

Salient Features of the WB ADMI Project



Particulars	Features
Project Duration	January 2012 - December 2019
Project Cost	US\$: 186 million
Loan /Credit Amount (\$m)	US\$: 155 million [IBRD: US\$ 30 million IDA: USD 125 million]
State Share	US\$: 31 million
Number of MI Schemes	2500
Proposed Irrigated area	75000 Ha
Proposed Beneficiaries	1,00,000
Coverage	Focus on underdeveloped districts

Project Objective-

To enhance the **Agricultural production of Small and Marginal Farmers by Providing Assured Irrigation**

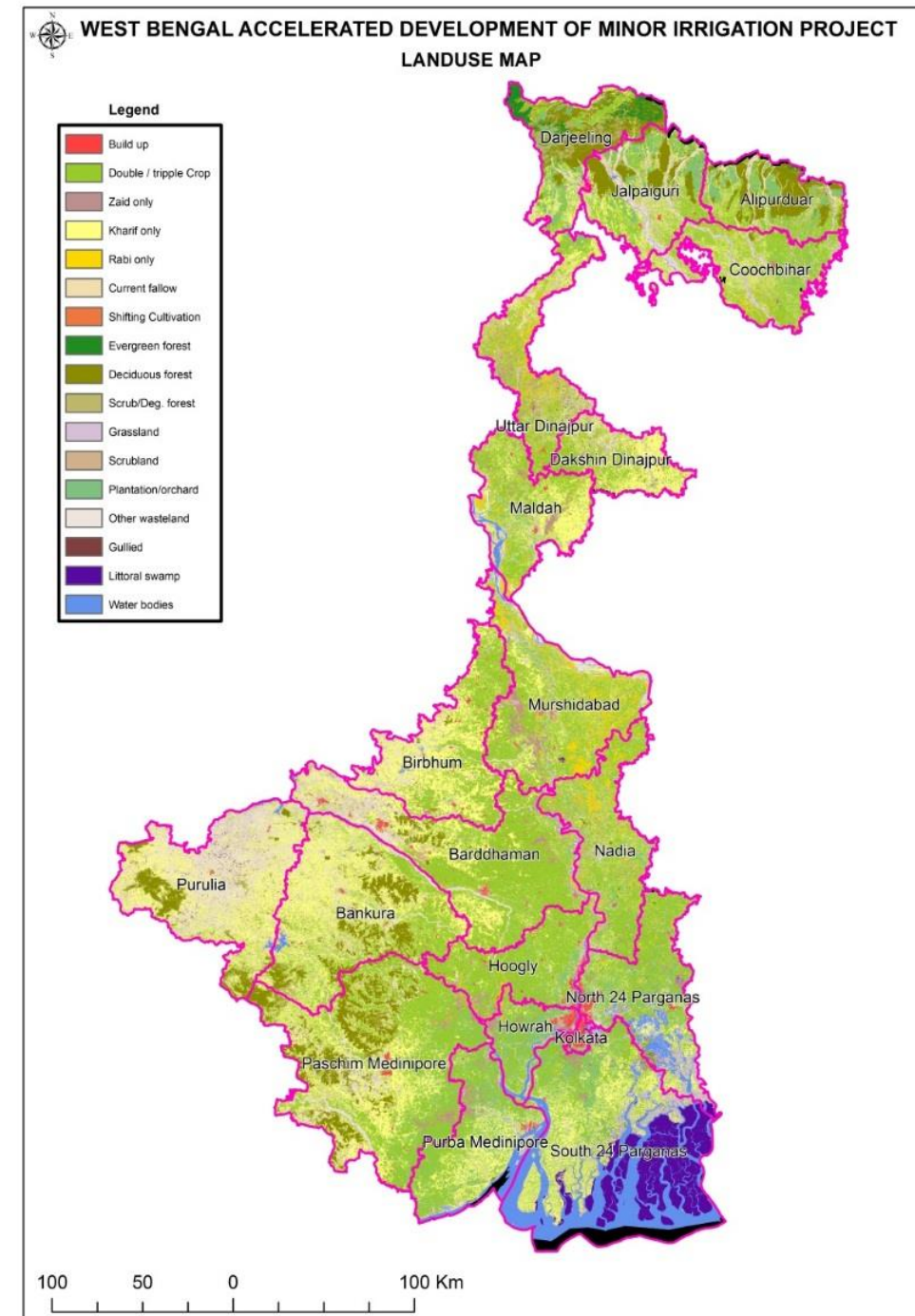
Low Income of small and marginal farmers (identifying constraints)

