



WATER RESOURCES DEPARTMENT NAGALAND



HYDROLOGY PROJECT CONVENTION CENTRE, DIMAPUR

ANNUAL ADMINISTRATIVE REPORT

2021-22

ANNUAL ADMINISTRATIVE REPORT 2021-22

Water Resources Department, Nagaland.

1.0 INTRODUCTION

Government of Nagaland has renamed erstwhile Irrigation and Flood Control Department as Water Resources Department, WRD in 2nd July 2018. The objective of the department is to be the custodian of water resources of Nagaland and perform the role of nodal department on water resources management. The Department has initiated water resources planning and water resources development simultaneously. The WRD has prepared the document titled “Road map for Water Resources Department (WRD) - Immediate action plan and long-term strategies”. This document will also be a guiding document for expansion of activities by the department and strengthening on-going activities for sustainable management of State’s water resources.

The Department was allotted with an outlay of ₹ **31814.31 lakh** during 2021-22 for creating necessary infrastructure to meet the needs of the Farming Community of the State through the Centrally Sponsored Schemes and programme under Pradhan Mantri Krishi Sinchayee Yojna (**PMKSY**) Har Khet Ko Paani (**HKKP**), Flood Management Program (**FMP**), National Bank for Agriculture and Rural Development (**NABARD**) and North East Council (**NEC**) funded schemes under Irrigation Flood Control & Watershed Management Sector.

The Ministry of Water Resources has approved the ‘National Hydrology Project’ for implementation of the State along with the rest of the country and has sanctioned an amount of ₹ **23.00 Crore** for implementation of the program over 8 years period (2016-17 to 2023-24).

DRAFT ANNUAL PLAN 2021-22

Demand No.59 - WATER RESOURCES DEPARTMENT

(₹ in lakh)

Sl No.	Head of Account	Particulars	Draft Annual Plan - 2021-22
A.	REVENUE SECTION:		
	Major Head: 2702 - Minor Irrigation		
1.	01 - SURFACE WATER:		
	102 - Lift Irrigation.	01-Micro Irrigation (15) Machinery & Equipment.....	10.00
2.	02 - GROUNDWATER:		
	01-Ground Water Development	(14) Minor Works.....	3.00
3.	80 - GENERAL		
	001 - Direction & Administration	01-Direction.....	0.00
	80-800 - Other Expenditures		
	01 - Agriculture Engineering Superintendence	.....	0.00
	02 - Other M.I. Works	(14) Minor Works	54.00
		(31) Other Administrative Expenses	3.00
	03 - Land Reclamation	.....	0.00
	04 - Agriculture Workshop	.....	0.00
	05 - Statistical Cell	(01) Salaries	60.00
		(26) Other Charges	13.00
	06 - National Hydrology Project (NHP) EAP	.....	0.00
B.	Capital Section :-		
1.	Major Head: 4059 - Capital Outlay on Public Works		
	01 - Office Building	051-01- Irrigation & Flood Control.....	0.00
2.	Major Head: 4552 - Capital Outlay on North Eastern Areas		
	59 - Irrigation & Flood Control		
	800 - Other Expenditure	01-Water Sector,(13) Major Works.....	519.65
3.	Major Head: 4701 - Capital Outlay on Major & Medium Irrigation		
	04 - Medium Irrigation - Non-Commercial		
	002-01-Medium Irrigation	.....	0.00
4.	Major Head: 4702 - Capital Outlay on Minor Irrigation		
	800 - Other Expenditures		
	01 - Irrigation Works	(13) Major Works	0.00
	02 - Capital Assets	(17) Maintenance	30.00
	03 - Flood Control	(13) Major Works.....	0.00
	04 - Construction of Water Harvesting Structures	.....	100.00
	05 - Pradhan Mantri Krishi Sinchayee Yojna(PMKSY) & Flood Management Programme		
		(13) Major Works (i) Har Khet Ko Pani:	
		(a) Minor Irrigation(C/S & S/S) ...	26225.11
		(b) Ground Water(C/S & S/S)	2222.55
		(c) CADWM	0.00
		(d) RRR	0.00
		(e) Jal Kranti Abhiyan	0.00
		(ii) FMP (C/S & S/S)	2074.00
5.	Major Head: 4705 - Capital Outlay on Command Area Development		
	800 - Other Expenditures	01-CAD (ISBIG) (13) Major Works	500.00
Total :-			31814.31

