

February 18, 2019

Mr. Malay Kumar De  
Chief Secretary  
Government of West Bengal (GoWB)  
'Nabanna', 325, Sarat Chatterjee Road  
Howrah – 711102

Dear Mr. De:

***INDIA: West Bengal Accelerated Development of Minor Irrigation Project  
Implementation Support and Review Mission (December 13-19, 2018)***

A World Bank team conducted an Implementation Support and Review Mission to review progress of the West Bengal Accelerated Development of Minor Irrigation Project (WBADMIP) during October and December 2018. I would like to thank you for the courtesies and cooperation extended to the mission. The mission's findings and agreed next steps as discussed at a wrap-up meeting with the Project Director and the Principal Secretary are provided in the attached Aide Memoire.

The project is now in its final year of implementation and the outcomes are encouraging. The project is serving 114,378 members of Water Users Associations (WUA) and has created irrigation potential for 54,000 ha (target is 75,000 ha and 100,000 users). Owing to a combination of increased cropped area, productivity, and diversification to cash crops, the value of output has increased by 217% against the target of 140% (from INR 56,550 per ha to INR 1,26,700 per ha).

The project has disbursed 74% with the commitments at 85% of total allocation and is targeting to finalize remaining commitments by March 2019. Most of the schemes under procurement are small and require 2-3 months for construction with subsequent hand over to WUAs during this year. The implementation plan while ambitious is doable. The project should be able to disburse fully before its closure in December 2019 while realization of irrigation potential in these schemes will require at least two years of post-handover support to WUAs. Based on this assessment, implementation progress is being rated as Satisfactory, though the project development objective is being maintained at Moderately Satisfactory.

The mission was pleased to note that energy levels among all project stakeholders from field to head office staff are at its peak. It was encouraging to note that the state is keen to leverage the project approach in various state-run schemes. To institutionalize community mobilization across the state, the department should consider introducing a unit dedicated to providing continued support to WUAs. Additional resources may also be required to scale up innovative interventions developed under the project to reap maximum dividends. The Project is requested to

commence impact assessment and strengthen monitoring systems in place to ensure timely completion of remaining schemes by June 2019.

Our team stands ready to provide all necessary assistance to help ensure the successful completion of this project. Please do not hesitate to contact Ms. Anju Gaur (email: [agaur@worldbank.org](mailto:agaur@worldbank.org)) and Mr. Raj Ganguly (email: [rganguly@worldbank.org](mailto:rganguly@worldbank.org)), Task Team Leaders, for any questions or clarifications.

With regards,

Yours sincerely,



Junaid Kamal Ahmad  
Country Director, India

Encl.: Aide Memoire

cc:

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Mr. Prabhat Mishra, Project Director, West Bengal Accelerated Development of Minor Irrigation Project, Department of Water Resource Investigation & Development, Government of West Bengal

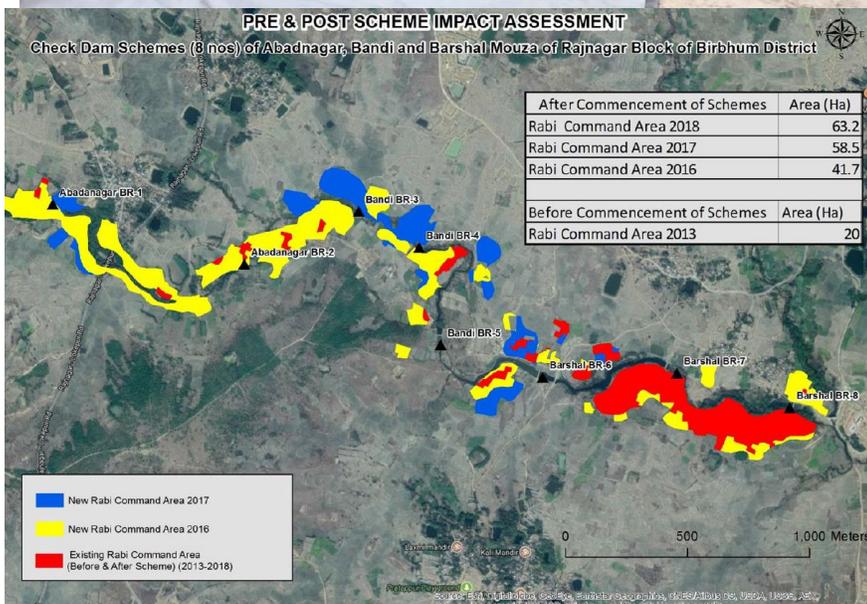
Mr Niladri Naha, Director State Water Investigation & Development Directorate



WORLD BANK GROUP

2018

# West Bengal Accelerated Development of Minor Irrigation Project Implementation Support and Review Mission Aide Memoire



The World Bank  
December, 2018

# West Bengal Accelerated Development of Minor Irrigation Project

## Implementation Support and Review Mission December 13-19, 2018

### Aide Memoire

### Introduction

1. A World Bank team<sup>1</sup> visited West Bengal from December 13<sup>th</sup> – 19<sup>th</sup> 2018, for an Implementation Support and Review Mission for the West Bengal Accelerated Development of Minor Irrigation Project (WBADMIP). The objectives of the mission were to: i) Review progress against agreed action plan and ensure timely completion of schemes and post-handover processes; ii) Identify implementation bottlenecks and provide recommendations to address these; iii) Review the Government of West Bengal's (GoWB) plans to ensure sustainability of practices.

2. The team held focused discussion with each District Project Management Unit (PMUs) to understand their specific issues and challenges. The review and findings were discussed with the Principal Secretary, Mr. Hirdyesh Mohan and the Project Director, Mr. Prabhat Kumar Mishra. The team visited sites that had been handed over as well as sites proposed for new schemes. These visits comprised interactions with WUA members, site specialists and DPMU staff. The team sincerely thanks project management staff for arranging these discussions both at the head office and during field visits.