- Supply Side Constraints :
 - High fixed cost to higher productivity
 - Externalities of surface irrigation schemes and market failure
 - Rent seeking in ground water based schemes (e.g. tube well)
 - Small Individual Scale
 - Knowledge Gap (weak extension channels)
- Demand Side Constraint:
 - Low demand for subsistence crops produced by farmers

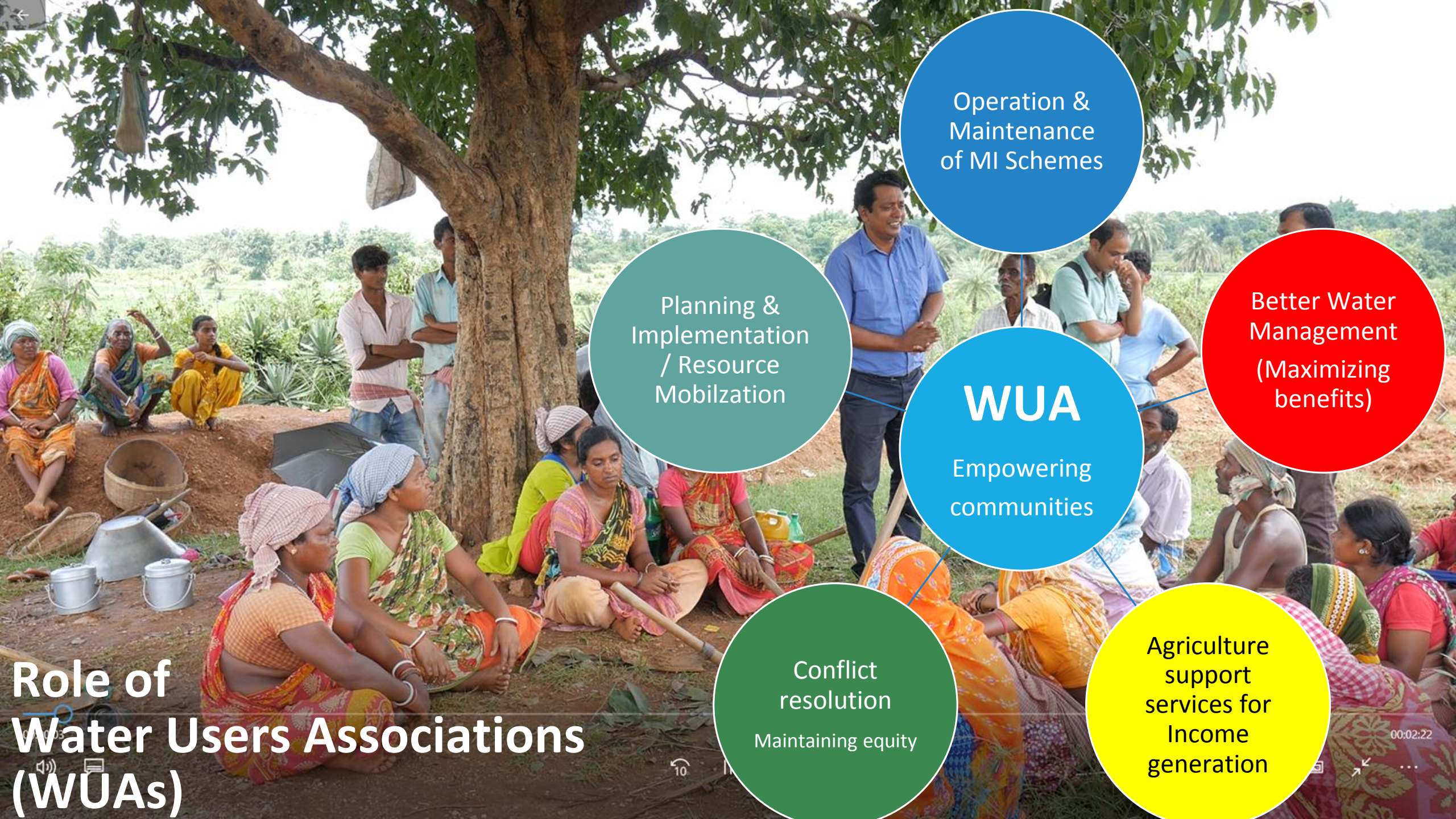
Where we work

Village and Scheme selection criteria

- Priority to single cropped and Rainfed areas
 - Western Districts-Single cropped (only Kharif)
 - Northern Districts- Double cropped but no Rabi
 - Southern Saline Districts- Unirrigated Rabi area
- Land use Map based area selection
- Micro Watershed approach
- Selection of Cluster of at least 4-5 villages
- Involvement of women
- At least 13% investment on tribal
- 80% Small and marginal farmer beneficiaries