(Rupees, Three hundred Eighteen Crore Fourteen Lakh and Thirty One Thousand) only

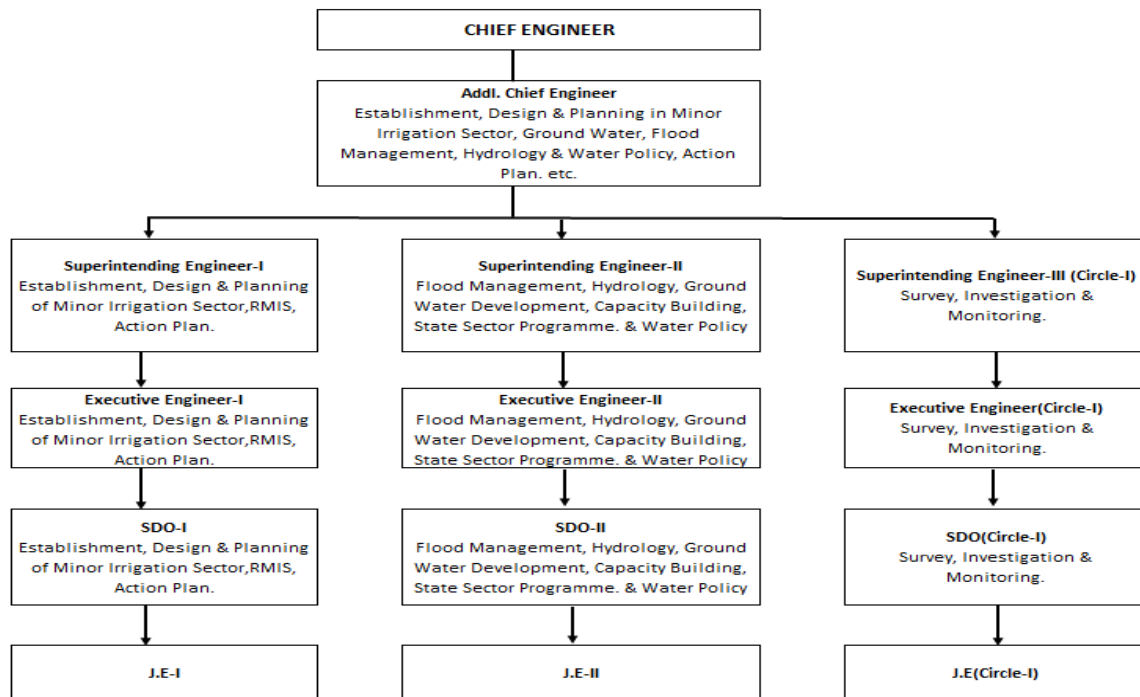
Administrative Head of the Department

Kenilo Apon, IAS
Commissioner & Secretary
to the Govt. of Nagaland
Water Resources Department

