

IRRIGATION DEPARTMENT AN OVERVIEW





SECTION-1:

VISION

VISION OF THE DEPARTMENT:

 \succ TO PROVIDE ASSURED AND UN-INTERRUPTED IRRIGATION FACILITY TO THE FARMERS.

>TO PROVIDE IRRIGATION FACILITY TO EVERY FARM LAND (HAR KHET KO PANI)

>TO INCREASE IRRIGATION INTENSITY BY ENSURING WATER THROUGHOUT THE YEAR AND THEREBY ENCOURAGING MULTIPLE CROPPING.

>UTILIZATION OF IRRIGATION POTENTIAL BY EQUITABLE DISTRIBUTION OF WATER THROUGH COMMAND AREA DEVELOPMENT

≻TO PROVIDE DIRECT/INDIRECT EMPLOYMENT OPPORTUNITY AND CONTRIBUTE FOR SOCIO-ECONOMIC DEVELOPMENT OF THE AGRARIAN SOCIETY.

≻PROVIDING SCOPE FOR GENERATION OF HYDRO ELECTRIC POWER BY CONSTRUCTING MINI HYDEL PROJECTS IN THE IRRIGATION CANAL.

>ENSURE PARTICIPATION OF FARMERS /WUA IN IRRIGATION PLANNING, IMPLEMENTATION AND MAINTENANCE OF IRRIGATION PROJECTS.



SECTION-2:

MISSION

Mission

Harness Water Resources and create green sustainable Irrigation Systems to cover the entire sown area of the state and thus provide assured irrigation facility for sustenance of the agriculture economy maintaining the ecological balance.

Prepare a robust masterplan after extensive survey using the latest remote sensing technique/ LiDAR survey

Assess the actual area irrigated in the state using GIS/Remote sensing tools and adopt strategies to reduce the gap between irrigation potential created and utilized.

Develop satellite based online monitoring system for project implementation, operation and maintenance.

Irrigation systems with automation (Components)



Sharing of data related to river/reservoir characteristics, hydro meteorology, hydro geology, ground water extraction etc. of the project area with other stake holders for usages in planning and development of other sectors.(agriculture/fisheries/ veterinary /tourism/PHE/Water resource/PWD/P&RD etc.).Maintain high level of coordination with all stake holders.

Mapping and management of the surface and ground water resources in the state for sustainable harnessing of water resource for irrigation ,drinking ,industry and other uses.

Extensive use of micro irrigation systems in the command area for effective crop water utilization.(per drop more crop)--- water saving technology.

Construct check dams/minor irrigation tanks to promote multiple livelihood benefits besides ground water recharge.

Intensive afforestation in water resource project sites etc.



SECTION-3: OVERALL GOVERNANCE

IRRIGATION DEPARTMENT AT GLANCE: ORGANOGRAM (ADMINISTRATION)



IRRIGATION DEPARTMENT AT GLANCE: ORGANOGRAM (TECHNICAL)



IRRIGATION DEPARTMENT AT GLANCE:





MAJOR RESTRUCTURING

> MAJOR RESTRUCTURING OF THE DEPARTMENT HAS BEEN DONE LAC WISE IN THE YEAR 2021. DIFFERENT VERTICALS CREATED HEADED BY AN ADDL. CHIEF ENGINEER.

▷ NOW THE SUB-DIVISIONAL OFFICES HAVE BEEN SET UP LAC WISE FOR EASY ACCESS BY PUBLIC, BETTER IMPLEMENTATION, OPERATION & MAINTENANCE OF IRRIGATION PROJECTS

> DIVISIONS HAVE BEEN SET UP COVERING TWO OR THREE LACS



DIGITAL INITIATIVE : IPMS

With a view to bringing digital transparency and enhancing the decision support system, the Irrigation Department has introduced Irrigation Project Monitoring System (IPMS) which comprises of a web portal named – *INO Irrigation*. The portal brings the Departmental officials, Contractors and Farmers in one platform for better monitoring of schemes and effective public delivery. This portal is connected to three user-friendly apps namely Irrigation Khetiyak Bondhu App for Farmers, INO Irrigation App for Irrigation Departmental Officials and Contractors, which can be downloaded from Google play store. In this portal all the schemes under Irrigation Department are geo tagged and canal mapping of the schemes, presently under process are being integrated to PM Gati Shakti National Master Plan portal via INO Irrigation through Application Programming Interface (API).