Operation &
Maintenance
of MI Schemes

Planning &
Implementation
/ Resource
Mobilization

Better Water
Management
(Maximizing
benefits)

WUA

Empowering
communities

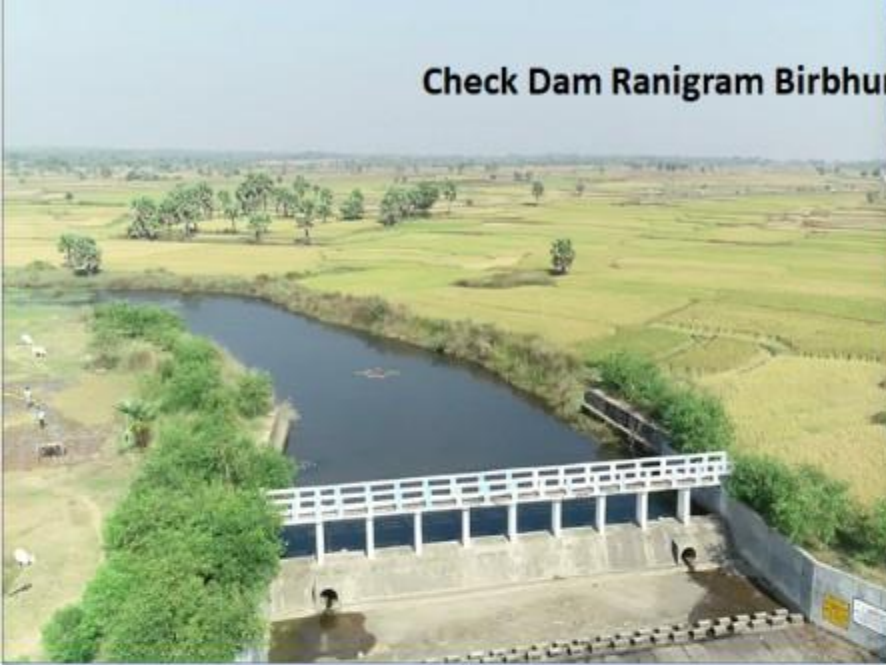
Conflict
resolution
Maintaining equity

Agriculture
support
services for
Income
generation

Role of Water Users Associations (WUAs)

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Solar Dug Well



Hapa



Water Detention Structure



Minor Irrigation Schemes

River lift irrigation scheme

Scheme Name - Chandanpur Chardanga Math II



Tube Well



Water Detention Structure



WBADMI Project

Introducing Solar Irrigation System

- . Total number of solar system installed and handed over: 138
- . Managed by WUA (irrigation plan discussed in weekly meetings)
- . Operator normally from the household which provides land
- . User fee (either hourly or per bigha basis) - part of it goes to the operator, rest to the common pool
- . Water discharge: Designed for 30 cubic meter per hour (5 H.P.)
- . Design has been further optimised in view of changing technology and falling price
- . Used for 200 days (approx.) - possibility for net metering



Water Detention Structures
District - South 24 Parganas
Created - 59 No
Length - 141 KM
Kharif Area irrigated - 1931 Ha
Rabi Area irrigated - 1212 ha



Agriculture
Support
Services



17000+ demonstrations
Covering 18000 farmers
in 9000 acres area
INR 20000-50000 Rs/Ha
Gross income expected



Horticulture initiative



Northern Districts – 148 ha. of New plantation of Mandarin Orange, Large Cardamom, Coffee, Black Pepper, Drum stick, Bay leaf, Papaya, Tissue culture banana etc with improved cultural practices.



Western districts – 242 ha Plantation on dry, fallow upland Mixed fruit tree plantation Mango (four varieties), Guava, Pineapple, Musambhi, Lemon, Sapota, etc. with improved practices.



southern Districts – 96 Ha Plantation of Coconut, Papaya, Mango, Drum stick, Karamcha, etc. with improved practices.



