884	
3.	Harish. MV	Addl. Chief Engineer	KIAPCOS Ltd	harishmv@gmail.com	9008140520	
4.	Amardeep Kr	Engineer	KIAPCOS Ltd	amard@kiapcos.co.in	7989058491	
5.	Inderamil Das	Consultant	Sutra	idas@sutraconsulting.com	8420116529	
6.	Abhishek Sarkar	Senior Consultant	Deloitte	absarkar@deloitte.com	8274999781	
7.	Sanjay Nayar	VP, Ctran consultancy	Ctran.	Sanjay.kashyap@ctranconsulting.com	9437326787	4/11/2022.
8.	Nilay Chatterjee	AP D - I				
9.	Dr T N Datta	M&E Consultant, PMC	PMC	tndatta@gmail.com	9974001289	4/11
10.	Mayank Kumar	Sr. Environmental Expert, PMC	PMC	mayank.kumar@tractebel.engie.com	629065590	
11.	RAHUL CHOWDHURY	SITE ENGINEER	PMC	rahul.chowdhury@tractebel.engie.com	8910260378	04/11/22
12.	SUBROTO MITRA	Procurement Specialist	PMC	Subrata.mitra@tractebel.engie.com	9163890282	04/11/22
13.	D. Sengupta	CE & PD, WBMIFMP	PWD.		94332-16793	4/11/22
14.						
15.						

Minutes of the Pre-Bid Meeting held on 04th September 2022 at the Office of Chief Engineer & Project Director, SPMU, WBMIFMP, 9th Floor, Jalasampad Bhavan, Salt Lake City, Kolkata – 700 091

in connection with the work: -

"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.".

The meeting started at 02:00 pm on 04/11/2022 with Sri D. Sengupta, Chief Engineer & Project Director, SPMU, WBMIFMP, Irrigation & Waterways Directorate, Govt. of West Bengal on Chair.

At the onset, the CE & PD welcomed the Consultant's Representatives who attended the Pre-Bid meetings. CE & PD appraised the Consultant's representatives regarding the brief background of the project, scope of the work, criteria of selection and salient features of Proposal submission procedures including the World Bank Procurement norms to be followed by the M & E Consultant. He also explained in a nutshell about the procedures of filing different forms including the essence of time to mature the tenders and start the works at the earliest possible.

It was re-iterated here that minutes of Pre-Bid meeting would be duly uploaded in NIC portal and it would not be the part of the Contract Documents.

List of queries by the potential Consultants received through e-mail and also the issues/ queries raised verbally by them during the Pre-Bid meeting along with the responses of the client (I&WD) thereof are enclosed herewith as Annexure-X.

Enclosure: Annexure – X (Queries & Responses)

(D. Sengupta)
Chief Engineer & Project Director
WBMIFM Project
I&W Dte., Govt. of West Bengal
9th Floor, Jalasampad Bhavan
Salt Lake, Kolkata - 700091

Annexure - X

LIST OF QUERIES FROM POTENTIAL CONSULTANTS FOR RFP REFERENCE No: CE/IW/SPMU/RFP/01/22-23Dated 19/10/2022 ALONG WITH RESPONSES OF IWD , raised during the pre-bid meeting held on 04/11/22

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
1	Data Sheet: 21.1 (for FTP) Page 33	Key Experts' qualifications and competence for the Assignment: [50] 1 | Position K-1: M & E Team Leader | [26 points]	Out of 50 points for more than 50% points has been kept for TL. This may be reduced to justify the points of other experts.	No change. Provisions of the RFP document shall prevail.
2	Data Sheet: 21.1 (for FTP), Page 33	The number of points to be assigned to each of the above positions shall be determined considering the following three sub-criteria and relevant percentage weights: iii | Knowledge in Bengali Language | 5%	5% marks has been kept for all the experts. This rectrices the availability of actual experts. This may be kept only for the relevant experts like Social Development & Gender Specialist-1.	No change. Provisions of the RFP document shall prevail.
3	TOR, Section 7 15. Suggested person-months page78	Environmental specialist (1No.) Graduation in Civil Engineering or Equivalent, and Post-Graduation in Environmental Engineering / Environmental Science / Environmental Management	We request the client to modify qualification of environmental specialist as: Please mention what equivalent of Graduation in civil engineering means. Our contention would be to remove Graduation in Civil engineering from qualification. Post-Graduation in Environmental Engineering / Environmental Science / Environmental Management should be sufficient for the candidate to qualify.	No change. Provisions of the RFP document shall prevail.

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
		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.	Please modify to 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/ ADB / other multilateral funding agencies.	No change. Provisions of the RFP document shall prevail.
		The specialist should also be fully conversant with National and State legislations, formulation of various policy frameworks and action plans, and with the safeguard policies of the World Bank. The Expert should be conversant in local language (Bengali)	Since environmental Impact assessment, Environmental policy and implementation is specific and dependant on national frameworks/ state frameworks and there is no language restriction in AIA , ESMF policy implementation, there is no logic that the expert should be Bengali speaking. Therefore, we also request to remove the clause that Expert should be conversant in local language (Bengali)	No change. Provisions of the RFP document shall prevail.
4	Task 3, TOR Page 66	**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,	It is understood that 1 (one) distributary canal should be selected at random from each of the clusters of i)critical, ii) semi-critical and iii)safe Blocks within the overall command area during the Kharif & Rabi /Boro irrigation seasons after discussion with Client and these will be monitored in	Please refer "note" at page 77 of TOR, below Table (b). This will be done under the supervision of the Survey Specialist.

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
		semicritical 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.	each review period to evaluate and achieve of set indicators. 1% of the total number of Mouzas covered under the command area of each of such canals (subject to a maximum of 10 Mouzas) will be selected after discussion with Client for ground truthing of remote sensing data for each review period. For 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 after discussion with Client and the same will be verified for each review period. These will be carried out by Survey Specialist These will be part of Field monitoring (spot check) report under delivery 7 Kindly clarify our understanding .	

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
5	Task 3, TOR Page 66	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.	For 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, will be selected at random after discussion with Client and will be monitored in each review period to evaluate achieve of set indicators. These will be carried out by Survey Specialist. These will be part of Field monitoring (spot check) report under delivery 7 Kindly clarify our understanding.	Please see reply in Sr. no 4
6	TOR, Page 68 Clause 10.	1. 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.	In data Sheet Cl No 34.2 Page no: 35 it is mentioned that expected date of award is 5th January,2022. In that case should we consider project engagement is 18 months starting from award date to next three years or its staring date of Award of contract to November 2025? So the total project duration will be 3 years or less than 3 years?	The M& E Consultant will be engaged for a period of 18 months (intermittent) in Phases from the award date of Contract till November 2025.
7	TOR, Page 77 Clause 15	Location of M & E Consultants 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	The Consultants will set up a office in Kolkata near to Client office. It is understood that during 18 months of M & E period all the experts may not require to be present all the time together in this office. They will appear there	Please Note the Lines as mentioned: 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**

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
		coordination with the SPMU and delivery of outputs as per the TOR.	during survey, discussion , WB missions , presentations and Workshop period as per the requirement. Some data analysis / report writing work they can do from the HO of the Consultants.	**with the SPMU and delivery of outputs as per the TOR.**
8	TOR, Page 72 Clause 11	11.0 Time Schedule for Deliverables 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	It is understood that three Workshops will be carried out by the Consultants between Mid-Term and End Term evaluation of the project in consultation with the SPMU. We presume that one Work shop will be SPMU in Kolkata and two will be in districts DPMU having duration of 1 day each. Will the Client will provide venues for these workshops or the Consultants have arrage for the venue? How many participants are expected to attend these workshops.	It is envisaged that there will be 2 Workshops, one at SPMU office (involving Officers of H.O as well as Howrah & Hooghly districts) and other at Burwan Irrigation Division office. Venue will be provided by IWD. Around 30 Participants are expected to attend each workshop. Rest all Logistics are to be borne by the Consultant.
9	TOR, Page 72 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.	It is understood that for each Reports of Inception Reports, Baseline M & E Reports, Midterm Reports, Annual Reports and End Term Reports PPT has to delivered during Draft stage and before submission of Final Reports. These PPTs will be delivered before SPMU at their office.	Yes. Provisions of the RFP document shall prevail.

<table>
<tr><th>Sl. No.</th><th>Clause Reference & Page No.</th><th>Description as per RFP</th><th>Bidder's Queries / Issues</th><th>Replies of the Department</th></tr>
<tr><td>10</td><td>Data sheet</td><td>Date of submission of Pre Bid quarries 7th November, 2022.

Submission Date of Bid 17th November,2022</td><td>Its requested to extend the Bid submission date at least 3 weeks after issuing of compliances of Pre-Bid queries for preparation of a technically sound and competitive bid.</td><td>No Change. Provisions of the RFP document shall prevail.</td></tr>
<tr><td>11</td><td>Section 2

E. Data Sheet

21.1 (iii)</td><td>The number of points to be assigned to each of the above positions shall be determined considering the following three sub-criteria and relevant percentage weights:

<table><tr><td>1)</td><td>General qualifications (general education, training, and experience):</td><td>[15%]</td></tr><tr><td>2)</td><td>Adequacy for the Assignment (relevant education, training, experience in the sector / similar assignments):</td><td>[80%]</td></tr><tr><td>3)</td><td>Knowledge in Bengali Language</td><td>[5%]</td></tr><tr><td colspan="2">Total weight:</td><td>100%</td></tr></table></td><td>The number of points to be assigned to each of the above positions shall be determined considering the following three sub-criteria and relevant percentage weights:

<table><tr><td>1)</td><td>General qualifications (general education, training, and experience):</td><td>[20%]</td></tr><tr><td>2)</td><td>Adequacy for the Assignment (relevant education, training, experience in the sector / similar assignments):</td><td>[80%]</td></tr><tr><td>~~3)~~</td><td>~~Knowledge in Bengali Language~~</td><td>~~[5%]~~</td></tr><tr><td colspan="2">Total weight:</td><td>100%</td></tr></table></td><td>No Change. Provisions of the RFP document shall prevail.</td></tr>
</table>

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
12	Section 2 E. Data Sheet 27.1	The weights given to the Technical (T) and Financial (P) Proposals are: T= [70%], and P= [30%]	To ensure the quality of the proposals, we request if you can revise the Method of Selection as below: The weights given to the Technical (T) and Financial (P) Proposals are: **T= [80%], and** **P= [20%]**	No Change. Provisions of the RFP document shall prevail.
13	E. Data Sheet 17.7 and 17.9	The Proposals must be submitted no later than: Date: 17/11/2022 Time: 16:00 Hours IST	Considering the requirement of the RfP, we request for an extension of the deadline for submission of hard copies by atleast **2 *weeks*** to ***30th November 2022.*** We request you to reconsider.	No Change. Provisions of the RFP document shall prevail.
14	Section 7 Terms of Reference Clause 15	**Key Position:** M & E Team Leader **Preferred minimum educational qualification:** Graduate in Civil Engineering with Post Graduate in Water Resource Engineering/ Project Management. **Preferred experiences or eligible assignments.** 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	**We request the below modification:** **Key Position:** M & E Team Leader **Preferred minimum educational qualification:** Graduate in Civil Engineering with Post Graduate in Water Resource Engineering/ Project Management/ **Masters in Business Administration or equivalent**. **Preferred experiences or eligible assignments.** 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	No Change. Provisions of the RFP document shall prevail.

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
		based M&E system and tools and conversant with theory of Change, and Project Impact Evaluation of major projects, preferably in water resources sector.	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.	
15	Section 7 Terms of Reference Clause 15	**Key Position:** Survey Specialist **Preferred minimum educational qualification:** At least Master's 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. **Preferred experiences or eligible assignments.** 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	**We request the below modification:** **Key Position:** Survey Specialist **Preferred minimum educational qualification:** At least Master's degree in economics/Statistics/Social Science/ **Masters in Business Administration or equivalent**. Should be conversant with Questionnaire design, data collection, and data validation and reporting and familiarity with Statistical software package for processing survey data. **Preferred experiences or eligible assignments.** At least 10 years' experience **with specific 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, **OR assessing benefits**	No Change. Provisions of the RFP document shall prevail.

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
			in urban and rural water supply projects. 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	
16	Section 7 Terms of Reference Clause 15	**Key Position:** Environmental specialist (1No.) **Preferred minimum educational qualification:** Graduation in Civil Engineering or Equivalent, and Post-Graduation in Environmental Engineering / Environmental Science / Environmental Management **Preferred experiences or eligible assignments.** At least 10 years of experience in the preparation of Environment l 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. The specialist should also be fully conversant with National and State legislations, formulation of various policy frameworks and action plans, and with the safeguard policies of the World Bank. The	**Key Position:** Environmental specialist (1No.) **Preferred minimum educational qualification:** Graduation in Civil Engineering or Equivalent, and Post-Graduation in Environmental Engineering / Environmental Science / Environmental Management **Preferred experiences or eligible assignments.** At least 10 years of experience in the preparation of Environment l 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. The specialist should also be fully conversant with National and State legislations, formulation of various policy frameworks and action plans, and with the safeguard policies of the World Bank.	No Change. Provisions of the RFP document shall prevail.

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
		Expert should be conversant in local language (Bengali)	~~The Expert should be conversant in local language (Bengali)~~	
17	Section 7 Terms of Reference Clause 15	**Key Position:** Environmental specialist (1No.) **Preferred minimum educational qualification:** Post-Graduation in Sociology / other relevant field **Preferred experiences or eligible assignments** 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)	**Key Position:** Environmental specialist (1No.) **Preferred minimum educational qualification:** Post-Graduation in Sociology / other relevant field **Preferred experiences or eligible assignments** 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)~~	No Change. Provisions of the RFP document shall prevail.
18	Section 7 Terms of Reference Clause 15	**Key Position:** Data Analyst cum MIS Specialist– 2 Nos. **Preferred minimum educational qualification:** Graduate in Computer Application or equivalent **Preferred experiences or eligible assignments** At least 5 years' experience in designing, software/database development and operation of MIS and experience in	**Key Position:** Data Analyst cum MIS Specialist– 2 Nos. **Preferred minimum educational qualification:** Graduate in Computer Application or equivalent **Preferred experiences or eligible assignments** At least 5 years' experience in designing, software/database development and operation of MIS and experience in	No Change. Provisions of the RFP document shall prevail.

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
		conducting beneficiary surveys in the rural sector	conducting beneficiary surveys in the **infrastructure** sector	
19	8.0 The broad objectives of works for M&E Consultant are summarized below: Page 64	Monitoring the performance of the Irrigation Service Providers (ISPs) and the achievement of their contractual KPIs.	1. We request that PMU shares the ToR and or Draft Performance indicators of the Irrigation Service Providers (ISPs) at the bidding stage with consultant.	Latest Term Sheet, as prepared by Deloitte is being shared along with Replies to Prebid Queries to all Consultants for better understanding.. Refer Annexure 6 of Term Sheet for KPIs.
20	8.0 The broad objectives of works for M&E Consultant are summarized below: Page 64	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.	2. We request PMU to kindly detail out the quantum of Capacity building sessions that need to be carried out by Consultants during contract duration. 3. We also understand the role of the Consultants will be limited in planning and imparting Capacity building sessions. All costs linked to the Capacity building will be borne by PMU directly. Please confirm the same.	Capacity building sessions venue will be provided by IWD. Around 30 Participants are expected to attend each session. Rest all Logistics are to be borne by the Consultant.
21	8.0 The broad objectives of works for M&E Consultant are	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	The M&E consultant understands that the overall project impact may include some of the ESMP parameters however the project compliance with Social and Environment safeguard and supervision of their implementation is essentially the ESMP consultant's task or PMC task and may not be in the purview of M&E agency. Kindly clarify the clear task of M&E agency in this context.	The Consultant may access the ESIA Report from the following website of the Employer for further reference: https://wbiwd.gov.in/index.php/applications/wbmifmp

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
22	**Task 3: Collection, compilation, analysis of data & reporting.** Page 66	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 off taking 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	We request PMU to kindly share the following details 4. Can PMU share details of canals (length in Kms) under the clusters of critical, semi-critical and safe Blocks under project? (1 (one) distributary canal should be selected at random from each of the clusters of critical, semi-critical and safe Blocks) 5. Can PMU share any maps/diagram and number of Mouza's under common area of each canal? 6. Can PMU provide the details of places where flood monitoring gauges are installed and total length of the river embankment rehabilitated? 7. Are task 3 activities part of the Annual Monitoring which is to be done in twice only?	These are not Required at the Proposal Stage. Please refer the PDO Indicators which should be sufficient at this stage.

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
		rehabilitated and at two flood monitoring points having flood level measurement gauges, may be selected at random.		
23	**Task 4**	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.	Can the consultant be shared with the ToR or Performance indicators of ISPs	Please see Replies for Sl. 19.
24	**Task 5**	Baseline Study : 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.	The consultant have reviewed the Results Framework and none of the PDO and intermediate level indicators are measured at the baseline stage. The means of measurement are from MIS reports since they are project intervention led indicators. Kindly clarify if the consultant understanding is correct? Kindly clarify what additional areas would be covered in baseline and what is the expected coverage of sample area for the baseline assessment?	At the baseline stage, irrigation status of the beneficiaries will have to be established. These will be benchmarked and compared during mid-term and end-term surveys. Please see Task 4, page 66 of the TOR
25	**Task 6: Workshops and Sharing of Learning** Page 68	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.	We request PMU to kindly share the following details 8. How many Videos success stories in both verbose as well as video format need to produced by Consultants 9. What will be duration for each success stories in video format? 10. How many special publications are expected? Will they be only digital version or printable versions	5 Nos. Max. with a duration of 5-10 minutes each Videos as success stories would be sufficient. Digital and hard copy versions both will be required.

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
26	10.0 Period of engagement of the M&E Consultant Page 68	The M& E Consultant will be engaged for a period of 18 months during November 2022 to November 2025 in Phases.	11. We understand that duration of the contract will be 36 Months where the team will get deployed for a total of 18 months within 3 calendar years on a intermittent basis.	Please see Replies for Sl. 6.
27	15. Suggested person-months Page 75	Preferred minimum educational qualification M & E Team Leader Graduate in Civil Engineering with Post Graduate in Water Resource Engineering/ Project Management.	12. We request that PMU allows Hydrology as additional Post Graduate educational qualification option for in addition to Water Resource Engineering/ Project Management which is already mentioned.	No Change. Provisions of the RFP document shall prevail.
28	15. Suggested person-months Page 75	Survey Specialist At least Master's degree in economics/Statistics/Social Science	13. We request that PMU allows Management as additional Post Graduate educational qualification option in addition to economics/Statistics/Social Science which is already mentioned for this position.	No Change. Provisions of the RFP document shall prevail.
29	15. Suggested person-months Page 75	Environmental specialist (1No.) Graduation in Civil Engineering or Equivalent, and Post-Graduation in Environmental Engineering / Environmental Science / Environmental Management	14. We request to allow Bachelor of Science to existing Graduate level degrees for this position and Post-graduation in (Environmental Science or equivalent) or Ph.D. (Environmental Science).	No Change. Provisions of the RFP document shall prevail.

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
30	Clause 41.2 Special conditions of the contract Page 111	Such claim for payment, with all documentary support, may be made to PMC. Payment will be made within 60 (Sixty) working days upon receipt of such claim. b) The Consultant shall submit the Invoices along with all required statements / Reports, in the R.A Bill form. c) The Project Manager shall check the Consultant's monthly statement and certify the amount to be paid to the Consultant.	15. We request PMU to kindly revise the timeline of payment from 60 days to 30 days. 16. Being a lump -sum contract, Consultants need not submit supporting to invoices. Hence these points made under 'particulars' coloumn may be deleted from Contact document.	No Change. Provisions of the RFP document shall prevail.
31	15.Preferred minimum qualification and suggested person months	Graduate in Civil Engineering with Post Graduate in Water Resource Engineering/Project Management for TL for Water Resource Specialist	The Project envisages, inter alia, pressurized irrigation and flood protection measures using Mechanised construction. It is suggested that minimum qualification of Graduate in Mechanical Engineering may also be allowed	No Change. Provisions of the RFP document shall prevail.
32	11. Time Schedules for deliverables. Special Report Sr. NO. 8 Workshop/Training Completion Report	The M&E Consultants are expected to conduct Workshops and Training.	Please clarify the Consultants financial liability for conducting the workshops in terms of no. of attendees per Workshop, arrangement of venue and refreshments, etc.	Please see Replies for Sl. 8.
33	Under Section- 2 Page 31	Participation of Sub-consultants, Key Experts and Non-Key Experts in more than one Proposal is permissible No	Please confirm that the CVs of only Key Experts, which will be evaluated are to be submitted at the Proposal Stage.	Yes. CVs of only Key Experts will be evaluated at the Proposal Stage.

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
			As standard practice, CVs on Non-key Experts are to be provided by the winning consultant during the negotiation stage or later depending on position	
34	Under Section 2 Page 33, item (iii)	Key Experts' Qualification and competence for the assignment ---------- ---------- 1.General Qualification 15% 2.Adequacy for the assignment- - 80%	Please provide more clarity on the evaluation of the CVs, particularly the following points: a. What education levels will go in for general education under General Qualification and what education levels will go in for relevant education under Adequacy for the Assignment?	Under General qualifications, the Academic Qualifications and any Additional qualification, trainings will be considered. Under Adequacy for the Assignment, relevant experience / trainings imparted in the sector / similar assignments will be considered.
35	Under Section-3, Page 44 Form Tech 6, Note 3	"Home" means work in the office in the experts' country of residence. "Field" work means work carried out in the Client's country or any other country outside the expert's country	i) For Indian nationals, proposed on the team, "Home" should mean Home Office of the respective bidder in India and "Home" should mean the office of the SPMU, DPMU, DPIU, as applicable. Pl confirm. ii) Further, certain design specific position may not be required in "Field" and can deliver from "Home". Please confirm M&E is free to decide the Home and Field person-months depending on its Approach and Methodology. Home office input will be finalized at the proposal stage and invoicing methodology for that will be finalized during negotiation.	Home / Field Person months to be shown separately as per format provided in the RFP.

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
36	Under Section 3, Page 44	CV of Non-Key Expert Footnote 3, "Home" and "Field" input	We understand that CV of Non-Key Experts is not required and instead of mentioning their names, we suggest, their input may be mentioned under heading **"To be Named (TBN)"**. Bidders may consider their remunerations etc. as per their understanding. Please confirm.	Names are to given as per format.
37	Under Section 3, Page 45. Form Tech 6 A, Curriculum Vitae Certification	Name & Signature of Expert	Aa a standard practice during the proposal submission, CVs of all experts are signed and submitted by the Authorized Representative of the Consultant and upon completion of evaluation, the winning bidder is required to submit the same CV with signature of the expert, to confirm compliance. This is important because at the time of proposal preparation many proposed experts may be working at other locations and are not available for signature. Please confirm that the same can be followed here also. Alternatively, at the proposal stage of the bidder(s) being allowed to scanned signature of the expert along with original signature of the Authorized Representative.	In case of non-availability of experts during proposal submission, Scanned Signature of the expert along with original signature of the Authorized Representative will be allowed.
38	Under Section 2, Page 32 Data Sheet Clause no. 17.7 and 17.9	The Proposals must be submitted no later than Date 17/11/2022	It is requested that the bidder (s) be provided a period of **two (2) more weeks** from the receipt of your clarifications for proper documentation to the queries to allow them a reasonable time to prepare and submit a proposal and also a	No Change. Provisions of the RFP document shall prevail.

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
			competent and qualified team to be identified and suitably proposed for this assignment.	
39	**Section 7: CI 15, Page 76, Preferred minimum educational qualification** **Environmental Specialist (1 no.)**	Graduation in Civil Engineering or Equivalent, and Post-Graduation in Environmental Engineering / Management	Please clarify "....or Equivalent" In other words, If an Expert is NOT a Graduate Civil Engineer, What educational qualification should he/she hold to fit in the proposed position?	B.Tech / B.E / BSc Civil Engineering or A.M.I.E in Civil Engineering and Post-Graduation in Environmental Engineering/Management will be considered.
40	Section 3 "Technical Proposal Standard Forms at Page No. 36	The RFP document mentions a 2-page limit for Form TECH-3 'Comments and Suggestion on the Terms of Reference and on Counterpart Staff and Facilities'. However, the document also mentions 2-page limit for Form TECH-3A and TECH-3B individually.	*We understand that the total page limit for TECH-3 is 4 pages 92 pages for TECH-3-A and 2 pages for TECH-3-B). It is requested to please clarify if our understanding in this regard is correct.*	The Total Page limit for TECH-3 is 4 pages (2 pages for TECH-3-A and 2 pages for TECH-3-B).
41	Section 3 "Technical Proposal Standard Forms', at Page No. 36	The RFP document mentions as part of the Technical Proposal, the consultants are required to submit FORM TECH-7 'Code of Conduct (ESHS)'. However, the format/template for the same is not available in the document	*In view of the above, it is requested to please share the format/template of the FORM TECH-7 'Code of Conduct (ESHS)' with the consultants*	TECH-7 is not required to be submitted and is not marked under FTP. Please refer the Tick Marks under FTP at Page No. 36 of RFP Document.

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
42	Section 3 "Technical Proposal Standard Forms', FORM TECH-6 (Continued) Curriculum Vitae (CV) at Page No. 45-46	As per the format of the FORM TECH-6 (Continued) Curriculum Vitae (CV), the CVs need to be signed by both; the proposed expert and the authorized signatory of the consultants. In this regard, it is submitted that some of the experts do not work on rolls of the consultants; and are empanelled experts, who are deployed on assignments from time-to-time. There are possibilities that at the time of proposal preparation, the experts are travelling and are not available to physically sign the CV.	*In view of the above, it is requested that:* *The bidders may please be allowed to use e-signatures of the proposed experts on their CVs, countersigned by the authorized representative* *(or)* *CVs of experts with only the counter sign of the authorized representative of the consultant may please be considered for evaluation* The originally signed CVs by the experts and the authorized representative of the bidder will be made available at the time of contracting. This is the standard procedure followed during the procurement for similar consulting assignments supported by the World Bank/IBRD.	Please see Replies for Sl. 37.
43	Section 8. Conditions of Contract and Contract Forms; 'General Conditions of Contract', Clause 41.2.2; at Page No. 107	The document mentions that the 'The Client shall pay the Consultant within sixty (60) days after the receipt by the Client of the deliverable(s) and the cover invoice for the related lump-sum instalment payment'.	*In view of the above and in compliance of the MSMED Act, it is requested to modify the above payment duration clause as 'The Client shall pay the Consultant within forty-five (45) days after the receipt by the Client of the deliverable(s) and the cover invoice for*	No Change. Provisions of the RFP document shall prevail.

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
		It is submitted here that as per the MSMED Act, 2006 the payments to the MSMEs are to be released within a period of 45 days.	*the related lump-sum instalment payment'.*	
44	Section 8. Conditions of Contract and Contract Forms; 'Special Conditions of the Contract', Clause 41.2 at Page No. 111	The document mentions that 'The Project Manager shall check the Consultant's monthly statement and certify the amount to be paid to the Consultant'. However, the payment terms mentioned in the same clause are based on achievement of milestones/deliverables and not on monthly basis. In view of the above, it is understood that the 'The Project Manager shall check the Consultant's invoice due for payment on achievement of a certain deliverable/milestone and certify the amount to be paid to the Consultant'.	*It is requested to please clarify if our above understanding correct.*	The Project Manager shall check the Consultant's invoice due for payment on achievement of a certain deliverable/milestone and certify the amount to be paid to the Consultant.
45	Section-7 'Terms of Reference', Point 8 'The broad objectives of works for M&E Consultant' at Page No. 77	The ToR documents mention the following as one of the tasks to be carried out by the M&E consultant: 'Project impact & project compliance with social and environmental safeguards, monitoring implementation of the overall Environmental and Social Management Plan (ESMP) and Resettlement Action	*It is requested to please clarify if our above understanding correct*	Please see Replies for Sl. 21.

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
		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 that includes the modalities /procedures of above'. We understand that the role of M&E Consultant is to monitor/assess the implementation of the ESMP/RAP/ sub-Project (contract package) ESMPs. The M&E consultant will not be engaged in any kind of supervision or implementation of these plans/packages.		
46	Section-7 'Terms of Reference', Point 9 'Scope of Services'- Task 3 at Page No. 66	The ToR document mentions that 'for collecting irrigation sector 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	In view of the above it is requested to please clarify: • How many critical, semi- critical and safe Blocks are there in the project area (critical category and district-wise)? • How many clusters are there in each block (block and cluster-wise)? • How many distributary canals are there in each cluster (cluster, block and district-wise)? • How many Mouzas are there under each distributary canal (distributary	There are 42 blocks in the project area of which 19 blocks are semi-critical blocks in terms of ground water extraction.

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
		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'.	canal, cluster, block and district-wise)? • What is the total length of the two main canals (individually for the two main canals)? • How many distributary canals are offtaking from the main canals (individually for the two main canals)? • The 50 m stretch of canal lining to selected would be from the two main canals or from the distributary canals are offtaking from the main canals? The above clarifications would be of great help in assessing the time and resource requirement for the related M&E activities under the assignment.	RBMC= 86.34 Km LBMC= 96.62 Km
47	Section-7 'Terms of Reference', Point 9 'Scope of Services'- Task 6 at Page No. 68	The ToR document mentions that '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'.	In view of the above it is requested to please clarify: • How many such Videos success stories need to be developed under the assignment • What would be the average duration (in minutes) for each Videos success story	Please see Replies for Sl. 25.

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
48	Section-7 'Terms of Reference', Point 9 'Scope of Services'- Task 6 at Page No. 68	The ToR document mentions that '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'.	In view of the above, it is requested to provide more clarity on which report(s) need to be prepared in Bengali We understand that the inputs on beneficiary engagement in the project area will be part of the larger baseline/midterm/annual/end term reports. Thus, it is not clear as to specifically which reports are to be prepared in Bengali	Please see replies in Sr. No 25
49	Section-7 'Terms of Reference', Point 10 'Period of engagement of the M&E Consultant' at Page No. 68	The ToR document mentions that 'The M& E Consultant will be engaged for a period of 18 months during November 2022 to November 2025 in Phases'.	From the scope of work the assignment, we understand that the contract of the consultants will be for an intermittent duration of 18 months spread over November 2022 to November 2025. Thus, it is requested to please clarify as to what is meant by 'engagement of consultant in phases'	Please see Replies for Sl. 6.
50	Section-7 'Terms of Reference': • Point 9 'Scope of Services'- Task	The specified duration for the engagement of M&E Consultant is between November 2022 to November 2025. With	In view of the above, it is requested to please specify the exact timelines/deliverable schedule for each deliverable under the assignment:	Total engagement of M& E Consultant is for 18 months. Breakdown of this engagement is given in TOR (refer page no 69 to 72).

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
	5 "Frequency of Survey & Reporting' at Page No. 67 • Point 11'Time Schedule for Deliverables' at Page No. 69-72	baseline/midterm/endterm evaluations to be carried-out and two annual reports to be submitted; each deliverable needs to be appropriately spaced from its predecessor deliverable. As per the Tor, the assignment would be commissioned in November 2022. With the time schedule for deliverables (as presented at page No, 69-72); the Baseline would be executed between December 2022 to May 2023. However, as per the Page No. 67; the mid-term evaluation needs to be executed sometimes around March 2023. This indicates an overlap between the baseline and midterm evaluation timelines. Further, the second Annual report needs to be submitted around August 2025; and the endterm evaluation needs to be completed before November 2025. These two deliverables are also too close to each other and are almost overlapping. Thus, the deliverables timelines and spacing; and the duration for the engagement of M&E Consultants are not in sync with each other.	• The timeline for carrying out baseline assessment (From: MM/YY to MM/YY) • The timeline for carrying out midterm evaluation (From: MM/YY to MM/YY) • The timeline for submitting annual report-1 (From: MM/YY to MM/YY) • The timeline for submitting annual report-2 (From: MM/YY to MM/YY) • The timeline for carrying out endterm (project completion) evaluation (From: MM/YY to MM/YY)	

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
51	Section-7 'Terms of Reference', Point 14 "Role of Experts and Non-Key Experts' at Page No. 74	As per the ToR document, the consultants team for the assignment also needs to include two Data Analyst cum MIS Specialists as Non-Key Experts. However, in the technical proposal evaluation criteria; no marks have been awarded for the CVs of these Non-Key Experts. Thus, we understand that the CVs of the Non-Key Experts are not required to be submitted as part of the Technical Proposal.	It is requested to please clarify if our understanding in this regard is correct.	CVs of the Non-Key Experts are not required to be submitted as part of the Technical Proposal.
52	Section-7 'Terms of Reference', Point 15 "Suggested Person Months' at Page No. 75	Educational Qualifications of Environmental Specialist: As per the ToR document, the expert should have 'Graduation in Civil Engineering or Equivalent, and Post- Graduation in Environmental Engineering / Environmental Science / Environmental Management'. The proposed team to be deployed for the assignment already includes two civil engineers Team Leader and the Water Resources Specialist'. Thus, having a third additional civil engineer would not add much value. Besides, the core role of the Environmental Specialist would be in	In view of the above, it is requested that requirement of having 'Graduation in Civil Engineering or Equivalent' may kindly be removed from the educational qualification for the Environmental Specialist; the same may be considered as 'Post-Graduation in Environmental Engineering / Environmental Science / Environmental Management'	No Change. Provisions of the RFP document shall prevail.