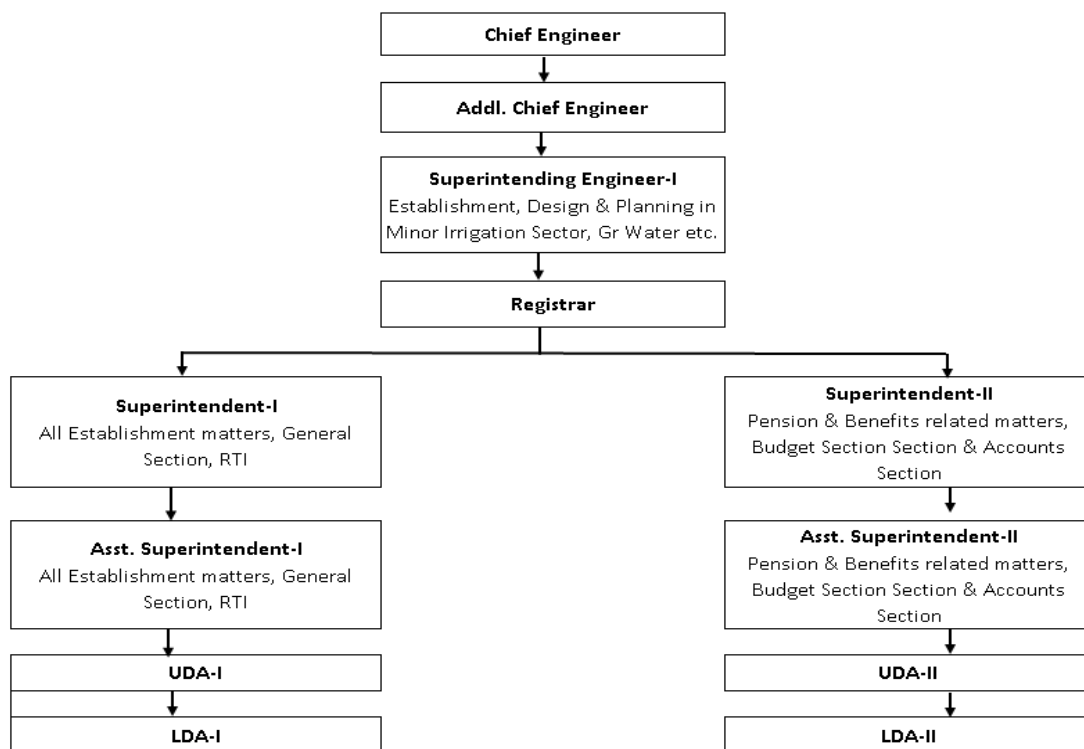
Chief Engineer
Water Resources Department
Nagaland : Kohima

2.0 ORGANIZATIONAL SET-UP

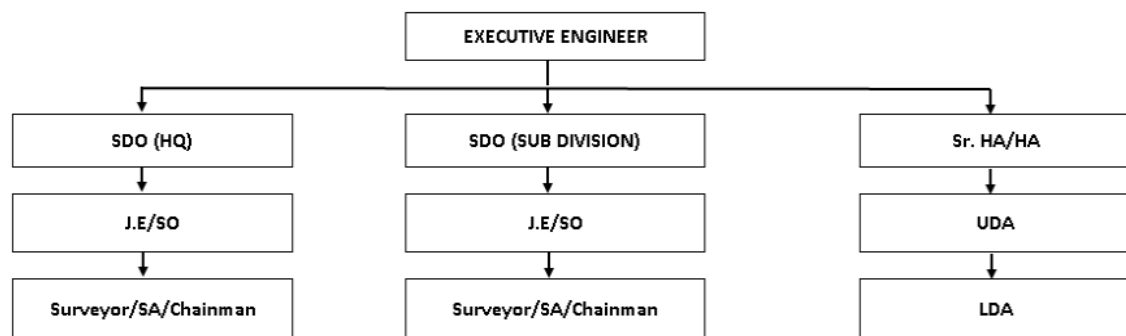
EXISTING ORGANOGRAM OF DIRECTORATE ENGINEERING UNDER WATER RESOURCES DEPARTMENT, NAGALAND



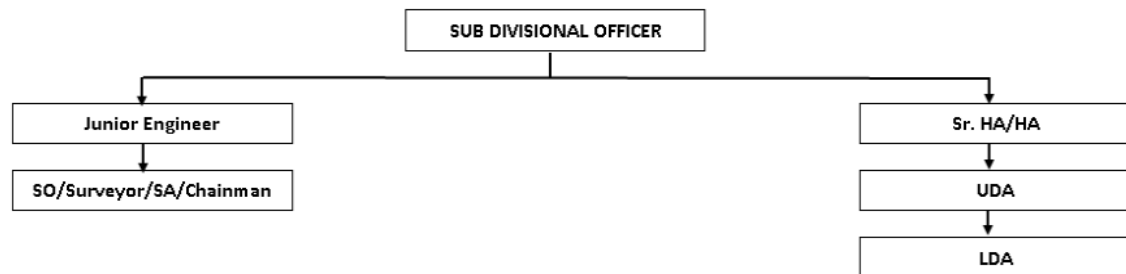
EXISTING ORGANOGRAM OF DIRECTORATE MINISTERIAL UNDER WATER RESOURCES DEPARTMENT, NAGALAND