### Key Project Data

**Table 1: Key Project Data and Ratings**

Project Data	USD (millions)	
Project Amount	IDA: SDR 78.2 million (equivalent to USD 110.66 million), IBRD: 30.0	Total = 140.65
Total Disbursement	104.18	74%
Disbursement in FY	20.5	18%
Board date	October 15, 2011	
Closing Date	December 20, 2019	
Project Age	7.3 Years	

Project Ratings			Previous	Current
Project Development Objective			MS	MS
Implementation progress			MS	S
Component:	A	Strengthening Community based Institutions	MS	MS
	B	Irrigation system improvement	S	S
	C	Agricultural support services	S	S
	D	Project Management	MS	S
Project Management			S	S
Procurement			MS	MS
Finance			MS	MS

<sup>1</sup> The Mission comprised Mmes./Messrs. Anju Gaur (Sr. Water Resources Specialist & Task Team Leader), Raj Ganguly (Sr. Agri-business Specialist, TTL), Manvinder Mamak (Sr. Financial Management Specialist), Satyanarayan Panda (Procurement Specialist), Parthapriya Ghosh (Sr. Social Development Specialist); Kirti Da Gandhi (Irrigation Design Expert); Hitesh Thakur (M&E Specialist); Shouvik Mitra (Community mobilization expert), Vinay Tuli (Agri-value chain expert), and Avani Kant (Ground Water Expert).

## **Progress Towards Achievement of the PDO, Key findings**

3. The project development objective (PDO) is to enhance agricultural production of small and marginal farmers in the project area. This is being achieved through accelerated development of irrigation services to small and marginal farmers, strengthening community-based irrigation management, operation and maintenance, and support to agricultural development, including services for encouraging crop diversification, use of improved technologies and creating income-generating opportunities.

4. The project is in its eighth and final year of implementation. The project is serving 114,378 members of Water Users Associations and has created irrigation potential for 54,000 ha (target is 75,000 ha and 100,000 users). Till date, 1380 schemes have been handed over to WUAs. The project has reached more than 600 villages, touching the lives of 1.2 million people through various activities. The performance of the Schemes, that are operational for more than a year, has surpassed the target indicators particularly in terms of increase in value of agricultural output, cropping intensity and agricultural production (refer Results Framework in Table 6), With improved access to water, cropping intensity has increased from 122% to 210% (against the target of 170%). The production of non-paddy crops (indicating crop diversification) has already reached the target value while for paddy it is 53,000 metric ton per year (target of 95,000 Metric ton per year. Owing to a combination of increased cropped area, productivity, and diversification to cash crops, the value of output has increased by 217% against the target of 140% (from INR 56,550 per ha to INR 1, 26,700 per ha). Fish production has helped more than 5,000 landless farmers to realize a ten-fold increase in gross income (from INR 35,000 per ha to INR 3,50,000 per ha).

5. While the project is on target to commission and handover remaining schemes by project closure (Dec 2019), certain schemes may spillover to next year. To compensate for these and for full utilization of the entire World Bank loan, the GoWB is also committing for additional schemes which will be achieved prior to project closure. Further, realizing irrigation potential in these schemes will require at least two years of post-handover support to WUAs. Based on this, the mission's assessment of the progress towards achievement of the PDO is "Moderately Satisfactory".

6. In terms of disbursement, the project has maintained momentum with current disbursements at USD 104.18 million (74%) while actual expenditure is USD 101 million by December 2018. In order to disburse remaining USD 39 million, the project is required to spend INR 362 crore (Table 2) by December 2019. Out of which INR 306 crore is available for irrigation schemes (works) wherein a total of INR 72 crores is already committed and for remaining the tenders have been floated or about to be floated and award of contract is expected to be finalized by March 2019. The project is planning to float tenders for additional INR 100 crore in order to compensate for any non-responsive tenders or any other unforeseen slippages during the year.

7. As all systems (refer para 7 in status) are in place to implement targeted schemes by closure of the project, the implementation progress rating is being upgraded to Satisfactory.

Table 2. Project budget and commitments (rounded estimates as of Jan 15, 2019)

Items		Bank share	Bank+ GoWB	Project Total
		USD	USD	INR crores
1	Project budget	140	168	1142
2	Expenditure	101	121	780
3	Balance	39	47	362
4	To be Committed for Admin and ASS	8	8	56
5	Available for Irrigation schemes (1-3-4)	31	39	306
	Committed	8	10	72
	Tenders floated	16	20	138
	Tenders about to be floated	7	9	97
6	Balance funds available with GoWB*		22	142

\*State share updated with respect to bank revised funding (Original amount =USD 50; - Corresponding 16% share = 28; Balance = 22).

## Status of Project

8. **Expedite implementation of schemes:** The component B for scheme implementation accounts for 78% of project cost. The project is working on 2,332 schemes with 1,380 completed schemes and 471 schemes under construction accounting for a total cost of over INR 727 crore (US\$ 102 million) while for remaining, tenders have been issued. The Project is expecting to handover 229 schemes and finalize tenders for 1,477 schemes (INR 235 crore, USD 32 million) by March 2019. The implementation plan while doable is ambitious and requires continued coordinated effort for timely achievement of targets. A majority of these schemes are Water Detention Structures (WDS) and Farm Ponds which are very small in size but large in number and will take only 2-3 months to complete. For some schemes such as pump dug wells, contractors' response has been poor in the past. In some cases, the project has only recently initiated implementation through WUAs. Noting this background, it is expected that most of these schemes will be completed by June 2019, but work on check dams might spill over to next year. The GoWB plans to continue scheme construction and handover support activities, with their own funds, should there be delays beyond project closure. Procurement for additional schemes (beyond project target) has also been initiated to compensate for various issues/slippages and utilize the entire loan amount. Based on the progress and arrangements in place, the rating of this **component is maintained as Satisfactory.**

Table 3: Status of schemes (Jan 15, 2019)

Particulars	Number	Amount (Crores)
Schemes identified	3500	
Schemes approved	3238	898
Handed over	1380	561
Work in progress	471	136
Bid floated or about to be floated	1477*	235