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
		assessment of the implementation of the ESMP & Sub-Project ESMPs /Contractors' ESHS-MSIP, etc. focussing on environmental indicators for project monitoring and evaluation.		
53	Section 2 "Instruction to Bidder', E. Data Sheet Clause 2.3 Page No. 29 Clause 17.7 and 17.9 at Page No. 32	Considering that the SPMU- As per the Clause 2.3 (Page No. 29), the 'Pre-bid Conference' is scheduled on November 4, 2022. Further, as per Clause 17.7 ad 17.9 (Page No. 32, the due date for proposal submission in hard copy in Kolkata is November 17, 2022. Considering that SPMU-WBMIFMP officially releases the clarifications on the queries of the bidders by November 8, 2022; it will leave only about 9 days with the bidders to prepare and submit/courier their proposal. This duration is inadequate for preparing a good quality proposal suiting the requirements of the assignment and ensuring its delivery/courier receipt in Kolkata. Besides, as a standard practice in all World bank supported assignments; the consultants are provided at least three weeks' time for proposal	In view of the above and considering had copy proposal submission, it is requested that the consultant may please be allowed at least three weeks' time from the actual date of release of clarifications by SPMU-WBMIFMP for preparation and submission/courier of the proposal.	No Change. Provisions of the RFP document shall prevail.

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
		submission from the official date of release of clarification by the client.		
54	Section 7 Terms of Reference, 15 a) Person-month requirements: Key Experts, RFP Page No 75, Sl. No 1	Sl 1) **M & E Team Leader:** **Preferred minimum educational qualification:** Graduate in Civil Engineering with Post Graduate in Water Resource Engineering/ Project Management. ***Preferred experiences or eligible assignments**: 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.*	Request you to please consider the Preferred minimum educational qualification of M & E Team Leader: Graduate in Agricultural Engineering & Technology /Civil Engineering with Post Graduate in Water Resource Engineering / M.Tech. in Irrigation & Drainage Engineering / Soil & Water Conservation Engineering / Project Management. Preferred experiences or eligible assignments: 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	No Change. Provisions of the RFP document shall prevail.

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
55	Section 7 Terms of Reference, 15 a) Person-month requirements: Key Experts, RFP Page No 75, Sl. No 2	Sl 2) Water Resource Specialist: Preferred minimum educational qualification: Graduate in Civil Engineering with Post Graduate in Water Resource Engineering/ Geo-Informatics desirable to have a post graduate diploma in remote sensing in case of candidates who have not done post-graduation in Geo-Informatics. Preferred experiences or eligible assignments: 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.	Request you to please consider the Preferred minimum educational qualification of Water Resource Specialist: Graduate in Agricultural Engineering /Civil Engineering with Post Graduate in Water Resource Engineering / M.Tech. in Irrigation & Drainage Engineering / Soil & Water Conservation 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 GeoInformatics. Preferred experiences or eligible assignments: 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.	No Change. Provisions of the RFP document shall prevail.
56	Section 7 Terms of Reference, 15 a) Person-month requirements: Key Experts, RFP Page No 75, Sl. No 3	Sl 3) **Survey Specialist:** **Preferred minimum educational qualification:** At least Master's degree in economics / Statistics/ Social Science Should be conversant with Questionnaire design, data collection,	Request you to please consider the Preferred minimum educational qualification of Survey Specialist: At least Master's degree in economics / M.A in Agricultural Economics/ Statistics/ Social Science.	No Change. Provisions of the RFP document shall prevail.

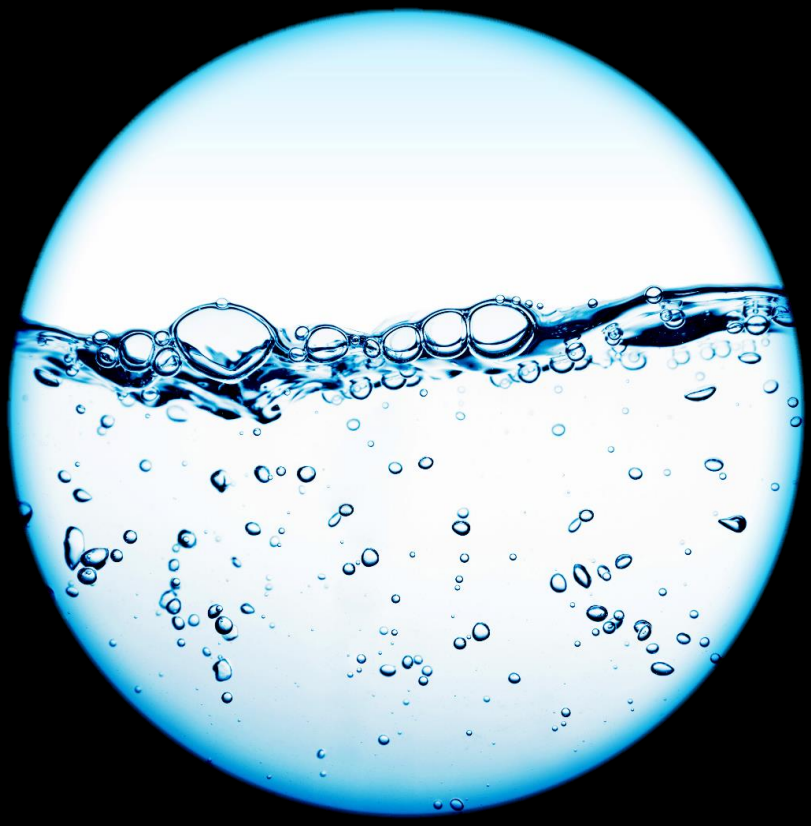
Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
		and data validation and reporting and familiarity with Statistical software package for processing survey data.	Should be conversant with Questionnaire design, data collection, and data validation and reporting and familiarity with Statistical software package for processing survey data.	
57	Clause 23.1, RFP Page 112	**"Limitation of consultant's liability":** for any direct loss or damage that exceeds one time the total value of the contract	As a Consultant, we would suggest that Consultant's liability under indemnity, LD, damages, penalty etc. should be include or capped under total liability clause. We request client to add following change in the "Limitation of Consultant's Liability" to safe guard the interest of consultant: "The Consultant's maximum total aggregate liability towards the Client under this Contract for all claims, losses, indemnity, damages and expenses in any way arising from or related to the performance of this Contract whether, resulting from negligence, statute, tort or otherwise (meaning for any damages from any causes whatsoever and whatever the legal basis), shall be limited to 100% of the amount of fees received under this Contract or equivalent to the professional fees.	No Change. Provisions of the RFP document shall prevail.

Annexure - X

Sl. No.	Clause Reference & Page No.	Description as per RFP	Bidder's Queries / Issues	Replies of the Department
58		Dispute about event of termination: This clause is missing	Suggested Clause: Need to add. If either Party disputes whether an event specified in Clause 19 of "termination clause" hereof has occurred, such Party may, within forty-five (45) days after receipt of notice of termination from the other Party, refer the matter to arbitration. This Contract shall not be terminated on account of such event except in accordance with the terms of any resulting arbitral award.	No Change. Provisions of the RFP document shall prevail.
59	Section2 Instruction Consultants, E Data Sheet, Clause no 177 and 17.9	The Proposals must be submitted no later than: Date: 17/11/2022 Time: 16:00 Hours IST	Request you to please give at least 3 week's time submission extension after issue of the clarifications.	No Change. Provisions of the RFP document shall prevail.

Sd/-
[D. Sengupta]
Chief Engineer & Project Director
WBMIFMP, I&WD, Govt of WB

Deloitte.



Term Sheet for all 9 CWPs (Revised)

Transaction Advisor – Preparation of Bid documents for engaging Irrigation Service Providers (ISPs) under WBMIFMP

Submitted by **Deloitte Touché Tohmatsu India LLP**

to Irrigation & Waterways Department, Government of West Bengal

October 2022

Table of Contents

1. Introduction

1.1. Background

The West Bengal Major Irrigation and Flood Management Project (WBMIFMP), funded by World Bank, Asian Infrastructure Investment Bank and Government of West Bengal, was conceived with the objective of enabling modernization of the irrigation system in Damodar Valley Command Area (DVCA). As part of the WBMIFM Project, the rehabilitation works of the six-decade old infrastructure is in progress. Further, to ensure sustained operational efficiency in the command area, the project proposes opportunities for involving operators termed as **Irrigation Service Providers (ISPs)** (called "**Service Provider**" for the purpose of this Report) through incentive frameworks.

The primary objectives of engaging a Service Provider for managing the canal network is to

- Enhance quality of service delivery by improving the efficiency of the canal irrigation system, thereby enabling equitable and reliable supply of water
- Reduce dependency on ground water in the command area by increasing the area serviced by canal irrigation across seasons, thereby enhancing farmer income

In lieu of this, as part of the WBMIFMP, the Irrigation and Waterways Department (IWD), Government of West Bengal had **appointed Deloitte Touché Tohmatsu India LLP (Deloitte)** as the Transaction advisor for preparing bid documents for engaging Service Providers (ISPs) in the Damodar Valley Command Area.

1.2. Progress of the Consultancy Engagement

The study team appointed by Deloitte has undertaken detailed discussions with the Irrigation & Waterways Department, to finalize the key project modalities such as the scope of works, project area, possible transaction models, and monitoring mechanisms. Further, the study team has also undertaken stakeholder consultations with potential bidders to refine the eligibility and qualification requirements along with the above listed project modalities.

This report summarizes the finalized key project modalities from the previous reports and subsequent stakeholder discussions, for each of the Canal Work Packages [1] (CWPs) identified under the project. The progress of the consultancy services, with the status on key deliverables is tabulated below:

Deliverable	Contents	Status
Task -1	**Diagnostic Review, Market sounding & Project Structuring**	**Ongoing**
Deliverable 1	Inception Report	Completed
Deliverable 2	Report on Conceptualizing Civil Work Packages (CWPs)	Completed
Deliverable 3	Report on Business Models and Bid Strategy	Completed
Deliverable 4	Market Sounding Report	Completed
Deliverable 5	Term sheet for all Canal Work Packages (CWPs)	This Report
Task -2	**Transaction Advisory services for 9 CWPs**	**Yet to commence**
Task -3	**Post Contract Assistance**	**Yet to commence**

With the submission of this Term Sheet, the Task -1 of the Consultancy Engagement is completed. To proceed with Task-2 of transaction advisory services for the first four packages, **IWD must issue Notice to Proceed for Phase -I of Task-2.**

[1] *Each individual package identified by the Consultants for engaging Irrigation Service Provider (ISP) is referred as Civil Work Package (CWP)*

1.3. Report Structure

Building on the emerging decisions from stakeholder consultations and previous report, this Report on Term Sheet sets out the key bid and project related modalities for the nine packages.

Most key decisions for the four packages CWP 1, 3, 4 and 8 (Phase -1) have been finalized by Irrigation & Waterways Department, Government of West Bengal. However, considering that the project is first of its kind, IWD has decided to finalize some of the key decisions on payment model, project scope & performance indicators for the remaining five packages CWP 2, 5, 6, 7 and 9 (Phase -2) based on the response received and performance of the Phase-1 packages. Accordingly, the term sheet conditions are finalized for the Phase-1 packages and are presented as part of this report. Further, the report also lists potential options to be considered for the next phase of packages for ease of decision making.

This report contains the chapters as presented in table below:

Introduction	Chapter 1
Term Sheet Modalities	Chapter 2
Term Sheet for CWPs in Phase- 1	Chapter 3
Draft Term Sheet for CWPs in Phase- 2	Chapter 4
Key Considerations and Way forward	Chapter 5
Annexures	

This Term Sheet report has now been finalized after multiple rounds of discussions and iterations with various stakeholders including the Principal Secretary- IWD, Chief Engineer- IWD, Executive Engineer- IWD as well as World Bank team. The timeline of the same is summarized below.

#	Date of Submission	Details of submission
1	8th Oct 2021	First version of term sheet submitted to IWD
2	17th Nov 2021	2nd revised version of term sheet submitted to IWD post discussion between Deloitte team and IWD officials on October 27, 2021
3	30th Nov 2021	3rd revised version of term sheet submitted to IWD post discussion between Deloitte team and IWD officials on November 24, 2021
4	**28th Jan 2022**	**Term Sheet progress discussed with Principal Secretary- IWD, Chief Engineer- IWD and World Bank team during World Bank Mission**
5	**22nd March 2022**	**Updated term sheet terms and replies to comments by PS (provided on 28th Jan 22) presented during World Bank Mission**
6	4th June 2022	Revised Term sheet based on World Bank Mission in March 2022 and discussions with IWD officials in the month of May 2022 submitted to IWD
7	**5th August 2022**	**Updated term sheet (along with comments from CE IWD) discussed with World Bank team during World Bank Mission**
8	5th September 2022	Revised term sheet submitted addressing World Bank comments post discussions between Deloitte team and IWD officials on 16th August 2022, 26th Aug 2022 and 2nd September 2022

2. Term Sheet Modalities

<table>
<tr><td>A.</td><td>Contracting Authority or Employer</td><td>State Project Management Unit (SPMU), West Bengal Major Irrigation and Flood Management Project (WBMIFMP)

Herein after referred to as "Employer" in this document.</td></tr>
<tr><td>B.</td><td>Name and location of the Project:</td><td>Name of the project: Engagement of Service Providers for irrigation services under WBMIFMP in Damodar Valley Command area for the following Canal Work Packages (CWPs):
(1) CWP -1: Durgapur Branch Canal
(2) CWP -2: Panagarh Branch Canal
(3) CWP -3: Damodar Branch Canal
(4) CWP -4: Distributary 11,14 &15 of Right Bank Main Canal
(5) CWP -5: 6 MC
(6) CWP- 6: Kana Damodar
(7) CWP -7: Branch – I of Eden Canal
(8) CWP -8: Branch – II of Eden Canal
(9) CWP -9: Distributary 1,2,3,4, & 5 of Right Bank Main Canal

Location of the project: West Bengal</td></tr>
<tr><td>C</td><td>Service Provider</td><td>The selected bidder(s) who will be undertaking the proposed scope of works in the given Project Area, herein after referred to as "Service Provider" in this document</td></tr>
<tr><td>D</td><td>Project Area</td><td>The term "Project Area" refers to the canal network with all its distributaries and its associated command area, for the purpose of this document.</td></tr>
<tr><td>E</td><td>Project Timelines</td><td>
<table>
<tr><th>Sr No</th><th>Phase</th><th>CWP packages</th><th>Project Timeline</th></tr>
<tr><td>1</td><td>Phase 1</td><td>CWP -1, CWP -3, CWP - 4 and CWP -8</td><td>April 2023 to April 2025</td></tr>
<tr><td>2</td><td>Phase 2</td><td>CWP -2, CWP- 5, CWP-6, CWP-7 and CWP -9</td><td>April 2024 to April 2026</td></tr>
</table>
</td></tr>
<tr><td>F</td><td>Structure of this Term Sheet</td><td>As Packages CWP -1, CWP -3, CWP - 4 and CWP -8 implemented under Phase 1 have similar transaction model and bidding arrangement, they may be considered under one RFB with multiple packages to bid for. Accordingly, the details for these packages are provided in the Term Sheet 1 (Chapter 3)
The details of the packages to be implemented under Phase -2 are yet to be finalized based on the learnings and responses received from implementation of Phase -1 packages. However, the draft details for these packages are provided in Term Sheet 2 (Chapter 4).</td></tr>
</table>

3. Term Sheet 1 - For CWPs in Phase-1

The Term Sheet 1 presents the key project & bid modalities for the following **Project** – *Engagement of Service Providers for irrigation services under WBMIFMP in Damodar Valley Command area for the following CWPs:*

(1) CWP -1: Durgapur Branch Canal
(2) CWP -3: Damodar Branch Canal
(3) CWP -4: Distributary 11,14 &15 of Right Bank Main Canal
(4) CWP -8: Branch – II of Eden Canal

The Term Sheet 1 lists the key project modalities along with its description in a tabular format, and comprises of three distinct sections. First section on Project Profile provides an overview of the project area and scope of work. The second section on Eligibility & Qualification Requirements list the key conditions necessary for selecting preferred Bidder for undertaking the proposed works. Lastly, the third section on Transaction model lists the payment mechanism of the selected Bidder.

3.1 Project Profile

Sl. No.	Item	Description
1	**Project Scope & Timelines**	
1.1	Project Context	Damodar Valley Command Area (DVCA) comprises of 60+ year old canal network, catering to irrigation of ~3.76 lakh hectares of agricultural land spread across 41 administrative blocks. The DV canal network faces the following challenges: (1) Poor infrastructure maintenance leading to higher water losses → Actual area irrigated is much lower than design command area, especially in non-monsoon season. (2) Increasing dependency on groundwater → The region is prone to frequent flooding during monsoon. However, there is water shortage in several stretches of the canal in the summer months, leading to increased groundwater abstraction by farmers in such seasons. (3) No equity in water distribution → Consumption of more water in the head reach of the canal network has led to less water available for tail plots, resulting in increased extraction of ground water for irrigation (19 of the total 41 blocks being classified as semi-critical by the Central Ground Water Board). The West Bengal Major Irrigation and Flood Management Project (WBMIFMP) was thus conceived to modernize existing infrastructure and optimize conjunctive use of surface and ground water for agriculture. WBMIFM project is funded by the World Bank and Asian Infrastructure Investment bank (AIIB), along with support from the Government of West Bengal. Under the WBMIFM project, rehabilitation and upgradation of the old canal network is presently under progress. While rehabilitation of civil structures will improve the condition of the six-decade old infrastructure, to ensure

<table>
<tr><th>Sl. No.</th><th>Item</th><th>Description</th></tr>
<tr><td></td><td></td><td>sustained operational efficiency in the command area, the project proposes opportunities for involving Operators termed as Service Providers through incentive frameworks.</td></tr>
<tr><td>1.2</td><td>Project Brief</td><td>The primary objectives of engaging a Service Provider for managing the canal network is to
• Enhance quality of service delivery by improving the efficiency of the canal irrigation system, by enabling equitable and reliable supply of water
• Reduce dependency on ground water in the command area by increasing the area serviced by canal irrigation across seasons, thereby enhancing farmer income and reducing the extraction of ground water
Towards this, the proposed project will involve Service Providers to undertake the following activities in the given Project Area:
(1) Survey the project area, Plan and Design the activities to be performed for maximizing the water utilized for irrigation in the Project Area.
(2) Operation and Maintenance of the Canal system to improve canal efficiency and enable reliable & equitable distribution of canal water in the Project Area.
(3) Promote practices and methods to improve farm level water use efficiency, at their own discretion (Optional Services).</td></tr>
<tr><td>1.3</td><td>Project Area</td><td>The term “Project Area” refers to the canal network with all its distributaries and its associated command area, for the purpose of this document.
In the total DVCA, nine distinct Project Areas have been chosen such that they are hydraulically independent and do not have any project area overlap.
The rehabilitation works for Phase-1 packages is under progress and is expected to be completed by April 2023. Accordingly, the Phase 1 of the project shall commence from April 2023 with the following four Project Areas:
<table>
<tr><th>No.</th><th>Name</th><th>Length of canal network (km) up to L4</th><th>Command Area (Hectares)</th></tr>
<tr><td>CWP-1</td><td>Durgapur Branch Canal</td><td>198.60</td><td>12,459</td></tr>
<tr><td>CWP-3</td><td>Damodar Branch Canal</td><td>192.78</td><td>39,560</td></tr>
<tr><td>CWP-4</td><td>Distributary - 11, 14 &15 of Right Bank Main Canal</td><td>95.40</td><td>20,306</td></tr>
<tr><td>CWP-8</td><td>Branch -II of Eden Canal</td><td>48.21</td><td>5,610</td></tr>
</table>
A detailed overview of the Project Areas is provided in <u>Annexure 1.</u></td></tr>
</table>

<table>
<tr><th>Sl. No.</th><th>Item</th><th>Description</th></tr>
<tr><td>1.4</td><td>Project Timelines</td><td>
<u>Period of Contract:</u> From April 2023 to April 2025 – 25 months is the maximum Contract Period, to be called as Project Period for the purpose of this document.

<u>Project Period</u>: The Project Period comprises of three distinct periods – Study Period, Transition Period and Operations Period. The Study Period will involve survey and baselining of project area resulting in identifying potential activities to be performed, Transition Period will involve operation of canal network and provide irrigation services in the Project Area for one Kharif season with handholding support by Employer and Irrigation and Waterways Department to the Service Provider, followed by Operation Period where Service Provider will be responsible for proving irrigation services in the defined Project Area.
The envisaged Project Periods and the Season(s) intended to be covered have been summarized below.
<table>
<tr><th>Sr No</th><th>Project Periods</th><th>Expected Timelines</th><th>Season(s) to be Covered with tentative dates</th></tr>
<tr><td>1</td><td>Study period</td><td>April 2023 to May 2023</td><td>-</td></tr>
<tr><td>2</td><td>Transition Period</td><td>June 2023 to October 2023</td><td>Kharif 2023 (20 July 2023- 20 October 2023)</td></tr>
<tr><td>3</td><td>Operation Period</td><td>November 2023 to April 2025</td><td>• Rabi 2023-24 (21 November 2023- 28 February 2024)
• Boro 2024 (20 January 2024- 20 April 2024)
• Kharif 2024 (20 July 2024- 20 October 2024)
• Rabi 2024-25 (21 November 2024- 28 February 2025)
• Boro 2025 (20 January 2025- 20 April 2025)</td></tr>
</table>
<u>Effective Date:</u> The date of execution of contract between the Service Provider and Employer will be the Effective Date.

<u>Starting Date</u>: There are three distinct starting dates for the project periods as shown below. The Project Starting Date will be same as the Study Period Starting Date.

(1) <u>Study Period Starting Date</u>: Date on which all Conditions Precedent are satisfied by both the parties. The study period services shall commence
</td></tr>
</table>

<table>
<tr><th>Sl. No.</th><th>Item</th><th>Description</th></tr>
<tr><td></td><td></td><td>only after this date. The expected Study period Start Date is 1st of April 2023.
(2) Transition Period Starting Date: Date on which Notice to Proceed for Transitions Period has been provided by the Employer to the Service Provider. The expected Transition Period Starting Date is 1st of June 2023.
(3) Operation Period Starting Date: Date on which Notice to Proceed for Operations Period has been provided by the Employer to the Service Provider. The expected Operation Period Starting Date is 1st of November 2023.
Intended Completion Date: 30th April 2025 is the Intended Completion Date of the project.</td></tr>
<tr><td>1.5</td><td>Scope of the project</td><td>The scope of work for the Service Provider has been defined with the overall aim of effective utilization of canal water for providing improved irrigation services in the Project Area. The services envisaged under the scope of work of the Service Provider will include the following -
(1) Study Period Services during the Study period
(2) Transition Period Services during the Transition Period
(3) Pre-operational Services for every season during the Transition Period and Operation Period
(4) Operation & Maintenance Services for every season during the Operation Period
(5) Optional Services for each season during the Transition Period and Operation Period
(6) Inspection & Reporting Services for every season during the Transition Period and Operation Period
The envisaged services intended to be undertaken during each Project Period have been summarized below.
<table>
<tr><th>Sr No</th><th>Services</th><th>Project Periods</th></tr>
<tr><td>1</td><td>Study Period Services</td><td>Study period</td></tr>
<tr><td>2</td><td>Transition Period Services</td><td>Transition Period</td></tr>
<tr><td>3</td><td>Pre-operational Services</td><td>Transition Period, Operation Period</td></tr>
<tr><td>4</td><td>Operation & Maintenance Services</td><td>Operation Period</td></tr>
<tr><td>5</td><td>Optional Services</td><td>Transition Period, Operation Period</td></tr>
<tr><td>6</td><td>Inspection & Reporting Services</td><td>Transition Period, Operation Period</td></tr>
</table>
The detailed scope of work of the Service Provider is presented in Section 2.2 to 2.4.</td></tr>
</table>

<table>
<tr><th>Sl. No.</th><th>Item</th><th>Description</th></tr>
<tr><td>1.6</td><td>Estimated Cost</td><td>The estimated project cost of only mandatory services (excluding Optional Services) is considered as the estimated value of each contract as shown in the below table.
<table>
<tr><th>No.</th><th>Name</th><th>Estimated Cost (INR Lakhs)</th></tr>
<tr><td>CWP-1</td><td>Durgapur Branch Canal</td><td>108.92</td></tr>
<tr><td>CWP-3</td><td>Damodar Branch Canal</td><td>127.30</td></tr>
<tr><td>CWP-4</td><td>Distributary - 11, 14 & 15 of RBMC</td><td>54.46</td></tr>
<tr><td>CWP-8</td><td>Branch -II of Eden Canal</td><td>27.75</td></tr>
</table></td></tr>
<tr><td>2</td><td colspan="2">Roles & Responsibilities</td></tr>
<tr><td>2.1</td><td>Conditions Precedent, for Project Period Starting Date</td><td><u>Conditions to be satisfied by the Service Provider</u>
(a) Performance security provided to the Employer
(b) Delivered to the Employer a revised Program (revising the Program given along with the Bid) showing the general methods, arrangements, order and timing for all activities
(c) Delivered to the Employer from {the JV Members and Subcontractors their respective} confirmation, in original, of the correctness of their representations and warranties set forth in the Contract
(d) Delivered to the Employer executed copies of Project Agreements
(e) Mobilized designated Personnel and Equipment required for undertaking the Study Period Services, as per the Program submitted
<u>Conditions to be satisfied by the Employer</u>
(a) Grant access to the canal network and all necessary Rights of Way to the Service Provider, with completed rehabilitation works in the Project Area and in accordance with the provisions of the contract.
(b) Procured all applicable permits and clearances relating to operations and maintenance of the canal network during each irrigation season
(c) Deployment of remote sensing systems in the Project Area
(d) Ensure that mobile application platform is functional and made available for the farmers</td></tr>
<tr><td>2.2</td><td>Obligations of Service Provider during the Study Period</td><td><u>Study Period Services</u>
(a) Conduct Technical Reconnaissance survey of Project Area and collect the topographical data to get familiarized with the canal network and command area. The survey of the command area shall be undertaken to identify the following:
i. Mapping overall command area that can possibly be irrigated during Kharif, Rabi and Boro seasons based on historical data as per farmer survey and interactions with the Employer- both mouza wise (including identification of plot numbers) and total target. Mouza maps necessary for the exercise is required to be</td></tr>
</table>

Sl. No.	Item	Description
		procured by the Service Provider from the relevant government authorities. ii. Computation of command area that can possibly be irrigated during Kharif, Rabi and Boro seasons based on survey data collected - both mouza wise area and total target area. For confirmation on plot area and numbers, Service Provider may use "Jomir Tathya" mobile application developed by the Land and Land Reforms Department, Govt. of West Bengal (or other such authentic database approved by the Employer) iii. Provide inputs and support IWD in development of GIS maps based on the survey information collected. iv. Identification of the cropping pattern and water requirement (at mouza level) during Kharif, Rabi and Boro seasons based on farmer survey v. Assess and document irrigation and farming practices in the Project Area (at mouza level) including number of farmers practicing in each season, type of crops grown, irrigation practices adopted and details of specific on-field farming and irrigation practices adopted for the season /crop (b) Undertake detailed assessment of canal network right from the head of the canal to its branches, distributaries and outlet. Undertake mapping of various cross regulators and head regulators with various chainages/stretches/outlets and estimate the potential volume of water to be delivered at every head regulator and cross regulator in the Project Area (historical data to be provided by the Employer). Further, familiarize with the Mouzas associated with each of the outlet present in the Project Area, existing drawings of the canal network and prevalent canal operational and maintenance practices. (c) Preparatory activities to ensure implementation of Optional Services – including identification of implementation partners at ground level such as Farmer Committees, SHGs etc. and identifying capacity building or training needs of the farmers and farmer groups in the area for implementation of Optional Services. (d) Collect details on installation and use of farmer mobile application developed by the Department. (e) Identify baseline of Key Performance Indicators (KPIs) and Key Monitoring Indicators (KMIs) defined for the project based on past historical data and inputs from Employer. The list of Key Performance Indicators (KPIs) and Key Monitoring Indicators (KMIs) is presented in Section 3.1. (f) Report the parameters in Comprehensive Assessment Report (CAR) as detailed in Section 3.2 corresponding to the Study Period (Reporting Obligations of Service Provider) (g) Prepare Comprehensive Assessment Report (CAR) encompassing above inputs. A proforma of the Comprehensive Assessment Report with key

Sl. No.	Item	Description
		minimum information required to be captured during the Study Period has been provided in **Annexure 2.** (h) Submit CAR within the timeline of submission as provided in **Annexure 7 (Reporting Milestone-1)**
2.3	Obligations of Service Provider during the Transition Period	**Pre-operational Services** (a) Development and submission of **Seasonal Operation Plan (SOP)** for Kharif 2023 season with necessary handholding support from the Employer and Irrigation and Waterways Department, Government of West Bengal **(Reporting Milestone-2)**. A proforma of the Seasonal Operational Plan (SOP) with key minimum information required to be captured by the Service Provider has been provided in **Annexure 2**. The timeline of submission is provided in **Annexure 7.** (b) Development and submission of **Draft Irrigation Schedule (Reporting Milestone-3)** for Kharif 2023 season with necessary handholding support from the Employer and Irrigation and Waterways Department, Government of West Bengal. A proforma of the Draft Irrigation Schedule with key minimum information required to be captured by the Service Provider has been provided in **Annexure 2.** The timeline of submission is provided in **Annexure 7.** Note: The change in approved Irrigation Schedule, and Seasonal Operational Plan (SOP), prior to the irrigation season, shall be proposed by the Service Provider only in case there is a change in water availability at the head (total volume/ minimum discharge / hours of supply) or any other unforeseen reasons (including Force Majeure). (c) **Routine Maintenance Activities prior to the irrigation cycle:** – The Service Provider shall perform the following activities in the command area, prior to the Kharif 2023 season, with the help and support of the Employer and Irrigation and Waterways Department, Government of West Bengal. i. Conduct inspection of the civil and mechanical structures/installations including head regulators, cross regulators, weirs, outlets, outlet gates, canal embankment, canal bed, etc. to determine readiness of the canal network and associated infrastructure for the season ii. Structural repair works in cross regulators, outlets, weirs, etc. iii. Clearing of debris and vents in the critical canal stretches iv. Closure of canal breaches, if any

Sl. No.	Item	Description
		v. Desilting of canal beds, and other earthworks for better delivery to fields vi. Removal of vegetation (jungle cutting) in the level 3 and level 4 canals prior to every cycle of irrigation vii. Oiling, cleaning & greasing of regulator gates The Service Provider shall also prepare and submit a **Pre-irrigation season report (Reporting Milestone-4)** covering the routine maintenance activities undertaken for Kharif 2023 season. A proforma of the Pre-irrigation season report has been provided in **Annexure 2.** The timeline of submission is provided in **Annexure 7.** **Transition Period Services** The Service Provider shall perform the following activities, during the season in the command area, with the help and support of the Employer and Irrigation and Waterways Department, Government of West Bengal. (a) **Routine Maintenance Activities during irrigation season: –** For areas covered under the irrigation schedule's minimum target area, undertake "Running repair works" during irrigation which will include (1) Earthworks such as maintaining slopes, providing gunny bags, barriers, removing siltation, periodic vegetative growth clearance etc.; (2) Other works such as repairing of *ghoghes*, gauges, leakages, minor repairs to structures, etc. **(b) Operational Activities –** These refer to regular operational activities undertaken in the canal network towards delivering water through the canal system and include i. Provision of manpower for gate operation, operating outlets, flap gates etc. ii. Delivering water to the outlets, as per the agreed Irrigation Schedule – volume of supply and time of supply iii. Inspection and survey of canal stretches and identifying critical points for taking up repair works iv. Operation of the canal network, managing canal flow to maintain required heads in the regulatory structures and outlet gate management to ensure equitable supply of water **(c) Emergency maintenance activities -** These may refer to other non-planned activities that are undertaken at field-level on real-time basis to reduce water wastage. This can include identification and temporary rectification of fault lines in canal embankment, etc. **Exclusions:** Any major maintenance works to rectify structural collapse of regulator gates or cross drainage (non-regulatory) structures, shall be excluded from the scope of the Service Provider and shall be undertaken by the Employer or Irrigation and Waterways Department, Government of West Bengal. It is clarified that all other repair and maintenance works shall

