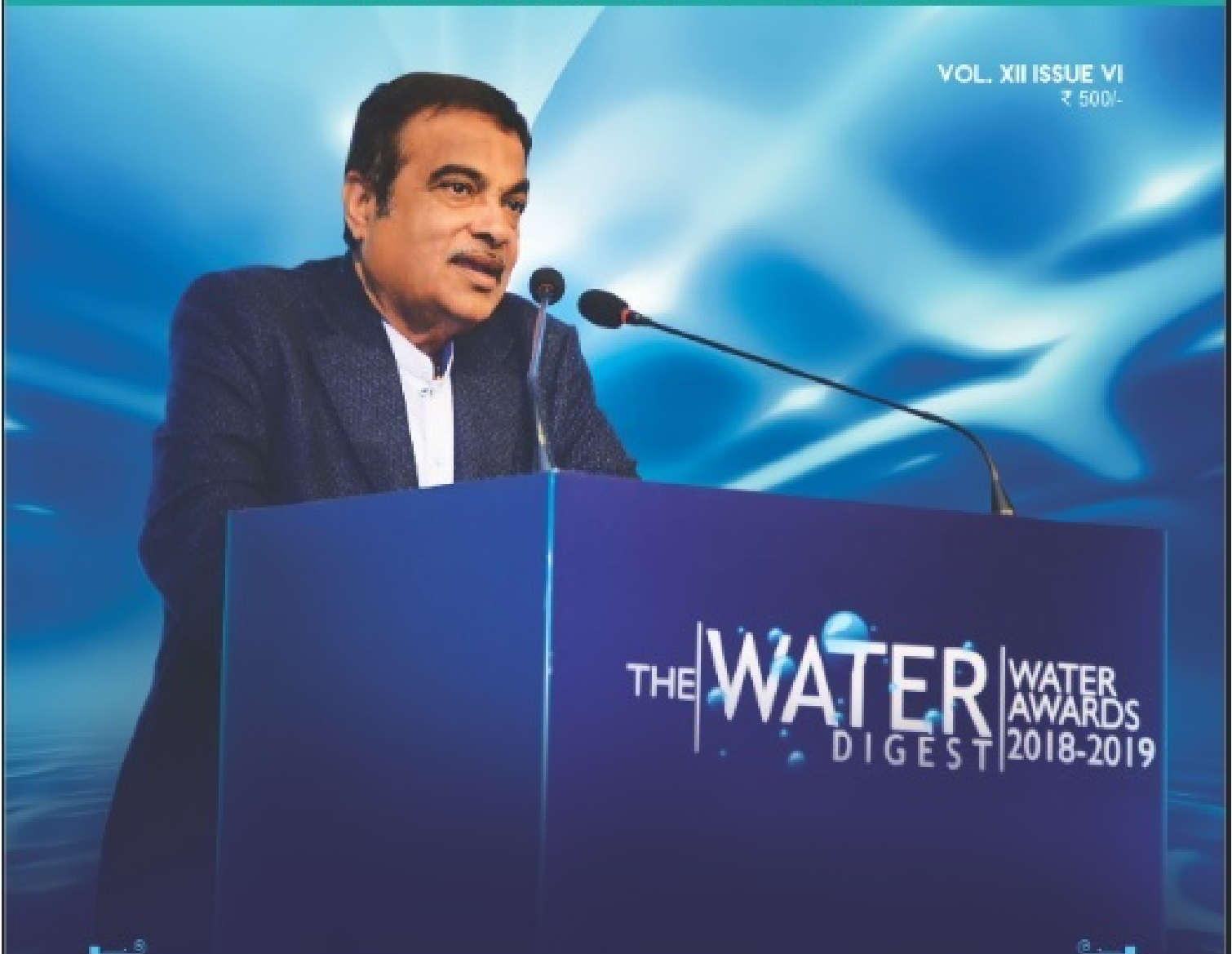


WATER DIGEST

LIVING OUR WET PLANET

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₹ 500/-



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Eyes on the future safety of water



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Mr. Prabhat Kumar Mishra,
Principal Secretary GoWB and
Project Director,
West Bengal Accelerated
Development of Minor Irrigation
Project

WBADMIP is an example of farmer-led irrigation. The project has proven that minor irrigation infrastructure can be made sustainable if the community participates in its creation and maintenance through an institutionalised mechanism. The Water Digest Water Award which has been conferred on this project is a recognition of this concept and we sincerely hope that this will inspire other policy makers and practitioners in designing interventions.