\*Large number of schemes are very small in size as compared to previous ones

**Table 4: Status of scheme implementation**

Description	No of schemes procured	Completed	Total cost (Rs. Crores)
Batch 1	346	345	103
Batch 2	411	374	266
Batch 3	400	378	182
Batch 4	96	73	29
Batch 5	598	210	82
<b>Total Number of schemes</b>	<b>1851</b>	<b>1380</b>	<b>663</b>
<b>Batch 6 to be procured</b>	<b>1477</b>		<b>235</b>
<b>Grand total</b>	<b>3328</b>		<b>898</b>
Schemes completed & handed over to WUA		1380	561
Not functional		26	
Number of schemes in operation		1354	
<b>Percent of schemes with WUAs performing satisfactorily as per last WUA grading</b>			<b>69%</b>
<b>Scheme Handover timeline</b>			
<b>Schemes under construction</b>		471	136
Expected to be completed by			
Mar 2019		229	84
Dec 2019		436	187
June 2020		667	287

9. **Upscaling Solar-based pumping systems:** Solar systems have facilitated agri-based development for farmers in remote areas with no grid connectivity. The project is planning to scale up implementation of these systems in 2019. Tenders have been floated recently after new schedule of rates (SoRs) were finalized under three types of procurement packages; tube-well with solar pump, dug well with solar pumps and portable pumps for check dams and WDSs.

10. **Agriculture support services have accelerated the crop diversification and output from irrigation schemes:** WUA farmers have increasingly started adopting advanced agriculture, horticulture, and fishery techniques particularly diversifying to high value crops and adopting new varieties, machinery, good agriculture practices, indoor cultivation etc., resulting in increased cropping intensity, higher production and higher income. The project established 12,649 agriculture technology demonstrations over 1,686 Ha cumulatively, as well as 19,577 horticulture demonstrations (covering 2,584 Ha) and 812 fisheries demonstrations. Legume crops were promoted in 400 ha as part of a strategy to build soil health and ensure local availability of nutritive food.

11. **1,843 WUAs constituting 114,378 beneficiaries have been formed.** Beneficiaries have been trained to plan, supervise, manage, operate and maintain schemes. Of the 1,843 WUAs formed, 1,261 WUAs have taken charge of schemes and 40% have been operating for more than three years. Fifty two percent of 858 graded WUAs are performing satisfactorily with A and B levels. As expected, older schemes (>3 years old) are performing better and 13 WUAs have been rated outstanding (A+). These have stretched their activities beyond operating schemes and have begun to engage with market independently. The Project is using such resource WUAs to train other WUAs. About 25% of the WUAs fall under category D and need urgent attention to ensure sustainability of desired outcomes.

12. **More than 1,000 WUAs shall require extended support for an additional two years.** As experienced in the Project, it takes at least two years for the WUAs to adapt and benefit from efficient irrigated agriculture practices. Over 1,000 WUAs (~50,000 farmers) will receive irrigation for the first time during Rabi 2019-20. To gain optimal benefits from irrigation, and thus remain motivated to take charge of Operation & Maintenance (O&M), it will be crucial for the Project to provide necessary 'soft-engineering' support viz., agri-extension, organizational capacity and market linkages to these WUAs.

13. **Technical Support to State flagship program and other departments:** The department acknowledges that wider adoption of the Project approach will be beneficial in realizing the State's irrigation, agriculture and farmer livelihood vision. The GoWB wishes to continue the institutional and technical guidance and is seeking support **to scale up the approach in other State-run schemes.** The project has already supported the *Jal Tirtha* program by locating ideal sites for water harvesting through utilizing GIS tool and systems developed under the Project. The Watershed Department and NGOs have also found this GIS tool useful in designing schemes.

14. **Financial Management (FM):** Consequent to the improvement in timeliness of submission of audit reports, the rating for financial management performance is upgraded to Moderately Satisfactory (MS). While the FM arrangements essentially remain mainstreamed into the state's own accounting and financial reporting systems, the submission of IUFR could also be streamlined with simplified procedures suggested during the mission.

15. **Monitoring and learning:** The Management Information System (MIS) needs to be upgraded with higher version of software to manage additional data load. In addition, the security clearance by National Informatics Centre (NIC) for WUA grading module in MIS has been substantially delayed and should be expedited. The project needs to work with State data center to expedite the development of Mobile Apps for WUAs that would enable an exchange platform for WUA and will also help in monitoring them.

16. **Impact assessment needs to be initiated.** While the Project is equipped to monitor selected major indicators through remote sensing applications, a comprehensive impact assessment requires a professional agency with manpower deployment on the ground. Though the Project has recently engaged IWMI for assessing the schemes in Western districts (four districts), the mission recommended a comprehensive assessment of the entire project area and advised finalization of ToR by Feb 28, 2019, so that procurement of agency could be initiated soon.

76. **Social and environmental assessment:** Overall, the environmental management systems and arrangements in the project continue to be "Moderately Satisfactory". The Project continues to do environment screening for various batches, however this needs to be done in a timely manner. Till date 6,949 farmers have donated land for scheme construction and the process for doing so remains streamlined. Nearly 40% land donors gave unconditional land whereas others received compensation / assistance from WUAs towards land donation. This includes reduced water charges; employment as pump operator; and support for agriculture demonstration plots. The quantum of land donated varies from 0.0005 ha to 0.29 ha.

**Table 5.: Summary of Action Plan (December 2018)**

S. No	Action	By Whom	By When/ revised	Status (Dec 2018)	Revised/ follow on Action
<b>Key Actions</b>					
1.	Update MIS and strengthen M&E	SPMU	Ongoing	MIS is functional but yet to serve DPMUs with the required dashboard and tracking of progress.	DPMUs to update the information
2.	Institutionalize WUA in WRIDD	SPMU	June 2019	New activity	WRIDD may create a cell for overall QA/QC and strengthen in-situ testing facilities.
3.	Impact assessment of project	SPMU	June 2019	Engage a consultancy for impact assessment of entire project area	IWMI has been engaged for selected districts for rapid assessment. TOR needs to be prepared for entire project area by Feb 2019.
4.	Finalize all the procurements	SPMU/ DPMU	March 2019	Tenders for >200 crores are floated.	