Sl. No.	Item	Description
		remain under the purview of the Service Provider. **(d) Post-season maintenance activities –** After completion of the last watering for the season, the Service Provider shall inspect and permanently rectify any fault lines in canal embankment, etc. which was not attended during the watering period. Any fault or observation qualifying as major maintenance work (as per exclusion cited above) and requiring attention of the Employer and Irrigation and Waterways Department, Government of West Bengal for rectification, shall also be reported. **<u>Optional Services</u>** The Service Provider may optionally perform the following activities, during the season in the command area, with the help and support of the Employer and Irrigation and Waterways Department, Government of West Bengal **(a) Farmer training related Activities –** i. Conduct capacity building and training for the farmers on aspects such as water use efficient (WUE) agriculture and irrigation practices such as SRI for paddy, micro irrigation, crop diversification etc., ii. Identify and conduct capacity building and training to the informal Beneficiary Farmer Groups (BFG) or informal Farmer Committees present at outlet regarding aspects such as water budgeting, water distribution, crop planning etc. iii. Identify and support progressive farmers to conduct demonstrations, site visits and farmer consultations to encourage and inspire other farmers on farm level water use efficiency. **(b) Other Activities** – Encourage and handhold farmers to download, install and regularly use mobile application developed by the Department. **<u>Inspection & Reporting Services</u>** The Service Provider shall perform the following activities, during the season in the command area, with the help and support of the Employer and Irrigation and Waterways Department, Government of West Bengal. i. **Inspection of project area**- Undertake visual inspection of the Project Area along with the Service Provider in the pre, during and post-watering periods during the Kharif 2023 season. ii. **Monitoring of Project Indicators-** For monitoring the Project Indicators, the Service Provider shall further carry out activities as detailed in Section 3.2 corresponding to the Transition Period (Reporting Obligations of Service Provider) At the end of the Transition Period, the Service Provider will submit Seasonal Performance Report for Kharif 2023. **(Reporting Milestone -5)**. The coverage and format of **Seasonal Performance Report /Transition**

Sl. No.	Item	Description
		Period Completion Report is presented in **Annexure 2**. The timeline of submission is provided in **Annexure 7.**
2.4	Obligations of Service Provider during the Operation Period	**Pre-operational Services** (a) Development and submission of **Seasonal Operation Plan (SOP)** for every season during the Operation Period **(Reporting Milestone-2)**. A proforma of the Seasonal Operational Plan (SOP) with key minimum information required to be captured by the Service Provider has been provided in **Annexure 2**. The timeline of submission is provided in **Annexure 7**. (b) Development and submission of **Draft Irrigation Schedule (Reporting Milestone-3)** for every season during the Operation Period. A proforma of the Draft Irrigation Schedule with key minimum information required to be captured by the Service Provider has been provided in **Annexure 2.** The timeline of submission is provided in **Annexure 7.** Note: The change in approved Irrigation Schedule and Seasonal Operational Plan (SOP), prior to the irrigation season, shall be proposed by the Service Provider only in case there is a change in water availability at the head (total volume/ minimum discharge / hours of supply) or any other unforeseen reasons (including Force Majeure). (c) **Routine Maintenance Activities prior to the irrigation cycle:** – The Service Provider shall perform the following activities in the command area, prior to every season during the Operation Period. i. Conduct inspection of the civil and mechanical structures/installations including head regulators, cross regulators, weirs, outlets, outlet gates, canal embankment, canal bed, etc. to determine readiness of the canal network and associated infrastructure for the season ii. Structural repair works in cross regulators, outlets, weirs, etc. iii. Clearing of debris and vents in the critical canal stretches iv. Closure of canal breaches, if any v. Desilting of canal beds, and other earthworks for better delivery to fields vi. Removal of vegetation (jungle cutting) in the level 3 and level 4 canals prior to every cycle of irrigation vii. Oiling, cleaning & greasing of regulator gates The Service Provider shall also prepare and submit a **Pre-irrigation season report (Reporting Milestone-4)** covering the routine

Sl. No.	Item	Description
		maintenance activities undertaken for each season during the Operation Period. A proforma of the Pre-irrigation season report has been provided in **Annexure 2.** The timeline of submission is provided in **Annexure 7.** **Operations & Maintenance Services** The Service Provider shall irrigate the Minimum Area as proposed in the Irrigation Schedule and SOP for the season as approved by the Employer and IWD, Government of West Bengal. Towards this, the Service Provider shall perform the following activities, in every season during the Operation Period, in the canal stretches to ensure improved quality of service delivery. **(a) Routine Maintenance Activities during irrigation season –** For areas covered under the irrigation schedule's minimum target area, undertake "Running repair works" during irrigation which will include (1) Earthworks such as maintaining slopes, providing gunny bags, barriers, removing siltation, periodic vegetative growth clearance etc.; (2) Other works such as repairing of *ghoghes*, gauges, leakages, minor repairs to structures, etc. **(b) Operational Activities –** These refer to regular operational activities undertaken in the canal network towards delivering water through the canal system and include i. Provision of manpower for gate operation, operating outlets, flap gates etc. ii. Delivering water to the outlets, as per the agreed Irrigation Schedule – volume of supply and time of supply, iii. Inspection and survey of canal stretches and identifying critical points for taking up repair works iv. Operation of the canal network, managing canal flow to maintain required heads in the regulatory structures and outlet gate management to ensure equitable supply of water **(c) Emergency maintenance activities -** These may refer to other non-planned activities that are undertaken at field-level on real-time basis to reduce water wastage. This can include temporary rectification of fault lines in canal embankment, etc. **Exclusions:** Any major maintenance works to rectify structural collapse of regulator gates or cross drainage (non-regulatory) structures, shall be excluded from the scope of the Service Provider and shall be undertaken by the Employer or Irrigation and Waterways Department, Government of West Bengal. It is clarified that all other repair and maintenance works shall remain under the purview of the Service Provider. **(d) Post-season maintenance activities –** After completion of the last watering for the season, the Service Provider shall inspect and

<table>
<tr><th>Sl. No.</th><th>Item</th><th>Description</th></tr>
<tr><td></td><td></td><td>
permanently rectify any fault lines in canal embankment, etc. which was not attended during the watering period. Any fault or observation qualifying as major maintenance work (as per exclusion cited above) and requiring attention of the Employer and Irrigation and Waterways Department, Government of West Bengal for rectification, shall also be reported.

<u>Optional services</u>

These services comprise of any other activity that the Service Provider may undertake at its discretion, in every season during the Operation Period, for maximizing use of the available water in the command area. These may include the following services – (i) Distribution beyond the outlet activities (ii) Farm level efficiency measures

i. Distribution beyond the outlet: These include activities/ measures aimed at reducing the distribution losses from the canal outlet to the field. Service Provider is free to undertake any measure for this purpose. The following is an indicative list of activities that may be undertaken -
a. Identifying better methods of water conveyance from the outlets to the plots such as field channels, piping system and sub-surface pipes, etc. for different areas
b. Encouraging and enabling Participatory Irrigation in the Project Area through coordinating and supporting the existing informal Beneficiary Farmer Groups (BFG) or informal Farmer Committees present at outlet.
c. While the above activities hold true for all irrigation seasons, as the irrigation practice of each season is very different on-ground, the following table lists some of the additional activities that can be undertaken for each season.

<table>
<tr><th>Kharif</th><th>Rabi</th><th>Boro</th></tr>
<tr><td>Identify suitable areas and encourage farmers to store water by ‘ponding’ for Rabi use

Ensure all the critical farm ponds and other small storage structure are filled, especially those regions practicing rabi cultivation</td><td>For area designated for Rabi irrigation, if water is below FSL, enable pumps to lift water from canals

Facilitate use of water from the identified farm ponds, for irrigating fields during Rabi, by providing pumps, etc</td><td>In areas receiving water under guaranteed command area for boro, ensure no breaches of the canal water, including diversion of water, pumping of water from canal, etc.</td></tr>
</table>
</td></tr>
</table>

Sl. No.	Item	Description
		ii. **Farm level efficiency measures** - These include activities/ measures aimed at improving the water use efficiency at field level. Service Provider is free to undertake any measure for this purpose. The following is an indicative list of activities that may be undertaken in this regard: a. Conduct capacity building and training for the farmers on aspects such as water use efficient (WUE) agriculture and irrigation practices such as SRI for paddy, micro irrigation, crop diversification etc., b. Identify and conduct capacity building and training to the informal Beneficiary Farmer Groups (BFG) or informal Farmer Committees present at outlet regarding aspects such as water budgeting, water distribution, crop planning etc. c. Identify and support progressive farmers to conduct demonstrations, site visits and farmer consultations to encourage and inspire other farmers on farm level water use efficiency. d. Other Activities – Incentivize and handhold farmers to download, install and regularly use mobile application developed by the Department. **Inspection & Reporting Services** The Service Provider shall perform the following activities, in every season during the Operation Period. i. **Inspection of project area**- Undertake visual inspection of the Project Area along with the Service Provider in the pre, during and post-watering periods during the irrigation season. ii. **Monitoring of Project Indicators-** For monitoring the Project Indicators, the Service Provider shall further carry out activities as detailed in Section 3.2 corresponding to the Operation Period (Reporting Obligations of Service Provider) At the end of each irrigation season during the Operation Period, the Service Provider will submit Seasonal Performance Report for the respective season **(Reporting Milestone -5)**. The coverage and format of **Seasonal Performance Report** is presented in **Annexure 2**. The timeline of submission is provided in **Annexure 7.**
2.5	Obligations of Employer	**During all Project Periods:** • Verify and evaluate the KPIs and KMIs submitted by the Service Provider. • Ensure farmer mobile application platform is functional and data is shared regularly with the Service Provider • Ensure that the remote sensing technology is functional throughout the Project Period. • For monitoring the Project Indicators, the Employer shall further carry out activities as detailed in Section 3.3 corresponding to the Operation Period (Reporting Obligations of Employer)

Sl. No.	Item	Description
		During Study period • Providing support to the Service Provider during the Study Period for familiarizing themselves with the Project Area and its farmers. • Transitioning of the prevalent manpower and maintenance contracts in the project area to Service Provider at the end of the study period. • Review and approval of baseline of KPIs and KMIs • Timely review and approval of Comprehensive Assessment Report (CAR) within the timeline mentioned in Annexure 7. • Timely release of payment linked to approval of Comprehensive Assessment Report (CAR). • Issuance of Notice to Proceed for Transition Period within the timeline mentioned in Annexure 7. **During Transition Period** *Pre-operational Services* • Prior to the preparation of Irrigation Schedule and Seasonal Operation Plan (SOP), installation of outlet gates across the canal network • Provide guidance and handholding support to the Service Provider for preparing Irrigation Schedule and Seasonal Operation Plan (SOP) for Kharif 2023 season. • Review of draft Irrigation Schedule and sharing the final Irrigation Schedule with the Service Provider within the timeline mentioned in Annexure 7. • Review and approval of Seasonal Operation Plan (SOP) for Kharif 2023 season. • Issuing Notice to Proceed to the Service Provider for undertaking the Operations and Maintenance activities for the Kharif 2023 season upon approval of SOP, Irrigation Schedule and Pre-irrigation season report, within the timeline mentioned in Annexure 7. *Operations & Maintenance* • Provide handholding support to Service Provider for undertaking planned and unplanned repair works and operation of canal network and structures. • Undertake any major maintenance works to rectify structural collapse of regulator gates or cross drainage (non-regulatory) structures, which is excluded from the scope of the Service Provider *Inspection & Reporting* • Monitor and verify independently values for KPIs and KMIs as recorded/computed by the Service Provider, through site visits, physical survey, mobile application data, remote sensing methods (as applicable), in accordance with the methodology and formats provided in Annexure 6

Sl. No.	Item	Description
		• Assist Service Provider in preparation of Seasonal Performance Report (SPR) for the Transition Period. However, there will be no performance related payments for this period. • Undertake visual inspection of the Project Area along with the Service Provider in the pre, during and post-watering periods of each season, and train the Service Provider to identify potential areas for minor repair works. • Ensure dismantling of outlet gates across the canal network after last watering of the season • Review and approval of Seasonal Performance Report (SPR), within the timeline mentioned in Annexure 7. • Timely release of payment linked to Seasonal Performance Report. • Issuing Notice to Proceed for Operations Period subject to satisfactory performance of Service Provider in the Transition Period, within the timeline mentioned in Annexure 7. **During Operations Period** *Pre-operational Services* • Prior to the preparation of Irrigation Schedule and Seasonal Operation Plan (SOP), installation of outlet gates across the canal network • Provide guidance to Service Provider for preparing Irrigation Schedule and Seasonal Operation Plan (SOP) for every season. • Review of draft Irrigation Schedule and sharing the final Irrigation Schedule for every season within the timeline mentioned in Annexure 7. • Review and approval of Seasonal Operation Plan (SOP) prepared for every season within the timeline mentioned in Annexure 7. • Issuing Notice to Proceed to the Service Provider for undertaking the Operations and Maintenance activities for the season upon approval of SOP, Irrigation Schedule and Pre-irrigation season report, within the timeline mentioned in Annexure 7. *Operations & Maintenance* • Undertake any major maintenance works to rectify structural collapse of regulator gates or cross drainage (non-regulatory) structures, which is excluded from the scope of the Service Provider *Inspection & Reporting* • Undertake visual inspection of the Project Area along with the Service Provider in the pre, during and post-watering periods of each season. • Monitor and verify independently values for KPIs and KMIs as recorded/computed by the Service Provider, through site visits, physical survey, mobile application data, remote sensing methods (as applicable), in accordance with the methodology and formats provided in Annexure 6

Sl. No.	Item	Description
		• Ensure dismantling of outlet gates across the canal network after last watering of the season • Timely review and approval of Seasonal Performance Report for every season. • Timely release of payment linked to Seasonal Performance Report.
3.	**Governance & Monitoring**	
3.1	Project Indicators	There are six Project Indicators defined for the project - three Key Performance Indicators (KPIs), two Key Monitoring Indicators (KMIs) and one other indicator (not to be monitored by the Service Provider). **A. Key Performance Indicators (KPIs)** 1. KPI 1 - Reliability of Supply (RS): Measures the adherence of the Service Provider to the approved Irrigation Schedule in delivery of water and identify delays in delivering water at the outlets. The value needs to be recorded and evaluated for every watering period within the season. 2. KPI 2 - Prompt Action Delays (PAD): Measures the timely completion of pre-operational services and completion of repair /maintenance activities identified during irrigation (against agreed SOP timelines). 3. KPI 3 - Area irrigated: Measures the compliance to the minimum area to be irrigated in every season as approved by the Employer or Irrigation and Waterways Department, Government of West Bengal in the Irrigation Schedule for every season as well as the impact of implementation of Optional Activities by the Service Provider in the Project Area in terms of additional area irrigated beyond the target minimum area **B. Key Monitoring Indicators (KMIs)**: 1. KMI 1 – Capacity Building and Training of Farmers and Farmer Groups: Measures the effort of the Service Provider towards implementation of capacity building and training sessions to the farmers and farmer groups as part of Optional Services. 2. KMI 2 – Use of Farmer Mobile Application by farmers: Measures the efficiency of Service Provider to promote use of mobile application by the farmers. The baseline and the targets for each of the Project Indicators KPIs and KMIs shall be defined by the Service Provider in the SOP prepared for every season and shall be mutually agreed by the Employer and Irrigation & Waterways Department, Government of West Bengal.

Sl. No.	Item	Description
		C. Other Indicator: 1. <u>Other Indicator 1 - Crop Yield:</u> Measures the water productivity in terms of crop yield. It is the quantity of agricultural production harvested per unit of land area measured in kg/hectare for different crops cultivated during the season. Yield shall be determined for the project area by the type of crop cultivated during the season. This indicator shall not be monitored by the Service Provider. The detailed computation methodology and reporting framework (including incentive/penalty calculations, as applicable) of the Project indicators are further detailed in **Annexure 6**.
3.2	Reporting Obligations of Service Provider	For monitoring the Project Indicators, the following **Inspection and Reporting Services** are expected from the Service Provider. This will also be included as part of the Obligations of the Service Provider (as per Sections 2.2, 2.3 and 2.4). **<u>Study Period</u>** - Preparation and submission of the Comprehensive Assessment Report (CAR) within timelines for submission (as per Annexure 7) and in accordance with the format provided in Annexure 2. **<u>Transition Period and Operation Period</u>** – Visual inspection of the project area will be done on daily basis, and the following activities will be undertaken: 1. <u>Before each cropping season:</u> a. Preparation and submission of **Seasonal Operational Plan (SOP)** within timelines for submission (as per Annexure 7) and in accordance with the format provided in Annexure 2 b. Preparation and submission of **Draft Irrigation Schedule** within timelines for submission (as per Annexure 7) and in accordance with the format provided in Annexure 2 c. Preparation and submission of **Pre-irrigation season report** within timelines for submission (as per Annexure 7) and in accordance with the format provided in Annexure 2 d. In case of revisions to be made to the Irrigation Schedule due to change in water availability at the head (total volume, minimum discharge and hours of supply) or any other unforeseen reasons (including Force Majeure) **prior** to the irrigation season, the Service Provider shall submit the revised Irrigation Schedule and Seasonal Operational Plan (SOP) within timelines for submission (as per Annexure 7) and in accordance with the format provided in Annexure 2 and seek approval from the Employer or Irrigation and Waterways Department, Government of West Bengal. 2. <u>During each watering period of the cropping season:</u>

Sl. No.	Item	Description
		a. Recording and computation of values for KPIs and KMIs in accordance with the methodology and formats provided in Annexure 6 b. Capturing the necessary information required for preparation of the **Seasonal Performance Report (SPR)** in accordance with the format provided in Annexure 2 c. In case of revisions in water availability at the head (total volume/ minimum discharge / hours of supply) or any other unforeseen reasons (including Force Majeure) **during** the irrigation season, the Service Provider shall inform the same to the Employer immediately. Necessary corrections in KPIs and KMIs shall be undertaken in discussion with and on approval of the Employer or Irrigation and Waterways Department, Government of West Bengal, in accordance with the provisions provided in Annexure 6. The same shall be mentioned along with reasons for deviations in the Seasonal Performance Report (SPR). 3. End of each cropping season: a. Computing and reporting of Project indicators (KPIs and KMIs) as per the methodology detailed in Annexure 6 b. Preparation and submission of the **Seasonal Performance Report (SPR)** comprising the details within timelines for submission (as per Annexure 7) and in accordance with the format provided in Annexure 2 c. Addressing the queries of the Employer /technical auditor as needed
3.3	Governing Obligations of Employer	For monitoring the defined compliance and performance indicators and accordingly making payments, the following governance obligations of the Employer are envisaged. A checklist of the key items to be verified prior to each payment has been provided in **Annexure 3**. **During the Project Period:** • Verify and evaluate the KPIs and KMIs submitted by the Service Provider. • Ensure farmer mobile application platform is functional and data is shared regularly with the Service Provider • Ensure that the remote sensing technology is functional throughout the Project Period. **Study Period:** a. Verifying the details provided by the Service Provider in the Comprehensive Assessment Report (CAR) **Transition Period and Operation Period** – Visual inspection of the Project Area will be done on weekly basis, and the following activities will be undertaken:

Sl. No.	Item	Description
		1. Before each cropping season a. Providing planned water availability (total volume, minimum discharge and hours of supply) at the head of the canal for the season to the Service Provider prior to the irrigation season as per the timeline provided in Annexure 7 b. Circulation of Approved Irrigation Schedule for the command area to the relevant stakeholders and take necessary steps to publish the same for the Farmers, before the commencement of first watering of the season as per the timeline provided in Annexure 7. c. In case of revisions to the planned water availability, intimate the same to the Service Provider immediately, to enable the Service Provider to revise the Irrigation Schedule and Seasonal Operational Plan (SOP) at any point prior to the irrigation season. 2. During each watering period of the cropping season: a. Verify independently values for KPIs and KMIs as recorded/computed by the Service Provider, through site visits, physical survey, mobile application data, remote sensing methods (as applicable), in accordance with the methodology and formats provided in Annexure 6 3. End of each cropping season • Computing the penalties and incentives accruing for the season and preparing a payment draft

3.2 Eligibility & Qualification Requirements

Sl. No	Item	Description
4	**Eligibility Conditions**	
4.1	Eligible Bidders	A Bidder may be a firm that is a private entity, a state-owned entity or institution, wherein a private entity can include a partnership, corporation, individual, non-profit organization, company, **society** or any other organized group that is not government-affiliated, and registered.
4.2	Joint Venture	Bids from Joint Ventures are permitted (a) Maximum number of members in the Joint Venture (JV) shall be: ***Three.*** (b) All members of the Joint Venture shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms. (c) The Joint Venture Agreement should precisely mention about the Member in Charge

Sl. No	Item	Description
		(d) The Joint Venture Agreement should precisely define the division of assignments to each member of JV. This should not be varied/ modified subsequently without prior approval of the Employer.
5	**Qualification Requirements**	
5.1	Qualification Condition	Bidders will submit a Technical Bid and Financial Bid, in two separate envelopes. The Technical Bid submitted will be evaluated for technical qualification based on the conditions given in this Section 5. Further, the bidders who qualify based on the technical bid will have their financial bids opened, and the lowest financial bid will be awarded the contract. (Least cost-based selection among qualified bidders)
5.2	Technical Bid – Financial Turnover	The minimum required annual Financial Turnover for the successful Bidder in any one of the last five years shall be: (a) CWP – 1: INR 98 Lakhs (b) CWP – 3: INR 115 Lakhs (c) CWP – 4: INR 49 Lakhs (d) CWP – 8: INR 25 Lakhs In case of Joint Venture, the figures for each of the members of a joint venture shall be added together to determine the Bidder's compliance with the minimum Financial Turnover; however, for a joint venture to qualify the Member in Charge must meet at least 40 percent of those minimum criteria for an individual Bidder and other members at least 25% of the criteria. Sub-contractor's turnover will not be considered. Detailed justification for the cost assumptions mentioned above are provided in **Annexure 5** to this term sheet.
5.3	Technical Bid – Demonstrated Relevant Experience	The experience required to be demonstrated by the Bidder should include as a minimum that he has executed during the last 5 years the following for each CWP: (a) **CWP – 1:** at least one Eligible Contract of INR 87 Lakhs or at least two Eligible Contracts of INR 54 Lakhs each or at least three Eligible Contracts of INR 44 Lakhs each. (b) **CWP – 3:** at least one Eligible Contract of INR 102 Lakhs or at least two Eligible Contracts of INR 64 Lakhs each or at least three Eligible Contracts of INR 51 Lakhs each (c) **CWP – 4:** at least one Eligible Contract of INR 44 Lakhs or at least two Eligible Contracts of INR 27 Lakhs each or at least three Eligible Contracts of INR 22 Lakhs each (d) **CWP – 8:** at least one Eligible Contract of INR 22 Lakhs or at least two Eligible Contracts of INR 14 Lakhs or at least three Eligible Contracts of INR 11 Lakhs

<table>
<tr><th>Sl. No</th><th>Item</th><th>Description</th></tr>
<tr><td></td><td></td><td>Wherein "Eligible Contract" will be those contracts following all of the below listed conditions:
(e) irrigation sector contracts involving (I) provision of manpower for operating canal network, and/or (II) undertaking maintenance works in canal network, and/or (III) reconnaissance survey of irrigation canal and/or (IV) civil construction works including earthwork along canal stretches
(f) contracts completed in the last 5 years

In case of Joint Venture, the figures for each of the members of a joint venture shall be added together to determine the bidder's compliance with the minimum Experience required; however, for a joint venture to qualify the Member in Charge must provide at least one Eligible Contract of the one/ two / three contracts that are considered for meeting this criteria.
Sub-contractor's experience will not be considered.
Detailed explanation for the values shown above are provided in Annexure 5 of this Term Sheet</td></tr>
<tr><td>5.4</td><td>Technical Bid – Demonstrated Local Experience</td><td>Demonstrated experience in contracts wherein working with farmers of West Bengal was a key activity. This may be demonstrated through completed contracts with select departments such as agriculture, irrigation, rural development, WRIDD, of Government of West Bengal.
In case of Joint Venture, the Member in Charge must meet this requirement.
Sub-contractor's experience will not be considered.

Bidder shall submit signed Memorandum of Understanding (MoUs) with
a. at least one (1) Farmer Producer Company (FPC) prevalent in the DV Command Area and have experience in capacity building of farmers
b. at least one (1) formal Water User Association (WUA) which have experience in water budgeting, water distribution, and water use efficiency measures.

Note: The association with the FPCs and WUAs will be on a non-exclusive basis.</td></tr>
<tr><td>5.5</td><td>Technical Bid – Key Personnel</td><td>The Key Personnel whose CV will be furnished as part of the technical bid for each CWP are as follows:
<table>
<tr><th>No.</th><th>Designation of Personnel</th><th>No.</th><th>Minimum Qualification</th><th>Minimum years of relevant experience</th></tr>
<tr><td>1.</td><td>Project Manager cum Planning &</td><td>1</td><td>Diploma in Civil</td><td>5 years of experience in irrigation planning &</td></tr>
</table></td></tr>
</table>

<table>
<tr><th>Sl. No</th><th>Item</th><th>Description</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td></td><td>Design Engineer</td><td></td><td></td><td>design, irrigation O&M</td></tr>
<tr><td>2.</td><td>Field Coordinators</td><td>4</td><td>Graduate in any stream</td><td>3 years</td></tr>
<tr><td>3.</td><td>Capacity Building Expert</td><td>1</td><td>Diploma in Civil/ Agri or Graduate in any discipline (B.Sc./ B.A.)</td><td>5 years of experience training farmers (West Bengal farmers will be preferred)</td></tr>
<tr><td>4.</td><td>Farmer Engagement Expert</td><td>1</td><td>NA</td><td>Minimum 5 years of experience as Board Member of any functional Farmer Organization in project Districts (FPCs, WUAs)
Experience in water budgeting and water distribution at farm level</td></tr>
<tr><td>5.</td><td>Farmer Mobilization Expert</td><td>1</td><td>NA</td><td>Minimum 5 years of experience as Board Member of any functional Farmer Organization in project Districts (FPCs, WUAs)
Minimum 3 years of experience in farmer mobilization, capacity building of farmers and farmer groups</td></tr>
</table>
In case of Joint Venture, any member of the JV is free to provide above resources and it will be considered for qualification.
Sub-contractor's resumes will also be considered for this purpose.
</td></tr>
<tr><td>5.6</td><td>Technical Bid – Sub-Contractors</td><td>Services excluding Optional Services
a) Maximum percentage of subcontracting permitted is 30% of the total Contract Price.
b) Maximum number of sub-contractors allowed for each contract is 3 numbers (to avoid breaking up into multiple small works)
Optional Services
a) 100% sub-contracting is allowed for Optional Services.
b) Identified sub-contractors in bidding stage need not be exclusive for each bidder, i.e., sub-contractors are allowed to participate in multiple bids</td></tr>
</table>

<table>
<tr><th>Sl. No</th><th>Item</th><th>Description</th></tr>
<tr><td>5.7</td><td>Technical Bid – Multiple Packages</td><td>Bidders have the option to Bid for any one or more packages. Bids will be evaluated package-wise. The contract(s) will be awarded to the Bidder or Bidders offering the lowest evaluated cost to the Employer for combined packages, subject to the selected Bidder(s) meeting the required qualification criteria for each package or combination of packages as the case may be.

For example, the bidder quoting for CWP-1 & 3 will have to meet the following condition on financial turnover in any one of the last five years:
(1) Turnover required for CWP -1 (INR 98 Lakhs)
(2) Turnover required for CWP -3 (INR 115 Lakhs)
(3) Turnover required for combined CWPs (INR 213 lakhs)
Similarly, the experience requirement will also be evaluated for individual and combined option to check for qualification.</td></tr>
<tr><td>5.8a</td><td>Financial Bid – Bid Price Sheet</td><td>The Financial Bid for each bidder will comprise of the following indicative bid price sheet in which the bidder is expected to quote the Operations and Maintenance Quote for different seasons:
<table>
<tr><th>No.</th><th>Description</th><th>Amount per season (in Rs.)</th></tr>
<tr><td>1</td><td>Operations and Maintenance Quote for CWP #
[appropriate package number to be inserted]</td><td></td></tr>
<tr><td>1.1</td><td>Kharif Season</td><td></td></tr>
<tr><td>1.1.1</td><td>O&M Works- comprising Pre operational services, routine maintenance during irrigation, Emergencies maintenance during irrigation and Post-season maintenance activities (including material, consumables, manpower and machinery required for executing such works)</td><td></td></tr>
<tr><td>1.1.2</td><td>Key Personnel and Manpower- for gate operation, inspection and survey of canal during irrigation</td><td></td></tr>
<tr><td>1.2</td><td>Rabi Season</td><td></td></tr>
<tr><td>1.2.1</td><td>O&M Works- comprising Pre operational services, routine maintenance during irrigation, Emergencies maintenance during irrigation and Post-season maintenance activities (including material, consumables, manpower and machinery required for executing such works)</td><td></td></tr>
<tr><td>1.2.2</td><td>Key Personnel and Manpower- for gate operation, inspection and survey of canal during irrigation</td><td></td></tr>
<tr><td>1.3</td><td>Boro Season</td><td></td></tr>
<tr><td>1.3.1</td><td>O&M Works- comprising Pre operational services, routine maintenance during irrigation, Emergencies maintenance during irrigation and Post-season maintenance activities (including material, consumables, manpower and machinery required for executing such works)</td><td></td></tr>
<tr><td>1.3.2</td><td>Key Personnel and Manpower- for gate operation, inspection and survey of canal during irrigation</td><td></td></tr>
</table></td></tr>
</table>

Sl. No	Item	Description

	TOTAL Operations and Maintenance Quote for all three seasons	

The bidder further needs to provide breakdown of the quotation provided for each season in the format provided below as part of its Financial Bid.

Breakdown of *[appropriate season name to be inserted]* **season quote for CWP #** *[appropriate package number to be inserted]*				
List of activities	**Quantity Estimated**	**Unit**	**Rate quote (in Rs. Per unit)**	**Amount per season (in Rs.)**
O&M Works	Total			
Pre-Operational Services	Sub-Total			
Structural repair works in cross regulators, outlets, weirs, etc				
Jungle Cutting /Removal of Vegetation				
Clearing Debris and vents				
Oiling, cleaning of canal structures				
Closure of canal breaches				
Desilting of canal beds, and other earthworks for better delivery to fields				
Etc.,				
Routine maintenance during irrigation	Sub-Total			
Earthworks such as maintaining slopes				
Providing gunny bags, barriers,				
Removing siltation				
Periodic vegetative growth clearance				
Repairing of ghoghes, gauges, leakages				
Minor repairs to structures				
Etc.,				
Emergencies maintenance during irrigation	Sub-Total			

Sl. No	Item	Description

Temporary rectification of fault lines in canal embankment					
Etc.					
Post-season maintenance activities	Sub-Total				
Permanent rectification of fault lines in canal embankment					
Permanent rectification of ghoghes					
Etc.					
Manpower	Total				
Provision of manpower for gate operation, operating outlets, flap gates					
Provision of manpower Inspection and survey of canal stretches and project area					
Cost of Key Personnel					
Etc.					
Grand Total O&M Quote for the season	**-**	**-**	**-**		

Note:

- The Operation & Maintenance Quote breakdown for each activity (O&M Works and Manpower) shall be exhaustive and shall be applicable for all irrigation seasons during the Transition and Operation period (Kharif 2023, Rabi 2023-24, Boro 2024, Kharif 2024, Rabi 2024-25, Boro 2025).
- The estimated cost for each package shall be provided by the Employer as part of the bidding documents including item wise breakdown (quantity, unit and rate for each activity)
- Total quote of a package comprising all three seasons shall be within +/- 25% of the estimated cost of the project as prepared by the Employer/ IWD.
- The variation allowed in item wise breakdown provided for each activity:
    - Quantity variation for any activity within +/- 25%
    - Rate variation for any activity within +/- 30%

Bidder shall be disqualified in case its financial quote does not satisfy all the conditions listed above.