The West Bengal Accelerated Development of Minor Irrigation Project (WBADMIP) is supported by The World Bank. The project development objective is to enhance the agricultural production of small and marginal farmers in the project area.

The key learning of the West Bengal Development of Minor Irrigation Project (WBADMIP) is that any standalone irrigation infrastructure development without community involvement is not sustainable. In this project community involvement has been ensured through integration of agriculture support services like agriculture, horticulture and fishery activities in the irrigated command area of the minor irrigation schemes. In the existing system of governance these sectors are handled by different Government Departments which generally operate in silos. In WBADMIP the focus is on outcome and there is an effective convergence through community participation. This has resulted in better ownership of the project. Farmers are organised in the form of Water User Associations (WUAs) which take active part in the project right from the stage of conceptualisation to operation and maintenance. WUAs formed in this project are today involved in water management, crop planning and operation/maintenance of the minor irrigation infrastructure. WUAs are also involved in collection of water charges which has created a sustainable model for infrastructure management in this sector. Engagement with WUAs in this project is on ethical principles which has led to their empowerment.



BEST COMMUNITY PROJECT OF THE YEAR IN WATER SECTOR - GOVERNMENT

Mr. Prabhat Kumar Mishra, Principal Secretary, GoWB &
Project Director, WBADMIP and team, receiving the award

ADVERTORIAL

EMPOWERING COMMUNITIES IN UNDER DEVELOPED
AREAS OF WEST BENGAL - WBADMIP EXPERIENCE



EMPOWERING COMMUNITIES IN UNDER DEVELOPED AREAS OF WEST BENGAL - WBADMIP EXPERIENCE

➤ ➤ ➤ MR. PRABHAT KUMAR MISHRA, PROJECT DIRECTOR, WBADMIP,
MR. DEBASHIS RAY, ADDITIONAL PROJECT DIRECTOR, WBADMIP,
MR. AKHILESH PAREY, TEAM LEADER, STATE PROJECT MANAGEMENT UNIT



The key learning of the West Bengal Development of Minor Irrigation Project (WBADMIP) is that any standalone irrigation infrastructure development without community involvement is not sustainable. In this project, community involvement has been ensured through integration of agriculture support services like agriculture, horticulture and fishery activities in the irrigated command area of the minor irrigation schemes. In the existing system of governance these sectors are handled by different Government Departments which generally operate in silos. In WBADMIP, the focus is on outcome and there is an effective convergence through community participation. This has resulted in better ownership of the project. Farmers are organised in the form of Water User Associations (WUAs) which take an active part in the project right from the stage of conceptualisation to operation and maintenance. WUAs formed in this project are today involved in water management, crop planning and operation/maintenance of the minor irrigation infrastructure. WUAs are also involved in collection of water charges which has created a sustainable model for infrastructure management in this sector. Engagement with WUAs in this project is on ethical principles which has led to their empowerment.

ABOUT THE PROJECT

WBADMIP is supported by the World Bank and implemented by the Water Resources Investigation & Development Department, Government of West Bengal with a total Project cost of Rs. 1,380 crores. The project objective is to enhance the agricultural production of 1,000,00 small marginal farmers of the project area by providing assured irrigation facility in 75,000 ha area by creating about 2,500 minor irrigation schemes. The project also provides agriculture support services to maximise the potential and implemented with active involvement of Community Institutions (Water Users' Associations).

Institutional arrangement- The project has focussed on building an institutional framework to operate in close coordination with community, provide a single window platform to weave agricultural support services and ensure an outcome-based result. This is a major improvement over the existing sectoral structure of governance wherein different departments operate in silos. While in the project technical inputs are provided by the engineering staff, the last mile connectivity to the farmers is provided by the NGOs which are acting as the support organisations.

The guiding principles towards meeting project objectives are enhanced transparency through technology, increasing marketable surplus by providing extension services through Water User Associations (WUA) which are registered under the Registration of Societies Act. The role of WUA spans from identification of schemes to operation and maintenance of the minor irrigation infrastructure. They are acting as a conduit for reaching out to a wider range of audience and provide an excellent platform for knowledge dissemination. WUA mobilisation manuals and training material, agricultural extension material has been embedded as standard operational procedures and published online for public use. These have been made available to farmers within and outside the project through meetings which also served to facilitate knowledge



Fig 1: Components of WBADMIP

exchange among WUAs and other stakeholders at both district and state levels.