In order to address the grievances of the beneficiary farmers for effective operation and monitoring of the schemes, a call centre has also been set up to meet up with the needs, queries, feedbacks, etc. of beneficiaries of different schemes and related issues of Irrigation in the State of Assam.



DIGITAL TRANSFORMATION & TRANSPARENCY

E-Office

- E-office has been fully implemented in the Irrigation Department, Secretariat. E-office has also been made functional in the office of the Chief Engineer, Irrigation upto the level of AEEs at the Sub-Divisional level.
- Official Correspondences are being made through E-Office only.





DIGITAL TRANSFORMATION & TRANSPARENCY

SOCIAL MEDIA INTERACTIONS





From April 2022 to 28th sept 2023

People reached: 12,49,672+ Engagement : 46,475+ Total Followers : 21,095



From April 2022 to 28th sept 2023

Total impressions: 76,915+ Engagement : 22,338 Total Followers : 836



INTEGRATION WITH PM GATI SHAKTI

- Irrigation Schemes with its canals/distribution systems have been mapped in the PM Gati Shakti Portal.
- Irrigation Schemes have been integrated in the portal for preparation of National Master Plan.





SECTION-4:

FUTURE STRATEGY

• <u>Targeted Irrigation Potential in 2026</u>

- 9.86 Lakh Ha (Net Irrigated Area) and
- 13.80 Lakh Ha (Annual Irrigated Area)
- Cover 15% of NIA through Solar Tube wells.
- Cover 10% of NIA through hybrid mode
 - Combination of solar and electrical power
- <u>Complete LIDAR Survey of State</u>
 - Speeds up Project preparation
 - Useful for mapping infrastructure in general



Action plan to achieve 2026 Target

1

3



Adopt

- Surface Minor Irrigation Schemes (SMI)
- Tube Well Schemes under PMKSY Phase-III & IV
- Hybrid schemes under NABARD(RIDF)
- Other schemes under SOPD



2

- Using new technologies, Canal excavators, liners for speedy construction
- Using Smart Irrigation Systems for automatic supply of optimal quantity of water
- Automating pump centres for need based use



Use of modular solar mobile irrigation units alongside natural and manmade water bodies, boreholes



Use of GIS/ Remote sensing technology to identify remaining Cultivable Area of the State

Targeted Irrigation Potential (NIA) up to 2026.



SECTION-5:

IRRIGATION SCHEMES

(M&JOR/MINOR)

ASSAM

The mandate of Irrigation Department is to assure irrigation facilities in the cultivable area of the state by creating irrigation potential through construction of irrigation infrastructures in the form of Flow, Lift and Tube Well irrigation schemes etc.



Out of **27.00 Lakh Hectare** of net sown area in the state of Assam, the Irrigation Department has so far created **10.54 Lakh Hectare** of irrigation potential (AIA) through **18 Major/Medium** (14 Flow Irrigation Scheme and 4 Lift Irrigation Scheme) with a creation of **2.74 Lakh Hectare** (AIA) and **2889** Minor Irrigation schemes creating **7.80** Lakh Hectare (AIA)



Water supplied by Dhansiri project





Out of total of **2889** nos. of Minor Schemes, **1527** nos. are Flow Irrigation Schemes, **507** nos are Lift Irrigation Schemes, **675** nos. are Deep Tube Wells and **190** nos. are Shallow Tube Well Schemes.

OTHER PROGRAMMES



PROJECT

NABARD RIDF – XXIÝ (37 NOS.), XXÝ (98 NOS.), XXÝI (23 NOS.), XXÝII (34 NOS.), XXÝIII (66 NOS.) & XXIX (54 NOS.). TOTAL-312 NOS.



Total Irrigation Potential Created

Total IP was 9546 Hectares.



Total No. of Schemes Completed

Total of 172 Nos. of Schemes have been completed



Total Sanctioned Amount (All Tranches) 315.5484 Crore



Beneficiary created



RIDF-XXIX

Rs. 75.00 Crore has been allocated for RIDF-XXIX for 54 Nos. of project. AA issued in September,2023.



OTHER PROGRAMMES



PROJECT HYBRID TUBE WELL IRRIGATION SCHEME UNDER SOPD



Beneficiary created 1944 Nos.