**Table 6.: Result Framework**

Sl. No.	Indicator	Unit	Baseline	Previous	Current	End Target
<b>PDO Indicators</b>						
1.	Relative change in value of outputs measured as ratio between post to pre-project values	%	0	120	217	140
2	Water users provided with new/improved irrigation and drainage services	Nos.	0	97,244	141,378.	100,000
3.	Water users provided with irrigation and drainage services - female	Nos.	0	13,364	15,168	12.000
4.	Operational water user associations created and/or strengthened *	Nos.	0	1,898	1,898	2300
5.	Increase in production of major outputs: (Rice, Oil Seed, Vegetable) (Metric tons/year, Custom Supplement)	MT/Year				
(i)	- Rice		0	29600	53,300	95000
(ii)	- Oilseeds		0	8325	8,800	8800
(iii)	- Pulses		0	2460	2,605	2500
6.	Water users provided with new/improved irrigation and drainage services: Small and Marginal Farmers	%	0	80	79.3	80
7.	Water users provided with new/improved irrigation and drainage services: Tribal farmers	%	0	13	12.8	13
8.	Water user association that are generating at least 80% of resources required to manage, operate and maintain the developed schemes	%	0	64	68	70
<b>Intermediate Results Indicators</b>						
9.	Area provided with new/improved irrigation or drainage services (Hectare(Ha))	Ha	0	50,000	54,000	75,000
10.	Area provided with improved irrigation or drainage services (Hectare(Ha))	Ha	0	50000	54,000	75,000
11.	Increase in water harnessed with new/improved irrigation services	(Cubic Meter)	0	66,00,00,000	820,000,000	2,500,000,000
12.	Area diversified to less water intensive cash crops	%	5	28	30	20
13.	Change in cropping intensity in areas provided with new/improved irrigation services	%	122	199	210	170

## Annexure 1: Detailed review of Project progress and Status

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1. The project development objective (PDO) is to enhance agricultural production of small and marginal farmers in the project area. The project has four components, and their status is described below.

### 1. Component A: Strengthening Community based Institutions

2. The component aims to mobilize and strengthen community institutions of farmers in the command area where irrigation investments have been made. It places equal importance to continued, community-based operation and maintenance of the scheme as well as judicious management of water resources.

3. There is an urgent need for technical support from the project on crop planning with respect to water availability as well as on effective operation and maintenance practices. Therefore, this component is rated as “*Moderately satisfactory*”.

4. **Progress: Operational WUAs:** A total of 1,843 WUAs representing around 114,378 beneficiaries have been formed. Women account for 19%, tribal for 12.5% and small and marginal farmers account for >75% of the beneficiaries. Since the last mission the project has invested significantly in strengthening these WUAs. The WUA grading system has been introduced which has helped in recognizing successful WUAs and created healthy competition among DPMUs as well as a motivated all stakeholders. Till date, 843 WUAs have been graded of which 458 WUAs are in A+, A and B category (52%) while 425 WUAs are in C and D category (48%). Majority of WUAs are in “need attention” and “need urgent attention” category. The project understands the input requirement of each of these laggard WUAs. The SO/ SP and DPMU/SPMU can focus their intervention as per the weaknesses of each of the graded WUAs.

5. Noting the quality of the WUAs promoted by the Project, the GoWB has decided to adopt the guidelines for supporting all WUAs formulated through the Project across its various department initiatives. To support this, the Project has developed and submitted a detailed guideline and manual and is in the process of developing a detailed protocol on formation and strengthening of WUAs. Currently, there is huge shortage of human resources at the grassroot level. The Project needs to look for an anchor organization and introduce standard training courses for WUAs. Further the implementing agency may open a WUA cell to facilitate coordination of support activities and monitoring the WUA performance on regular basis as practiced in other States.

The project work on orchard development in the prioritized Western districts (covering about 237 WUAs and 4000 beneficiaries) has contributed in engaging the community as for these WUAs, the irrigation infrastructure is yet to be developed.

6. **WUAs are now graduating as ‘service providers’:** The Mission observed growing enthusiasm within WUAs to operate and maintain schemes. During this mission, it was interesting to note that mature WUAs have supplied seeds, seedlings and fingerlings to other WUAs and some have offered their services to train less mature WUAs (e.g. Aamkholi in Birbhum). This multiplier effect has great potential where mature WUAs are self-initiating knowledge and information sessions, interactions with service providers, integrating and implementing water and farm level solutions and building linkages with agribusinesses.

7. **Transforming farmers/WUA into Agripreneurs:** Farmers with small and marginal holdings have been introduced to modern agricultural and water management practices including soil-less ‘tray plugs’ and vegetable nurseries in plastic tunnels enabling availability of healthy saplings within the village from an area as small as 6 square metres. The farmers often supply the surplus saplings to nearby villages and earn as high as ~INR25,000 annually. Many WUAs are using and renting out resource efficient farm

machineries, provided by the Project viz., paddy transplanters, reapers, direct seeders etc. on service fee basis. These activities are not only helping to increase the corpus funds of WUAs but also promoting resource efficient agriculture practices in and around the Project sites.

8. **Surface water WUAs need additional support:** It is observed that many of the WUAs are yet to adopt some of the basic governance functions like regular meeting, proper record keeping and updating financial books, etc. Most WUAs with surface water schemes like Check Dams, River Lift Irrigation and Water Detention Structures are yet to start measurement of water depth and calculate water availability for crop planning. In many WUAs, the water charge calculations have not considered the cost of replacement of the machinery/ the cost of desiltation. The WUAs of surface water schemes without water lifting devices face issues in recovery of water charges. There is an urgent requirement of providing day to day handholding support to the WUAs by the Support Organization (SO)/Support Providers (SP) team on the issues mentioned above.