- The project is aimed at small and marginal farmers. The identification and aggregation of such farmers has been facilitated by resorting to an area-based approach in which mono-cropped rain fed areas are picked up for building minor irrigation infrastructure. Land use maps using satellite imageries are used for this purpose.
- Engagement with community is initiated right in the stage of identification of the schemes. A GIS based platform is used to broadly identify the possible sites for the minor irrigation structures. This is handed over to the field functionaries who fine tune it in consultation with community.

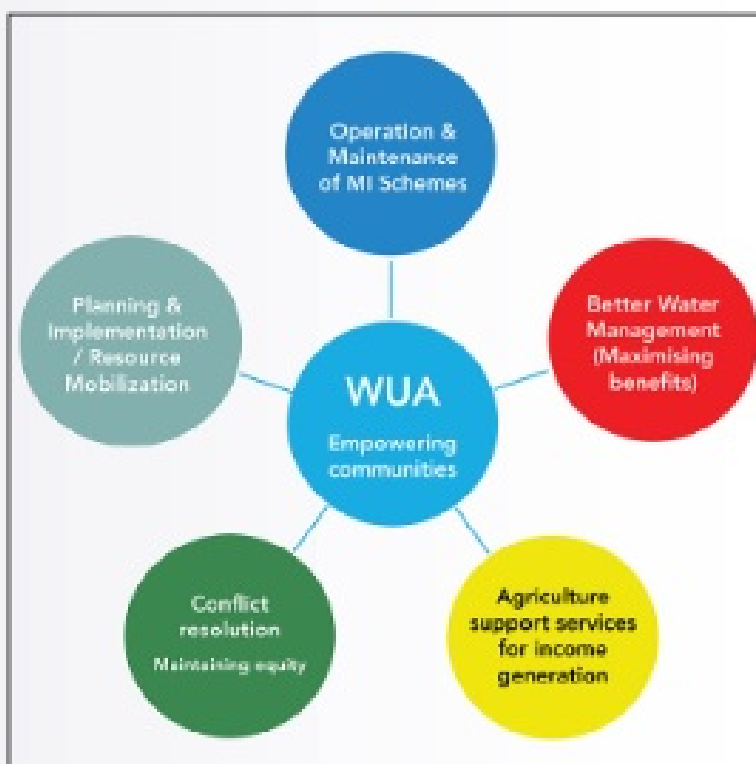


Fig 2: Institutional framework of WBADMIP to operate in close coordination with the community

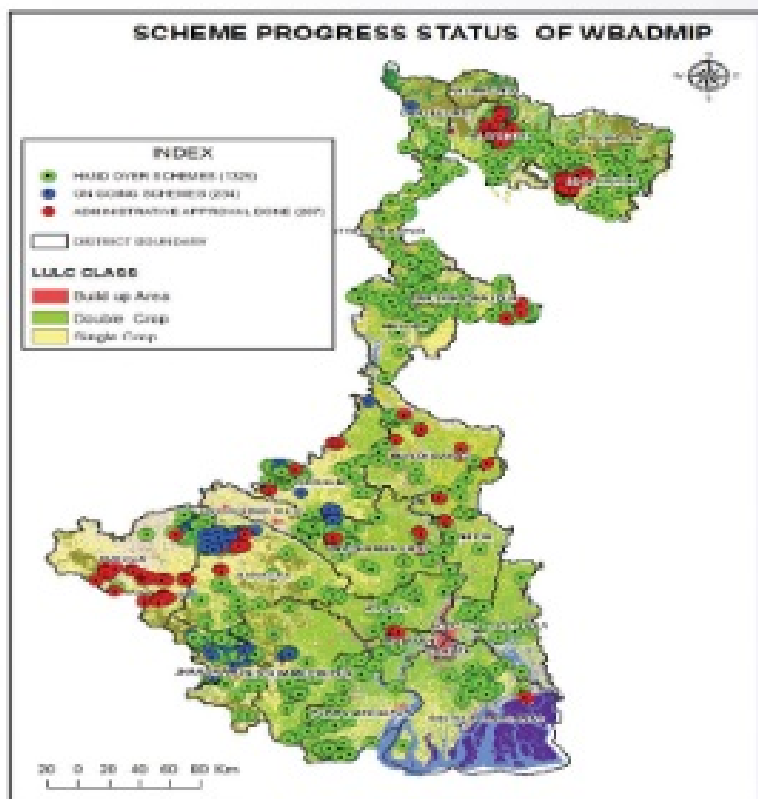


Fig 3: Scheme progress status of WBADMIP

- Community built earthen irrigation structures are given priority under the scheme. They are converted into robust structures using project funds.
- Once the Water User Association is formed centering around a particular irrigation infrastructure, they start driving the project. They help in preparing the site for project implementation and later help in its maintenance. Their motivation level is very high since they are the main stakeholders in terms of use of the irrigation infrastructure.
- Presence of WUA eases knowledge dissemination of best practices.