Total Irrigation Potential Created Total IP was **1944 Hectares.**



Total Nos. of Scheme completed

Total of 486 Nos. of schemes have been completed



STATUS OF TOTAL MINOR SCHEMES

SL No	TYPE OF SCHEME	Nos of schemes	Potential Created (IPC) (in Ha)	Potential available (IPA) (in Ha)
1	FLOW IRRIGATION SCHEME (FIS)	1849	4,86,095	2,69,533
2	LIFT IRRIGATION SCHEMES (LIS)	634	1,59,510	30,650
3	DEEP TUBE WELL (DTW)& MEDIUM DEEP TUBE WELL (MDTW)	1049	70,502	24,119
4	SHALLOW TUBE WELL (STW)	214	25,034	5,978
5	PMKSY-HKKP-GW	1no(9662 pts)	38,648	36,683
	TOTAL	3747	<i>7,79,78</i> 9	<i>3,66,9</i> 63

STATUS OF SCHEMES SANCTIONED UNDER PMKSY-HKKP-SMI for 2022-23



COMPLETED (MAJOR) SCHEMES

SI No.	Name of Scheme	Estimated Amount (in Lakhs)	Estimated Potential (in Ha)	Potential Created (in Ha)	Potential Utilised (in Ha)
1	<u>Jamuna I/S</u> (Modernization of Jamuna I/S	6461.00	27705	27427	26600
2	Integrated I/S from Kollong River Basin	8054.00	17102	17102	3020
3	<u>Sukla FIS</u>	490.00 (Original) 2710.40(Modernisation)	17166	17166	5980 (main- tained by BTAD authority; ERM works in progress
4	<u>Champamati Major</u> I/S	30922.00	14194	14194	14194
5	<u>Bordikarai FIS</u>	9630	16994	16470	4000
6	<u>Dhansiri Irrigation</u> Proiect	56685.00	38615	38615	18136

COMPLETED (MEDIUM) SCHEMES

SI	Name of Scheme	Estimated Amount	Estimated	Potential	Potential
No.		(in Lakhs)	Potential (in Ha)	Created (in Ha)	Utilised (in Ha)
1	Kaliabor Lift Irrigation Scheme	851.00	8583	8583	500 (proposed for ERM)
2	Kaldiya Irrigation Scheme	811.15	9716	9716	520
3	<u>Bhumki FIS</u>	311 (Original) 990 (Improvement of Bhumki FIS)	4000	4000	1000
4	<u>Dekadong FIS</u>	460.038	4332	4332	650
5	Pahumara Irrigation Scheme	4909.33 (Revised)	8336	8336	5500
6	<u>Harguti FIS</u>	43.00	2600	2600	Maintained by KAAC Authority
7	<u>Dikhari FIS</u>	108.67	2360	2360	-do-
8	<u>Hawaipur LIS</u>	1493.00	2430	2430	-do- 30

ONGOING (MEDIUM) SCHEMES

		Estimated	Estimated	Potential Created	Physical
SI No.	Name of Scheme	Amount (Rs. in Lakhs)	Potential (in Ha)	(in Ha) if any	Progress (%)
1	<u>Rupahi FIS</u>	1540.804	3522		50% (New H/w under construction due to change of river course
2.	<u>Buridihing LIS</u>	2346.00	3050	2505	Presently inoperative due to change of river course
3.	<u>Borolia FIS</u>	29597.00	9717	3300	70% (Maintained by BTAD Authority)
4.	Amreng FIS	6145	6120	6120	Maintained by KAAC Authority 31

SECTION-6:

FLAGSHIP PROGRAMMES

Department has already The completed 9662 nos. of Tube Well points (Solar 3587 Nos. & Electrical 6075 Nos.) taken up in Phase-I & II under Hon'ble Prime Minister's Flagship program – Pradhan Mantri Krishi Sinchayee Yojana-Har Khet Ko Pani (PMKSY-HKKP)-Mission for Access to Ground Water Tube Well schemes creating irrigation potential of **38,648 Ha.** at an estimated cost of Rs. 539.00 Crore. The Solar Tube Wells form an integral part of the green and climate friendly initiative undertaken by the Department.





FLAGSHIP PROGRAMMES



PROJECTS

PRADHAN MANTRI KRISHI SINCHAYI YOJANA- HAR KHET KO PANI –GROUND WATER (PMKSY-HKKP-GW)



Total Irrigation Potential Created Total IP was **38648Hectares**.



Expenditure Incurred

Total expenditure incurred prior to state formation was only **Rs 539.00 Crores**



Total No. of well

completed

9662 Nos. (Solar= 3587, Electrical = 6075)



Beneficiary created 35793 Nos.