<b>Action A:</b> All concerned SO/ SP staff to be trained on providing regular support to WUAs on certain key domain like water depth measurement/ water availability calculations; water budgeting and crop planning; water charge calculations and regular water charge recovery, regular meeting and book keeping, etc. This needs to be done on a workshop mode at a district level and each SO/ SP should made WUA wise planning. The plans need to be monitored at regular interval (to be completed by Feb 28, 2019)
<b>Action B:</b> Complete grading of all WUAs. SPMU need to do an analysis of grading and provide inputs to the DPMU on areas of improvement (WUA wise), which will become the basis of planning (to be completed by Feb 28, 2019)
<b>Action C:</b> Complete the WUA grooming protocol by Feb 8, 2019
<b>Action D:</b> Develop a system of tracking water depth, electricity bills and payment status, water charge recovery, area under different crops etc. (by Feb 28, 2019)
<b>Action E:</b> Develop new training modules, based on emerging needs and let that be rolled on to each WUA. No separate training fund is required. These modular training inputs to be given to WUA members in the monthly meeting only.
<b>Action F:</b> Develop a strategy for capacity building of WUAs for across the state using state, district and block level resource persons (by Feb 28, 2019)
<b>Action G:</b> Conduct a case study writing workshop for selected district level project staff for capturing stories and issues from the field. These can then be used for wider dissemination to the outside world as well as use for training purpose. (by March 15, 2019)

## II. Component B: Irrigation System Development

9. This component is developing new minor surface and ground water irrigation schemes each with a potential to irrigate 5 to 40 ha mainly in rainfed areas with the objective of improving water availability of water for agriculture and fisheries. These schemes include surface flow irrigation systems (river lifts, check dams and water detention structures), and ground water irrigation schemes (light duty tube wells, and pump dug wells). The size of WUAs therefore range from approximately 40 to 200 farmers. The scheme implementation cycle under the project includes pre-planning, scheme development management plan including detailed design, procurement, implementation and hand over to WUAs for sustainable operation and maintenance. Now project has introduced watershed-based development for minor irrigation.

10. The component accounts for 78% of project cost. The project is expecting to finalize tenders for 1,477 schemes (INR 141 crore) by March 2019, which would result in commissioning more than 1000 schemes within the year. The contract management, monitoring and quality control of construction will be crucial to handle such a large pressure of scheme construction.

11. **Quality Assurance (QA) and Quality Control (QC):** A QA/QC cell headed by a Superintended Engineer at State Project Management Unit (SPMU) has been formed. Arrangements for testing facilities have been made in collaboration with the laboratories of Irrigation & Waterway Directorate and DPMUs have been advised to contact them. It was not however clear whether the system is in practice or not. The team needs to monitor the quality of implementation thoroughly starting from the site selection and planning of schemes. As the project has many schemes during this year, the QA/QC is critical and needs to be more organized, with active involvement of WUAs. WUAs can have a QA/QC committee to help with quality control. However, the project needs to strengthen quality control with a mobile material testing laboratory for testing quality of construction and raw materials used.

12. **Hydrological monitoring:** SWID needs to continue to integrate all data the project is collecting in coordination with DPMUs. Also, they need to ensure that the hydrological monitoring systems provided at schemes for tubewell and check dams are integrated and operational (some systems have become dysfunctional in the absence of a proper O&M arrangement with providers). They can follow NHP approach for O&M.

13. **Real time controller cum monitoring system:** The Mission noted that analog meters in tubewells are not functioning. It was agreed that SWID would first introduce Mobile based controllers at a pilot scale for 1000 tubewells that would help operators manage water supply and protect the motor from damage arising due to voltage fluctuations. Such a system was tested in Hugli and West Midnapore for five schemes and WUAs found that information about water level and flow will be useful for future planning and design.

<b>Action B1:</b> The Mission advises that WUAs are made an integral part of supervision. The arrangements could be finalized by Feb 28, 2019.
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<b>Action B2:</b> SWID needs to initiate procurement of mobile based control and online monitoring for energized schemes including tubewell and lift irrigation schemes.
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<b>Action B3:</b> The QA/QC arrangements is still pending while the team at SPMU also needs to do the monitoring well and provide regular reports.
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### III. Component C. Agricultural Support Services

14. This component provides support to WUAs and supports farmers in transiting from rainfed farming systems to irrigated farming systems while improving the economic water productivity for the farmers. The project intends to support WUA members and beyond in the targeted villages.

15. Promising progress has been noted in augmenting cropping intensity through promotion of select pulses and oilseeds crops, scaling fisheries and undertaking plantation activities since the last supervision mission. During field visits, ASS performance was found varying widely across WUAs<sup>2</sup>. In many districts, WUAs were found to utilize given assets sub-optimally. The mission recommends continued thrust on 'optimal utilization of water' particularly through crop-plantation-fishery intensification in command areas and use of farm machines, *Happas*/fish ponds, poly-houses etc. Efforts should be made to catalyze dissemination of good practices and learnings from better performing WUAs to others, using a blend of conventional measures (case studies, exposure visits, news media etc.) and modern ICT tools/techniques.

16. The objective of this component is to provide technical and handholding support to the WUAs and their beneficiary farmer members to augment cropping intensity and realize high farm returns. The advancement of agriculture, horticulture, fishery activities among WUA farmers particularly through diversification in

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<sup>2</sup> The tribal producers in Amkhoi WUA, Birbhum district was found engaged in a range of agriculture, horticulture and fishery activities with promising command area coverage for irrigation (100%), high cropping intensity and substantial farm incomes.

high value crops, adoption of high yielding varieties, induction of machineries and adoption of improved practices particularly for efficient input use and indoor cultivation etc. has been significant in recent past, thereby resulting in increased cropping intensity (120 to 210%), higher production (55% for Paddy and 150% for non-paddy crops, in almost 90% of the command area) and higher farm income.

17. The project continues to demonstrate new technologies and practices and build capacity of the WUA farmers through regular training, exposure visits etc. (Table 8). Besides focusing productivity enhancement, the ASS strategy included promotion of efficient water management practices (Direct Seeded Rice in 40 Ha; Hybrid rice promotion; System of Rice Intensification (270 Ha); improving soil nutrition (vermi composting); Integrated Pest Management (IPM) measures, reducing drudgery through mechanization and handholding the WUA members to access new markets and increasing farm profitability.