PROCESS OF EVOLUTION

- The project is designed to ensure sustainability of investment in three ways: a) institutionalising systems, processes, tools and guidelines developed within State implementing framework,

- b) knowledge and capacity building across all levels and stakeholders, and c) Use of modern technologies & equipment's e.g. GIS etc. for more effective decision making.
- WUAs collect water taxes as part of the water management fee. This has developed into a financially sustainable mode of operation for the infrastructure. In case of solar irrigation systems where marginal cost of operation is nearly zero the water tax

has been helpful in bringing in behavioural changes in farmers and stop over-exploitation of groundwater.

- Several technological innovations have been developed and tested. Sensor based irrigation systems have been used to substantially reduce the irrigation needs which has helped reduce the cost of irrigation. WUAs have internalised system of rice intensification which has reduced water requirement. In addition, WUAs have been trained to build a crop plan which optimises use of water and maximises cost-benefit.
- Internal knowledge and skill enhancement are evidenced by a GIS based online hydrological analysis tool developed in-house by government officials and engineers in the project team. This has helped reduce structural over-design and associated capital costs. In response to requests from other departments outside the project, the project team is training state engineering cadres on using this tool. Stakeholders have graduated to becoming effective trainers and advocates of technology in irrigation.
- The project successfully demonstrated how Water Users Associations (WUAs) can maximise gains from investments through convergence with other departments, markets and academia. Such partnerships work on skilling, sustained operation and maintenance



Representative of WBADMIP with the local farmers community

arrangements as well as improved on-farm water efficiency and building market access. The success of this model is exhibited by WUAs who have matured sufficiently to self-initiate knowledge/information sessions, interact with service providers, implement on-farm solutions and engage with agribusinesses agencies.

- Support organisations have been selected in their core areas of operation where they have already built a bond with the community. This has resulted into fast tracking community engagement and has reduced cost of operation.
- Project is promoting appropriate technologies (implements/machines/ inputs etc.) and practices for wide scale adoption by the farmers. This is given to WUAs as incentive to adopt good practices and evolve into empowered community-based organisations. This has helped WUAs generate resource by earning on custom hire basis. Similarly, the good practices (very low/no cost) have also been demonstrated by the

project through these WUAs in farmers' fields on agriculture, horticulture and fisheries. This is creating substantive impact as the neighbouring farmers can easily adopt these practices even without project facilitation. About 32,000 such demonstrations have been completed by the project by June, 2018.

EMERGING TRENDS

- The project is being implemented in close coordination with Water Users Associations (WUAs). WUAs are community-based institutions formed for ethical engagement with farmers in an inclusive manner. The WUA size varies from 15 to 150 farmer beneficiaries. The engagement with WUAs is based on the principles of transparency, trust and participation. There is an important component in the project for their training and capacity building. The maturity of WUAs is measured through a grading system.
- WUA is an institutionalised platform so that the community can participate in the process

of development and get empowered in the process. They participate in the process right from conceptualisation to the operation and maintenance of the irrigation infrastructure. In addition, all agriculture and support services are extended through the WUAs. They also impose a water tax which helps in creating a corpus for the maintenance of the irrigation infrastructure. The amount of corpus fund so far built with the WUAs is Rs. 104 lakhs. Around 1,800 WUAs have been formed so far and 1,292 have been registered. The project has sought to empower women as an agency of change at the individual, household, village and community levels. It has engaged women not only as contributors to the agricultural workforce but succeeded in making them decision makers. Female participation mandatory in each WUA, and mobilisation efforts resulted in 13,364 women (13.8 % of the total members) joining. Women were encouraged to hold critical positions within the governance structure of the WUA to guarantee their active role in the decision-making process.