FLAGSHIP PROGRAMMES



PROJECTS

PRADHAN MANTRI KRISHI SINCHAYI YOJANA- HAR KHET KO PANI – SURFACE MINOR IRRIGATION SCHEME(PMKSY-HKKP-SMI)



Total Irrigation Potential Created

175663 Hectares by 340 minor irrigation schemes implemented under AIBP since 2009-10



Estimated Amount Rs 2021.28 Crores



Status

Presently the schemes are supplying water to the crops



FLAGSHIP PROGRAMMES (NEW SANCTION & PROPOSALS)



PROJECTS

PRADHAN MANTRI KRISHI SINCHAYI YOJANA- HAR KHET KO PANI – SURFACE MINOR IRRIGATION SCHEME(PMKSY-HKKP-SMI)



New Sanction;

9 SMI projects were sanctioned by MoJS, GoI during 2022-23 to create 7605 Hectares of I.P



Estimated Amount

Total sanctioned cost is **Rs 302.07 Crores.** The projects would be implemented from November 2023 with 18 months target for completion .



New Proposals

23 new proposals are submitted to CWC for consideration of sanction by GoI with an estimated amount of 754.58 Crore with a target to create 20,491 Hectare of I.P



SECTION-7:

PM/HCM &NNOUCEMNTS

- Hon'ble CM in a meeting held on 16th June 2021 decided that the officials of the Irrigation Department be sent to other states of the country namely Gujarat, Telangana, Uttarakhand, Chhattisgarh etc. to see the successful Irrigation projects and practices.
- Accordingly, a team of engineers were sent to Telangana in February 2023.
- Another team of 10 engineers are also recently sent to Chhattisgarh.
- Correspondence are also made with Odisha and Kerela for the next exposure visits.
- The learning outcomes from such exposure visits would help the department to plan and implement, successful irrigation projects in the state with a deliverable output and outcome.





Exposure visit to Telangana

SECTION-8:

SUCCESS STORIES

SUCCESS STORIES OF THE DEPARTMENT



PROJECT DHANSIRI IRRIGATION SCHEME UNDER AIBP



Beneficiary created 52657 Nos.



Total Irrigation Potential Created Total IP was **38615 Hectares.**



Expenditure Incurred

Total expenditure incurred prior to state formation was only **Rs 0.54 Lakh Crores**



SUCCESS STORIES OF THE DEPARTMENT



PROJECT

MALOIBARI ELECTRICAL LIFT IRRIGATION SCHEME UNDER DISPUR DIVISION



Total Irrigation Potential Created

Total IP was **1800 Hectares** consisting of 30 Nos. of Lift Point drawing water from River Kollong



Output

Producing 7.5 MT of Boro paddy per Hectare, which tunes upto 12750 MT in total cultivated land of Maloibari area, valuation of which is Rs. 20.00 Cr. (Approx.)



Beneficiary created 5000 Nos.



SUCCESS STORIES OF THE DEPARTMENT



STATE AWARDEE:

LATE SONESWAR KONWAR WHO REVOLUTIONIZED THE CULTIVATION OF BORO PADDY IN MALOIBARI AREA.





STATE AWARDEE:

SRI RATNESWAR DAS WHO IS CULTIVATING ALMOST 100 BIGHA OF LAND SINGLE HANDEDLY TAKING THE BENEFIT OF MALOIBARI ELIS



Mobile Solar LIS: low-cost innovation

It is a Solar powered pumping station on a floating barge made of recycled UPBC barrels with a flexibility of supplying water at various locations on demand by farmers. The scheme may be operated by DC pump of 3HP, with RMS configuration and may irrigate about 8Ha of land. This innovative lowcost scheme costing about Rs. 6.80 Lakhs was launched by Boko-Chaygaon Division (Irrigation).







Modified Spout: low-cost water use efficiency system





To overcome the drawbacks of traditional spout chamber a highly modified and cost effective spout has been designed and implemented. Each spout has the potential to irrigate an area of more than 2 ha effectively with provision of canvas pipe. A single DTW scheme will now have the potential to cover area of 30 Ha.

The ground water is judiciously used due to this enhanced water distribution mechanism increasing the efficiency.

This increases the agricultural productivity leading to economic prosperity of the farmers. This innovative spout can improve the water use efficiency of the distribution system and is also cost effective. The innovation was launched by Hajo-Jalukbari Division (Irrigation).

SECTION-9: ISSUES &

CONSTRAINTS

Issues and Challenges

- Limitation of data access and the data availability.
- To enhance the status of application of GIS/remote sensing tools in data collection, data analytics and incorporate authentic data in formulation of DPR of irrigation project.
- Conduct social and environmental impact assessment.
- Increasing the level of interdepartmental coordination.
- > Address land acquisition issues properly during the planning and execution of the project.
- Importance on earthen canals compared to the lined canals for ground water recharge, improve water use efficiency of distribution system.
- > To improve the participation of the farmers during planning, implementation, operation and maintenance.
- Improve the reliability of power supply.
- Improve the level of utilization of water resources to national/international standards.