<table>
<tr><th>Sl. No</th><th>Item</th><th>Description</th></tr>
<tr><td>5.8b</td><td>Financial Bid</td><td>The bidders will be provided with the Study Period Quote as fixed by the Employer. The Study Period Quote for the four Phase 1 packages is presented below:
<table>
<tr><th>No.</th><th>Name</th><th>Estimated Cost of Study Period
(INR Lakhs)</th></tr>
<tr><td>CWP-1</td><td>Durgapur Branch Canal</td><td>13.08</td></tr>
<tr><td>CWP-3</td><td>Damodar Branch Canal</td><td>41.54</td></tr>
<tr><td>CWP-4</td><td>Distributary - 11, 14 &15 of RBMC</td><td>21.32</td></tr>
<tr><td>CWP-8</td><td>Branch -II of Eden Canal</td><td>5.89</td></tr>
</table>
Detailed justification for the cost assumptions mentioned above are provided in <u>Annexure 5</u>.</td></tr>
<tr><td>5.9</td><td>Financial Bid – Selection of preferred Bidder</td><td>The Financial Bid for the Technically Qualified bidders will be evaluated and the bidder with lowest Financial Bid (Operations and Maintenance Quote) will be selected as Preferred Bidder.</td></tr>
</table>

3.3 Transaction Model

Sl. No.	Item	Response
6	**Payment Terms**	
6.1	Contract Price	The Bid Price quoted by the Preferred Bidder, after adjustments if any, will be considered as the Contract Price. The Contract Price will consist of two components – (i) Study Period Price (ii) O&M Price (for all seasons during the transition and operations period) The <u>Study Period Price</u> will be arrived based on the Study Period Quote as provided by the Employer in the tender document. The <u>O&M Price</u> will be arrived based on the O&M quote provided by the Preferred Bidder for all seasons during the transition and operations period.
6.2	Performance Incentive payments	The performance incentive will be paid to Service Provider based on percentage (%) additional area irrigated beyond minimum area to be irrigated. It will be calculated as: *Percentage Additional Area Irrigated = [Area irrigated in addition to the minimum area to be irrigated/ Minimum area to be irrigated as approved in*

<table>
<tr><th>Sl. No.</th><th>Item</th><th>Response</th></tr>
<tr><td></td><td></td><td>
the Irrigation Schedule] * 100
Further details related to the Performance incentive payment is provided in Annexure 6 (KPI 3).
The incentive amount will be paid based on the level of improvement in irrigation area achieved based on different slab rates, applicable for each season.
Following table details the indicative incentive payout based on slabs of % improvement in area, to be paid to the Service Provider for achieving them.
<table>
<tr><th rowspan="2">Project Area</th><th rowspan="2">Season</th><th colspan="5">Incentive for % Additional Area Irrigated (INR per hectare)</th></tr>
<tr><th>Up to 5%</th><th>5-10%</th><th>10 -15%</th><th>15-20%</th><th>More than 20%</th></tr>
<tr><td rowspan="3">CWP-1: Durgapur Branch Canal</td><td>Kharif</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Rabi</td><td>500</td><td>1000</td><td>1500</td><td>1800</td><td>2000</td></tr>
<tr><td>Boro</td><td>500</td><td>1000</td><td>1500</td><td>1800</td><td>2000</td></tr>
<tr><td rowspan="3">CWP-3: Damodar Branch Canal</td><td>Kharif</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Rabi</td><td>500</td><td>1000</td><td>1500</td><td>1800</td><td>2000</td></tr>
<tr><td>Boro</td><td>500</td><td>1000</td><td>1500</td><td>1800</td><td>2000</td></tr>
<tr><td rowspan="3">CWP-4: Distributary 11, 14 & 15 of RBMC</td><td>Kharif</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Rabi</td><td>500</td><td>1000</td><td>1300</td><td>1600</td><td>2000</td></tr>
<tr><td>Boro</td><td>500</td><td>1000</td><td>1300</td><td>1600</td><td>2000</td></tr>
<tr><td rowspan="3">CWP-8: Branch – II of Eden Canal</td><td>Kharif</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Rabi</td><td>500</td><td>1000</td><td>1300</td><td>1600</td><td>2000</td></tr>
<tr><td>Boro</td><td>500</td><td>1000</td><td>1300</td><td>1600</td><td>2000</td></tr>
</table>
</td></tr>
<tr><td>6.3</td><td>Payment Terms and Schedule</td><td>
The Service Provider shall be eligible for the following categories of payments:
1. Payment of fixed Study Period Quote - As fixed by the Employer on lumpsum basis
2. Payment for mandatory services (O&M Quote) – As quoted by the bidder across Transition Period and Operation Period
3. Payment for optional activities – as fixed by the Employer on unit rate basis

Detailed payment schedule is provided in Annexure 4.
</td></tr>
<tr><td>6.4</td><td>Price Adjustment</td><td>Price Adjustment will not be applicable.</td></tr>
<tr><td>6.5</td><td>Liquidated Damages</td><td>
There will be two types of Liquidated Damages (LDs) applicable for the Service Provider
(1) LDs related to Project Progress
(2) LDs related to Project Performance
<u>LDs on Project Progress</u>: The following Liquidated damages will be
</td></tr>
</table>

<table>
<tr><th>Sl. No.</th><th>Item</th><th>Response</th></tr>
<tr><td></td><td></td><td>applicable for delay in occurrence of Reporting Milestones provided in Section 2.2 of this Term Sheet.
<table>
<tr><th>Sl. No</th><th>Reporting Milestone</th><th>Scheduled Day of reporting</th><th>Applicable Liquidated Damages</th></tr>
<tr><td>1</td><td>Comprehensive Assessment Report</td><td>As per Annexure 7</td><td>INR 2,000 per day of delay</td></tr>
<tr><td>2</td><td>Seasonal Operational Plan</td><td>As per Annexure 7</td><td>INR 5,000 per day of delay</td></tr>
<tr><td>3</td><td>Draft irrigation schedule</td><td>As per Annexure 7</td><td>INR 10,000 per day of delay</td></tr>
<tr><td>4</td><td>Pre-irrigation season report</td><td>As per Annexure 7</td><td>INR 5,000 per day of delay</td></tr>
<tr><td>5</td><td>Seasonal Performance Report</td><td>As per Annexure 7</td><td>INR 2,000 per day of delay</td></tr>
</table>
As the Intended Completion Date of the project cannot be shifted and will invariably end upon completion of the Boro season and handover of project area in April 2025, there will not be any Liquidated Damages (LD) for delaying the Intended Completion Date.
The maximum amount of Liquidated Damages related to Project progress allowed for the whole contract is 10% of the Contract Price.

<u>LDs on Project Performance</u>: The following Performance related LDs will be levied on non-conformance to the agreed Project Indicators (Section 3.1 of this Term Sheet) in the SOP schedule as indicated below:
(1) LDs for reduced Reliability of Supply
(2) LDs for Prompt Action Delays
(3) LD for not meeting minimum area to be irrigated

Detailed LD calculation and computation mechanism (including exceptions, if any), for variation in each Project Indicator is provided in Annexure 6.</td></tr>
<tr><td>6.6</td><td>Prohibited Activities</td><td>It is envisaged that in addition to the above, the Service Provider will not be allowed to collect revenue from the farmers for providing any additional services, including but not limited to the optional services listed below:
• Rental charges for pumps
• Installing MI systems on field
• Providing piped supply to tail-plots
• Filling private farm-ponds within project area or any other source of revenue from the farmers</td></tr>
<tr><td>7</td><td colspan="2">Bank Guarantees, Securities and Advance</td></tr>
<tr><td>7.1</td><td>Bid Security</td><td>A Bid Security shall be required.</td></tr>
</table>

Sl. No.	Item	Response
		The amount of the Bid Security shall be (a) CWP – 1: INR 2.2 Lakhs (b) CWP – 3: INR 2.5 Lakhs (c) CWP – 4: INR 1.1 Lakhs (d) CWP – 8 : INR 0.6 Lakhs This has been computed so as not to exceed 2% of the estimated value of the contract. Detailed justification for the cost assumptions mentioned above are provided in **Annexure 5**. Bid Security is required for each lot as per amounts indicated against each package.
7.2	Performance Security	The Performance Security amount is **10%** percent of Contract Price
8	**Other key contract terms**	
8.1	Force Majeure concerns on Flood/ Drought	For the purpose of this contract, Force Majeure means an event which is beyond the reasonable control of either Service Provider or Employer. In general, the failure to fulfill any of its obligations due to force majeure shall not be considered to be a breach of the Contract. Payments during Force Majeure: During such Force Majeure period, the Service Provider shall be entitled to continue to be paid under the terms of this Contract and will not be liable to meet the Project indicators or issued any Liquidated Damages on non-conformance during such Force Majeure period. Termination due to Force Majeure: There are two types of Force Majeure, for the purpose of this contract – Flood/ Drought related Force Majeure, and Other Force Majeure Events. In cases of Force Majeure due to flood/ drought, the Service Provider may resume its services for the forthcoming irrigation season or after the flood/drought (based on mutual discussion and approval of the Employer), whichever is earlier. In cases of Other Force Majeure Events, the Service Provider may resume its services for the forthcoming irrigation season or after the effect of the Force Majeure event has subsided (based on mutual discussion and approval of the Employer), whichever is earlier. Note: Drought or flood condition (in case of Flood/ Drought related Force Majeure) shall be notified by the Employer and lead to cancellation of the Irrigation Program during the season.

4. Draft Term Sheet for CWPs in Phase-2

This Term Sheet presents the key project & bid modalities of the following **Project** - Engagement of Service Providers for irrigation services under WBMIFMP in Damodar Valley Command area for the following CWPs:

(1) CWP -2: Panagarh Branch Canal
(2) CWP -5: 6 MC
(3) CWP- 6: Kana Damodar
(4) CWP -7: Branch – I of Eden Canal
(5) CWP -9: Distributary 1,2,3,4, & 5 of Right Bank Main Canal

This Term Sheet lists the key project modalities along with its description in a tabular format, and comprises of three distinct sections. Considering that the project is first of its kind, IWD has decided to finalize some of the key decisions on payment model, project scope & performance indicators for these five packages based on the response received for the first four packages. Therefore this Draft Term Sheet lists the potential options that may be considered for the project

4.1 Project Profile

Sl. No.	Item	Description
1	**Project Scope & Timelines**	
1.1	Project Context	Same as Section 1.1 of Term Sheet in Chapter 3
1.2	Project Brief	The primary objective of engaging a Service Provider to manage the canal network is to • Enhance quality of service delivery by improving the efficiency of the canal irrigation system, by enabling equitable and reliable supply of water • Reduce dependency on ground water in the command area by increasing the area serviced by canal irrigation across seasons, thereby enhancing farmer income Towards this, the proposed project will involve Service Providers to undertake the following activities in the given project area: (1) **Survey** the project area, **Plan and Design** the activities to be performed for maximizing the water utilized for irrigation in the project area (2) **Operation and Maintenance** of the Canal system to improve canal efficiency and enable reliable & equitable distribution of canal water in the project area (3) **Improve water use efficiency** in the project area by undertaking select activities such as provision of Micro Irrigation systems (select Optional Services may be mandated for Phase-2 in select packages). (4) **Promote other practices and methods** to improve water distribution and farm-level water utilization, at their own discretion.

<table>
<tr><th>Sl. No.</th><th>Item</th><th>Description</th></tr>
<tr><td></td><td></td><td>Wherein (3) above will include specific set of activities which may be added a part of mandatory activities for each package.
There is also an option of including construction/rehabilitation works as part of the Service Provider's contract in Phase 2. This would entail different contractual conditions right from scope, qualification and payment mechanism. This option has, however, not been considered for the purpose of this Draft Term Sheet.</td></tr>
<tr><td>1.3</td><td>Project Area</td><td>The term "Project Area" refers to the canal network with all its distributaries and its associated command area, for the purpose of this document.

In the total DVCA, nine distinct project areas have been chosen such that they are hydraulically independent and do not have any project area overlap.
The second phase of the project will likely commence from 2024 Kharif season, subject to completion of rehabilitation works, and it comprises of the following five project areas.
<table>
<tr><th>No.</th><th>Name</th><th>Length of canal network (km) up to L4</th><th>Command Area (Hectares)</th></tr>
<tr><td>CWP-2</td><td>Panagarh Branch Canal</td><td>316.40</td><td>39,194</td></tr>
<tr><td>CWP-5</td><td>6MC</td><td>248.09</td><td>37,859</td></tr>
<tr><td>CWP-6</td><td>Kana Damodar</td><td>168.17</td><td>16,835</td></tr>
<tr><td>CWP-7</td><td>Branch -I of Eden Canal</td><td>139.89</td><td>16,528</td></tr>
<tr><td>CWP-9</td><td>Distributary-1,2,3,4 & 5 of Right Bank Main Canal</td><td>93.52</td><td>8,788</td></tr>
</table>
A detailed overview of the Project Area is provided in <u>Annexure-1</u></td></tr>
<tr><td>1.4</td><td>Project Timelines</td><td><u>Period of Contract:</u> The length of contract shall be between 24 months – 36 months, so as to include at least two sessions of each irrigation season.
The project will commence in 2024 such that Kharif season of 2024 is the first irrigation season after onboarding of the Service Provider. The starting date may vary subject to delay in completion of rehabilitation works and handover of the project area.
<u>Project Periods</u>: The following two options may be considered for Project Period:
(1) Two distinct periods – Study Period and Operations Period.
(2) Three distinct periods – Study Period, Transition Period and Operations Period, Where study period will involve survey and baseline mapping of project area, Transition period will enable handholding support for canal operations through one Kharif season, followed by Operations Period where Service Provider will be responsible for irrigation.
In the first case, study period will last till the end of first kharif season, to</td></tr>
</table>

Sl. No.	Item	Description
		enable Service Provider in understanding the project area and O&M works through an irrigation season. **Effective Date:** The date of signing the between the Service Provider and Employer will be the Effective Date. **Starting Date:** There are three distinct starting dates for the project periods as shown below. The Project Starting Date will be same as the Study Period Starting Date. (1) Study Period Starting Date: Date on which all Conditions Precedent are satisfied by both the parties. The study period services shall commence only after this date. The expected Study period Start Date is 1st of April 2024. (2) Transition Period Starting Date: Date on which Notice to Proceed for Transitions Period has been provided by the Employer to the Service Provider. The expected Transition Period Starting Date is 1st of June 2024. (3) Operation Period Starting Date: Date on which Notice to Proceed for Operations Period has been provided by the Employer to the Service Provider. The expected Operation Period Starting Date is 1st of November 2024. **Intended Completion Date:** 30th April 2026 is the Intended Completion Date of the project.
1.5	Scope of the project	The scope of work for the Service Provider has been defined with the overall aim of effective utilization of canal water for providing improved irrigation services in the Project Area. The services envisaged under the scope of work of the Service Provider will include the following - (1) Study Period Services during the Study period (2) Transition Period Services during the Transition Period (3) Pre-operational Services for every season during the Transition Period and Operation Period (4) Operation & Maintenance Services for every season during the Operation Period (5) Optional Services for each season during the Transition and Operation Period (6) Inspection & Reporting Services for every season during the Transition Period and Operation Period (7) **Water Efficiency Services** for each season during Operations Period The detailed scope of work of the Service Provider for (1), (2), (3), (4), (5) and (6) is presented in Section 2.2 to 2.4. of Chapter 3. Water Efficiency Services comprises of the mandatory activities that the Service Provider has to undertake, from the list of Optional services provided in Section 2.2 to 2.4 of Chapter 3 towards reducing water losses in distribution of water from the canal outlet and maximizing field-level water utilization through better agricultural practices. These mandatory activities will be defined for each CWP separately.

<table>
<tr><th>Sl. No.</th><th>Item</th><th>Description</th></tr>
<tr><td>1.6</td><td>Estimated Cost</td><td>The estimated Project cost of only Services (1,2,3,4 and 6 from above table) has been considered to estimate the value of each contract as shown in the below table, assuming operations of 6 irrigation seasons (2 kharif, 2 rabi and 2 boro).
<table>
<tr><th>No.</th><th>Name</th><th>Estimated Project Cost (INR Lakhs)</th></tr>
<tr><td>CWP-2</td><td>Panagarh Branch Canal</td><td>197.03</td></tr>
<tr><td>CWP-5</td><td>6MC</td><td>136.15</td></tr>
<tr><td>CWP-6</td><td>Kana Damodar</td><td>122.06</td></tr>
<tr><td>CWP-7</td><td>Branch -I of Eden Canal</td><td>90.51</td></tr>
<tr><td>CWP-9</td><td>Disty-1,2,3,4 & 5 of Right Bank Main Canal</td><td>40.71</td></tr>
</table>
Further, depending on the Water Efficiency Services selected for each package and the project timeline there will be additional costs added to the above table upon finalization. Detailed justification for the cost assumptions mentioned above are provided in <u>Annexure 5</u> to this term sheet.
In addition, Service Provider will also be provided with performance incentives for irrigating additional area, against planned, in each irrigation season.</td></tr>
<tr><td>2</td><td colspan="2">Roles & Responsibilities</td></tr>
<tr><td>2.1</td><td>Conditions Precedent, for Starting Date</td><td>Same as Section 2.1 of Term Sheet in Chapter 3</td></tr>
<tr><td>2.2</td><td>Obligations of Service Provider</td><td>The scope of works of the Service Provider will be aimed at optimizing use of water for irrigation in the project area through the following Services during the project period:
(1) Study Period Services during Study period
(2) Transition Period Services during Transition Period
(3) Pre-operational Services for every season during the Transition Period and Operation Period
(4) Operation & Maintenance Services for each season during Operations Period
(5) Water Efficiency Services for each season during Operations Period
(6) Optional Services for each season during Transition Period and Operations Period
(7) Inspection & Reporting Service for every season during the Transition Period and Operation Period</td></tr>
</table>

<table>
<tr><th>Sl. No.</th><th>Item</th><th>Description</th></tr>
<tr><td></td><td></td><td>
The Obligations will largely remain the same for (1), (2), (3), (4), and (7) above, and can be referred from Section 2.2, 2.3 and 2.4 of Term Sheet in Chapter 3. In addition, the following services, may also be considered.

<u>Water Efficiency services</u> (for each irrigation season)

These services comprise of any other activity that can be made mandatory for maximizing use of the available water in the command area. The following table lists some of the key activities that may be considered for this purpose, for each of the package.
<table>
<tr><th>Activity</th><th>Consideration for making it mandatory</th><th>Applicable CWPs</th></tr>
<tr><td>Providing temporary pipes for distribution to far-reach fields</td><td>- Higher area covered under semi-critical blocks
- High Area to length of canal ratio indicating there is more area under farther stretches from canal</td><td>- CWP-5, CWP-6 & CWP-7 cater to two semi-critical blocks each
- CWP-5 6MC has a high area to length ratio
➔ CWP-5 must be considered</td></tr>
<tr><td>Enabling pumps for Rabi irrigation (surface pumps when water is below FSL)</td><td>- Higher rabi area under cultivation with minimal water availability</td><td>CWP-5, 6 & 7 each have over 10000 Hectares practicing Rabi. As per new schedule, only CWP-6 may get enough water to supply for >7000 Ha.

There is scope in exploring pumps in all these 3 packages.</td></tr>
<tr><td>Capacity Building initiatives</td><td>- Areas with higher number of progressive farmers
- Areas where Horticulture department is targeting crop diversification
- Areas where Agriculture Department is considering Boro paddy water efficiency trainings</td><td>Based on the list of blocks provided by Agriculture and Horticulture department for their targeted trainings CWP-5, 6 & 7 have most blocks that are included. Hence, these packages may be considered</td></tr>
<tr><td>Adopting Micro Irrigation</td><td>Higher rabi area under cultivation

More farm-ponds to ensure continued pressurized supply for MI system</td><td>CWP-5, 6 & 7 each have over 10000 Hectares practicing Rabi.

CWP-5 &6 may have higher farm ponds as</td></tr>
</table>
</td></tr>
</table>

Sl. No.	Item	Description
		<table><tr><td></td><td></td><td>indicated above. Therefore CWP-5 & 6 may be considered</td></tr></table> Based on the activity selected, Employer may also define targets for the type of activity chosen to ensure performance. The following are some of the potential targets that may be considered for each activity a) Providing temporary pipes for distribution to far-reach fields where the specific stretches of canal for provision of such pipes may be decided as per stretches identified in Study period. For this purpose, the Service Provider may refer to previous studies undertaken by the Employer on comparison b) Encouraging farmers to use ponds in specific canal stretches where the specific stretches of canal for provision of such pipes may be decided as per stretches identified in Study period. This will list the expected volume/ number of ponds to be filled during Kharif season specifically c) Making X number of pumps available in in the identified canal stretches, where X may be defined as part of the Bidding documents d) Providing X number of trainings on Crop diversification and X number on WUE measures, with each training attended by 30 farmers at least. The number of training days and its curriculum may also be defined in the scope e) Ensuring X acres is brought under Micro irrigation in the project area in a year The selected activity for the package along with its targets will become a part of the Water Efficiency services obligations of the Service Provider in the contract. **Optional Services** The other services, that may be undertaken by the Service Provider at its discretion in addition to the activities listed as part of Water Efficiency measures will be listed here. This will be based on the similar section 2.4 of the Term Sheet in Chapter 3.
2.3	Obligations of Employer	In addition to the obligations mentioned in Section 2.5 of the Term Sheet in Chapter 3, the Employer has to undertake the following: **During Operation Period** • Coordinate with other departments such as agriculture and horticulture, to assess the field level impact as may be required.
4.	**Governance & Monitoring**	
3.1	Project Indicators	In addition to the Project Indicators presented in Section 3.1 of the Term Sheet in Chapter 3, the following additional indicators may be defined depending on the Water Efficiency measures considered for the packages. There will be no compliance indicators for providing temporary pipes for

<table>
<tr><th>Sl. No.</th><th>Item</th><th>Description</th></tr>
<tr><td></td><td></td><td>
distribution to far-reach fields as this can be paid on actual basis, through a BoQ and need not be considered as minimum compliance item.

There will be no compliance indicators for providing temporary pumps for distribution when water level is low as this can be paid on actual basis, through a BoQ and need not be considered as minimum compliance item.

Key Performance Indicators:
. KPI 4 - Pond watering: Measures for the volume of water (in standard units) recorded at the identified farm ponds, against planned. The target for this will be set out in the SOP by the Service Provider.
Calculated as: Target Volume of water to be filled in ponds as a % of total volume of water received at head
. KPI 5 - Area adopting Micro irrigation: Calculated as: Area with Micro irrigation in Ha, targets for which will be set out in the Seasonal Operation Plan.

The table below showcases the frequency and places of measurement for each of the above indicators.
<table>
<tr><th>Indicator type</th><th>Frequency (When)</th><th>Level of measuring (Where)</th></tr>
<tr><td>KPI-4: Pond watering</td><td>Every watering period, and overall irrigation season</td><td>Select canal stretches (L3)
Overall project area</td></tr>
<tr><td>KPI-5: Area adopting Micro irrigation</td><td>Every watering period, and overall irrigation season</td><td>Overall project area</td></tr>
</table>
The detailed computation methodology and reporting framework (including incentive/penalty calculations, as applicable) of the Project indicators are further detailed in Annexure 6. The methodology for KPI-4 and KPI-5 of Phase 2 shall be developed post completion of Task-2 for Phase-1.
</td></tr>
<tr><td>3.2</td><td>Reporting Obligations of Service Provider</td><td>
The reporting obligations of Service Provider will be in line with the obligations listed in Section 3.2 of the previous Term Sheet and will vary based on the finalized list of indicators from the above section.

The following additional points may be considered in respective sections:

Study Period - Reporting following in Comprehensive Assessment Report (CAR)

a) Identifying areas requiring provision of pipes and pumps, as applicable
b) Assessing number of ponds in the project area and its volume

a) Routine Inspection & Reporting: Trainings to be conducted and the topic
</td></tr>
</table>

Sl. No.	Item	Description
		c) Beginning of each watering period: • Height of water recorded at select head reaches of the canal network, to assess the volume at these heads (Vi) • Volume of water available in the selected ponds d) During & End of each watering period • Volume of water filled in / used from the ponds during the watering, based on volume of water available at the end of watering • Area covered under micro irrigation (in Ha) e) End of each cropping season: Computing additional Project indicators – 2 compliance indicators and 1 performance indicator for the overall canal for the season, as well as for select stretches as required
3.3	Governing Obligations of Employer	The governing obligations of Employer will be in line with the obligations listed in section 3.3 of the previous Term Sheet and may vary based on the finalized list of indicators from the above sections.

4.2 Eligibility & Qualification Requirements

Sl. No	Item	Description
4	**Eligibility Conditions**	
4.1	Eligible Bidders	A Bidder may be a firm that is a private entity, a state-owned entity or institution, wherein a private entity can include a partnership, corporation, individual, non-profit organization, company, **society** or any other organized group that is not government-affiliated, and registered.
4.2	Joint Venture	Bids from Joint Ventures are permitted (e) Maximum number of members in the Joint Venture (JV) shall be: ***Three.*** (f) All members of the Joint Venture shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms. (g) The Joint Venture Agreement should precisely mention about the Member in Charge (h) The Joint Venture Agreement should precisely define the division of assignments to each member of JV. This should not be varied/ modified subsequently without prior approval of the Employer.
5	**Qualification Requirements**	

Sl. No	Item	Description
5.1	Qualification Condition	Bidders will submit a Technical Bid and Financial Bid, in two separate envelopes. There are two options for selecting the bidder: - Option 1: Least cost-based selection among qualified bidders. Same as the option discussed in Section 5.1 of Chapter 3 - Option 2: Quality cum Cost Based selection, wherein a weightage for technical bid and financial bid will be provided. Bidders will be scored on technical qualifications, and not just checked for eligibility.
5.2	Technical Qualification	The following qualifications may be sought for technical bid: (1) Financial turnover (2) Demonstrated O&M Experience (3) Demonstrated local experience (4) Demonstrated capacity building experience (if applicable) (5) Demonstrated micro irrigation experience (if applicable) (6) Key Personnel The details of each of this qualification requirement is provided in subsequent sections
5.3	Technical Bid – Financial Turnover	The minimum required annual Financial Turnover for the successful Bidder in any one of the last five years shall be: (a) CWP – 2: INR 177 Lakhs (b) CWP – 5: INR 123 Lakhs (c) CWP – 6: INR 110 Lakhs (d) CWP – 7: INR 81 Lakhs (e) CWP – 9: INR 37 Lakhs The above values are subject to change based on the activities selected for Water Efficiency measures in each package. In case of Joint Venture, the figures for each of the members of a joint venture shall be added together to determine the Bidder's compliance with the minimum Financial Turnover; however, for a joint venture to qualify the member in charge must meet at least 40 percent of those minimum criteria for an individual Bidder and other members at least 25% of the criteria. Sub-contractor's experience will not be considered. Detailed justification for the cost assumptions mentioned above are provided in **Annexure 5**.
5.4	Technical Bid – Demonstrated O&M Experience	The experience required to be demonstrated by the Bidder should include as a minimum that he has executed during the last 5 years the following for each CWP: (a) **CWP – 2:** at least one Eligible Contract of INR 158 Lakhs or at least two Eligible Contracts of INR 99 Lakhs each or at least three Eligible Contracts of INR 79 Lakhs each

Sl. No	Item	Description
		(b) **CWP – 5:** at least one Eligible Contract of INR 109 Lakhs or at least two Eligible Contracts of INR 68 Lakhs or at least three Eligible Contracts of INR 54 Lakhs. (c) **CWP – 6:** at least one Eligible Contract of INR 98 Lakhs or at least two Eligible Contracts of INR 61 Lakhs or at least three Eligible Contracts of INR 49 Lakhs (d) **CWP – 7:** at least one Eligible Contract of INR 72 Lakhs or at least two Eligible Contracts of INR 45 Lakhs or at least three Eligible Contracts of INR 36 Lakhs (e) **CWP – 9:** at least one Eligible Contract of INR 33 Lakhs or at least two Eligible Contracts of INR 20 Lakhs or at least three Eligible Contracts of INR 16 Lakhs Wherein "Eligible Contract" will be those contracts following **all** of the below listed conditions: (f) irrigation sector contracts involving provision of manpower for operating canal network, and/or undertaking maintenance works, and/or reconnaissance survey of irrigation canal (g) contracts completed in the last 5 years The above values are subject to change based on the project timelines and activities selected for Water Efficiency measures in each package. In case of Joint Venture, the figures for each of the members of a joint venture shall be added together to determine the Bidder's compliance with the minimum Experience required; however, for a joint venture to qualify the member in charge must provide at least one Eligible Contract of the one/ two / three contracts that are considered for meeting this criteria. Sub-contractor's experience will not be considered.
5.5	Technical Bid – Demonstrated Local Experience	Demonstrated experience in contracts wherein working with farmers of West Bengal was a key activity. This may be demonstrated through completed contracts with select departments such as agriculture, irrigation, rural development, minor irrigation of Government of West Bengal. In case of Joint Venture, the member in charge must meet this requirement. Sub-contractor's experience will not be considered. Bidder shall submit signed Memorandum of Understanding (MoUs) with • at least one (1) Farmer Producer Company (FPC) prevalent in the DV Command Area and have experience in capacity building of farmers • at least one (1) formal Water User Association (WUA) which have

<table>
<tr><th>Sl. No</th><th>Item</th><th>Description</th></tr>
<tr><td></td><td></td><td>experience in water budgeting, water distribution, and water use efficiency measures.
Note: The association with the FPCs and WUAs will be on a non-exclusive basis.</td></tr>
<tr><td>5.6</td><td>Technical Bid – Capacity Building Experience</td><td>Demonstrated experience of undertaking capacity building initiatives with farmers of West Bengal. This may be demonstrated through training completion certificates issued by farmer groups/ contracting authority, or trainings undertaken for select departments such as agriculture, irrigation, rural development, minor irrigation of Government of West Bengal.
Any of the members of the Joint Venture must meet this requirement.
Sub-contractor's experience will not be considered.</td></tr>
<tr><td>5.7</td><td>Technical Bid – Micro Irrigation Experience</td><td>Demonstrated experience of providing and installing Micro Irrigation systems. This may be demonstrated through completed contracts for provision of MI equipment, and/ or installation of MI systems on field certified by farmers/ contracting authority, and/or empanelment as registered vendor in West Bengal.
Any of the members of the Joint Venture must meet this requirement.
Sub-contractor's experience will not be considered.</td></tr>
<tr><td>5.8</td><td>Technical Bid – Key Personnel</td><td>The Key Personnel whose CV will be furnished as part of the technical bid for each CWP are as follows:
<table>
<tr><th>No.</th><th>Designation of Personnel</th><th>No.</th><th>Minimum Qualification</th><th>Minimum years of relevant experience</th></tr>
<tr><td>1.</td><td>Project Manager cum Planning & Design Engineer</td><td>1</td><td>Diploma in Civil</td><td>5 years of experience in irrigation planning & design, irrigation O&M</td></tr>
<tr><td>2.</td><td>Field Coordinators</td><td>4</td><td>Graduate in any stream</td><td>3 years</td></tr>
<tr><td>3.</td><td>Capacity Building Expert</td><td>1</td><td>Diploma in Civil/ Agri or Graduate in any discipline (B.Sc./ B.A.)</td><td>5 years of experience training farmers (West Bengal farmers will be preferred)</td></tr>
<tr><td>4.</td><td>Farmer Engagement Expert</td><td>1</td><td>NA</td><td>Minimum 3 years of experience as Board Member of any functional Farmer Organization in project Districts (FPCs, WUAs)</td></tr>
</table></td></tr>
</table>

<table>
<tr><th>Sl. No</th><th>Item</th><th>Description</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td></td><td></td><td></td><td></td><td>Experience in water budgeting and water distribution at farm level</td></tr>
<tr><td>5.</td><td>Farmer Mobilization Expert</td><td>1</td><td>NA</td><td>Minimum 3 years of experience as Board Member of any functional Farmer Organization in project Districts (FPCs, WUAs)
Minimum 3 years of experience in farmer mobilization, capacity building of farmers and farmer groups</td></tr>
<tr><td>6</td><td>Micro Irrigation Expert</td><td>1</td><td>Diploma in civil/ Agriculture</td><td>At least 5 years of installing MI systems on field</td></tr>
</table>

In case of Joint Venture, any member of the JV is free to provide above resources and it will be considered for qualification.
Sub-contractor's resumes will also be considered for this purpose.</td></tr>
<tr><td>5.9</td><td>Technical Bid – Sub-Contractors</td><td>Services excluding Water Efficiency & Optional Services
a) Maximum percentage of subcontracting permitted is 30% of the total Contract Price.
b) Maximum number of sub-contractors allowed for each contract is three numbers (to avoid breaking up into multiple small works)
Water Efficiency & Optional Services
c) 100% sub-contracting is allowed for Water Efficiency Optional services.
d) Identified sub-contractors need not be exclusive for each bidder, i.e. sub-contractors are allowed to participate in multiple bids</td></tr>
<tr><td>5.10</td><td>Technical Bid – Multiple Packages</td><td>Same as Section 5.5 in the Term sheet provided in Chapter 3</td></tr>
<tr><td>5.11</td><td>Financial Bid – Bid Price Sheet</td><td>The Financial Bid for each bidder will comprise of the following indicative bid price sheet, depending on the finalized list of Water Efficiency measures to be considered.</td></tr>
</table>

<table>
<tr><th>Sl. No</th><th>Item</th><th>Description</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><th>No.</th><th>Description</th><th>Amount per season (in Rs.)</th></tr>
<tr><td>1</td><td>Study Period Quote (Lumpsum)</td><td></td></tr>
<tr><td>2</td><td>Operations and Maintenance Quote for CWP #
[appropriate package number to be inserted]</td><td></td></tr>
<tr><td>2.1</td><td>Kharif Season</td><td></td></tr>
<tr><td>2.1.1</td><td>O&M Works- comprising Pre operational services, routine maintenance during irrigation, Emergencies maintenance during irrigation and Post-season maintenance activities (including material, consumables, manpower and machinery required for executing such works)</td><td></td></tr>
<tr><td>2.1.2</td><td>Key Personnel and Manpower- for gate operation, inspection and survey of canal during irrigation</td><td></td></tr>
<tr><td>2.2</td><td>Rabi Season</td><td></td></tr>
<tr><td>2.2.1</td><td>O&M Works- comprising Pre operational services, routine maintenance during irrigation, Emergencies maintenance during irrigation and Post-season maintenance activities (including material, consumables, manpower and machinery required for executing such works)</td><td></td></tr>
<tr><td>2.2.2</td><td>Key Personnel and Manpower- for gate operation, inspection and survey of canal during irrigation</td><td></td></tr>
<tr><td>2.3</td><td>Boro Season</td><td></td></tr>
<tr><td>2.3.1</td><td>O&M Works- comprising Pre operational services, routine maintenance during irrigation, Emergencies maintenance during irrigation and Post-season maintenance activities (including material, consumables, manpower and machinery required for executing such works)</td><td></td></tr>
<tr><td>2.3.2</td><td>Key Personnel and Manpower- for gate operation, inspection and survey of canal during irrigation</td><td></td></tr>
<tr><td></td><td>TOTAL Operations and Maintenance Quote for all three seasons</td><td></td></tr>
<tr><td>3</td><td>Providing temporary pipe for distribution from canal outlet</td><td></td></tr>
<tr><td>4</td><td>Providing Pumps for distribution from canal</td><td></td></tr>
<tr><td>5</td><td>Capacity building quote</td><td></td></tr>
<tr><td>6</td><td>Installing MI systems on field</td><td></td></tr>
<tr><td></td><td>Grand Total</td><td></td></tr>
</table>
Only relevant rows from 3-6 will be selected for each package, based on finalized activities under Water Efficiency measures. Both backup of quantity and rate for items 3-6 shall be provided as applicable.
Alternatively, a fixed price for the study period quote may also be considered for these packages to avoid frontloading. Indicative Study Period Quote for the Phase 2 packages including detailed justification for the cost assumptions are provided in Annexure 5.
</td></tr>
</table>

Sl. No	Item	Description

The bidder further needs to provide breakdown of the **Operations and Maintenance Quote** provided for each season in the format provided below as part of its Financial Bid.