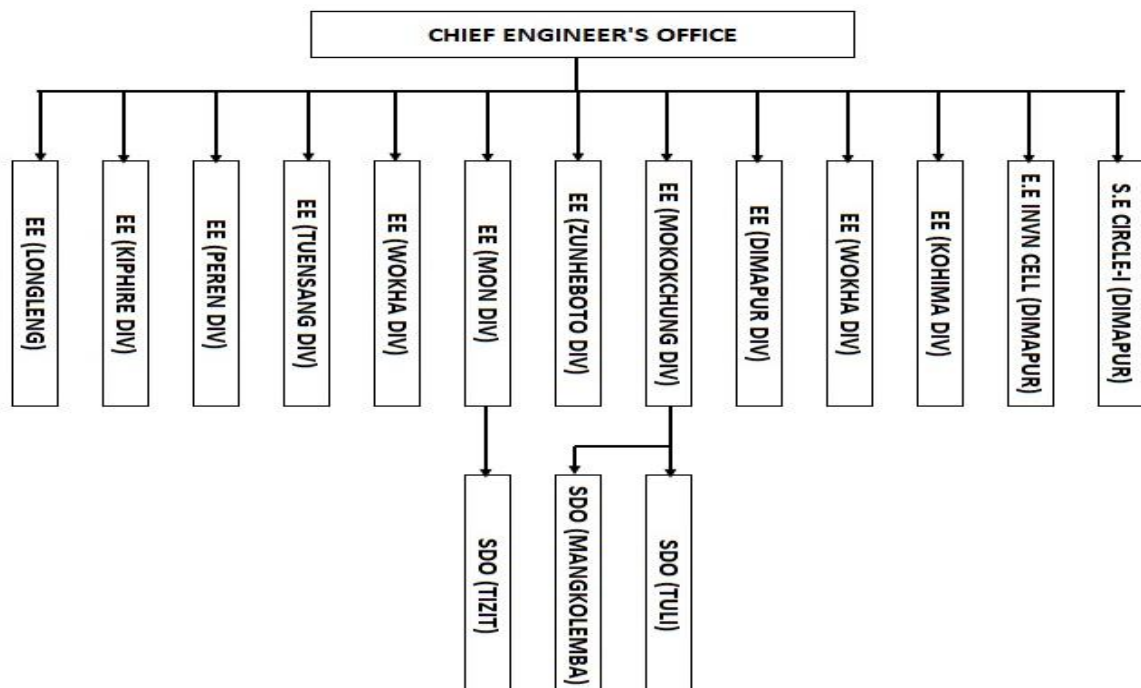
EXISTING ORGANOGRAM OF DIVISION LEVEL UNDER WATER RESOURCES DEPARTMENT, NAGALAND



EXISTING ORGANOGRAM OF SUB DIVISION LEVEL UNDER WATER RESOURCES DEPARTMENT, NAGALAND



EXISTING ORANOGRAM OF THE DEPARTMENT OFFICE ESTABLISHMENT



3.0 ACTIVITIES OF THE DEPARTMENT

The main activities of the Department are construction of Surface Minor Irrigation Projects, Groundwater Development, Command Area Development and Flood Management Programme (Anti-erosion / Drainage / Flood Mitigation). The Department also conducts Irrigation Census every five years in consonant with all the States of the Country.