- Outrageous dependency on ground water Depletion of water table.
- > Uneven rainfall distribution, Climate change adaption for water resource development.
- Increasing gap between irrigation potential created and utilized.
- > Annual flood, droughts and ground water overuse.
- Long gestational period in development of surface major/medium irrigation projects due to shorter working duration
- Issues of land acquisition to be reduced by adopting suitable strategies.
- Energy crisis due to power outages and unscheduled interruptions across rural areas leading to difficulties in operation of Electrical schemes.
- Frequent theft of solar panels and pumps.

SECTION-10: THE WAY FORWARD

THE WAY FORWARD : CONVERGENCE WITH STAKEHOLDERS

> EFFORTS TO ENHANCE THE PRACTICE OF MULTIPLE CROPPING THROUGH MOTIVATIONAL PROGRAMME WITH THE HELP OF AGRICULTURE DEPARTMENT.

> JOINT VISITS WITH THE AGRICULTURE DEPARTMENT TO EXAMINE THE FEASIBILITY AND IMPLEMENTATION OF THE PROJECT.

>REPRESENTATIVES OF AGRICULTURE DEPARTMENT IN COORDINATION AND ADVISORY COMMITTEE FOR PLANNING, IMPLEMENTATION OF IRRIGATION PROJECTS.

>ROBUST COORDINATION MAINTAINED WITH CWC, CGWB & NERIWALM FOR TECHNICAL SUPPORT, TRAINING & DPR FORMULATION.

>IRRIGATION LEVY COLLECTION TO BE RATIONALIZED BY INTEGRATING WITH THE LAND REVENUE COLLECTION SYSTEM.

>EFFORTS TO EXPLORE THE OPPORTUNITY OF TAKING UP MAINTENANCE OF IRRIGATION SCHEMES IN CONVERGENCE WITH P&RD DEPARTMENT.

>BRAINSTORMING SESSIONS ARE CONDUCTED TO EVOLVE LOW COST TECHNOLOGY IN IRRIGATION SECTOR. RECENTLY, A LOW COST MOBILE SOLAR LIFT IRRIGATION SCHEME WAS DESIGN AND OPERATIONALIZED.

- > INPUTS OF AGRICULTURE DEPARTMENT ARE SOUGHT FOR CROPPING PATTERN, SOIL HEALTH & EXAMINING THE PROFILE OF THE FARMERS WITHIN THE COMMAND OF IRRIGATION SCHEMES.
- ➢ AGRICULTURE DEPARTMENT PROVIDES SUSTAINABILITY REPORT ON THE NEEDS OF IRRIGATION SCHEMES REQUIRING THE DISASTER MITIGATION ACTIVITIES AS WELL AS POST DISASTER REPAIR WORK FOR THE IRRIGATION SCHEMES.
- > FINANCIAL ANALYSIS OF IRRIGATION PROJECTS ARE MADE BASED ON THE BENEFIT COST REPORTS FOR THE AGRICULTURAL PRODUCTIVITY AS WELL AS OTHER ALLIED ACTIVITY SUPPORTED BY IRRIGATION SUPPLY.
- > SCHEMES MAY INCLUDE THE FISHERIES AND OTHER UNITS LIKE POULTRY, DAIRY UNITS THAT MAY REQUIRE THE WATER SUPPLY OF THE IRRIGATION SCHEME.
- CONVERGENCE IS ALSO REQUIRED WITH APDCL IN THE CASE OF ELECTRIC SUPPLY AND ALSO USING THE GENERATED SOLAR POWER FOR OTHER USES DURING THE IDLE PERIOD OF SOLAR OPERATED IRRIGATION SCHEMES.

CAPACITY BUILDING INITIATIVES/PUBLICATIONS

> TRAINING PROGRAMMES ARE BEING UNDERTAKEN UNDER THE UMBRELLA OF DEPTT. OF ECONOMIC AFFAIRS IN THE IIMs OF THE COUNTRY.

> NEWLY JOINED AEs AND JES ARE BEING TRAINED BATCHWISE IN NERIWALM, TEZPUR.

>DISTRICT IRRIGATION PLANs FOR DIFFERENT DISTRICTS FOR A PERIOD OF 5 YEARS ARE PREPARED.