Breakdown of *[appropriate season name to be inserted]* **season quote for CWP #** *[appropriate package number to be inserted]*				
List of activities	**Quantity Estimated**	**Unit**	**Rate quote (in Rs. Per unit)**	**Amount per season (in Rs.)**
O&M Works	Total			
Pre-Operational Services	Sub-Total			
Structural repair works in cross regulators, outlets, weirs, etc				
Jungle Cutting /Removal of Vegetation				
Clearing Debris and vents				
Oiling, cleaning of canal structures				
Closure of canal breaches				
Desilting of canal beds, and other earthworks for better delivery to fields				
Etc.,				
Routine maintenance during irrigation	Sub-Total			
Earthworks such as maintaining slopes				
Providing gunny bags, barriers,				
Removing siltation				
Periodic vegetative growth clearance				
Repairing of ghoghes, gauges, leakages				
Minor repairs to structures				
Etc.,				
Emergencies maintenance during irrigation	Sub-Total			
Temporary rectification of fault lines in canal embankment				
Etc.				

<table>
<tr><th>Sl. No</th><th>Item</th><th>Description</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>Post-season maintenance activities</td><td colspan="3">Sub-Total</td><td></td></tr>
<tr><td>Permanent rectification of fault lines in canal embankment</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Permanent rectification of ghoghes</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Etc.</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Manpower</td><td colspan="3">Total</td><td></td></tr>
<tr><td>Provision of manpower for gate operation, operating outlets, flap gates</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Provision of manpower Inspection and survey of canal stretches and project area</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Cost of Key Personnel</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Etc.</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Grand Total O&M Quote for the season</td><td>-</td><td>-</td><td>-</td><td></td></tr>
</table>
Note:

The Operation & Maintenance Quote breakdown for each activity (O&M Works and Manpower) shall be exhaustive and shall be applicable for all irrigation seasons during the Transition and Operation period
The estimated cost for each package shall be provided by the Employer as part of the bidding documents including item wise breakdown (quantity, unit and rate for each activity)
Total quote of a package comprising all three seasons shall be within +/- 25% of the estimated cost of the project as prepared by the Employer/ IWD.
The variation allowed in item wise breakdown provided for each activity:

Quantity variation for any activity within +/- 25%
Rate variation for any activity within +/- 30%

Bidder shall be disqualified in case its financial quote does not satisfy all the conditions listed above.
</td></tr>
<tr><td>5.12</td><td>Financial Bid – Selection of preferred Bidder</td><td>The Total Bid Price will be computed for each technically qualified bidder, and the Bidder with lowest Financial Bid will be selected after verification, as the preferred Bidder.</td></tr>
</table>

4.3 Transaction Model

<table>
<tr><th>Sl. No.</th><th>Item</th><th>Response</th></tr>
<tr><td>6</td><td colspan="2">Payment Terms</td></tr>
<tr><td>6.1</td><td>Contract Price</td><td>The Bid Price quoted by the selected or preferred Bidder, after adjustments if any, will be considered as the Contract Price.</td></tr>
<tr><td>6.2</td><td>Performance Incentive payments</td><td>The performance incentive will be paid to Service Provider based on two items:
1. Percentage additional area irrigated beyond minimum area to be irrigated
The performance incentive will be paid to Service Provider based on percentage (%) additional area irrigated beyond minimum area to be irrigated.
It will be calculated as:
Percentage Additional Area Irrigated = [Area irrigated in addition to the minimum area to be irrigated/ Minimum area to be irrigated as approved in the Irrigation Schedule] * 100
Further details related to the Performance incentive payment is provided in Annexure 6 (KPI 3).
The incentive amount will be paid based on the level of improvement in irrigation area achieved based on different slab rates, applicable for each season.
Following table details the indicative incentive payout based on slabs of % improvement in area, to be paid to the Service Provider for achieving them.
<table>
<tr><th rowspan="2">Project Area</th><th rowspan="2">Season</th><th colspan="5">Incentive for % Additional Area Irrigated (INR per hectare)</th></tr>
<tr><th>Up to 5%</th><th>5-10%</th><th>10 - 15%</th><th>15-20%</th><th>More than 20%</th></tr>
<tr><td rowspan="3">CWP-2</td><td>Kharif</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Rabi</td><td>500</td><td>1000</td><td>1500</td><td>1800</td><td>2000</td></tr>
<tr><td>Boro</td><td>500</td><td>1000</td><td>1500</td><td>1800</td><td>2000</td></tr>
<tr><td rowspan="3">CWP-5</td><td>Kharif</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Rabi</td><td>500</td><td>1000</td><td>1500</td><td>1800</td><td>2000</td></tr>
<tr><td>Boro</td><td>500</td><td>1000</td><td>1500</td><td>1800</td><td>2000</td></tr>
<tr><td rowspan="3">CWP-6</td><td>Kharif</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Rabi</td><td>500</td><td>1000</td><td>1500</td><td>1800</td><td>2000</td></tr>
<tr><td>Boro</td><td>500</td><td>1000</td><td>1500</td><td>1800</td><td>2000</td></tr>
<tr><td rowspan="3">CWP-7</td><td>Kharif</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Rabi</td><td>500</td><td>1000</td><td>1500</td><td>1800</td><td>2000</td></tr>
<tr><td>Boro</td><td>500</td><td>1000</td><td>1500</td><td>1800</td><td>2000</td></tr>
<tr><td rowspan="2">CWP-9</td><td>Kharif</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Rabi</td><td>500</td><td>1000</td><td>1300</td><td>1600</td><td>2000</td></tr>
</table>
</td></tr>
</table>

Sl. No.	Item	Response
		<table><tr><td></td><td>Boro</td><td>500</td><td>1000</td><td>1300</td><td>1600</td><td>2000</td></tr></table> 2. For every **additional area brought under Micro Irrigation** (based on KPI-5) the Service Provider will be provided a fixed incentive as INR 5000 per acre. In case this incentive is adopted there may not be a need for including Row 6 in the Bid Price sheet, provided funding from PMKSY will also be ensured.
6.3	Payment Schedule & Conditions	The Service Provider shall be eligible for the following categories of payments: 1. Payment of fixed Study Period Quote - As fixed by the Employer on lumpsum basis or as quoted by the Bidder 2. Payment for mandatory services (O&M Quote) – As quoted by the bidder across Transition Period and Operation Period 3. Payment for optional activities – as fixed by the Employer on unit rate basis Detailed payment schedule will be similar to CWPs in Phase-1 as provided in **Annexure 4**.
6.4	Price Adjustment	Price Adjustment will not be applicable, in case the Project period finalized is less than or equal to 24 months. In case the selected project period is 36 months and above, price adjustment will be applicable.
6.5	Liquidated Damages	In addition to the Liquidated Damages (LDs) provided in Section 6.5 of the previous term sheet, additional LDs on Project Performance may be applicable based on the selected water efficiency measures. The methodology for such additional LDs of Phase 2 shall be developed post completion of Task-2 for Phase-1.
6.6	Other revenue streams	It is envisaged that in addition to the above, the Service Provider will not be allowed to collect revenue from the farmers for providing any additional services
7	**Bank Guarantees, Securities and Advance**	
7.1	Bid Security	A Bid Security ***shall be*** required. The amount of the Bid Security shall be (a) CWP – 2: INR 3.9 Lakhs (b) CWP – 5 : INR 2.7 Lakhs (c) CWP – 6 : INR 2.4 Lakhs (d) CWP – 7 : INR 1.8 Lakhs (e) CWP – 9 : INR 0.8 Lakhs This has been computed so as not to exceed 2% of the estimated value of the contract. Detailed justification for the cost assumptions mentioned above are provided in **Annexure 5** to this term sheet. Bid Security is required for each lot as per amounts indicated against each package.

Sl. No.	Item	Response
7.2	Performance Security	The Performance Security amount is **10%** percent of Contract Price
8	**Other key contract terms**	
8.1	Force Majeure concerns on Flood/ Drought	Same as the provisions mentioned in Section 8.1 of the Term Sheet provided in Chapter 3

5. Key Considerations and way forward

With the submission of this Term Sheet, the Task -1 of the Consultancy Engagement is completed. To proceed with Task-2 of transaction advisory services for the four packages under Phase-1, IWD must issue a Notice to Proceed for Phase -I of Task-2, to the study team.

Additionally, for proceeding further with the development of the bidding documents for Phase -1, the following key actions are to be taken:

- **Sharing Term Sheet for CWPs in Phase-1 with World Bank and Potential Bidders**: Post decision on the Bid Price sheet, the term sheet may be updated as required and shared with potential bidders and World Bank for their inputs and comments.
- **Decisions on Term Sheet modalities for CWP in Phase-2:** Post completion of Task-2 for Phase -1, IWD may decide on the key project modalities for Phase-2 based on responses received from Phase -1.

Annexure 1: Project Specific Modalities for CWPs 1-9

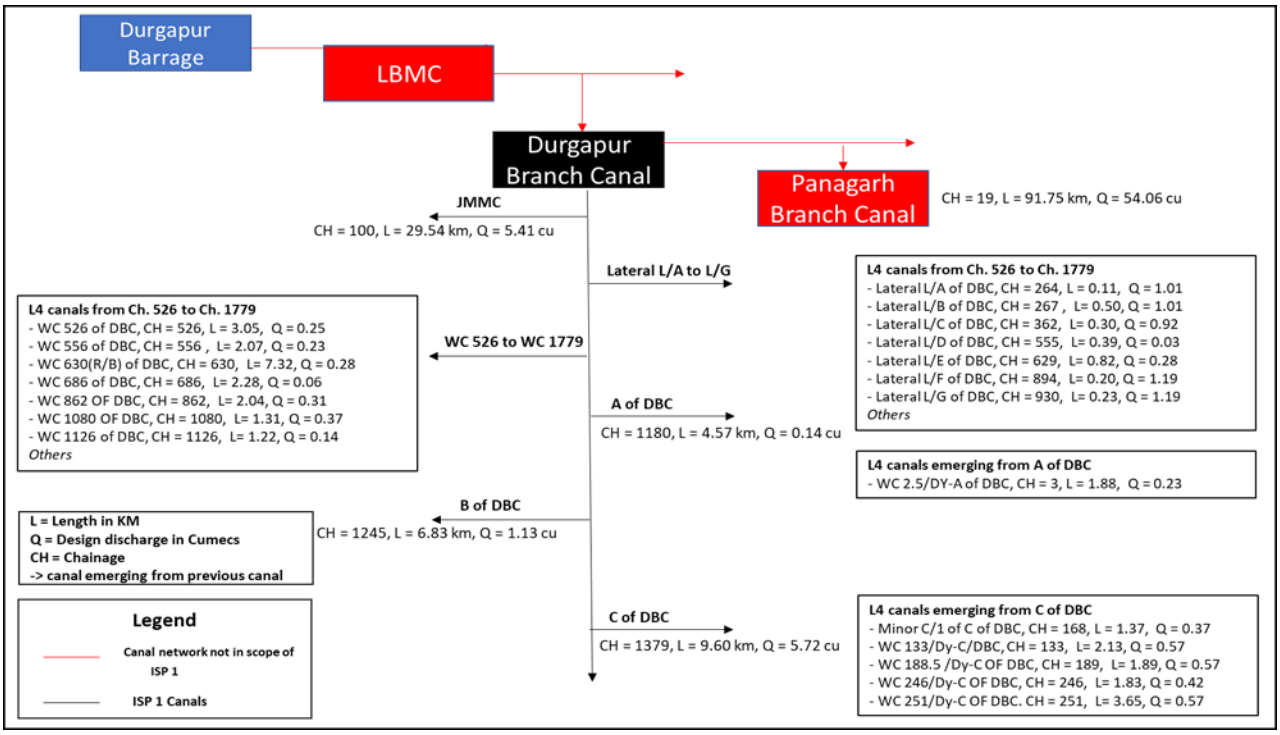
Please note: The Irrigation Service Provider will be referred to as Service Provider for the purpose of this report and will mentioned as same across all the annexures

Package details of CWP -1: Durgapur Branch Canal

Durgapur Branch Canal is the first L2 canal off taking from LBMC, and further also branches into Panagarh Branch Canal. The following table presents an overview of the project area along with the details of chainage, blocks covered and length of the canal.

Components	Blocks covered	Length coverage (in Km)			Total Length (Km)
		L2	L3	L4	
Ch. 19.50 to tail including all distributaries upto L4 canals	Kanska, Ausgram – I & II, Mangalkote	55.95	29.54	113.12	198.60

The following line diagram presents an overview of the entire canal stretch along with the JMMC canal (L3) and 36 other minors (L4). The details of the chainage and offtake are also provided for each canal alongside.



Further, the table below presents the reference area which the Service Provider will refer to while defining the minimum area to be irrigated for the respective season.

Season	Command Area (in Ha)
Kharif	12,459
Rabi	3238

Season	Command Area (in Ha)
Boro	799

Based on the water availability at the head and reference from previous years, the Service Provider will define minimum area to be irrigated in the SOP which will be approved by the Employer and Irrigation and Waterways Department, Government of West Bengal.

The indicative length of canals to be irrigated in each season under the package is provided below.

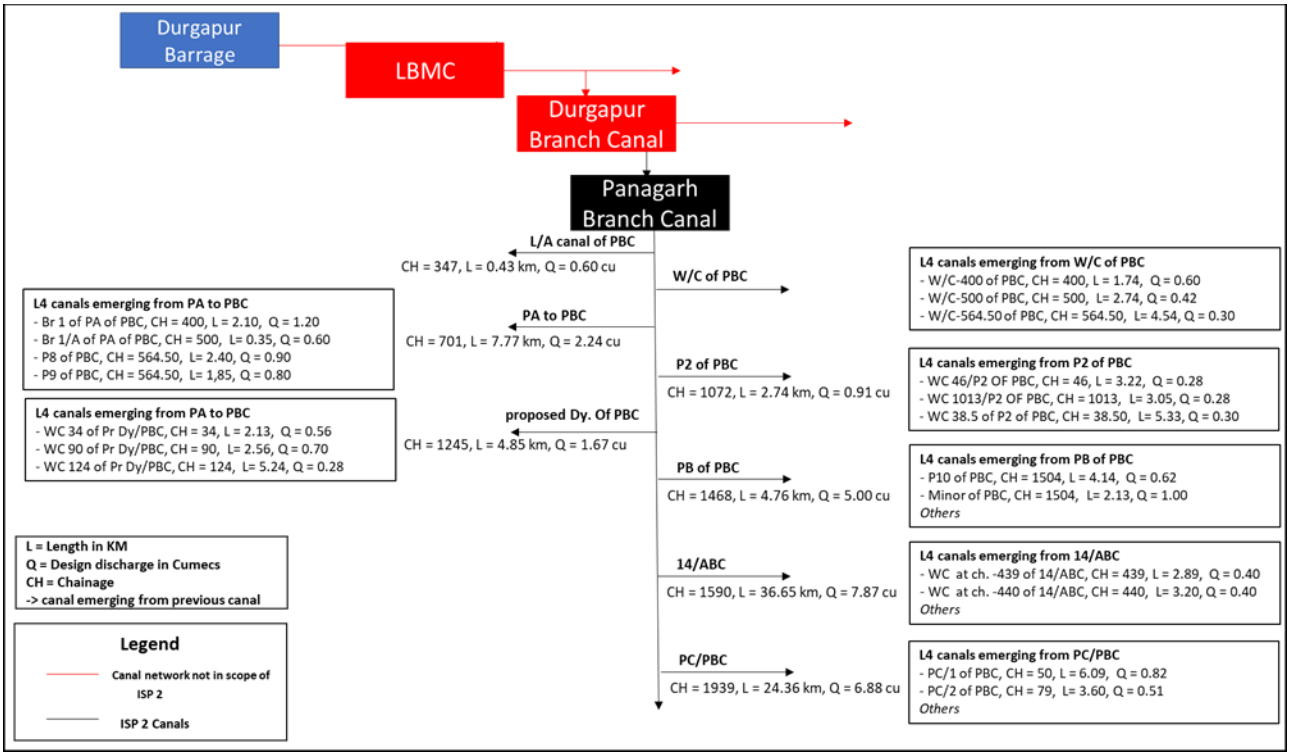
No.	Description		Length in kms
1.1	Kharif Season		
1.1.1		L2	56
1.1.2		L3	30
1.1.3		L4	113
1.2	Rabi Season		
1.2.1		L2	9
1.2.2		L3	5
1.2.3		L4	18
1.3	Boro Season		
1.3.1		L2	4
1.3.2		L3	2
1.3.3		L4	7

Package details of CWP -2: Panagarh Branch Canal

Panagarh Branch Canal is an L2 canal off taking from L2 canal – Durgapur Branch Canal. The following table presents an overview of the project area along with the details of chainage, blocks covered and length of the canal.

Components	Blocks covered	Length coverage (in Km)			Total Length (Km)
		L2	L3	L4	
Ch 0.00 to tail including distributaries upto L4 canals	Kanska, Ausgram – I & II, Bhatar, Galsi – I, Mangalkote, Katwa – I & II	91.75	77.39	147.27	316.40

The following line diagram presents an overview of the entire canal stretch along with the 5 (L3) canals and 48 other minors (L4). The details of the chainage and offtake are also provided for each canal alongside.



Further, the table below presents the reference area which the Service Provider will refer to while defining the minimum area to be irrigated for the respective season.

Season	Command Area (in Ha)
Kharif	39,194
Rabi	4858
Boro	2048

Based on the water availability at the head and reference from previous years, the Service Provider will define minimum area to be irrigated in the SOP which will be approved by the Employer and Irrigation and Waterways Department, Government of West Bengal.

The indicative length of canals to be irrigated in each season under the package is provided below.

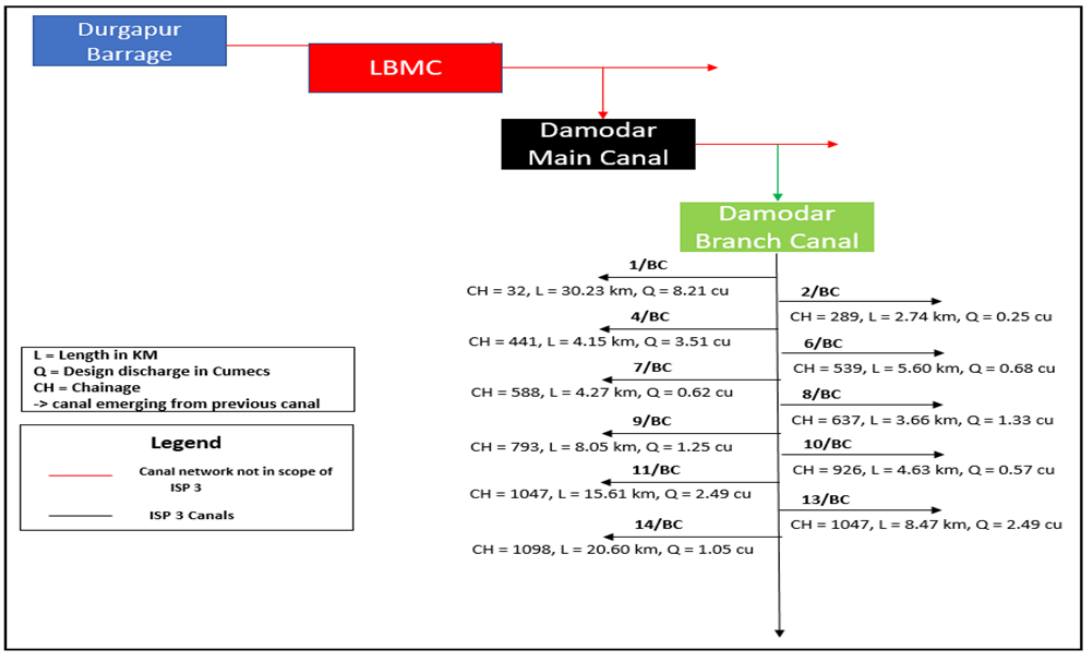
No.	Description	Length in kms
1.1	Kharif Season	
1.1.1	L2	92
1.1.2	L3	77
1.1.3	L4	147
1.2	Rabi Season	
1.2.1	L2	14
1.2.2	L3	12
1.2.3	L4	23
1.3	Boro Season	
1.3.1	L2	5
1.3.2	L3	4
1.3.3	L4	8

Package details of CWP -3: Damodar Branch Canal

Damodar Branch Canal is the L2 canal off taking from Damodar Main Canal, which is branching off from LBMC. The following table presents an overview of the project area along with the details of chainage, blocks covered and length of the canal.

Components	Blocks covered	Length coverage (in Km)			Total Length (Km)
		L2	L3	L4	
Ch. 0.00 to tail including all distributaries upto L4 canal	Galsi – I & II, Bardhman – I, Ausgram – I & II, Bhatar, Monteswar	34.50	4.15	154.13	192.78

The following line diagram presents an overview of the entire canal stretch along with the 4/BC canal (L3)



Further, the table below presents the reference area which the Service Provider will refer to while defining the minimum area to be irrigated for the respective season.

Season	Command Area (in Ha)
Kharif	39,560
Rabi	1619
Boro	5855

Based on the water availability at the head and reference from previous years, the Service Provider will define minimum area to be irrigated in the SOP which will be approved by the Employer and Irrigation and Waterways Department, Government of West Bengal.

The indicative length of canals to be irrigated in each season under the package is provided below.

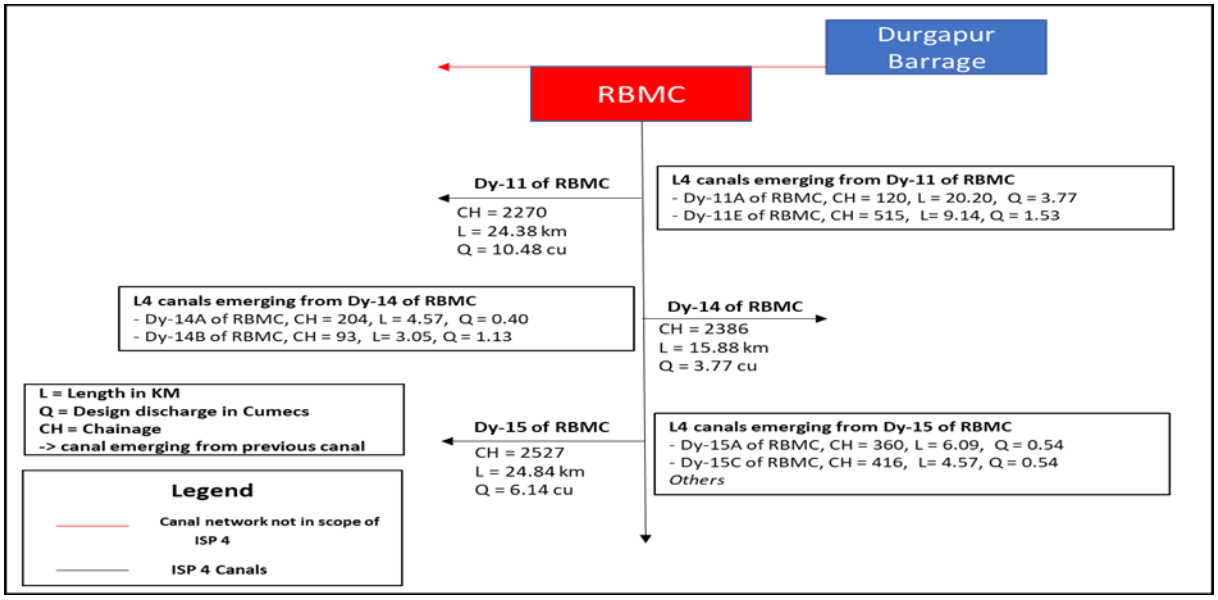
No.	Description	Length in kms
1.1	Kharif Season	
1.1.1	L2	35
1.1.2	L3	4
1.1.3	L4	154
1.2	Rabi Season	
1.2.1	L2	3
1.2.2	L3	1
1.2.3	L4	13
1.3	Boro Season	
1.3.1	L2	5
1.3.2	L3	1
1.3.3	L4	23

Package details of CWP -4: Distributary – 11,14 & 15 of RBMC

The following table presents an overview of the project area along with the details of chainage, blocks covered and length of the canal.

Components	Blocks covered	Length coverage (in Km)			Total Length (Km)
		L2	L3	L4	
Distributary – 11, 14 & 15 of RBMC upto L4 canals	Indus, Khandoghosh, Raina – I & II,	-	-	95.40	95.40

The CWP-4 package comprises of three of the canal distributaries emerging from the RBMC, namely no.11, 14 and 15. These distributaries have further L4 distributaries emerging from them. The following line diagram presents an overview of the entire canal stretch which is having 12 minor L4 canals. The details of the chainage and offtake are also provided for each canal alongside.



Further, the table below presents the reference area which the Service Provider will refer to while defining the minimum area to be irrigated for the respective season.

Season	Command Area (in Ha)
Kharif	20,306
Rabi	891
Boro	1781

Based on the water availability at the head and reference from previous years, the Service Provider will define minimum area to be irrigated in the SOP which will be approved by the Employer and Irrigation and Waterways Department, Government of West Bengal.

The indicative length of canals to be irrigated in each season under the package is provided below.

No.	Description	Length in kms
1.1	Kharif Season	
1.1.1	L2	-
1.1.2	L3	-
1.1.3	L4	95
1.2	Rabi Season	
1.2.1	L2	-
1.2.2	L3	-
1.2.3	L4	9
1.3	Boro Season	
1.3.1	L2	-
1.3.2	L3	-
1.3.3	L4	8

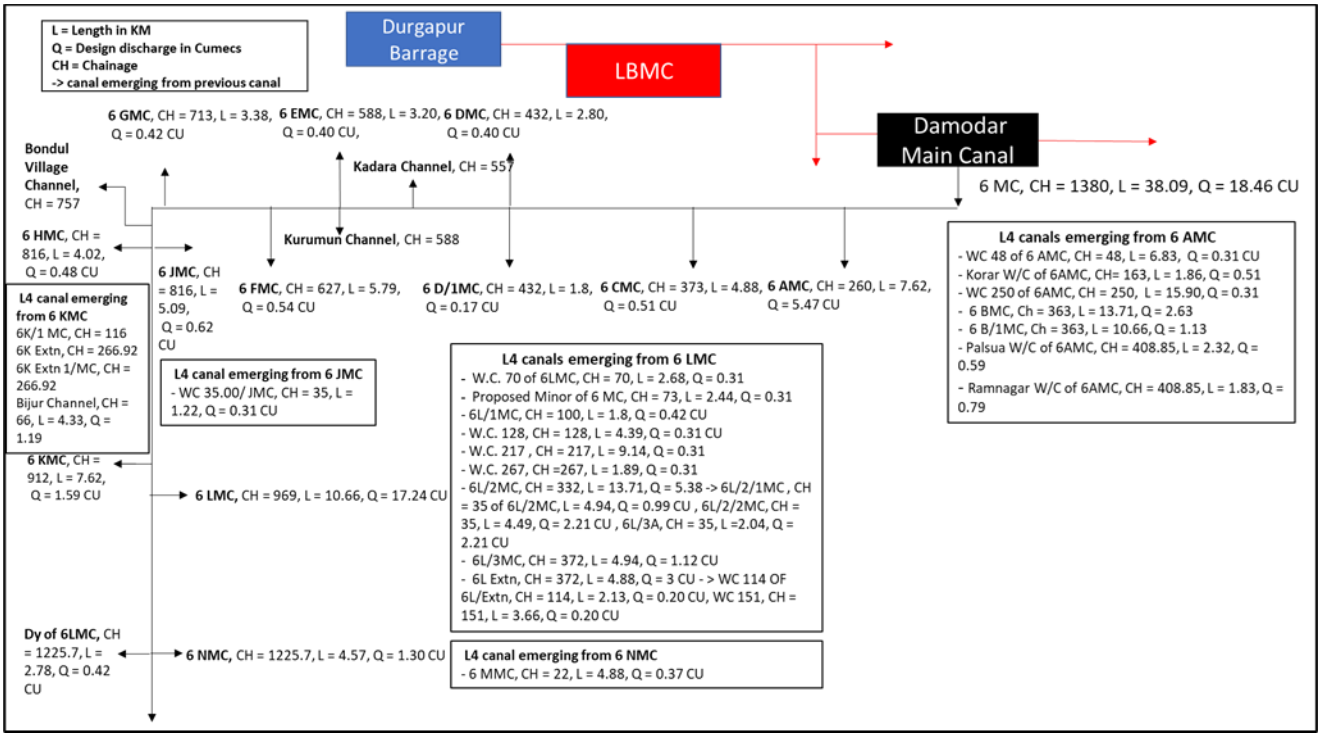
Package details of CWP – 5: 6MC

The following table presents an overview of the 6MC canal along with the details of chainage, blocks covered and length of the canal.

Components	Blocks covered	Length coverage (in Km)			Total Length (Km)
		L2	L3	L4	
Ch 0.00 to tail including all distributaries upto L4 canals	Bardhaman – I & II, Memari – II, Monteswar	-	38.09	210.00	248.09

Line Diagram for CWP – 5

CWP-5 package network has 6 MC which offtakes from the feeder channel (Damodar Main canal) of LBMC, along with its distributaries. The following line diagram presents an overview of the entire canal stretch along with the 6MC canal (L3) and 43 other minors (L4). The details of the chainage and offtake are also provided for each canal alongside.



Further, the table below presents the reference area which the Service Provider will refer to while defining the minimum area to be irrigated for the respective season. Based on the water availability at the head and reference from previous years, the Service Provider will define minimum area to be irrigated in the SOP which will be approved by the Employer and Irrigation and Waterways Department, Government of West Bengal.