**Table 7: Productivity enhancement in ADMIP project sites (average)**

Production status	Average yield (Tonnes per Hectare)			
	Paddy	Oilseed	Vegetables	Fish
Pre-Scheme	3	0.4	8	10
Post Scheme	4.5	1.3	15	28
Increase (%)	50	275	187	280

**Table 8: Demonstrations progress and plan**

Parameter	Target	Completed 2018-19	Cumulative Achievement by Dec 2018	Plan		Achievement %age till date
				2018-19	2019-20	
<b>Agriculture</b>						
Demonstration (#)	12,600	5467	23467	7182	6500	186
Beneficiaries (#)	40,000	5467	48799	7182	6500	122
Area (Ha)	5,040	729	6507	957.6	866.67	129
<b>Horticulture</b>						
Demonstration (#)	12500	3207	17188	4126	7500	138
Beneficiaries (#)	24,000	3207	17188	4126	7500	72
Area (Ha)	252	423	1668	545	1000	662
<b>Fisheries</b>						
Fisheries Demonstration (#)	600	320	924	50	450	154
Female beneficiaries (#)	1,080	1567	2765	160	2000	256
Tribal beneficiaries (#)	780	435	2297	40	500	294

18. **Bio Village program:** Following the success of the Bio Village program in the 6 villages, the project scaled up this activity in 40 villages of 8 districts under 8 contracts (5 villages each). The mission recommends frequent monitoring of the progress of Bio village activities and dissemination of knowledge among WUA members for wider awareness on ecofriendly agriculture practices. GAP practices introduced under the program have been adopted in 372 ha by almost 1000 farmers.

## IV. Component D. Project Management

### a. Project Management

19. **Leadership at both SPMU and DPMU levels:** The dedicated support and vision of the Project Director in taking this project to the next level is highly commendable. Also, the support of Principle Secretary, WRIDD is highly appreciated for providing overall guidance, vision and the administration support to meet the project needs.

20. The support for institutional strengthening and engineering supervision in focus districts at DPMUs have been strengthened and staff empowered. Sub-division offices headed by **Assistant Engineers have been decentralized to focus in their sub-divisions.** There were some procedural issues for implementation in Kalimpong, they seem to have been resolved recently.

21. **SPMU:** The SPMU team consists of engineering staff from DWRID and the multi-disciplinary team. Earlier this multi-disciplinary team was engaged through a consultancy (EGIS). Following the completion of term of EGIS, key staff is being retained through direct hiring.

22. **DPMUs multi-disciplinary staff:** At the DPMUs, the project has multi-disciplinary teams through a combination of staff employed directly while engineering team has both WRIDD engineers and contract engineers. These teams are supported by NGOs. Initially the project had four support organizations (NGOs) for supporting institutional strengthening of WUAs across the State. As the project has focused the western districts, additional NGOs have been engaged as SO/SP. SOs are time based while SPs are output based. New NGOs were engaged with the understanding that they already have a presence in the area and it would help to expedite planning. Presently there are 7 SOs in the project areas and 13 SP organizations in the 4 focused districts, for mobilizing communities, forming and strengthening WUAs, providing handholding support for O&M activities, efficient use of water as well as enhancing agriculture practices. In addition, the Vivekananda Institute of Biotechnology, Nimpith has been providing support to the project in strengthening bio villages and promoting Good Agricultural Practices (GAP). During the field visit, the Mission observed that the performance of these NGOs vary considerably and the performance of the NGO has a direct relationship to the quality of WUAs promoted. In some of the NGOs, there is a capacity constraint in execution of irrigation schemes. There are also issues regarding timely payment to the NGOs. The Project needs to develop the capacity of the SO and SPs by providing them a few days of focused training on understanding of water availability, water budgeting, crop planning and agriculture promotion. There is also an urgent need to regularly monitor the quality of implementation and performance of the different NGOs. The project should manage the NGO contracts efficiently so that the NGOs can be focused on delivering their output and at the same time, the payments to NGOs are not delayed. **Also, in some cases, their delivery is linked with the actions by department. For such delays they are not accountable. In such cases, the payment terms should be revised so that they could be paid for their efforts.**

23. **Office and transport facilities at DPMU:** To minimize the mobility issue, project has proposed following: allocate sub-division offices with the sites; explore the probability of providing allowance for use of motorbikes and provide extra vehicles. DPMUs are encouraged to use these facilities. Two additional site offices have been proposed in Jhargram and Darjeeling. In such offices, the guest house facilities may also be equipped so that travelling staff has required facilities.

24. **Collaboration with Research and academic Institute:** The project has collaborated with international interns from Harvard and Australian institutes. The project should collaborate with national interns as well. The project is generating a wealth of information and innovations. Impact and learning can

be analyzed through collaboration with research and academia. Students may be invited to do projects at various levels.

**Action:** Provide support to SP and SO and update their payment terms.

#### **b. MIS and monitoring Framework:**

25. The Project has a robust GIS and remote sensing based system and planning tool that has completely revolutionized the targeting of schemes and impact assessment in transparent manner. The project has set up an excellent example not only for the department but also for other projects. Their skills, ingenuity and hard-work have been highly appreciated at various events and have been recipient of several awards. Now project has been introduced to Google earth engine that has large repository of imageries and can be used for temporal analysis online without requiring any specialized software.

26. **MIS:** Based on last mission review and suggestions, the project has opted restructured application (New MIS development with relational database approach) with the support of State e-Governance Mission Team (SeMT) under the guidance of department of information technology and information. The newly developed system was expected to have more robust in nature having core features like online SDMP / MWS approval mechanism, user hierarchy level approvals, proper data flow & approval mechanism, and inbuilt financial management system. While online GIS system is in place, unfortunately, the integration of GIS and MIS has not completed. It has not been streamlined for wider usage due to following issues:

- Application developed requires security scrutiny by third party before hosting on LIVE NIC Server. This process is pending for last 4 months and due to that the WUA grading system and other updates are pending for GO LIVE. Even the entire application working LIVE is due for security scrutiny.
- Initially SeMT suggested to purchase single core Microsoft SQL Server License (about Rs. Sixty thousand) for the project but now they are suggesting to purchase eight core server license (About 6 Lakh Rupees). Because of license issue application slows down or shuts down automatically which cause lot of issues in terms of data save.
- Due to no support for last 3 months from the development team (Agile), SPMU team has been facing many issues in report generation.
- Almost 3-4 months ago, it was proposed to utilize new development team under SeMT for website and android based application. Project is requested to expedite the same.