3.1 MINOR IRRIGATION

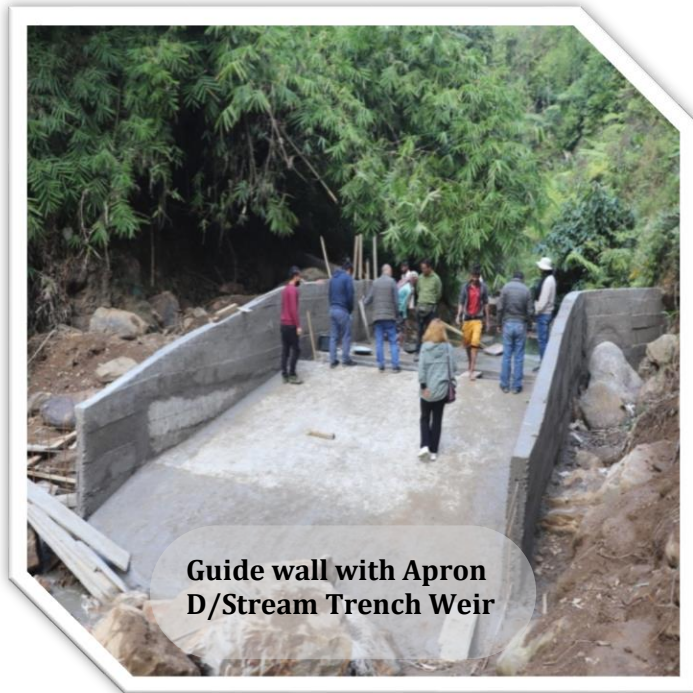
The Department took up 270 Nos. of Surface Minor Irrigation Schemes under PMKSY-HKKP during 2018-19 with an estimated cost of **₹ 20,685.21 lakh** to cover a CCA of 8544 Ha with an Irrigation Potential planned of 10508 Ha out of which 3744 Ha has been achieved. The funding of the Schemes Central Share amounting to **₹ 8252.97 lakh** and State Matching Share of **₹ 917 lakh** has been utilized till date and Irrigation Potential of 3744 Ha has been achieved.

During 2019-20, the Department has submitted Detail Project Report for 213 Nos. of Surface Minor Irrigation Schemes under PMKSY-HKKP with an estimated cost of **₹ 13320.94 lakh** covering a CCA of 5444 Ha to create Irrigation Potential of 6837.30 Ha for consideration of sanction by the Ministry of Jal Shakti, DoWR, RD& GR, Government of India.

Photographs of Ongoing Batch 270 Nos. Minor irrigation Projects under PMKSY



MYKOK M.I PROJECT AT SANGSANGYU VILLAGE, TUENSANG



**Guide wall with Apron
D/Stream Trench Weir**



Up Stream Trench Weir

SHENMEI MI PROJECT AT B/NAMSANG VILLAGE, LONGLENG.



**Trench Weir 1 and Trench Weir 2
under construction**



**CONSTRUCTION OF 2 NOS OF TRENCH WEIR AT AMSHOU MI PROJECT
YONGYAH VILLAGE, LONGLENG.**



MYKOK MI PROJECT AT SANGYU /MAKSHA, TUENSANG



THERARI MI (ZHIRI CLUSTER) AT ZAPAMI VILLAGE, PHEK



ZHIRI MI (ZHIRI CLUSTER) AT PFUTSEROMI VILLAGE, PHEK



**ELECTRICAL MDTW AT LUYONGI, MOLUNGYIMSEN VILLAGE,
MOKOKCHUNG.**

3.2 GROUND WATER

The Implementation of Ground Water Irrigation Scheme in Nagaland will definitely benefit the target group of farmers and there will be radical changes in food production of the State. Doubling the production by 2022 will enhance the economic condition of small and marginal farmers. Poor tribal farmers will be greatly benefited from these Schemes. The Scheme shall be implemented at the Districts levels by the respective Divisional Engineers of the Department in co-ordination with other stake holders and as per guidelines

During 2020-21, the Department took up 262 units of Ground Water Irrigation under PMKSY-HKKP (IC&GW) at an estimated cost of ₹ **1815.00 lakhs** to cover a CCA of 666.75 Ha out of which Central Share amounting to ₹ **975.00 lakhs** and State Matching Share of ₹ **108.33 lakh** has been utilized till date. The 5 (five) implementing districts are namely Dimapur, Mokokchung, Peren, Mon and Wokha.