Season	Command Area (in Ha)
Kharif	37,859
Rabi	1538
Boro	5685

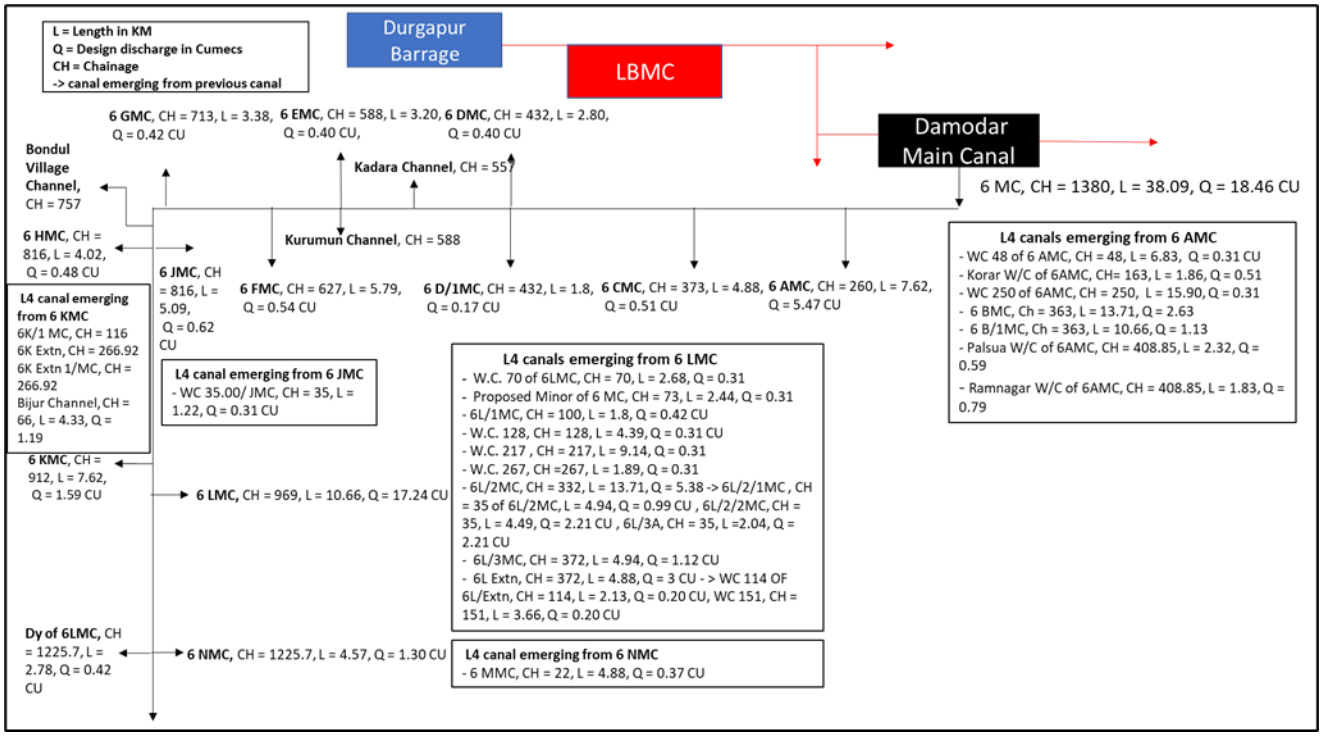
Package details of CWP – 6: Kana Damodar

The following table presents an overview of the 6MC canal along with the details of chainage, blocks

Components	Blocks covered	Length coverage (in Km)			Total Length (Km)
		L2	L3	L4	
Ch 0.00 to tail including all distributaries upto L4 canal	Jamalpur, Dhaniakhali, Tarkeswar, Jangipara, Udaynarayanpur, Amta & Jagatballavpur	52.79	77.33	38.05	168.17

covered and length of the canal.

Line Diagram for CWP – 6: Kana Damodar is a L2 level canal off taking from LBMC, it branches into L3 level canal D/1 of KD and D/2 of KD at different chainages, as well as several other L4 level canals.The following line diagram presents an overview of the entire canal stretch along with the D/1 of KD canal (L3) and 10 other minors (L4). The details of the chainage and offtake are also provided for each canal alongside



Further, the table below presents the reference area which the Service Provider will refer to while defining the minimum area to be irrigated for the respective season. Based on the water availability at the head and reference from previous years, the Service Provider will define minimum area to be irrigated in the SOP which will be approved by the Employer and Irrigation and Waterways Department, Government of West Bengal.

Season	Command Area (in Ha)
Kharif	16,835
Rabi	7063
Boro	2027

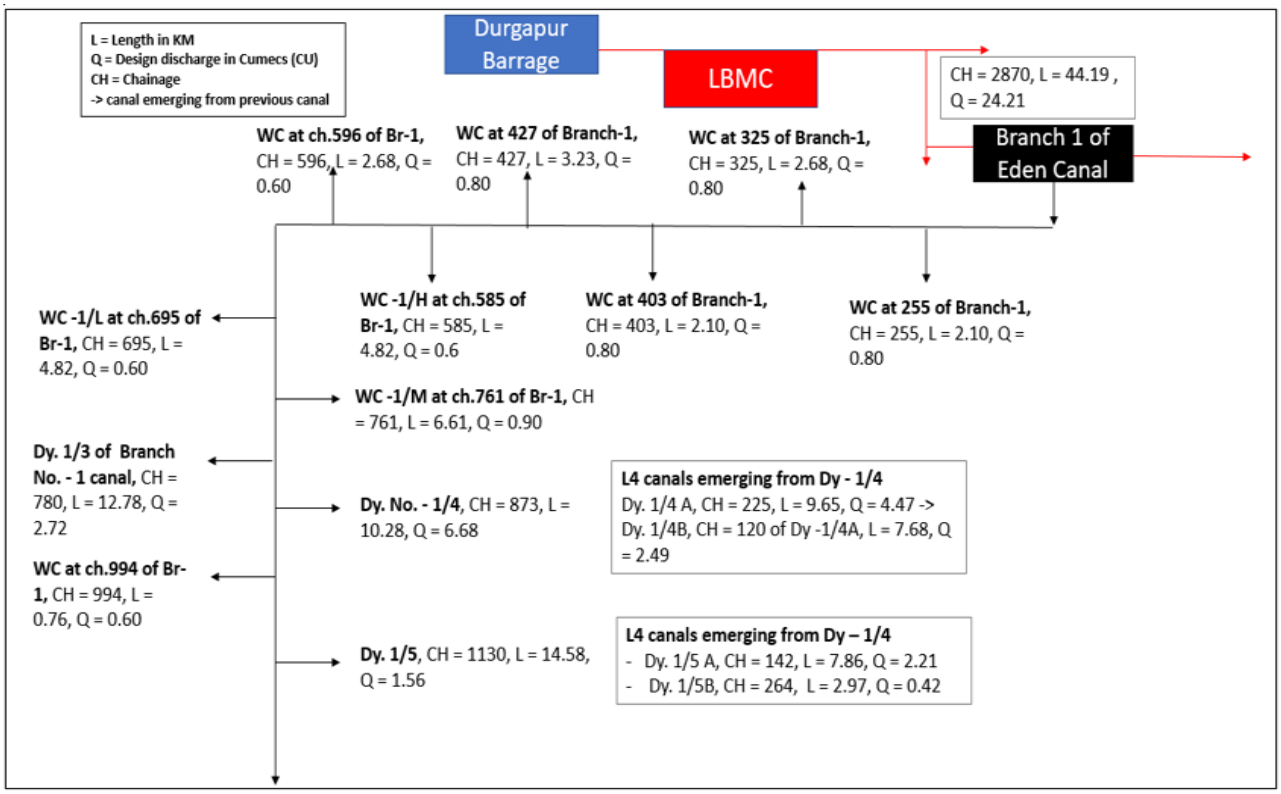
Package details of CWP – 7: Branch – I of Eden Canal

The following table presents an overview of the Branch – I of Eden canal along with the details of chainage, blocks covered and length of the canal.

Components	Blocks covered	Length coverage (in Km)			Total Length (Km)
		L2	L3	L4	
Ch.00 to tail including all distributaries upto L4 canal	Memari – I, Jamalpur, Pandua, Polba – Dadpur, Chinsurah-Mogra	44.19	10.28	85.42	139.89

Line Diagram for CWP – 7: CWP-7 contains the entire stretch of Branch-I of Eden canal. The Branch 1 of the Eden canal branches out of the LBMC and further distributes into one L3 and several L4 level canals. The following line diagram presents an overview of the entire canal stretch along with the Dy. No. - 1/4 canal (L3) and 9 other minors (L4). The details of the chainage and offtake are also provided for each canal alongside

Further, the table below presents the reference area which the Service Provider will refer to while defining the minimum area to be irrigated for the respective season. Based on the water availability at the head and reference from previous years, the Service Provider will define minimum area to be irrigated in the SOP which will be approved by the Employer and Irrigation and Waterways Department, Government of West Bengal.



Season	Command Area (in Ha)
Kharif	16,528
Rabi	2126
Boro	2475

Package details of CWP – 8: Branch – II of Eden Canal

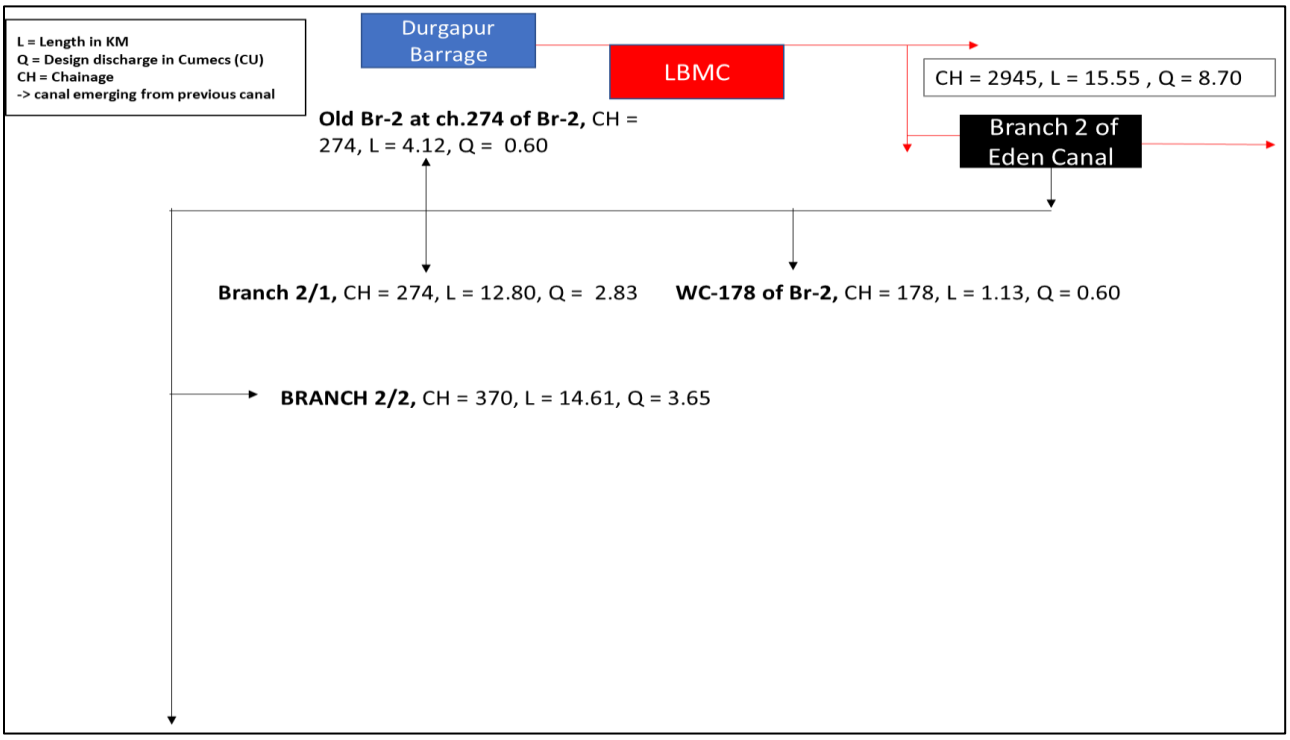
The following table presents an overview of the Branch – II of Eden canal along with the details of chainage, blocks covered and length of the canal.

Components	Blocks covered	Length coverage (in Km)			Total Length (Km)
		L2	L3	L4	

Branch – II of Eden Canal	Ch.00 to tail including all distributaries upto L4 canal	-	15.55	32.66	48.21

Line Diagram for CWP – 8

CWP-8 comprises Branch-II of the Eden canal and is the smallest packages among the 9 CWPs. The following line diagram presents an overview of the entire canal stretch with one L3 canal and 4 other minors (L4). The details of the chainage and offtake are also provided for each canal alongside.



Further, the table below presents the reference area which the Service Provider will refer to while defining the minimum area to be irrigated for the respective season. Based on the water availability at the head and reference from previous years, the Service Provider will define minimum area to be irrigated in the SOP which will be approved by the Employer and Irrigation and Waterways Department, Government of West Bengal.

Season	Command Area (in Ha)
Kharif	5610
Rabi	665
Boro	1250

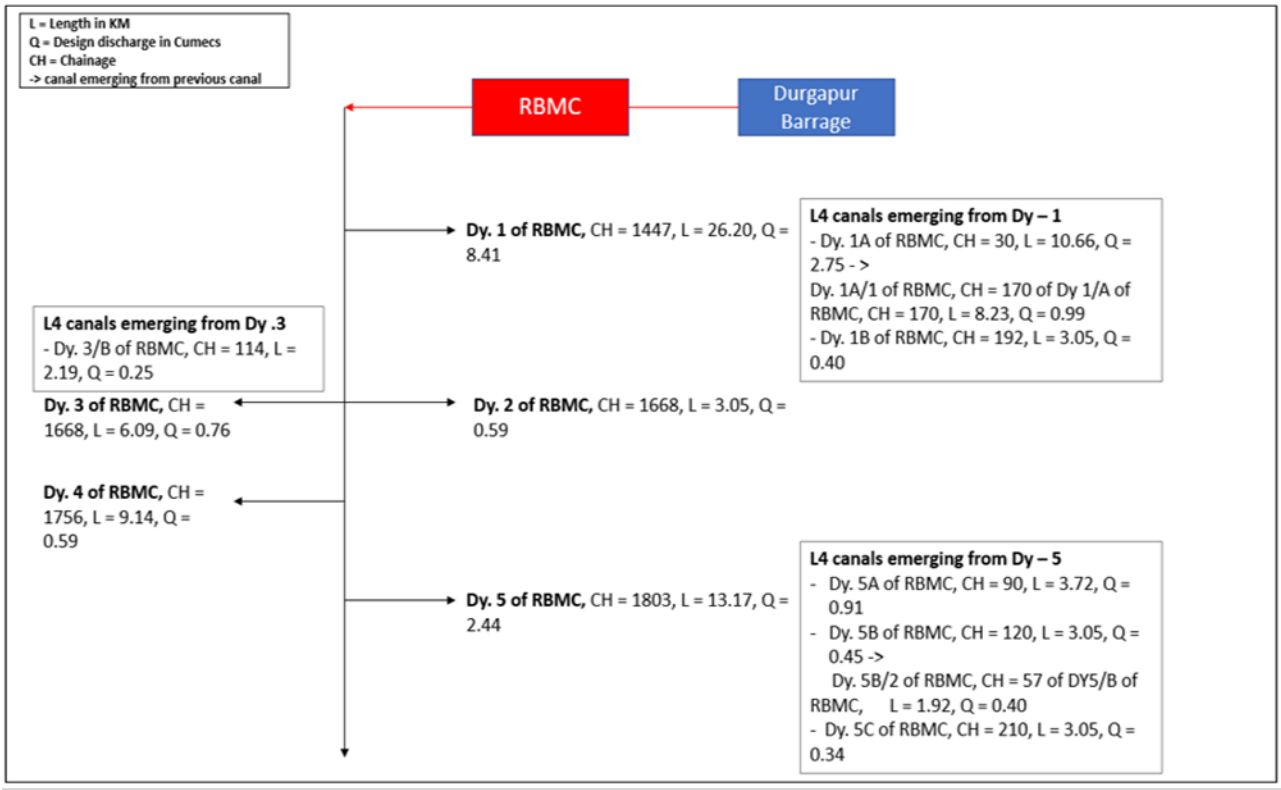
Package details of CWP – 9: Distributary – 1,2,3,4 & 5 of RBMC

The following table presents an overview of the Distributary – 1,2,3,4 & 5 of RBMC canal along with the details of chainage, blocks covered and length of the canal.

Components	Blocks covered	Length coverage (in Km)	Total Length (Km)

		L2	L3	L4	
Distributary – 1,2,3,4 & 5 of RBMC upto L4 canals	Indus, Patrasayer, Khandoghosh	-	-	93.52	93.52

Line Diagram for CWP – 9



The first 5 distributaries of RBMC constitute this package. The following line diagram presents an overview of the entire canal stretch which has 13 minors (L4). The details of the chainage and offtake are also provided for each canal alongside.Further, the table below presents the reference area which the Service Provider will refer to while planning the area to be irrigated for the season (subject to availability of water), based on the reference area Service Provider will propose the planned area to be irrigated for the season which will require the approval of the Employer and Irrigation and Waterways Department, Government of West Bengal.

Season	Command Area (in Ha)
Kharif	8788
Rabi	810
Boro	510

Annexure 2: Formats for Reporting for CWPs in Phase-1

This annexure presents sub-annexures covering the reporting formats for the following –

1. Comprehensive Assessment Report (CAR)
2. Seasonal Operation Plan (SOP)
3. Irrigation Schedule
4. Pre-Irrigation season report
5. Seasonal Performance Report (SPR)

Reporting Milestone 1 - Comprehensive Assessment Report (CAR)

The Comprehensive Assessment Report submitted by the Service Providers will include, but not be limited to, the following listed sections:

Based on the reconnaissance survey performed and consultations with relevant stakeholders including Employer, irrigation Department, farmers, farmer groups etc., the Service Provider will present the following in the Comprehensive Assessment Report (CAR) -

1) **Overview of command area** which will outline the key canals within the Project Area (L2, L3 & L4 level canals as applicable), length of the network, their dimensions, discharge key nodes/gates (including all head regulators and cross regulators), chainage details, stretch details, total number of outlets in each stretch
2) **Mapping of all head regulators and cross regulators** with chainages, identification of stretches and outlets in each stretch
3) **Outlet details** of each outlet in the canal which will include (a) their location, (b) dimensions (c) capacity (d) other technical parameters (as required) (e) mouzas associated with each outlet
4) **Map overall command area** of the package covering the following information, based on farmer surveys in the command area and inputs from Employer and Irrigation and Waterways Department, Government of West Bengal
   a. Mapping of Mouzas which can possibly be irrigated during each season based on inputs from Employer and Irrigation and Waterways Department, Government of West Bengal
   b. Mapping of Plots (mouza-wise)- including plot numbers (based on farmer surveys in the command area and inputs from Employer and Irrigation and Waterways Department, Government of West Bengal) and plot areas (from "Jomir Tathya" mobile application) which can possibly be irrigated during each season
5) **Cropping pattern of command area** - Details of season wise major crops grown in the Project Area (at mouza level) and their water requirements.
6) **Irrigation practices in command area** – Identify season wise and crop-wise irrigation practices adopted by farmers in the Project Area (at mouza level)
7) **Farming practices in the command area** – Details of agricultural practices and other farm level efficiency measures (SRI, crop-diversification, etc.) being practiced in the Project Area
   Service Provider will also provide details on the following –
      i. Identified list and details of farmer groups /committees actively involved in water budgeting and distribution
      ii. Details on potential implementation partners (SHGs, farmer committees etc.,) for implementation of Optional Services
      iii. Identified list and details of progressive farmers
      iv. Identified list of capacity building/ training needs of the farmers/ farmer groups
8) **Mobile application adoption in the command area** - Number of farmers who have installed the farmer mobile application developed by the Employer and Irrigation and Waterways

Department, Government of West Bengal, and report percentage of farmers who have installed/ planning to use the mobile application in different stretches of the Project Area.

9) **Allowable Time for different repair /maintenance works** – The Service Provider will identify different types of repair /maintenance works to be undertaken prior and during irrigation and propose target duration to complete each type of work (Allowable Time)

10) **Performance Improvement Plan** –
- Baseline values for identified KPIs
- Planned list of performance improvements expected during the project period with details of key activities to be undertaken and expected targets for each season.

Reporting Milestone 2 - Seasonal Operational Plan (SOP)

The Seasonal Operation Plan submitted by the Service Providers will include, but not be limited to, the following listed sections:

1) **Context and overview** of the Project Area including
   a. Details on the overall canal network – overall command area and where package is situated
   b. List of canals, length of the network, their dimensions, discharge key nodes/gates, chainage details, total number of outlets

2) **Pre-season Asset Checklist**- Asset condition checklist prepared after conducting inspection of the civil and mechanical structures/installations including head regulators, cross regulators, weirs, outlets, outlet gates, canal embankment, canal bed, etc. to determine readiness of the canal network and associated infrastructure for the season

3) **Routine maintenance plan** (including repairs) for the canal which will include the list of routine maintenance activities to be undertaken and their frequency. These activities will include but will not be limited to the following:
   Prior to every irrigation season:
   a. Structural repairs in key canal structures
   b. Clearing of debris and vents in the critical canal stretches
   c. Closure of canal breaches, if any
   d. Desilting of canal beds, and other earthworks for better delivery to fields
   e. Removal of vegetation (Jungle cutting) in the level 3 and level 4 canals prior to every cycle of irrigation
   f. Oiling, cleaning & greasing of regulator gates
   During irrigation season:
   a. Earthworks such as maintaining slopes, providing gunny bags, barriers, removing siltation, periodic vegetative growth clearance etc.
   b. Other works such as repairing of gauges, leakages, minor repairs to structures, etc
   c. Repair of ghoghes.
4) **Water optimization plan** through the implementation of Optional services – This will include the list of activities/ works that will be undertaken beyond the outlet, within the command area, for reducing losses in distribution and improving utilization at field level. The activities under this can include –
   a. Installing temporary pumps for lifting water from canal, providing pipes for irrigating fields

b. Capacity Building Plan for the farmers and farmer groups on crop diversification, using micro-irrigation, and water-efficient agricultural practices. The plan shall essentially contain the below:
   - The type of trainings to be provided to the Farmers and the Farmer Committees during the season
   - The profile of trainers planned to be engaged during the season
   - Trainings to farmers and farmer groups shall be monitored separately
   - Identification and encouragement of progressive farmers who can further inspire other farmers through regular consultations, site visits, demonstrations etc.,

5) **Performance Improvement Plan (PIP)** – Planned list of performance improvements expected during the project period with details of key activities to be undertaken and expected targets for each season. This will include the target KPIs and KMIs for the season based on the Irrigation Schedule.
6) **Routine inspection plan** – This will list the inspections/records to be carried out in the pre-watering, during watering and post-watering period of the irrigation season. The inspections can include but not be limited the following –
   a. Recording data as prescribed in Section 3.2 of this Term Sheet
   b. Visual inspection of canal network including upstream and downstream faces, visible portions of foundation and abutments, Galleries, Spillway and its energy dissipation arrangements, sluices etc.
   c. Record water surface elevation, water availability and spillway discharge
   d. Record meteorological data, Record releases from canal sluices
   e. Check security and safety devices, Complete logbook / site register which include the above information.
   f. Inspecting vegetation growth
   g. Check Sign/Warning display boards near vulnerable locations
   h. Check condition of spillway structure, check for debris in inlet channel, Check operation of spillway gates, Check for damages in spillway glacis, energy dissipation arrangement
   i. Inspection of Spillway & outlet works, hydro mechanical components, check paint on gates, Check lubrication of wire ropes etc.
7) **Usage of Farmer Mobile Application –** Based on the number of farmers installed the mobile application, the Service Provider set target for ensuring regular responses from the farmers who have installed the application.

Reporting Milestone 3 – Draft Irrigation Schedule

The draft Irrigation Schedule submitted by the Service Providers will include, but not be limited to, the following listed sections:

1) **Total water available** at the head of the canal system (in discussion with Employer and Irrigation and Waterways Department, Government of West Bengal) for the season
2) **Targeted area** - Minimum area to be irrigated (Mouza wise) based on the water availability
3) **High level schedule** - Irrigation start date and end date for the season, planned number of watering for the season along with their start date/time and end date/time.
4) **Canal wise water supply schedule** which will include Outlet/ chainage wise expected time for supply of each watering during the season. An illustrative format of the canal wise water supply schedule is provided in Annexure 3.

Reporting Milestone 4 – Pre-Irrigation Season Report

The Pre-Irrigation Season Report submitted by the Service Provider will include, but not be limited to, the following listed sections:

1) **Compliance with the Routine maintenance plan** prior to the irrigation season (as submitted in SOP) for the canal which will include the list of routine maintenance activities undertaken, their details and locations. These activities will include but will not be limited to the following:
   Prior to every irrigation season:
   a. Structural repairs in key canal structures
   b. Clearing of debris and vents in the critical canal stretches
   c. Closure of canal breaches, if any
   d. Desilting of canal beds, and other earthworks for better delivery to fields
   e. Removal of vegetation (Jungle cutting) in the level 3 and level 4 canals prior to every cycle of irrigation
   f. Oiling, cleaning & greasing of regulator gates

Reporting Milestone 5 - Seasonal Performance Report (SPR)

This report will indicate the achieved level of the operations by the Service Provider against the planned Seasonal Operational Plan, and will include the following information:

1) **Planned vs. actual performance of Identified Project Indicators -** 2 types (3 KPIs & 2 KMIs) for the season for the package, as per the formula and methodology provided in the Annexure 6
2) **Planned vs. actual list of activities** undertaken under routine maintenance, unplanned activities, operational activities, post-season maintenance activities and water optimization activities
3) **Adherence to Irrigation Schedule**
   - Revision of Irrigation Schedule in case of delays due to un-planned activities
   - Height of water recorded at select head reaches of the canal network, in the beginning of each watering season
   - List of stretches/outlets where water was supplied along with total hours of supply at each of these stretches to assess the volume of supply at these outlets (Vo) in each watering period, actual time of supply area covered in Ha at the stretches
4) **Activities undertaken in accordance with the Scope of Work (Quoted vs. Actual)** - Detailing O&M works undertaken and manpower provided against the quoted quantity for the season
5) **Post-season Asset Checklist**- Asset condition checklist prepared after conducting inspection of the civil and mechanical structures/installations of the canal network and associated infrastructure including head regulators, cross regulators, weirs, outlets, outlet gates, canal embankment, canal bed, etc. post completion of watering for the season
6) **Key considerations/ issues/ challenges** observed in the command area that may be of relevance to the Service Provider's scope of works including but not limited to changes in cropping pattern, farming methods, irrigation practices, etc.
7) **Service Provider will self-report the following for each of the KPIs–**

KPI /KMI	Information to be self-reported by Service Provider
KPI 1: Reliability of Supply	Regular data on head and gate opening at every head and cross regulator (including outlet gate status) Cumulative delays in the delivery of water for all the outlets as against the schedule defined in the SOP Total water discharged at every head regulator and cross regulator of the canal.
KPI 2: Prompt Action Delays	Delays wrt timelines defined for completion of different types repair works in the SOP
KPI 3: Area Irrigated	Mandated mouzas irrigated and their corresponding Area (I_{SP}) against the minimum target area (A_{IS}) to be irrigated at the end of the watering period Additional Area Irrigated (I_{SP}) irrigated at the end of the watering period in addition to the minimum area to be irrigated.
KMI 1: Capacity Building and Training of Farmers and Farmer Groups	Number of capacity building and training sessions conducted by Service Provider for the farmers during a particular season (N_{CF}) Number of capacity building and training sessions conducted by Service Provider for the farmer groups during a particular season (N_{CG}) Number of beneficiary farmers of the trainings during a particular season (N_{BF}) Number of beneficiary farmer groups of the trainings during a particular season (N_{BG})

Annexure 3: Formats to be included in the Contract Document

Format for Comprehensive Assessment Report:

1. Overview of Command Area - Canal			
Level of Canal	**Chainage - From**	**Chainage - To**	**Length of network**
L2			
L3			
L4			

2. Mapping of Head and Cross Regulator				
Chainage	**Head /Cross Regulator**	**No. of gates**	**Dimension of gates**	**Other details**

3. Details of Stretches and outlets					
Stretch	**Chainage - From**	**Chainage - To**	**List of Outlets**	**Mouzas served**	
				Full	**Partial**

4. Mapping of Overall Command Area							
Mouza	**Mouza No & Name**	**Total Area**	**Plot numbers in Mouza**	**Maximum Area that could be irrigated** *(based on previous year data)*	**Possibly Irrigated Area**	**Possibly Irrigated Plots (full & partial) – Plot numbers**	**Possibly Irrigated Plots (full & partial) – Plot area**
					Kharif - Rabi - Boro -	Kharif - Rabi - Boro -	Kharif - Rabi - Boro -

5. Cropping Pattern						
Mouza – No. & name	**Crops Practices in Kharif**	**Water requirement - Kharif**	**Crops Practices in Kharif**	**Water requirement - Rabi**	**Crops Practices in Boro**	**Water requirement - Boro**

6. Irrigation Practices			
Mouza – No. & name	**Irrigation Practices in Kharif (crop wise)**	**Irrigation Practices in Rabi (crop wise)**	**Irrigation Practices in Boro (crop wise)**

7. Farming Practices

Mouza – No. & name	List of progressive farmers	List of operational Farmer Committees /Groups, SHGs, NGOs, FPOs, FPCs etc.,	Capacity Building Needs - farmers	Capacity Building Needs – farmer groups

8. Farmer Mobile Application

Mouza	No. of farmers who have installed mobile application

9. Allowable Time

Type of repair /maintenance work	Allowable Time for completion

10. Performance Improvement Plan

KPI 3 – Area Irrigated (to determine target Minimum Area to be Irrigated)

Mouza No.	Mouza Name	Total Area	Baseline area irrigated (based on previous years data)	Target Area to be irrigated	Baseline plots irrigated (based on previous years data)	Target Plots to be irrigated
		Kharif- Rabi- Boro-	Kharif- Rabi- Boro-	Kharif- Rabi- Boro-	Kharif- Rabi- Boro-	Kharif- Rabi- Boro-

Format for Seasonal Operational Plan (SOP):

Overview of the Project Area			
Brief Description of Project Area			
Brief Description of Command Area			
Total Length of Canal network in Project Area	**L2:**	**L3:**	**L4:**
Total Length of Canal network to be operationalized in the season	**L2:**	**L3:**	**L4:**

Operational Plan (till the Canal Outlet)	
Manpower plan	
Activity Type	**Provisioned Manpower**
Operating canal gate	
Operating outlets	
Operating flap gates	
Canal Inspection Schedule	
Date of inspection	**Activities identified for inspection**

Pre-season Asset Checklist		
Asset Type	**Asset Details**	**Status**
Head Regulator		
Cross Regulator		
Weirs		
Outlets		
Outlet Gates		
Canal Embankment		
Canal Bed		
Etc.		

Pre-Operational Services Planning					
Name of the Activity	**Canal**	**Chainages**	**Total length (km)**	**Planned Start date of the activity**	**Planned Completion Days of the activity**
Structural repair					
Clearing of debris					
Jungle Cutting /Vegetation removal					
Etc.,					

Water Optimization Plan	
Activities to be undertaken	**Mouzas for which activity will be undertaken**
Installation of temporary pumps for lifting water from canal	
Providing Pumps for distribution from canal	
Installing Micro irrigation pumps	
Progressive Farmers identified and their numbers	

Capacity Building and Training Plan		
Activities to be undertaken	**Frequency / Nos.**	**Description / Remarks**
Training sessions for the farmers Total farmers to benefit from the sessions		Details on following to be mentioned here: - Type of Training to be provided - Profile of the trainers
Training sessions for the farmer committees Total farmer committees to benefit from the sessions		Details on following to be mentioned here: - Type of Training to be provided - Profile of the trainers
Progressive farmers identified		Location of progressive farmers identified to be provided here (location can be provided in terms of Mouza)

Format for Irrigation Schedule:

Total water available at head of the canal	
Planned number of watering for the season	
Minimum Area to be Irrigated	

Canal and Chainage wise irrigation schedule

Canal Details – Length of Canal Network to be operationalized	1st Watering		2nd Watering		3rd Watering		4th Watering		5th Watering	
	Start date/ Time	End date/ Time	Start date/ Time	End date/ Time	Start date/ Time	Start date/ Time	End date/ Time	Start date/ Time	End date/ Time	Start date/ Time
L2										
L3										
L4										

Canal Details	1st Watering		2nd Watering		3rd Watering		4th Watering		5th Watering	
	Start date/ Time	End date/ Time	Start date/ Time	End date/ Time	Start date/ Time	End date/ Time	Start date/ Time	End date/ Time	Start date/ Time	End date/ Time
Canal ABC*										

Stretch	Chainage details		1st Watering		2nd Watering		3rd Watering		4th Watering		5th Watering	
	From	To	Start date/ Time	End date/ Time	Start date/ Time	End date/ Time	Start date/ Time	End date/ Time	Start date/ Time	End date/ Time	Start date/ Time	End date/ Time
S1												
S2												
S3												

Similarly for other Canals (Canal CDE*, DEF*, etc.)
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**Please note: The Canal Names (Canal ABC, BCD, CDE, etc. referred here are for example purpose only*

Target Mouzas and Plots to be irrigated

Mouza No.	Mouza Number	Total area	Target Area to be irrigated	Percentage area of Mouza to be irrigated	List of plots to be irrigated
1		100 Ha	80 Ha	80%	Full Plots – 1, 3, 8, 10, etc. Partial Plots – 2, 5, 9, 13, etc.
2					
.					
.					