Orchard Development Program (in western lateritic zone)

- Uncultivable dry uplands lying fallow for years; used only for grazing
- Water User Association operating as the implementing agency
- Involving stakeholders - 70% of beneficiaries are the poor from Tribal community - mostly women
- Micro-Irrigation structures for irrigation
- Low/very low water requiring crops as intercropping to provide additional revenue stream
- Mixed fruit tree plantation of Mango, Guava, Citrus, Jackfruit, Pineapple, Cashew, etc. - to ensure income round the year

Tissue culture Banana cultivation in Nadia district



No of Block	No of WUA	Area covered	Net return Per Ha in Rs	Net return from tissue Banana
4	4	64.5 Ha	342997	844875

Market Linkage with Keventar Agro



Mandarin Orange	Mirik	Mirik	6 Ha
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Coffee	Mirik & Khasmahal	16 Ha
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High value crop production in Darjeeling Hills



Black Pepper	Mirik, Rangli, Rangliot Kalimpong-I & Kalimpong-II	12 Ha
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Large Cardamom	Mirik, Rangli, Rangliot Kalimpong-I & Kalimpong-II	12 Ha
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Fishery Interventions

- 25 nos of different fish species cultured in 14 Districts
- Common practice conventional fishery in villages.

Project Interventions:

- Working through Fishery Interest Group (FIG)
- Water quality management,
- Feed management,
- Periodical netting and
- Use of maximum water volume
- Average yield from 6-18 q/ha to 24-38 q/ha (water area 684 Ha)
- Average income from 1-3 Lakhs/Ha to 2-8 Lakhs/Ha

kalidaha, women WUA fingerling harvesting

23.47677, 86.78653, 156.5m, 31°

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Western Zone

Hatcheries of indigenous species, Spawn to Fingerling production involving Self Help Groups, Culture of indigenous fish species like Chitala, Bhetki, Mourala, Fresh water giant Prawn etc.

North Bengal

Culture of grass carp, deshi Magur and common carp in small hapa with poly lining in Darjeeling district. Spawn to fingerlings program IMC fish production.

Southern Zone

Canal fishery, Poly culture of IMC, Monosex tilapia (Monopia) along with fresh water giant prawn; Mass production of IMC



Scheme Progress Status WBADMIP



WEST BENGAL ACCELERATED DEVELOPMENT OF MINOR IRRIGATION PROJECT

PROJECT OBJECTIVE

To enhance agricultural production of small and marginal farmers of the project area by providing assured irrigation with the help of a robust IT system supported by WEBGIS technology.



BENEFITS OF WEBGIS

- 24 X 7 Accessible to public
- Increased transparency
- Effective planning targeting intended beneficiaries
- Helping in cost effective irrigation project design
- Site specific solutions in collaboration with the community
- Increased speed of implementation & Monitoring
- Increase in success rate of schemes
- Continuous impact assessment

IMPACTS OF THE PROJECT

- 70,000 small & marginal farmers benefited
- 30,000 hectares additional land converted to multi-crop
- 900 Irrigation Schemes running
- Increased ownership of communities and hence sustainability
- Average Farmers' income increased
- Crop production increased in remote areas
- Increased productivity in fish culture
- Increased scope for livestock culture

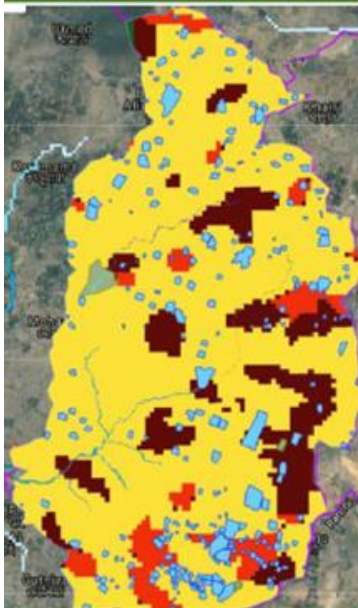


Planning ,Selection and Monitoring of Schemes through WEB GIS



Area (Ha)	1439.75
Max Flow length (m)	6665.28
Runoff Coefficient	0.53
Time of Concentration (hr)	2.23
2 Yr 24 hr Avg Rainfall (mm)	90
Ic (mm/hr)	43.61
Return Period	25
Run Off (cum/sec)	93.12
Afflux	1
Weir Height (m)	47.68
Perimeter (m)	20161.3

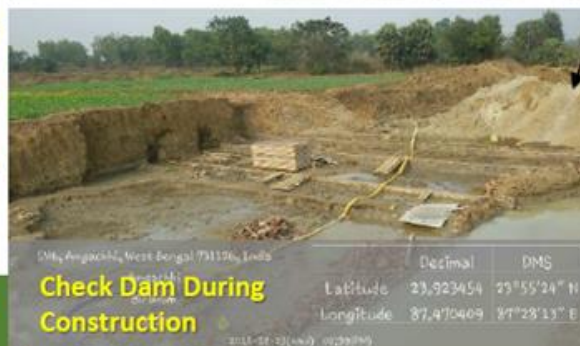
Interactive tool To demarcate Catchment area and generate associate data