27. Similar to technology based planning, monitoring at various stages needs to be strengthened and record all the actual outcome and impact of schemes. The monitoring also need to include the deviations from plan and design during actual construction. In addition, mobile based applications for update of information need to be streamlined.

**Action A:** The MIS update needs to be made mandatory, linked with fund releases and the SPMU should monitor data quality input so that the team could be more efficient in planning and monitoring.

**Action B:** It is critical to monitor the project during construction and post handover.

**Action C:** M&E team need to update the performance of schemes with respect to project indicators. In particular, SPMU should: i) compile the energy meter reading for energized schemes so that their actual usage is monitored ii) have pre and post imageries from google earth or remote sensing to monitor the surface storage/ponded area in surface structures.

#### **V. Financial Management**

28. **Disbursement Profile:** Against the revised allocation of USD 30 million [post cancellation of USD 95 million] under IBRD 8090-IN, the disbursement as of 18-Dec-2018 stands unchanged at USD 1.225 million [4%] and reflects (a) front end fee of USD 0.313 million; and (b) documented reported project expenditures up to 31-Mar-2016 amounting to USD 0.912 million. The disbursement as of date against the signed amount of SDR 78.2 million for IDA-5014-IN stands at SDR 72.692 million [equivalent of USD 117.384 million at 93%] and (a) reflects the expenditures related to reinstatement of PPF and reported project expenditures up to 30-Jun-2018 amounting to USD 92.953 million; and (b) unadjusted fixed advance of USD 10 million. At current exchange rates, the project will need expend of approx. `416 crores in the remaining project life to fully utilize the Loan/Credit.

**Table 9: Financial summary [as on 18-Dec-2018]**

	IDA 5014		IBRD 8090
	SDR	USD	USD
<b>Signed Amount</b>	<b>78,200,000</b>	<b>125,000,000</b>	<b>125,000,000</b>
<b>Cancelled</b>			<b>95,000,000</b>
<b>Disbursed</b>	<b>72,691,609</b>	<b>117,383,602</b>	<b>1,224,958</b>
- Expend documented	51,889,814	92,382,502	912,458
- Front End Fee			312,500
- PPF Reinstated	370,531	569,950	
- Designated Account Advance	5,944,033	10,000,000	
- Exchange Losses		14,431,150	
Percent disbursed	93%		4%
<b>Available</b>	<b>5,508,391</b>	<b>7,616,398</b>	<b>28,775,042</b>

29. **Budget and Fund Flows:** Against the project revised budget allocation of INR 300 crores for FY18-19 [under revision to INR 218 crores], INR 98.27 crores have been placed at the disposal of the project designated DDOs through an allotment process using the e-bantan system. Financial reports generated from the State systems [IFMS] reflects cumulative expend of INR 55.21 crores for FY 18-19 [as of 14-Dec-2018].

30. **Project Expenditures:** The project has reported expenditure of INR 39.224 crores during the six months April–September 2018 (and cumulative project expenditure of INR 759.311 crores). With the projection of expenditures of INR 416 crores during the remaining project life, the revised project cost stands at INR 1,142 crores [as against the original project cost of INR 1,380 crores], the difference being the factor of (a) cancellation of USD 95 million from IBRD Loan; and (b) exchange rate variations over the project life.

31. **Submission of IUFRs:** To improve disbursement performance, it has been agreed that the project will henceforth submit the agreed simplified version of IUFR 1A to CAAA on a monthly basis for disbursement. The complete set of IUFRs with IA and IB forms will be prepared with district level financial progress on a quarterly basis and submitted to the World Bank for management information.

32. **Implementation of small works by WUAs:** The mission was informed that the project has started to transfer project funds into bank accounts of WUAs for implementation of small works as against the earlier proposal to make direct bank transfers to bank accounts individual beneficiaries against muster roll

records. In order to streamline and standardize the process, it is agreed that the PMU will document the detailed fund flow modalities, guidelines and procedures and share the same with the World Bank team.

33. **Audit Report for FY2017-18:** The audit report for FY2017-18 has been submitted to the World Bank on 21-Dec-2018.

34. Consequent to the improvement in timeliness of submission of audit reports, the rating for financial management performance is upgraded to Moderately Satisfactory (MS). While the FM arrangements essentially remain mainstreamed into the state’s own accounting and financial reporting systems, the submission of IUFRR could also be streamlined with simplified procedures.

## VI. Procurement

35. Project has streamlined the use of STEP. It is noted during PPR that some small value items were not entered in STEP due to communication gap. Project needs to ensure that all kinds of procurement irrespective of their amount (unless they fall in Operation expenditures), need to be entered in STEP. Procurement status of various categories is detailed in Table 10. Project is in process of procurements of large number of schemes during this year. Contract management specially the way the project schemes are executed is a real challenge and needs to be better organized. The mission reiterated the need for the project team at the SPMU to review some contracts from each district on monthly/ quarterly basis with suggested remedies to DPMUs and record exceptions in the monthly reports to the Bank. Bank team has conducted ex-post reviews of all contracts finalized between 1st July 2017 and 30th June 2018. The PPR report will be shared with the project for their review and follow up action. The mission assessed the procurement rating as “*Moderately Satisfactory*”.