Format for Pre-Irrigation Season Services Report

Pre-Operational Services

List of activities	Canal Level	Chainage (From – To)	Total Length executed(km)	Planned Start Date	Planned Completion date	Actual Start Date	Actual Completion date
Jungle Cutting /Removal of Vegetation							
Clearing Debris							
Oiling, cleaning of canal structures							
Etc.,							

Format for Seasonal Performance Report (SPR):

Reporting of KPI performance

Overview of the Project Area			
Brief Description of Project Area			
Brief Description of Command Area			
Total Length of Canal network to be operationalized in the season	**L2:**	**L3:**	**L4:**
List of Head and Cross Regulators Operationalized			

Reporting Formats for KPIs

1. KPI 1 – Reliability of Supply

Data Format to be provided by the Service Provider – *for initial head of the canal (first head regulator from where the Service Provider is responsible for operations)*								
Date	Time	Head *(ft)*	Gate Opening		Discharge *(Cusec)*		Total Discharge *(Cusec)*	Volume *(Acre per ft^3)*
			Shutter 1 *(ft^2)*	Shutter 2 *(ft^2)*	Q1	Q2		
<For all dates within the watering periods>	<Time of 4 readings and every gate change>	<Recorded head during each reading>	<cross sectional area of the gate opening>	<cross sectional area of the gate opening>				
Watering Period 1								
Watering Period 2								

Data Format to be provided by the Service Provider – *for initial head of the canal (first head regulator from where the Service Provider is responsible for operations)*								
Date	Time	Head *(ft)*	Gate Opening		Discharge *(Cusec)*		Total Discharge *(Cusec)*	Volume *(Acre per ft^3)*
			Shutter 1 *(ft^2)*	Shutter 2 *(ft^2)*	Q1	Q2		
							Total	**Vi**

Data Format to be provided by the Service Provider – *For all head regulators (HR) and cross regulators (CR) in the Project Area*									
HR /CR	Date	Time	Head *(ft)*	Gate Opening		Discharge *(Cusec)*		Total Discharge *(Cusec)*	Volume *(Acre per ft^3)*
				Shutter 1 *(ft^2)*	Shutter 2 *(ft^2)*	Q1	Q2		
<For all HR & CR>	<For all dates within the watering periods>	<Time of 4 readings and every gate change>	<Recorded head during each reading>	*<cross sectional area of the gate opened>*	*<cross sectional area of the gate opened>*				
HR 1									
								Total	**V_1**
CR 1									
								Total	**V_2**
HR 2									
								Total	**V_3**
CR 2									
								Total	**V_4**
Etc.,									

Stretch	*Target Start Date & Time*	*Actual Start Date & Time*	*Delay in Start Time* (hours)*	Target End *Date & Time*	*Actual End Date & Time*	Target Duration (hours)	*Actual Duration (hours)*	*Shortage* (hours)*	*Details of closed outlets during stretch watering*	*Remarks (reason for closed outlets) #*
S1			**T_{SP1} =**					**T_{D1} =**	O1 (say)	

Stretch	*Target Start Date & Time*	*Actual Start Date & Time*	*Delay in Start Time* (hours)*	Target End *Date & Time*	*Actual End Date & Time*	Target Duration (hours)	*Actual Duration (hours)*	*Shortage* (hours)*	*Details of closed outlets during stretch watering*	*Remarks (reason for closed outlets) #*
									O3 (say)	
S2			**T_{SP2} =**					**T_{D2} =**		
etc.,										
	Grand Total		**T_{SP} =**	**Grand Total**				**T_D =**		

***Considering the dependencies on variables in delivering canal water at the outlets, a delay of 4 hours for an outlet is allowed. The delay will be calculated for beyond 4 hours.*

2. KPI 2 – Prompt Action Delays

Pre-Irrigation Season Services							
List of activities	Canal Level	Chainage (From – To)	Total Length (km)	Planned Start Date	Planned Completion date	Actual Start Date	Actual Completion date
Jungle Cutting /Removal of Vegetation							
Clearing Debris							
Oiling, cleaning of canal structures							
Etc.,							

Sr No	Chainage		Date of identification	Date of starting	Type of repair work identified	Identified by	Date of completion	Time taken for completion	Allowable time for completion (As per CAR)	Delay (In days)
	From	To								
1										D_1
2										D_2
3										
. . .										
25										D_{25}
									Total	**D_D**

3. KPI 3 –Area Irrigated

Details on Actual Area Irrigated– to exhibit compliance to minimum area irrigated						
Mouza No	Name	Total area (Ha)	Area Irrigated (Ha)	% Area of Mouza irrigated	List of fully irrigated plots	List of partially irrigated plots
	Total		I_{SP} =			

Details on Additional Area Irrigated						
Mouza No	Mouza Name	Target Minimum area (Ha)	Actual minimum area irrigated (Ha)	Additional Area Irrigated beyond minimum area (Ha)	No. & List of additional plots irrigated	
					Full	*Partial*

4. KMI 1 – Capacity Building and Training of farmers and farmer Groups

Capacity Building and Training			
Number of Training Sessions to farmers	**Number of farmers benefitted**	**Number of Training Sessions to farmer groups**	**Number of farmer groups benefitted**
		-	
		-	
Brief Description of topics covered and content of the trainings:			

Post-season maintenance activities:

Name of the Activity	**Canal**	**Chainages**	**Total length (km)**	**Start date of the activity**	**Completion Date of the activity**
Permanent rectification of fault lines in canal embankment					
Permanent rectification of ghoghes					

Etc.					

Major maintenance activities required to be undertaken by the Employer:

Name of the Activity	Canal	Chainages	Total length (km)	Details of the activity to be undertaken	Remarks
Structural collapse of regulator gate					
Structural collapse of cross drainage (non-regulatory) structure					
Etc.					

Post-season Asset Checklist		
Asset Type	**Asset Details**	**Status**
Head Regulator		
Cross Regulator		
Weirs		
Outlets		
Outlet Gates		
Canal Embankment		
Canal Bed		
Etc.		

Activities undertaken in accordance with the scope of work along with actual quantity executed for each activity (as approved by the Employer/ IWD)

Note: For intermediate submission in the middle of the season during the Transition/Operation period, the last column may be omitted

List of activities	Quantity Executed (as approved by the Employer)	Unit	Rate quote (in Rs. Per unit)	Actual Amount- AP_A (in Rs.)	Amount quoted - AP_Q (in Financial Proposal in Rs.)	Adjusted Amount- AP_{ADJ} (in Rs.)
O&M Works						
Pre-Operational Services						
Structural repair works in cross regulators, outlets, weirs, etc						
Jungle Cutting /Removal of Vegetation						
Clearing Debris and vents						

List of activities	Quantity Executed (as approved by the Employer)	Unit	Rate quote (in Rs. Per unit)	Actual Amount- AP_A (in Rs.)	Amount quoted - AP_Q (in Financial Proposal in Rs.)	Adjusted Amount- AP_{ADJ} (in Rs.)
Oiling, cleaning of canal structures						
Closure of canal breaches						
Desilting of canal beds, and other earthworks for better delivery to fields						
Etc.,						
Routine maintenance during irrigation						
Earthworks such as maintaining slopes						
Providing gunny bags, barriers,						
Removing siltation						
Periodic vegetative growth clearance						
Repairing of ghoghes, gauges, leakages						
Minor repairs to structures						
Etc.,						
Emergencies maintenance during irrigation						
Temporary rectification of fault lines in canal embankment						
Etc.						
Post-season maintenance activities						
Permanent rectification of fault lines in canal embankment						
Permanent rectification of ghoghes						
Etc.						
Manpower						
Provision of manpower for gate operation, operating outlets, flap gates						
Provision of manpower Inspection and survey of canal stretches and project area						
Cost of Key Personnel						
Etc.						
Total O&M price for the season (in Rs.)				**ΣAP_A**	**ΣAP_Q**	**ΣAP_{ADJ}**

Note:

For calculation of O&M price for the season, the amount payable against each activity conducted

(O&M Works and Manpower) shall be arrived at by multiplying the actual quantity executed during the season (as measured and approved by the Employer/IWD) with the rate quoted by the Service Provider in the Financial Proposal and thereafter adjusting the final amount in accordance with the following Adjustment provisions at the end of the season.

Condition	**Adjustment Provisions**
AP_A is between 0.8 AP_Q- 1.2 AP_Q	$AP_{ADJ} = AP_Q$
AP_A is less than 0.8 AP_Q	$AP_{ADJ} = AP_A + 0.2* AP_Q$
AP_A is greater than 1.2 AP_Q	$AP_{ADJ} = AP_A - 0.2* AP_Q$

Where,

AP_{ADJ}= Adjusted Amount Payable for an activity (in Rs.)

AP_Q= Amount Payable (in Rs.) for a particular activity as quoted in the breakdown of the quotation provided for each season and submitted as part of Financial Bid

AP_A= Amount Payable (in Rs.) for a particular activity as executed during the season = Actual quantity executed (as approved by the Employer/ IWD) * Rate quoted for the activity as part of Financial Bid

The Payment of O&M Price for the particular season shall be arrived at by summing up the Adjusted Amount Payable ***(ΣAP_{ADJ})*** *for all the undertaken activities during the season based on the information provided in the above table at the end of the season.*

Key Considerations / Issues / Challenges faced by the Service Provider

Key Consideration / Issues / Challenge faced in the Command Area

Annexure 4: Checklist for Payments and Payment Schedule for CWPs in Phase-1

A. Checklist for Payments

This section presents the checklist items that need to be fulfilled for the payment to be made to the Service Provider for each of the three payment milestones of the project

1) **Payment Milestone 1: Completion of Study Period**
   Payment to be made upon –
   1. Submission and approval of Comprehensive Assessment Report (CAR) as per the format prescribed in Annexure 2
   2. Issuing Notice to Proceed for Transition Period upon completion of the Study Period

2) **Payment Milestone 2: Completion of Transition Period**

   1. Submission and approval of Seasonal Performance Report (SPR) for Kharif 2023 as per the format prescribed in Annexure 2
   2. Issuing Notice to Proceed for Operation Period upon completion of the Study Period

3) **Payment Milestone 3: On approval of SOP, Irrigation Schedule and Pre-irrigation season report for each season (excluding for Kharif 2023)**
   Payment to be made upon issuance of Notice to proceed for the seasonal operations i.e., on approval of the following
   1. Submission of Seasonal Operational Plan (SOP) as per the format in Annexure 2
   2. Submission of Draft Irrigation Schedule as per the format in Annexure 2
   3. Submission of Pre-irrigation season report as per the format in Annexure 2
   4. Revision of Irrigation schedule as per mutually agreed terms and conditions

4) **Payment Milestone 4: On submission of Activities undertaken at the middle of each irrigation season (during Transition Period & Operation Period)**
   Payment to be made on submission and approval of the following based on payment terms mentioned in Sub section B:
   1. Activities undertaken in accordance with the scope of work along with actual quantity executed for each activity (as approved by the Employer/ IWD) as per the format provided in Seasonal Performance Report (SPR) Annexure 2
   2. Copy of all revised irrigation schedules for the season
   3. Copy of revised SOP if any for the season

   For the purpose of this payment, middle of the season shall be considered as per the table below:

Season	Scheduled Number of Waterings	Number of Waterings to be completed for Payment Milestone 4
Kharif	6	3
Rabi	3	2

Season	Scheduled Number of Waterings	Number of Waterings to be completed for Payment Milestone 4
Boro	5	3

5) **Payment Milestone 5: On submission of Seasonal Performance Report (SPR) at the end of each irrigation season (during Transition Period & Operation Period)**
Payment to be made on submission and approval of the following based on payment terms mentioned in Sub section B:
   1. Seasonal Performance Report (SPR) comprising of all items as per Annexure 2 [including Activities undertaken in accordance with the scope of work along with actual quantity executed for each activity (as approved by the Employer/ IWD) as per the format provided]
   2. Copy of all revised irrigation schedules for the season
   3. Copy of revised SOP if any for the season

   The above payments shall be made when the Service Provider has submitted an invoice to the Employer specifying the amount due, after deduction of such taxes at source [TDS] as per applicable law.

B. Payment Schedule

1. Payment for Study Period Services – as fixed by the Employer

The following section further attempts to provide detailed examples of how each payment may be computed during the project period

The milestone for payment of Fixed Study period Quote is presented below:

Sr No	Milestone	Payment	Payment Terms
1.	Completion of Study Period	40% of the Study Period Quote	On approval of CAR and receiving Notice to Proceed for Transitions Period
2.	Completion of Transition Period	10% of the Study Period Quote	On approval of Seasonal Performance Report for Kharif 2023 season / **Transition Period Completion Report** and receiving Notice to Proceed for Operations Period
3.	Approval of SOP, Irrigation Schedule and Pre-irrigation season report	50% of the Study Period Quote (10% of the Study Period Quote for approval of each SOP, Irrigation Schedule and Pre-irrigation season report)	On approval of each SOP, Irrigation Schedule and Pre-irrigation season report and issuance of Notice to Proceed to the Service Provider for undertaking the Operations and Maintenance activities during the Operation Period (5 SOPs - Rabi 2023-24, Boro 2024, Kharif 2024, Rabi 2024-25, Boro 2025)

2. Payment for mandatory services (O&M Quote) – As quoted by the bidder

Payment will be based on submission and approval of Seasonal Performance Report (SPR) at the end of every irrigation season (Kharif 2023, Rabi 2023-24, Boro 2024, Kharif 2024, Rabi 2024-25, Boro 2025), during Transition Period & Operation Period. The Net Payments to the Service Provider will be computed as:

Payment of O&M Price for the particular season (based on actual quantity executed during the season and necessary adjustment provisions as mentioned in the note below) + Performance payments (based on 6.2) – Liquidated Damages (based on 6.5).

Payment Calculations for O&M Price for the particular season (comprising O&M Works and Manpower)

For calculation of O&M price for the season, the amount payable against each activity conducted (O&M Works and Manpower) shall be arrived at by multiplying the actual quantity executed during the season (as measured and approved by the Employer/IWD) with the rate quoted by the Service Provider in the Financial Proposal and thereafter adjusting the final amount in accordance with the following Adjustment provisions.

Condition	Adjustment Provisions
AP_A is between 0.8 AP_Q- 1.2 AP_Q	$AP_{ADJ} = AP_Q$
AP_A is less than 0.8 AP_Q	$AP_{ADJ} = AP_A + 0.2* AP_Q$
AP_A is greater than 1.2 AP_Q	$AP_{ADJ} = AP_A - 0.2* AP_Q$

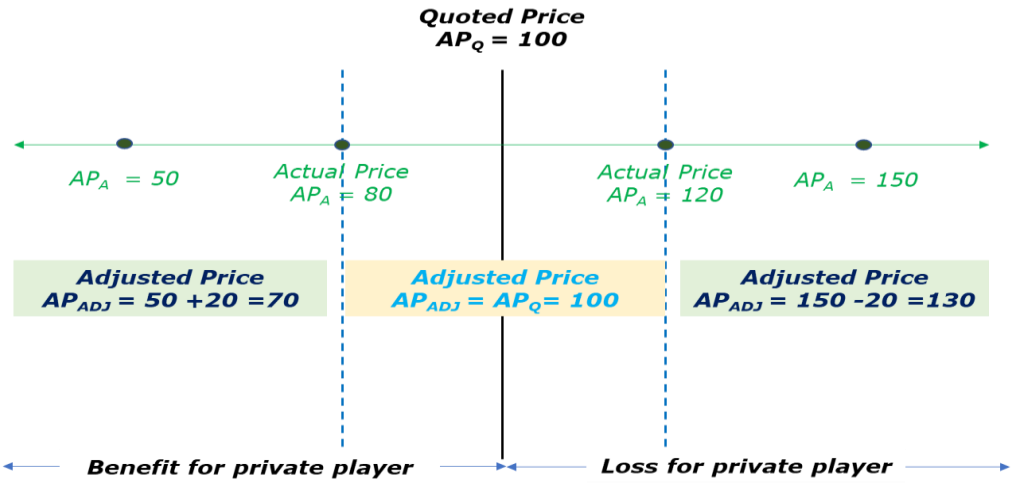
Where,

AP_{ADJ}= Adjusted Amount Payable for an activity (in Rs.)

AP_Q= Amount Payable (in Rs.) for a particular activity as quoted in the breakdown of the quotation provided for each season and submitted as part of Financial Bid

AP_A= Amount Payable (in Rs.) for a particular activity as executed during the season = Actual quantity executed (as approved by the Employer/ IWD) * Rate quoted for the activity as part of Financial Bid

Illustration:



The Payment of O&M Price for the particular season shall be arrived at by summing up the Adjusted Amount Payable ***(ΣAP_{ADJ})*** *for all the undertaken activities during the season based on the information provided in the SPR.*

The milestone for payment of Mandatory Services O&M Quote is presented below:

Sr No	Milestone	Payment	Payment Terms
1.	**Milestone 4:** Completion of following number of waterings during the season • Kharif-3 • Rabi- 2 • Boro-3	MINIMUM of (40% of the quoted O&M Price for the particular season as part of the Financial Bid, Total Actual Amount Incurred i.e., ΣAP_A until last day of the watering)	On approval of Activities undertaken in accordance with the scope of work along with actual quantity executed for each activity (as approved by the Employer/ IWD) as per the format provided in Seasonal Performance Report (SPR)
2.	**Milestone 5:** Approval of Seasonal Performance Report	Remaining O&M Price based on calculations (ΣAP_{ADJ}- ***Milestone 4 payment***) + Performance payments (based on 6.2) – Liquidated Damages (based on 6.5)	On approval of the Seasonal Performance Report for each season (Kharif 2023, Rabi 2023-24, Boro 2024, Kharif 2024, Rabi 2024-25, Boro 2025)

3. Payment for optional activities – as fixed by the Employer on unit rate basis

Payment for Capacity Building and Training: The expenses made against training and capacity building activities will be reimbursed at the price of INR 200 per farmer per day.

Note: While the number of training sessions and target farmers will be presented in the SOP and shall be approved by the Employer, the payments will be made against details provided in Seasonal Performance Report submitted by the Service Provider at the end of every season and approved by the Employer.

The above Payments shall be made when the Service Provider has submitted an invoice to the Employer specifying the amount due, after deduction of such taxes at source [TDS] as per applicable law.

Annexure 5: Project Financials for CWPs 1-9

The following sections present the detailed costing methodologies used throughout this term sheet based on initial project cost estimation

Project Timelines

CWPs 1-9 are expected to have Study Period, Transition Period and Operations Period across 6 seasons with one Kharif under Transition Period followed by 5 seasons during operation period as shown in the table below

CWP	Period of Contract	Project Periods along with seasons		
		Study Period	Transition Period	Operations Period
CWP -1: Durgapur Branch Canal CWP – 3: Damodar Branch Canal CWP – 4: Disty. 11, 14 & 15 of RBMC CWP – 8: Branch – II of Eden Canal	April 2023 – April 2025 Comprising of 6 irrigation seasons	April – May 2023	June – Oct 2023 comprising of Kharif 2023	November 2023 – April 2025 Rabi (Nov 2023 – Feb 2024) + Boro (Jan 2024 – Apr 2024) + Kharif (Jul 2024 – Oct 2024) + Rabi (Nov 2024 – Feb 2025) + Boro (Jan 2025 – Apr 2025)
CWP – 2: Panagarh Branch Canal CWP – 5: 6MC CWP – 6: Kana Damodar CWP – 7: Branch -I of Eden Canal CWP – 9: Distributary-1,2,3,4 & 5 of Right Bank Main Canal	April 2024 – April 2026 Comprising of 6 irrigation seasons (Tentative timelines)	April – May 2024	June – Oct 2024 comprising of Kharif 2024	November 2024 – April 2026 Rabi (Nov 2024 – Feb 2025) + Boro (Jan 2025 – Apr 2025) + Kharif (Jul 2025 – Oct 2025) + Rabi (Nov 2025 – Feb 2026) + Boro (Jan 2026 – Apr 2026)

Project Cost Estimation

Accordingly, the estimate of study period and operating period for each season for CWPs 1-9 is computed in the below table based on expected cost estimates, for only the mandatory works.

CWP No.	Name of the canal package	Study Period + SOP Cost (in INR Lakhs)	O&M cost of the canal (in INR Lakhs)			Total cost (in INR Lakhs)
			Kharif	Rabi	Boro	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Durgapur Canal	13.08	42.17	2.79	2.96	**108.92**
2	Panagarh Branch Canal	41.15	69.63	4.33	3.98	**197.03**
3	Damodar Branch Canal	41.54	35.85	1.22	5.81	**127.30**
4	Disty - 11, 14 &15 of Right Bank Main Canal	21.32	14.62	0.55	1.40	**54.46**

CWP No.	Name of the canal package	Study Period + SOP Cost (in INR Lakhs)	O&M cost of the canal (in INR Lakhs)			Total cost (in INR Lakhs)
			Kharif	Rabi	Boro	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
5	6MC	39.75	40.52	1.02	6.66	**136.15**
6	Kana Damodar	17.68	40.09	6.82	5.28	**122.06**
7	Branch – I of Eden Canal	17.35	29.85	1.84	4.89	**90.51**
8	Branch – II of Eden Canal	5.89	8.41	0.47	2.05	**27.75**
9	Disty-1,2,3,4 & 5 of Right Bank Main Canal	9.23	14.33	0.50	0.91	**40.71**

In the table above, Column 7 has been computed as Column (3) + Number of times each Kharif/ Rabi/ Boro occurs during project period, multiplied with (4)/ (5)/ (6) respectively. The estimation is for two kharif, and two of Rabi and Boro each.

Computation of Financial Turnover requirement provided in Section 5.2 of Term Sheet

According to provisions and the standard practice followed by the Irrigation and Waterways Department, Government of West Bengal and in the interest of wider participation, the turnover has been set at 90% of the total project cost for each canal package.

CWP No.	Name of the canal package	Total cost (in INR Lakhs)	Financial Turnover (in INR Lakhs)
(1)	(2)	(8) = (7)	(9) = 0.9 * (8)
1	Durgapur Canal	108.92	98.03
2	Panagarh Branch Canal	197.03	177.33
3	Damodar Branch Canal	127.30	114.57
4	Disty - 11, 14 &15 of Right Bank Main Canal	54.46	49.02
5	6MC	136.15	122.54
6	Kana Damodar	122.06	109.85
7	Branch – I of Eden Canal	90.51	81.46
8	Branch – II of Eden Canal	27.75	24.97
9	Disty-1,2,3,4 & 5 of Right Bank Main Canal	40.71	36.64

Computation of Technical requirement provided in Section 5.3 of Term Sheet

Based on CVC guidelines, it is recommended to consider the following as qualification requirement:

- Successfully completed at least one contract costing not less than the amount equal to [80% of CWP contract] or
- At least two contracts costing not less than the amount equal to [50% of CWP contract] or
- At least three contracts costing not less than the amount equal to [40% of CWP contract] of the similar irrigation sector services during any one of the last 5 years

Accordingly, the value was computed from Column (7) shown in the above table.

Breakup of Study Period Cost

Key Assumptions and Inputs Taken:

- **Number of farmers per Hectare** = 2 (derived through the farmer landholding data of West Bengal as per the agricultural census)
- **Percentage of farmers surveyed for the study period** = 20% of total farmers in the command area
- **Number of farmers surveyed per day by each surveyor** = 25

- **Total number of days for which survey will be conducted** = 40 days
- **Cost per survey (of the surveyor)** = Rs. 150
- **Cost of Preparation of CAR** = 50% of the survey cost
- **Cost of Preparation of Irrigation Schedule, Pre-Irrigation Season Report and SOP** = 10% of cost of preparation of CAR

Packages	Name of canal package	No of farmers	Minimum no. of farmers to be surveyed	Person Days required for survey	No. of surveyors required	Survey cost (in INR Lakhs)	Preparation of CAR (in INR Lakhs)	Preparation of Irrigation Schedule Pre-irrigation Season Report & SOP for each season (in INR Lakhs)	Total Cost of study period (in INR Lakhs)
(1)	(2)	(3)	(4) = 0.2 * (3)	(5) = (4)/ 25	(6) = (5) / 40	(7) = (4) * 150	(8) = 0.5* (7)	(9) = 0.1 * (8)	(10)= (7)+(8)+5*(9)
CWP-1	Durgapur Branch Canal	24,918	4,984	199	5	7.48	3.74	0.37	13.08
CWP-2	Panagarh Branch Canal	78,387	15,677	627	16	23.52	11.76	1.18	41.15
CWP-3	Damodar Branch Canal	79,119	15,824	633	16	23.74	11.87	1.19	41.54
CWP-4	Disty - 11, 14 &15 of Right Bank Main Canal	40,612	8,122	325	9	12.18	6.09	0.61	21.32
CWP-5	6MC	75,719	15,144	606	16	22.72	11.36	1.14	39.75
CWP-6	Kana Damodar	33,670	6,734	269	7	10.10	5.05	0.51	17.68
CWP-7	Branch -I of Eden Canal	33,055	6,611	264	7	9.92	4.96	0.50	17.35
CWP-8	Branch -II of Eden Canal	11,219	2,244	90	3	3.37	1.68	0.17	5.89
CWP-9	Disty-1,2,3,4 & 5 of Right Bank Main Canal	17,575	3,515	141	4	5.27	2.64	0.26	9.23

Annexure 6: Methodology for Calculating, Reporting and Monitoring Indicators

KPI 1: Reliability of Supply

A. Definition

Reliability of Supply measures the adherence of the Service Provider to the approved Irrigation Schedule in delivery of water and identify delays and shortcomings in delivering water at the outlets. The value needs to be recorded throughout the watering period and evaluated for every watering period within the season.

Calculated as:

1. $T_{SP} = \Sigma (T_{act} - T_{IS})$
2. $T_D = \Sigma (D_{IS} - D_{act})$

Wherein,

T_{SP} – Cumulative delay in water delivery at the outlets

T_{IS} – Target Time for water delivery at the outlet as per approved Irrigation Schedule

T_{act} - Actual Time of water delivery at the outlet, provided $T_{act} > T_{IS}$

T_D – Cumulative shortage in duration of water delivery at the outlets

D_{IS} – Target duration for which water has to be delivered at the outlet

D_{act} – Actual duration for which water was delivered at the outlet

Note: Negative values to be considered as zero for calculation purpose

B. Detailed Methodology to Calculate, Report and Validate

Step 1: Declaration of target time by the Service Provider – The Service Provider shall set target time of delivery (T_{IS}) for the outlets in the Project Area in the Draft Irrigation Schedule and the same will be approved by the Employer or Irrigation and Waterways Department, Government of West Bengal. The Service Provider shall also present the target duration (D_{IS}) for which water will be delivered at the outlets in the Draft Irrigation Schedule.

Step 2: Self Reporting by the Service Provider –

A. Regular data on head and gate opening at every head and cross regulator (including outlet gate status)

The Service Provider shall be self-reporting the regular data on head and gate opening at every head and cross regulator present in the Project Area.

i. Reporting through farmer mobile application:
   1. The Service Provider shall report at least 4 readings between 5 am to 9 pm per day for every head and cross regulator in the Project Area through farmer mobile application. The Service provider shall also upload real-time photo along with every reading reported in the farmer mobile application while reporting which shall be time and location stamped.
   2. In addition to 4 readings between 5 am to 9 pm, the Service Provider shall also ensure that the hourly reading is reported through farmer mobile application whenever the head or cross-sectional area of the gate is changed.

   The following are the aspects that are to be reported by the Service Provider in the farmer mobile application:

   - Chainage of the head /cross regulator
   - Time

- Head (in ft)
- Number of gates opened
- Cross sectional area of the gates opening - for each gate (ft^2)
- Upload real-time photo covering head reading and gate opening
- Details of closed outlet gates for any stretch during its watering schedule, including reason for the same (such as local rainfall, etc.)

ii. Manual reporting of regular data – In addition to the reporting through farmer mobile application, the Service Provider shall manually record hourly readings for the head and gate opening for every head and cross regulator present in the Project Area.

The manual readings recorded shall be in line with the regular data reported through the farmer mobile application. In case of any deviation, the readings reported in farmer mobile application shall be considered.

B. Volume of water delivered at every head regulator and cross regulator (at season end)

At the end of every season, the Service Provider shall compile all the regular data recorded on mobile application and self-report the following aspects:

1. Volume of water delivered at every head regulator and cross regulator in the Project Area: Based on the regular data recorded on mobile application, the Service Provider shall calculate the hourly discharge and total volume of water delivered at every head and cross regulator. The data shall be presented as part of the Seasonal Performance Report (SPR) and the format for reporting in the Seasonal Performance Report (SPR) is provided in the section below:
   - The volume of water delivered at the initial head of the canal (first head regulator from where the Service Provider is responsible for operations) = Vi = $V_{i\ actual}$

Data Format to be provided by the Service Provider – *for initial head of the canal (first head regulator from where the Service Provider is responsible for operations)*								
Date	Time	Head *(ft)*	Gate Opening		Discharge *(Cusec)*		Total Discharge *(Cusec)*	Volume *(Acre per ft^3)*
			Shutter 1 *(ft^2)*	Shutter 2 *(ft^2)*	Q1	Q2		
<For all dates within the watering periods>	<Time of 4 readings and every gate change>	<Recorded head during each reading>	<cross sectional area of the gate opening>	<cross sectional area of the gate opening>				
Watering Period 1								
Watering Period 2								
							Total	**Vi**

   - The volume of water delivered at each of the head regulator /cross regulator in the Project Areas = V_1, V_2, V_3, … etc.,

Data Format to be provided by the Service Provider – *For all head regulators (HR) and cross regulators (CR) in the Project Area*									
HR /CR	Date	Time	Head *(ft)*	Gate Opening		Discharge *(Cusec)*		Total Discharge *(Cusec)*	Volume *(Acre per ft^3)*
				Shutter 1 *(ft^2)*	Shutter 2 *(ft^2)*	Q1	Q2		
<For all HR & CR>	<For all dates within the watering periods>	<Time of 4 readings and every gate change>	<Recorded head during each reading>	*<cross sectional area of the gate opened>*	*<cross sectional area of the gate opened>*				
HR 1									
								Total	**V_1**
CR 1									
								Total	**V_2**
HR 2									
								Total	**V_3**
CR 2									
								Total	**V_4**
Etc.,									

C. Water delivery data (for every watering period)

The Service Provider shall report the actual time of water delivery at all the outlets for every watering period against the target time of water delivery as per the approved Irrigation Schedule in the Season. The cumulative delays in the delivery of water at all the outlets will then be calculated as T_{SP}.

The Service Provider shall also report the actual duration for which water was delivered at each outlet against the target duration. The cumulative shortage in water delivery at outlets is then calculated as T_D.

In the Seasonal Performance Report (SPR), the cumulative delays - T_{SP} and cumulative shortage in water delivery – T_D shall be reported in the following format by the Service Provider for each watering period of the irrigation season:

Stretch	*Target Start Date & Time*	*Actual Start Date & Time*	*Delay in Start Time* (hours)*	Target End *Date & Time*	*Actual End Date & Time*	Target Duration (hours)	*Actual Duration (hours)*	*Shortage* (hours)*	*Details of closed outlets during stretch watering*	*Remarks (reason for closed outlets) #*
S1			**T_{SP1} =**					**T_{D1} =**	O1 (say)	

Stretch	*Target Start Date & Time*	*Actual Start Date & Time*	*Delay in Start Time* (hours)*	Target End *Date & Time*	*Actual End Date & Time*	Target Duration (hours)	*Actual Duration (hours)*	*Shortage* (hours)*	*Details of closed outlets during stretch watering*	*Remarks (reason for closed outlets) #*
									O3 (say)	
S2			**T_{SP2} =**					**T_{D2} =**		
etc.,										
	Grand Total		**T_{SP} =**			**Grand Total**		**T_D =**		

**Considering the dependencies on variables in delivering canal water at the outlets, a delay of 4 hours for an outlet is allowed. The delay will be calculated for beyond 4 hours.*

Step 3: Regular Inspection by Employer and Irrigation and Waterways Department, Government of West Bengal– The Employer or Irrigation and Waterways Department, Government of West Bengal shall analyze the self-reported data for reliability of supply based on the regular data of head and gate opening at every head and cross regulator as well as outlet gate data as provided by the Service Provider. It is considered that the water is delivered at the outlets present between two regulators when the water supply level at the downstream regulator reaches to Full Supply Level (FSL) unless outlet gate(s) are reported closed using the mobile application. The actual time at which the water has been delivered at different outlets shall then be calculated and thereby validated against the data reported by the Service Provider. Accordingly, the cumulative delay ($T_{SP\ corrected}$) and cumulative shortage in water delivery ($T_{D\ corrected}$) shall be rectified based on the calculations.

The Employer or Irrigation and Waterways Department, Government of West Bengal shall validate the actual start time and duration of water delivery at the select outlets based on regular inspections during the watering period and farmer inputs in the farmer mobile application.

Allowance for deviation:

Sr No	Description	Deviation	Value to be considered
1	Cumulative delay in water delivery at the outlets	Equal to or less than 5%	T_{SP}
2	Cumulative delay in water delivery at the outlets	More than 5%	$T_{SP\ corrected}$
3	Cumulative shortage in water delivery at the outlets	Equal to or less than 5%	T_D
4	Cumulative shortage in water delivery at the outlets	More than 5%	$T_{D\ corrected}$

C. Incentive and Liquidated Damages applicable

For the Project Area, the cumulative delay and cumulative shortage in duration of water delivery shall be zero hours for complete Reliability of Supply (**KPI-1)**.