Landuse/Landcover Map of the catchment

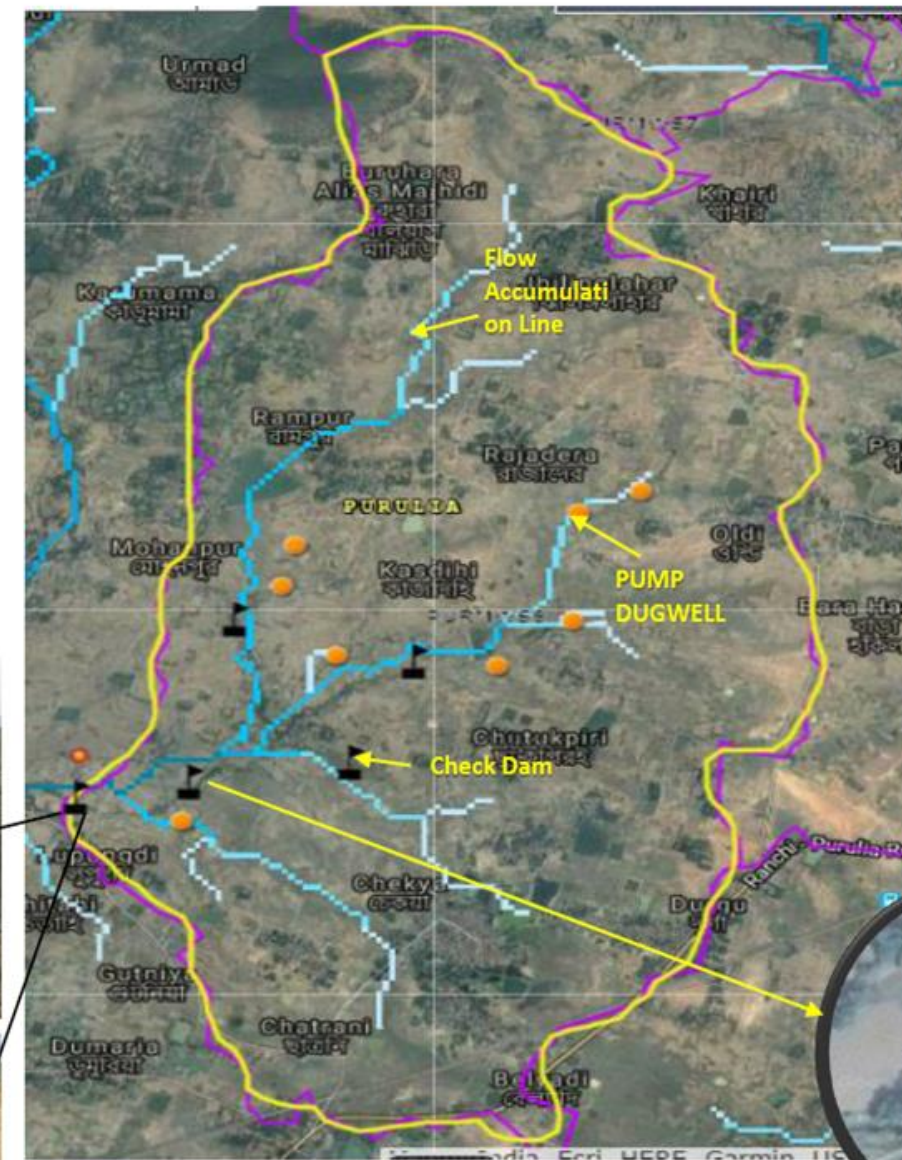


Check Dam After Costruction



Check Dam During Construction

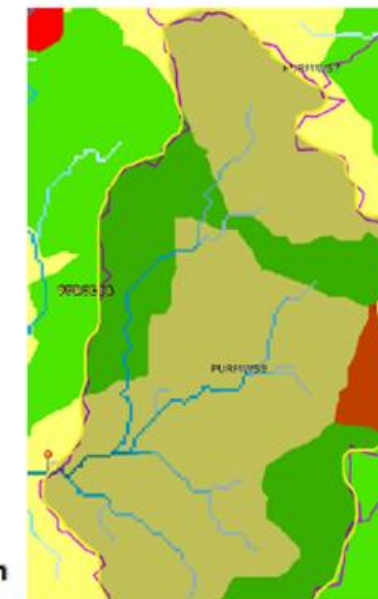
Decimal DMS
Latitude 23.923454 23°55'24" N
Longitude 87.470409 87°28'13" E
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Checking meandering stream through high resolution Satellite image



Contour map of the catchment



SocioEconomic rank Map of Catchment