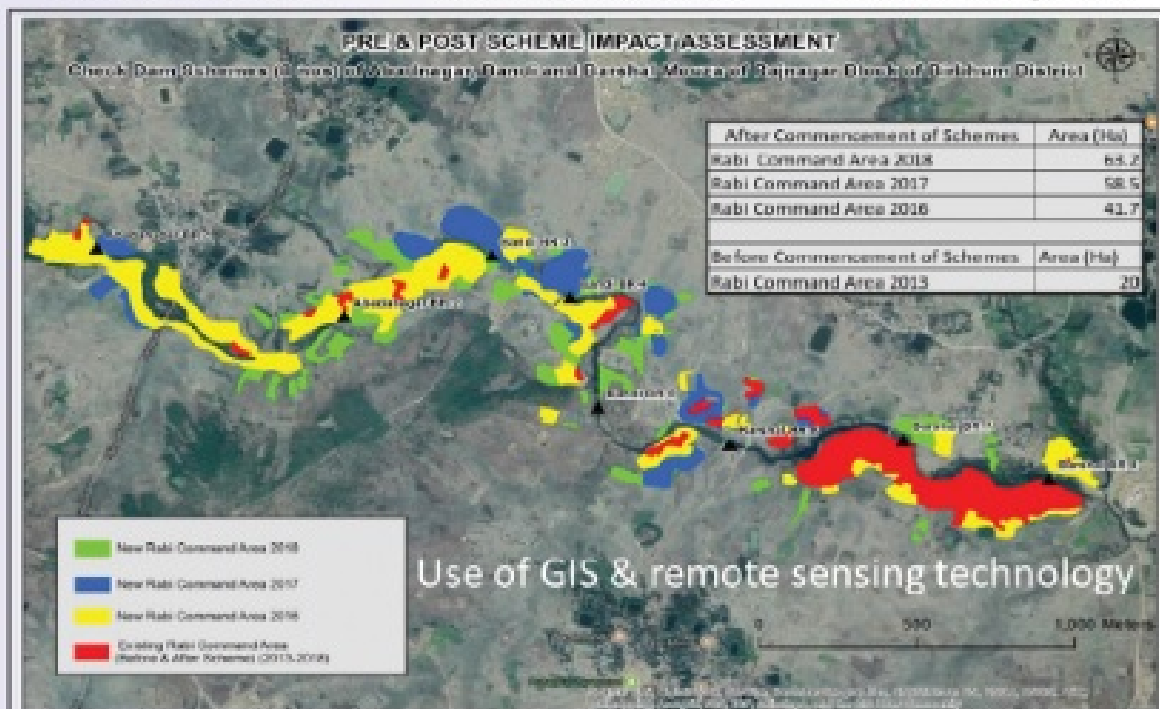


Fig 4: Pre & Post Scheme Impact Assessment (SIA) using GIS & remote sensing technology

They now have a direct say in over 1,200 irrigation structures. Almost 20% of the WUA governing body/management committee members are women and these WUAs display more effective O&M, water management, and water charge collection. This was possible due to project investments in building niche skill sets and independent revenue streams for women. Over 5,000 women are involved in exceedingly remunerative agriculture support services like nurseries, orchard development, hatcheries & fish fingerling production etc. The most successful example of this is in fisheries, where 25% of the 5,500 members are women and incomes have increased to INR 3 lakhs per ha of water body against a meagre net income of INR 3,000 per ha. Such initiatives have led to meaningful engagement thereby enhancing the socio-economic status of female labour in agriculture and

related activities by transforming them into agri-preneurs.

- Kitchen gardens in backyards became viable through previously unavailable irrigation water. This allowed women to tackle nutritional security for

their families, ensuring that the value of the intervention is internalized at a household level both with respect to food security and managing increased income.



Representative of WBADMIP with the local farmers community

Key Outcome Indicators	Present	By Dec 2019
Physical achievements		
Operational water user associations created and strengthened (No.)	1,292	2,500
Water users provided with new/improved irrigation services (No.)	52,000	1,00,000
Area provided with irrigation and drainage services (ha)	48,000	75,000
Farmers in the project area adopting improved production techniques (No.)	28,000	40,000
Reach & Coverage		
Water users provided with irrigation services		
Total Farmers	52,000	1,00,000
Female	15,000	12,000
Small & Marginal Farmers	79%	80%
Tribal Farmers	12.70%	13%
Impacts		
Increase in value of produce in a year	185%	140%
Change in cropping intensity	210%	170%
Area diversified to less water intensive Crops	30%	20%
Increase in production of paddy (Metric tons/year)	53,300	95,000
Increase in production of pulses (Metric tons/year)	2,600	3,500
Increase in production of oilseed (Metric tons/year)	4,200	8,800

Table 1: The WBADMIP has brought in fundamental changes in lives of farmers. Year wise change in cropping area due to integrated efforts can be witnessed