**Table 10: Procurement status for various categories**

Items	Commitment by Dec 2018		New Commitment Projection by June 2019*		Cumulative Commitment by Jun 2019		Expenditure (Dec 2018)	
	INR Crores	USD m	INR Crores	USDm	INR Crores	USDm	INR Crores	USDm
Works	833	126	150	21	983	149	591	90
Goods	76	12	30	4	106	16	62	9
Services	108	16	40	6	148	22	76	12
Other	63	10	20	3	83	13	63	10
<b>Total</b>	<b>1080</b>	<b>164</b>	<b>240</b>	<b>34</b>	<b>1320</b>	<b>200</b>	<b>792</b>	<b>120</b>

## VII. Social and Environmental Management

### a. Social Safeguards

36. **Farmer Participation:** So far 5,685 schemes have been identified. The total membership of WUA is now nearly 141,000 of which 1,06,742 are small and marginal farmers. Through various activities more than 1000 villages have been associated with the project.

37. **Land Donation:** The Mission was informed that 6,949 farmers have donated land of which approximately 92% are small and marginal farmers. Nearly 40% land donors gave unconditional land

whereas others received facility from WUAs towards land donation. The compensation / assistance towards land donation includes reduced water charges; employed as pump operator; and agriculture demonstration plot. The quantum of land donated varies from 0.0005 ha to 0.29 ha.

38. **Citizen Engagement:** To strengthen implementation of sub-projects apart from SOs, the project has identified small and marginal farmers who have successfully implemented irrigation services in their own villages as Community Service Providers (CSPs). 288 Community Service Providers have been appointed in 18 districts. Apart from CSPs, project has engaged 215 community workers as well.

39. **Gender based actions include:** Introduction of all women WUAs to construct, operate and maintain irrigation schemes; inclusion as member in WUA by making spouse an eligible member, women as committee members in WUA, and as lead farmers for ASS demonstrations. The total number of women beneficiaries are a little over 18% of the total beneficiaries. Currently there are 22,285 women water users as against 97,453 male water users. Over the last six months there is substantial increase in number of women water users. Approximately 32% of executive members in WUA are women.

40. The project is also supporting 5,426 woman-headed households. Nearly 18,500 women participated in various ASS activities including 9,070 in agriculture demonstration; 5,937 in horticulture demonstrations and 3,440 in fisheries demonstrations.

41. **Tribal Beneficiaries:** Project has so far covered 288 tribal mouzas and 439 WUAs have been formed in in these mouzas covering over 11,000 tribal households. Out of 439 WUAs with tribal representation, 38 are exclusively in tribal mouza. 536 schemes have been implemented in tribal villages. Nearly 13% of the total WUA members are tribal. There are 2400 tribal members in FIG. The Project has spent 11% of its total cost on tribal beneficiaries.

## **b. Environment Safeguards**

77. **Overall,** the environmental management systems and arrangements in the project continue to be “Moderately Satisfactory”. The project continues to do environment screening for various batches, however this needs to be done in a timely manner.

78. The project focus has been on surface schemes or pump dug wells in western districts where disposal of earthwork has been a major issue. This needs to be closely monitored and ensured that it does not implicate existing or proposed structure.

79. The project has been doing water quality and water flow monitoring on an ad-hoc basis. SWID is also using National Hydrology Project to upgrade ground water monitoring to real time. SWID however needs to focus on project areas to understand the impact on groundwater as well as in streams closer to check dam and WDS sites.

## **VIII. Governance and Accountability**

80. The project has a website (<http://www.wbadmip.org>) and a toll-free number (with a dedicated officer) for grievance redressal. Each DPMU also has system for registering grievances, and the contact information for grievances have been widely disseminated. DPMUs are maintaining records of all grievances including written complaints and are available at <http://web.wbadmip.org>. The aggrieved person has the option of approaching the judiciary if grievance remains un-resolved at SPMU level. Till-date the project has received 124 grievances of which 75 have been resolved and 49 are in process. Majority of issues are regarding problems in Schemes or with erratic electricity bill. Their status is available in public. Some of the pending ones require resolution through work in Schemes.

**Table 11: Project expenditure by Project Components [as of 30-Sep-2018]**

**Amounts in Rs.**

Project Components/Sub Components (vide cost tab)		FY2011-12	FY2012-13	FY2013-14	FY2014-15	FY2015-16	FY2016-17	FY2017-18	FY2018-19	Cumulative to Date
		21-Dec-2011 to 31-Mar- 2012	01-Apr-2012 to 31-Mar- 2013	01-Apr-2013 to 31-Mar- 2014	01-Apr-2014 to 31-Mar- 2015	01-Apr-2015 to 31-Mar- 2016	01-Apr-2016 to 31-Mar- 2017	01-Apr-2017 to 31-Mar- 2018	01-Apr- 2018 to 30- Sep-2018	
A.	Strengthening of community-based institutions		10,618,588	35,089,813	33,384,658	35,880,585	53,459,149	56,776,977	22,906,190	248,115,960
						-				
B.	Irrigation system development & improvement		1,637,505	299,797,056	838,013,395	1,563,541,614	1,660,618,646	1,243,336,421	229,601,170	5,836,545,807
						-				
C(I).	Agriculture development		-	1,447,362	17,801,800	39,330,675	39,623,317	25,834,587	11,294,580	135,332,321
						-				
C(II).	Horticulture development		-	1,192,379	3,461,947	23,710,666	44,947,603	31,558,441	50,760,230	155,631,266
						-				
C(III).	Fisheries development		-	119,778	3,259,388	9,060,208	35,849,030	54,816,200	3,911,570	107,016,174
						-				
D(I).	Project management - SPMU	14,308,037	18,384,243	60,578,289	113,674,933	135,400,028	97,480,679			
						-		198,553,380	73,764,549	1,110,465,566
D(II).	Project management - DPMU	9,022,946	18,399,818	27,481,438	66,880,803	126,402,881	150,133,542			
						-				
<b>GRAND TOTAL</b>		<b>23,330,983</b>	<b>49,040,154</b>	<b>425,706,115</b>	<b>1,076,476,924</b>	<b>1,933,326,657</b>	<b>2,082,111,966</b>	<b>1,610,876,006</b>	<b>392,238,289</b>	<b>7,593,107,094</b>