ABSTRACT OF PMKSY-HKKP-GW: 262 UNITS OF MEDIUM DEEP TUBE WELL(MDTW)

SI No.	Particulars	Package no.	Solar	Electrical	Total
1.	Const. of 29 units of Ground Water Scheme under PMKSY-HKKP at Dhansiripar Block Dimapur, Nagaland.	1	17	12	29
2.	Const. of 35 units of Ground Water Schemes under PMKSY-HKKP at Amaluma , Kuhuboto, Aghunaqa & Niuland Block, Dimapur, Nagaland.	2	28	7	35
3.	Const. of 28 units of Ground Water Schme under PMKSY-HKKP at Medziphema Block, Dimapur, Nagaland.	3	19	9	28
4.	Const. of 28 units Of Ground Water Scheme under PMKSY-HKKP at Chumukedima Block, Dimapur, Nagaland	4	15	13	28
5.	Const. of 21 units Of Ground Water Scheme under PMKSY-HKKP at Jalukie Block, Peren, Nagaland.	5	21	0	21
6.	Const. of 21 units Of Ground Water Scheme under PMKSY-HKKP at Jalukie Block, Peren, Nagaland.	6	17	0	17

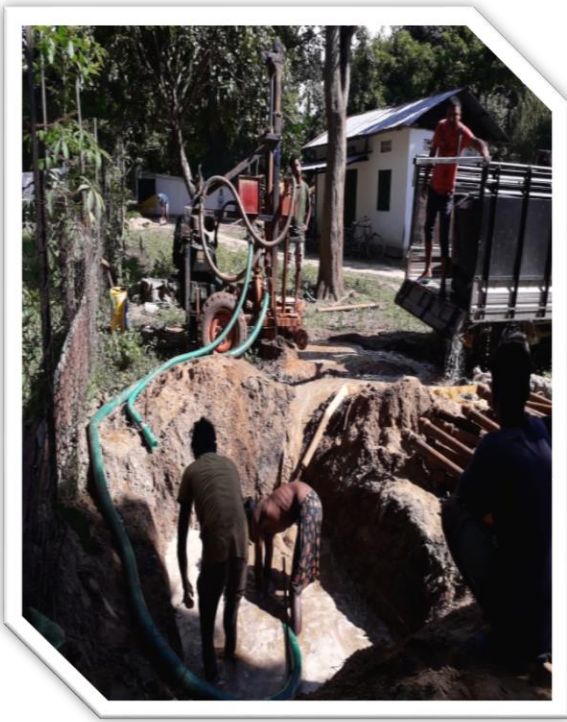
SI No.	Particulars	Package no.	Solar	Electrical	Total
7.	Const. of 12 units of Ground Water Scheme under PMKSY-HKKP at Peren & Athibung Block, Peren, Nagaland.	7	12	0	12
8.	Const. of 26 units of Ground Water Schemes under PMKSY-HKKP at Mangkolemba & Tsurangkong Block, Mokokchung, Nagaland.21	8	17	9	26
9.	Const. of 29 units of Ground Water Scheme under PMKSY-HKKP at Longchem & Tuli Block, Mokokchung, Nagaland	9	14	15	29
10	Const. of 20 units Of Ground Water Scheme under PMKSY-HKKP at Wozurho, Bhandari, Changpang&Ralan Block, Wokha, Nagaland.	10	19	1	20
11	Const. of 17 units Of Ground Water Scheme under PMKSY-HKKP at Tizit Block, Mon, Nagaland.	11	16	1	17
TOTAL:			195	67	262



NIHOTO-GW1 NIHOTO VILLAGE, KUHUBOTO, DIMAPUR



URRA -GW-III, URRRA VILLAGE, DHANSIRIPARI DIMAPUR



AGRI SEED FARM MERAPANI, WOKHA



GW MHORUKVU PANGTI VILLAGE, WOKHA



GW KELEREU JALUKIE TOWN, PEREN



GW SAMZUIRAM JALUKIE TOWN, PEREN



SOLAR TUBEWELL AT TSUSUYONG, LONGPHAYIMSE, MOKOKCHUNG.