Sr No	Description	LD
1	Cumulative delay in water delivery at the outlets	INR 50 per every cumulative hour
2	Cumulative shortage in duration of water delivery at the outlets	INR 50 per every cumulative hour
3	Water was not delivered in a particular stretch throughout the scheduled watering period	INR 5000 per km per scheduled watering per stretch

The LD shall not be applicable if

- If there is delay in supply of water at the head of the canal by the Employer
- In case of variation of quantity of water provided by the Employer at the head of the canal. In case of x% deviation observed in quantity of water supplied by the Employer, 2x% (rounded off to nearest whole number) of the outlets shall be exempted for computation of cumulative delay and shortage in water delivery at the outlets.

D. Reporting and Monitoring Obligations of the Service Provider and the Employer

Obligations of the Service Provider	Obligations of the Employer
➢ Declaration of target time for delivery of water at stretches/outlets in the Irrigation Schedule. (Frequency – every season covering all watering) ➢ Reporting actual time of water delivery at the stretches/outlets in SPR (Frequency – every season covering all watering) ➢ Declaration of target duration of water delivery at the stretches/outlets in Irrigation Schedule (Frequency – every season covering all watering) ➢ Reporting actual duration of water delivery at the stretches/outlets in SPR (Frequency – every season covering all watering) ➢ Regular reporting on head and gate opening for all head and cross regulators, details of closed outlet gates (for all watering) in farmer mobile application along with real time photo (Frequency – every day – 4 readings and during every gate change) ➢ Consolidated reporting of hourly data for all head and cross regulators and all watering as per the formats provided including discharge and volume calculations (Recording Frequency – Every day of watering period- 4 readings and during every gate change, Reporting Frequency – End of Season)	➢ Validate values reported for delay in delivery of water at the stretches/outlets and shortage in duration of water delivery at the stretches

KPI 2: Prompt Action Delays

A. Definition

Prompt Action Delay measures for timely completion of pre-operational services and completion of repair /maintenance activities identified during irrigation. The following are the delays that shall be considered for monitoring -

- Delay in completion of pre-operational services = D_P
- Delay in completion of identified maintenance /repair works during irrigation = D_D

Calculated as: Prompt Action Delay (D) = $D_P + D_D$

$$D_P = (P_{fact} - P_{sop})$$

$$D_D = (D_s - D_i) + (D_f - D_s - AT)$$

where,

P_{sop} – Planned date of completion of pre-operational services as per SOP
P_{fact}– Actual date of completion of pre-operational services
D_i – Date of identification of every repair /maintenance work (during irrigation season)
D_s – Starting date for every repair /maintenance work identified (during irrigation season)
D_f – Finishing date for every repair /maintenance work identified (during irrigation season)
AT – Allowable Time for completing the specific type of repair works as per schedule approved in CAR /SOP

B. Detailed Methodology to Calculate, Report and Validate

Step 1: Self reporting by the Service Provider – The Service Provider will self-report the actual completion date for pre-operational services and completion date for each of the repair /maintenance work identified during irrigation.

1. Pre-operational services – The Service Provider shall have submitted the proposed completion date for undertaking pre-operational services in the SOP and the same shall be approved by the Employer. He shall report the actual date of completion of all pre-operational services (P_{fact}) in the Pre-Irrigation Season Report submitted before the first watering. The delay in completion of pre-operational services will then be computed as $P_{Fact} - P_{SOP}$ (in days).
2. Identified maintenance /repair works during irrigation – The Service Provider shall have presented Allowable Time (AT) for completion of specific type of repair /maintenance works to be undertaken during the irrigation season. The Service Provider shall self-report the delays in completion of identified repair /maintenance works with respect to the timelines defined for completion of different types of maintenance /repair work (that fall under the scope of the Service Provider) in the SOP. For every incidence of maintenance /repair works identified, the following details will be reported by the Service Provider at the end of the season:

   D_i - Date of identification of incidence of maintenance /repair work
   D_s – Date of starting the repair /maintenance work
   D_f – Date of completion the repair /maintenance work

The self-reporting will be done in the following format by the Service Provider in the Seasonal Performance report (SPR):

Sr No	Chainage		Date of identification	Date of starting	Type of repair work identified	Identified by	Date of completion	Time taken for completion	Allowable time for completion (As per CAR)	Delay (In days)
	From	To								
1										D_1
2										D_2

Sr No	Chainage		Date of identification	Date of starting	Type of repair work identified	Identified by	Date of completion	Time taken for completion	Allowable time for completion (As per CAR)	Delay (In days)
	From	To								
3										
. . .										
25										D_{25}
									Total	**D_D**

Step 2: Regular Inspection by Employer and Irrigation and Waterways Department, Government of West Bengal– The Employer and Irrigation and Waterways Department, Government of West Bengal shall undertake regular inspections to identify unattended /identified repair /maintenance works.

In addition, the Employer and Irrigation and Waterways Department, Government of West Bengal shall also consider the repair /maintenance works based on the incidences reported by the farmers in the farmer mobile app.

The Employer and Irrigation and Waterways Department, Government of West Bengal shall document the following dates for each of the repair /maintenance works identified to validate the self-reporting by the Service Provider:

- Actual date of finishing the pre-irrigation maintenance works
- Date of identification /notification of repair /maintenance works
- Actual start and finish date of repair /maintenance works identified

In case the repair /maintenance work (within the scope of the Service Provider) is identified and reported by the Irrigation and Waterways Department or by the farmers and not by the Service Provider, the Service Provider shall be liable to pay a LD of Rs. 1000 for each such identification.

C. Incentive and Liquidated Damages applicable

Sr No	Delay (in days)	LD
1	Delay in completion of pre-operational services = D_P	INR 500 per every day
2	Delay in completion of identified maintenance /repair works during irrigation = D_D	INR 2000 per every day
3	Repair /maintenance work identified by Employer /IWD /Farmer	INR 1000 per repair work identified by Employer /IWD /Farmer

D. Reporting and Monitoring Obligations of the Service Provider and the Employer

Obligations of the Service Provider	Obligations of the Employer
➢ Report delays in completion of pre-operational services (Frequency – end of every season) ➢ Report delays in completion of repair /maintenance works identified during irrigation (Frequency – end of every season)	➢ Independently perform regular inspections to identify unattended /identified repair /maintenance works ➢ Validate data reported by the Service provider

KPI 3: Area irrigated

A. Definition

The KPI on area irrigated measures the compliance to the minimum area to be irrigated in every season as approved by the Employer or Irrigation and Waterways Department, Government of West Bengal in the Irrigation Schedule as well as the impact of implementation of Optional Activities by the Service Provider in the Project Area in terms of additional area irrigated beyond the target minimum area.

Calculated as: I_{SP} in Hectares
where,

I_{SP} – Actual area irrigated by the Service Provider

A_{IS} – Minimum area to be irrigated as approved in the Irrigation Schedule

IA_{SP}- Area irrigated in addition to the minimum area to be irrigated (also referred as Additional Area Irrigated)

Note: Only fully irrigated plots shall be considered for computation of additional area irrigated IA_{SP}.

Deviation in volume of water supplied at the head of the canal:

The Employer will provide confirmation on volume of water to be made available to the Service Provider at the head of the canal (Vi) prior to the preparation of Draft Irrigation Schedule. Based on the confirmation on volume of water to be made available, the Service Provider will compute minimum area to be irrigated (A_{IS}) and seek approval of the same. However, there could be deviation in the actual volume of water to be made available for the Service Provider.

If the deviation is communicated prior to the start of first watering period, the Service provider shall revise the Irrigation Schedule and seek approval from the Employer.

If the deviation was not communicated prior to the watering period and deviation is observed in actual volume of water supplied at head the canal ($V_{i\ actual}$), the A_{IS} minimum area to be irrigated shall be adjusted as per the below table:

Sr No	Deviation in volume of water provided at the head (x%)	Minimum area to be irrigated (A_{IS})		
		Kharif	*Rabi*	*Boro*
1	up to +/- 2%	No change	No change	No change
2	up to +/- 5%	No change	2x%	No change
3	More than +/- 6% to 10%	x%	2x%	X%

B. Detailed Methodology to Calculate, Report and Validate if KPI has achieved Minimum Area to be Irrigated (A_{IS})

Step 1: Service Provider to set target for minimum area to be irrigated in the Draft Irrigation Schedule –

1. In the Comprehensive Assessment Report (CAR), the Service Provider shall have presented the exhaustive list of plots present in the command area and the same is to be approved by the Employer or Irrigation and Waterways Department, Government of West Bengal
2. Based on the water availability data made available by the Employer, the Service Provider shall then define the following in the Draft Irrigation Schedule
   - Minimum area to be irrigated during the season at Project Area level (A_{IS})

- List of Mouzas to be irrigated along with the percentage share of area of each Mouza to be irrigated
- List of Plots within each Mouza to be irrigated (fully and partial)

Details of target area to be irrigated – Planned minimum area to be irrigated						
Mouza No	Name	Total area (Ha)	Area to be irrigated (Ha)	% Area of Mouza to be irrigated	List of plots to be fully irrigated	List of plots to be partially irrigated
	Total		**A_{IS} =**			

Note: The values and the list presented by the Service Provider as part of Draft Irrigation Schedule shall be approved by the Employer or Irrigation and Waterways Department, Government of West Bengal.

Step 2: Service Provider to self-report on actual Area Irrigated – The Service Provider shall self-report the KPI Area Irrigated (I_{SP}) to exhibit its compliance with the minimum area to be irrigated (A_{IS}) at the end of every season in the Seasonal Performance Report (SPR). The reporting format is presented below:

Details on Actual Area Irrigated- to exhibit compliance to minimum area irrigated						
Mouza No	Name	Total area (Ha)	Area Irrigated (Ha)	% Area of Mouza irrigated	List of fully irrigated plots	List of partially irrigated plots
	Total		I_{SP} =			

** For any area to be considered as "Area Irrigated", the number of watering received by the mouza needs to be equal to the number of watering planned as per the Irrigation Schedule.*

Mandatory Compliance with the plot level planning:

The Service Provider shall ensure that not more than 10% of the plots reported for compliance with minimum area to be irrigated are deviating from the list of plots proposed and approved in the Irrigation Schedule.

Deviated Plots: The plots that were not listed as target plots to be irrigated in the approved Irrigation Schedule but has been irrigated and reported under actual plots irrigated by the Service Provider are considered as Deviated Plots.

Further, the allowance of 10% deviation shall be considered only if the Deviated Plots meet all the following criteria:

1. The Deviated Plots are enlisted under the exhaustive list of plots in the command area approved in the Comprehensive Assessment Report (CAR)
2. The Deviated Plots shall be adjacent to the actual plot irrigated that was part of target plots approved as per the Irrigation Schedule

   (or)

   The Deviated Plots shall be connected to the canal network

In case the share of Deviated Plots is more than 10%, only 10% of the Deviated Plots shall be considered irrigated for estimating % Area of Mouza irrigated and remaining plots shall not be considered for computation. Accordingly, corrections shall be made to the % Area of Mouza Irrigated and the corrected values shall then be used to estimate I_{SP}.

Step 3: Validation of Mouza level Percentage Area Irrigated values through Remote Sensing Technology – The Employer and Irrigation or Waterways Department, Government of West Bengal shall validate the Area Irrigated at Mouza level using Remote Sensing Technology to check compliance with minimum area to be irrigated. It is envisaged that the combination of wetness index and Evapotranspiration (ET) models developed in GIS based on remote sensing technology shall be able to specify what percentage area of the mouza has been irrigated[2] by canal water. Based on the assessment, the Employer /IWD shall validate the compliance of the data on % Area of Mouza irrigated reported by the Service Provider. Further, the deviation in the values reported by the Service Provider shall be calculated.

Deviation in total area irrigated at mouza level:

Mouza Number	Mouza Name	% Area of Mouza Irrigated - Target	% Area of Mouza irrigated - as reported by Service Provider	% Area Irrigated - as derived from Remote Sensing	Deviation
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6) = (4)-(5)*

Step 4: Physical Survey to validate the data reported by the Service Provider – The validation

[2] * *For any area to be considered as "Area Irrigated", the number of watering received by the mouza needs to be equal to the number of watering planned as per the Irrigation Schedule.*

from Remote Sensing technology shall be supplemented by physical survey of 10% sample of Mouzas at the end of every season. The physical survey will be undertaken by Employer or Irrigation and Waterways Department, Government of West Bengal at mouza level. The distribution of samples across the different category of mouzas based on the deviation observed is presented below:

Sr No	Category	Deviation	Share of Sample Mouzas to be surveyed	Share of Plots to be Surveyed within each Mouza
1	Category 1	<-20%	20%	10%
2	Category 2	-5% to -20%		
3	Category 3	0		
4	Category 4	0 to 5%	20%	20%
5	Category 5	5% to 20%	30%	30%
6	Category 6	>20%	30%	50%

The Employer or Irrigation and Waterways Department, Government of West Bengal shall have additional focus on the Deviated Plots and plots present in the fringes. The data collected by the surveyors will be mapped and validated against the plot wise data submitted by the Service Provider. The survey results shall be extrapolated for the respective categories and accordingly, the value for % Area of Mouza irrigated shall be calculated and the value reported by the Service Provider shall be corrected. Further, the actual Area Irrigated reported by the Service Provider will be corrected based on the revised % Area of Mouza irrigated ($I_{SP\ corrected}$).

The corrected value ($I_{SP\ corrected}$) will be compared with the target minimum area (A_{IS}) to verify the compliance of the Service Provider.

C. Incentive and Liquidated Damages applicable if Minimum Area to be Irrigated (A_{IS}) is not achieved

The Service Provider shall irrigate target minimum area to be irrigated **(**A_{IS}**)** as approved in the Irrigation Schedule. Failure to achieve the indicated minimum area (permissible deviation of 2%), will result in following penalties

- Kharif: INR 250 per hectare deviation from A_{IS}
- Rabi: INR 350 per hectare deviation from A_{IS}
- Boro: INR 350 per hectare deviation from A_{IS}

D. Reporting and Monitoring Obligations of the Service Provider and the Employer to exhibit achievement of Minimum Area to be Irrigated (A_{IS})

Obligations of the Service Provider	Obligations of the Employer
➢ Declare target minimum area to be irrigated in the Irrigation Schedule (Frequency – every season) ➢ Report actual area irrigated against the target to exhibit compliance to target minimum area to be irrigated (Frequency – end of every season) ➢ Report mouzas and plots level details as specified in the formats (Frequency – end of every season)	➢ Validate the value using remote sensing technology to estimate deviation in values reported ➢ Perform Primary Survey to validate value reported at mouza level ➢ Calculate corrected value for area irrigated to exhibit compliance to target minimum area to be irrigated

E. Illustration exhibiting achievement of Minimum Area to be Irrigated (A_{IS})

For instance, we will consider CWP 1

- Total command area = 12,459 Ha
- Season: Boro
- Number of Mouzas = 150
- Average number of plots per mouza = 90 to 100
- Total cultivated area = 90%*12459 = 11,200 Ha
- Guaranteed volume of water made to be made available at the head of the canal = V_i
- Target minimum area to be irrigated = A_{IS} = 11,000 Ha
- Actual area irrigated by the Service Provider (self-reported) = I_{SP} = 11,000 Ha

Validation of self-reported data by Remote Sensing Technology

Mouza Number	Mouza Name	% Area Irrigated - Target	% Area Irrigated - as reported by Service Provider	% Area Irrigated - as derived from Remote Sensing	Deviation	Category
(1)	(2)	(3)	(4)	(5)	(6) = (4)-(5)	
1	A	100%	100%	100%	0	3
2	B	60%	60%	70%	-10%	2
3	C	75%	75%	50%	25%	6
4	D	80%	80%	95%	-15%	2
. .	. .				. .	
150	AAC	50%	50%	45%	5%	5
Total		**A_{IS} = 11,000 Ha**	**I_{SP} = 11,000 Ha**			

Physical Survey

Sample of mouzas to be surveyed =10% of total no. of mouzas = 10%*150 = **15**

Sr No	Category	Deviation	Share of Samples	No of sample mouzas to be surveyed	Share of plots to be surveyed in each mouza
1	Category 1	<-20%	20%	4	10%
2	Category 2	-5% to -20%			
3	Category 3	0			
4	Category 4	0 to 5%	20%	3	20%
5	Category 5	5% to 20%	30%	4	30%
6	Category 6	>20%	30%	4	50%

Calculating corrected area irrigated:

Mouza Number	Mouza Name	% Area Irrigated - Target	% Area Irrigated - as reported by Service Provider	% Area Irrigated - as derived from Remote Sensing	% Area Irrigated - as extrapolated from physical survey
(1)	(2)	(3)	(4)	(5)	(6)
1	A	100%	100%	100%	100%
2	B	60%	60%	70%	65%
3	C	75%	75%	50%	65%

Mouza Number	Mouza Name	% Area Irrigated - Target	% Area Irrigated - as reported by Service Provider	% Area Irrigated - as derived from Remote Sensing	% Area Irrigated - as extrapolated from physical survey
4	D	80%	80%	95%	80%
. .	. .				. .
150	AAC	50%	50%	45%	55%
Total		**A_{IS} = 11,000 Ha**	**I_{SP} = 11,000 Ha**		**$I_{SP\ Corrected}$ = 10,950 Ha**

- A_{IS} = 11,000 Ha (Target minimum area to be irrigated)
- I_{SP} = 10,950 Ha (Area irrigated as reported by Service Provider)
- $I_{SP\ corrected}$ = 10,950 Ha (Corrected area irrigated based on RS technology and Physical survey)

Service Provider failed to irrigate 50 Ha under the minimum area to be irrigated

LD applicable:

LD per hectare of Boro season = INR 350 per Ha deviation

Total LD = 50*350 = **INR 17,500**

F. Detailed Methodology to Calculate, Report and Validate Area irrigated in addition to the minimum area to be irrigated (IA_{SP})

Step 1: Service Provider to self-report on additional area irrigated beyond minimum area to be irrigated: The Service Provider shall self-report the additional area irrigated beyond minimum area to be irrigated (IA_{SP}) in the format given below:

Details on Additional Area Irrigated						
Mouza No	Mouza Name	Target Minimum area (Ha)	Actual minimum area irrigated (Ha)	Additional Area Irrigated beyond minimum area (Ha)	No. & List of additional plots irrigated	
					Full	*Partial*

** For any area to be considered as "Area Irrigated", the number of watering received by the mouza needs to be equal to the number of watering planned as per the Irrigation Schedule.*

Further, additional plots shall be considered under additional area irrigated if they meet all the following criteria:

1. The plots are enlisted under the exhaustive list of plots in the command area approved in the Comprehensive Assessment Report (CAR)
2. The plots shall be adjacent to the actual plot irrigated that was part of target plots approved as per the Irrigation Schedule

   (or)

   The plots shall be connected to the canal network

Step 2: Physical Survey – The Employer is expected to interact and collect data from at least 20% or 10 plots (whichever is maximum) of the additionally irrigated plots (fully irrigated) in each of the

mouzas. In case the total number of additionally irrigated plots is less than 10 in a particular mouza, survey shall be conducted in all the additionally irrigated plots in the mouza.

The self-reported data on additional area irrigated shall then be corrected based on the results of the survey.

G. Reporting and Monitoring Obligations of the Service Provider and the Employer to determine Area irrigated in addition to the minimum area to be irrigated (IA_{SP})

Obligations of the Service Provider	Obligations of the Employer
➢ Report additional area irrigated (Frequency – end of every season) • Report mouzas and plots level details as specified in the formats (Frequency – end of every season)	➢ Validate the value using Primary Survey

H. Illustration of Area irrigated in addition to the minimum area to be irrigated (IA_{SP})

Self-reporting by Service Provider

Details on Additional Area Irrigated						
Mouza No	Mouza Name	Target Minimum area (Ha)	Actual minimum area irrigated (Ha)	Additional Area Irrigated beyond minimum area (Ha)	No. & list of additional plots irrigated	
					Full	*Partial*
1	A	100	100	30	55	5
5	B	80	75	0	0	3
7	C	75	75	15	23	4
11	D	130	130	20	37	7
12	E	60	60	5	15	8
15	F	150	150	50	80	1
30	G	90	80	10	18	5
		685	**670**	**130**	**228**	33

Sample size for physical survey

Details on Additional Area Irrigated				
Mouza No	Mouza Name	No. of additional plots (fully irrigated)	20% of additional plots (fully irrigated)	Sample size (no. of plots within each mouza)
1	A	55	11	11
5	B	0	0	0
7	C	23	5	10
11	D	37	7	10
12	E	15	3	10
15	F	80	16	16
30	G	18	4	10
		228	**46**	**67**

Based on the survey results, the additional area irrigated (IA_{SP}) shall be corrected. Thereafter the percentage additional area shall be calculated as below:

*Percentage Additional Area Irrigated = [Area irrigated in addition to the minimum area to be irrigated (IA_{SP})/ Minimum area to be irrigated as approved in the Irrigation Schedule (A_{IS})] * 100*

The incentive amount will be determined based on the level of improvement (Percentage Additional Area Irrigated) in irrigation area achieved based on different slab rates (varying across packages), applicable for each season. The incentive slabs have been further detailed in Section 6.2 of the Term Sheet.

KMI 1: Capacity Building and Training of Farmers and Farmer Groups

A. Definition

Four indicators shall be measured for determining the effectiveness of the capacity building and training programs conducted by the Service Provider for the farmers and farmer groups

a) Number of capacity building and training sessions conducted by Service Provider for the farmers during a particular season (N_{CF})
b) Number of capacity building and training sessions conducted by Service Provider for the farmer groups during a particular season (N_{CG})
c) Number of beneficiary farmers of the trainings during a particular season (N_{BF})
d) Number of beneficiary farmer groups of the trainings during a particular season (N_{BG})

B. Detailed Methodology to Calculate, Report and Validate

Step 1: Service Provider to self-report all four indicators - Service Provider will self-report the four capacity building indicators during each season.

Key considerations:

- The Service Provider shall include a Capacity Building and training plan in the SOP prepared for a particular season in consultation and agreement with the Employer and Irrigation and Waterways Department, Government of West Bengal. The plan shall essentially contain the below:
  - Targets set by the Service Provider for each of the above-mentioned indicators.
  - The type of trainings to be provided to the Farmers and the Farmer Committees during the season
  - The profile of trainers planned to be engaged during the season
  - Trainings to farmers and farmer groups shall be monitored separately
- Service Providers to provide necessary supporting documents such as attendance and feedback forms of beneficiaries, pictures and videos of the sessions conducted, etc. to enable the Employer and Irrigation and Waterways Department, Government of West Bengal to monitor progress.
- Service Providers shall also ensure that same trainings are not provided to the same set of farmers or farmer groups.

Season	No of Training Sessions to Farmers	No of farmers to be benefitted	No Training Sessions to Farmer Committees	No of farmer committees to be benefitted
	(WUE at farm level, Crop Planning etc.,)		(Water Budgeting, Water Distribution etc.,)	
Kharif	**Targets to be set by Service Provider during SOP – Approved by IWD**			
Rabi				
Boro				

Step 2: Validation of indicators by Employer and Irrigation and Waterways Department, Government of West Bengal - The data on each indicator will be validated by Employer and Irrigation and Waterways Department, Government of West Bengal appointed by Employer and Irrigation and Waterways Department, Government of West Bengal (at project level) from supporting documents made available by the Service Provider- such as attendance and feedback forms of beneficiaries, pictures and videos of the sessions conducted, etc.

Key considerations:

- During verification, the Employer and Irrigation and Waterways Department, Government of West Bengal can ask for additional supporting documents from the Service Provider to ascertain the figures provided by the Service Provider
- In the absence of supporting document or necessary clarifications, correction of the indicators as reported by the Service Provider may be recommended by Employer and Irrigation and Waterways Department, Government of West Bengal

Final Result:

The final value of the indicators shall be reported at project level based on the verified figures of all four indicators vis-à-vis the targets set in the SOP prepared for a particular season

C. Illustration

Sample computation methodology of the KMI for a particular season is provided below

Source	Crop wise Yield
Self-reported by Service Provider	N_{CF} = 10 N_{CG} = 3 N_{BF} = 150 N_{BG} = 12
Indicators reported and validated by Employer and Irrigation and Waterways Department, Government of West Bengal	N_{CF} = 10 N_{CG} = 3 N_{BF} = 145 N_{BG} = 11
Final Indicators to be reported	N_{CF} = 10 N_{CG} = 3 N_{BF} = 145 N_{BG} = 11

Payment for Capacity Building and Training: The expenses made against training and capacity building activities will be reimbursed at the price of INR 200 per farmer per day.

Note: While the number of training sessions and target farmers will be presented in the SOP and shall be approved by the Employer, the payments will be made against details provided in Seasonal Performance Report submitted by the Service Provider at the end of every season and approved by the Employer.

KMI 2: Use of Farmer Mobile Application

A. Definition

The KMI shall be measured for determining the effectiveness of Service Provider in promoting the use of mobile application (developed and promoted by Employer and Irrigation and Waterways Department, Government of West Bengal specifically for the WBMIFM project) by the farmers.
Target for the KMI will be set by the Service Provider in the SOP prepared for a particular season and approved by Employer and Irrigation and Waterways Department, Government of West Bengal.

B. Detailed Methodology to Calculate, Report and Validate

Step 1: Computation of KMI for use of Farmer Mobile Application (by Employer and Irrigation and Waterways Department, Government of West Bengal)– The use of farmer mobile application shall be determined by the Employer and Irrigation and Waterways Department, Government of West Bengal, based on the participation of the farmers in providing inputs required for determination/ validation of the other key KPIs as mentioned below:

- KPI 1 - Reliability of Supply
- KPI 2 - Prompt Action Delays

The KMI will be reported at the project level as per the formula below

*Use of Farmer Mobile Application (in %) = [MAXIMUM (U_{KPI1}, U_{KPI2})/ U_T] *100*

where,

- U_{KPI1} = Total number of unique users providing inputs to KPI 1 on the mobile application during the season
- U_{KPI2} = Total number of unique users providing inputs to KPI 2 on the mobile application during the season
- U_T = Total number of unique users who have downloaded the mobile application

Key considerations:

- Target for this KMI will be set by the Service Provider in the SOP prepared for a particular season and approved by Employer and Irrigation and Waterways Department, Government of West Bengal.
- The date of computation for determination of the KMI shall be decided mutually and all data shall be extracted on the same date
- The installation of mobile app shall not be the explicit responsibility of the Service Provider, however the same may be encouraged by the Service Provider in the various forums

Final Result:

The final value of the KMI shall be reported at project level based on the verified figures of the KMI vis-à-vis the targets set in the SOP prepared for a particular season

C. Illustration

Sample computation methodology of the KMI for a particular season is provided below

Source	Calculations
Computation of KMI by Employer and Irrigation and Waterways Department, Government of West Bengal	U_{KPI1} = 600; U_{KPI2} = 425; U_T = 1,250 *Use of Farmer Mobile Application (in %) = (600/ 1,250) *100% = 48%*

Other Indicator: Crop Yield (Not to be Monitored)

A. Definition

It is the quantity of agricultural production harvested per unit of land area. It shall be measured in kg/hectare. Yield shall be determined for the project area by the type of crop cultivated during the season. Crop yield is an indicative KMI and is not linked with payments.

Calculated as: Crop yield for each type of crop each type of crop grown in the Project Area to be determined as per formula provided below.

Yield for each crop= MIN (Y_{RS}, Y_M)

where,

Y_{RS} = Crop yield for the project area as obtained from remote sensing (kg/ha)
Y_M = Crop yield for the project area as obtained from Farmer mobile application (kg/ha)

Crop yield is a standard measurement of the amount of agricultural production harvested per unit of land area. Crop yield is the measure most often used for cereal, grain, or legumes; and is measured in kg/hectare. Yield varies by the type of crop.

Sample sizes of a harvested crop are measured to determine the estimated crop yield for a larger region.

B. Detailed Methodology to Calculate, Report and Validate

Step 1: Crop Yield calculated by Remote Sensing Technology - The data on yield for each crop will be determined by Employer and Irrigation and Waterways Department, Government of West Bengal (at project level) from the maps generated by the Remote Sensing Technology (Y_{RS}).

Step 2 Triangulation of data sets by Farmer Mobile Application – The data generated by Remote Sensing technology will be verified by yield data from farmer mobile application.

The Employer and Irrigation and Waterways Department, Government of West Bengal will analyse the data corresponding to the yield for each crop type for all crops type as reported in the Farmer Mobile App (Y_M).

Final Result:

The yield of each crop shall be determined by the following formula

Yield for each crop= MIN ($Y_{RS,}$ Y_M)

Requirement of the KMI:

For evaluating the improvements achieved by Service Providers in terms of Crop Yield, this KMI shall be used. For the comparative study, the entire command area will be categorized into three regions –

1. Non-rehabilitated network and operated by Employer and Irrigation and Waterways Department, Government of West Bengal - act as present-day baseline
2. Rehabilitated network and operated by Employer and Irrigation and Waterways Department, Government of West Bengal – where the results of rehabilitation can be observed
3. Rehabilitated and operated by Service Providers – where the results from both rehabilitation and Service Provider operations can be observed

The crop yield values across the three regions shall be analyzed by Employer and Irrigation and Waterways Department, Government of West Bengal to quantify potential benefits of engaging Service Providers.

C. Illustration

Sample computation methodology of the KMI for a particular season is provided below

Source	Crop wise Yield
Remote Sensing Technology (Y_{RS})	1. Paddy- 2,250 kg/hectare 2. Pulses- 790 kg/hectare 3. Mustard- 1,220 kg/hectare
Farmer Mobile App (Y_M)	1. Paddy- 2,760 kg/hectare 2. Pulses- 740 kg/hectare 3. Mustard- 1,410 kg/hectare
Final Yield to be reported for each crop ***MIN(Y_{RS}, Y_M)***	**1. Paddy- 2,250 kg/hectare** **2. Pulses- 740 kg/hectare** **3. Mustard- 1,220 kg/hectare**

The Final Yield value for each crop (as determined from the table) shall thereafter be compared and analysed by Employer and Irrigation and Waterways Department, Government of West Bengal to quantify potential impact of water productivity on crop yield due to the engagement of Service Provider.

Annexure 7: Timeline for various activities for CWPs in Phase-1

This section presents the timelines corresponding to key activities/ deliverables related to the project. These need to be fulfilled by the Service Provider and the Employer (as applicable).

Sr No	Key activities/ deliverables	Scheduled Date of Submission (by the Service Provider)	Scheduled date of approval (by the Employer)
1	Comprehensive Assessment Report (CAR)	Within 60 days of the Start of the Study Period (31st May 2023)	Within 15 days of submission by the Service Provider (15th June 2023)
2	Seasonal Operational Plan (SOP)	Kharif- 15th June Rabi- 15th November Boro- 20th December	Kharif- 1st July Rabi- 1st December Boro- 5th January
3	Draft Irrigation Schedule	As per details in table below	As per details in table below
4	Pre-irrigation season report	Kharif- 10th July Rabi- 10th December Boro- 15th January (10 days before the first watering of the season)	Kharif- 15th July Rabi- 15th December Boro- 20th January (5 days before the first watering of the season)
5	Seasonal Performance Report	10 days after completion of the season	20 days after submission of the report by Service Provider
6	Revisions to the Irrigation Schedule and Seasonal Operational Plan (SOP)	Within 2 days of receipt of revised water availability	Within 1 day of submission of revised Irrigation schedule by the Service Provider

The detailed schedule corresponding to preparation and submission of Irrigation Schedule for each season during the transition period and operation period is provided below:

Sr No	Key activities/ deliverables	Kharif	Rabi	Boro
1	Quantity of water declaration by the Employer	15th June	15th November	20th December
2	Draft Irrigation Schedule submitted by Service Provider	1st July	1st December	5th January
3	Final Irrigation Schedule approved by the Employer	15th July	15th December	20th January
4	Circulation of Approved Irrigation	16th July	16th December	21st January

Sr No	Key activities/ deliverables	Kharif	Rabi	Boro
	Schedule by the Employer for the command area to the relevant stakeholders and take necessary steps to publish the same for the Farmers			
5	First Watering of the season	20th July	20th December	25th January

The detailed schedule for issue of various Notice to Proceed during the project periods is provided below.

Sr No	Key activities/ deliverables	Scheduled date of approval (by the Employer)
1	Notice to Proceed for Transition Period	Within 7 days of approval of Comprehensive Assessment Report (CAR)
2	Notice to Proceed to the Service Provider for undertaking the Operations and Maintenance activities during **Transition Period**	5 days before the first watering of the season after approval of SOP, Irrigation Schedule and Pre-irrigation season report
3	Notice to Proceed for Operations Period	Within 7 days of approval of Seasonal Performance Report of the Transition Period
4	Notice to Proceed to the Service Provider for undertaking the Operations and Maintenance activities during **Operation Period**	5 days before the first watering of the season after approval of SOP, Irrigation Schedule and Pre-irrigation season report