GROUND WATER SCHEMES UNDER PMKSY-HKKP AT LONGCHEM, TULI

3.3 COMMAND AREA DEVELOPMENT & WATER MANAGEMENT

The flagship program PMKSY guidelines stipulates that implementation of Command Area Development & Water Management is mandatory for availing funding for the Minor Irrigation by the Ministry. However, due to the State's inability to fund its Matching Share i.e 50% of the project cost, the State has been unable to effect implementation of the project.

3.4 FLOOD MANAGEMENT AND BORDER AREA PROGRAMME (FMBAP) erstwhile FLOOD MANAGEMENT PROGRAMME (FMP)

This is a Centrally Sponsored Scheme for construction of Anti-Erosion Works, Drainage and Flood Mitigation Works of critical in nature. The funding pattern is 90:10 (CS : SS). 2 (Two) New Schemes namely; (i) Development of Dimapur Airport Drainage Ph – IV, Dimapur with an estimated cost of ₹ **1007.924 lakh** covering 2.733 km length of protection work and (ii) Protection of Tuli Town from Erosion of Milak River Ph. – II, Mokokchung; with an estimated cost of ₹ **1012.195 lakh** covering 2.63 km length of protection work have been recommended by State Technical Advisory Committee (STAC) for funding by the Ministry. Further, 2 (two) other Schemes namely (iii) Anti-Erosion Work for protection of Kughovi, Toluvi, Henivi, Shozukhu and Zukihe village areas from erosion of Chathe river in Dimapur and (iv) Anti-Erosion Work for Protection of Kushiabill, Imkongsenden and Domokhia village areas from erosion of Dhansiri River in Dimapur are under proposal for obtaining Investment clearance.

3.5 CONSTRUCTION OF WATER HARVESTING POND UNDER NABARD

In the State of Nagaland where even after good monsoon, water is scarce during the lean winter months because of lack of proper management and storage of water. Hence, creation of water farms and water bodies using LDPE lined ponds in strategic locations in the hilly sectors and construction of water harvesting structures in plain sectors will definitely assure the community to venture into various farming activities thus contributing to their livelihoods.

NABARD has sanctioned an amount of ₹ **287.83 lakh** for 3 years during 2019-22 for implementation of 31 (thirty one) Nos. of projects in Dimapur, Kohima, Mokokchung, Wokha, Tuensang, Kiphire, Phek, Zunheboto, and Peren districts. The proposal includes creation of water farms and water bodies by conserving monsoon run-off using LDPE Lining.

During 2021-22, It is proposed to take up 81 (Eighty One) Nos. of projects in Mokokchung, Zunheboto, Wokha, Peren, Kohima, Dimapur, Tuensang, Kiphire & Phek districts amounting to ₹ **500.00** (Rupees Five Crore) only.



DONYUMANG WATER BODY USING POND LINERS AT TUENSANG VILLAGE



MAKASEM WATER BODY USING POND LINERS AT TUENSANG VILLAGE



YOUPO WATER BODY USING POND LINERS AT TUENSANG VILLAGE



CONSTRUCTION OF RAIN WATER HARVESTING POND, DIMAPUR.

3.6 NORTHEAST COUNCIL PROGRAMME

The Department is implementing 4 (Four) Nos. of projects under NEC for the year 2021-22. The status of the project is as stated in the table:

Sl. No	Name of Project	Estimated Cost (₹ in Lakh)	Amount Sanctioned till 2021-22	Remarks
1	Rutsa Multi purpose Irrigation Project, Kohima.	700.00	695.35	Ongoing
2	Integrated Nzu Valley Irrigation Project at Phenshunyu Village, Tseminyu.	401.29	401.29	Ongoing
3	Anti-erosion work on Tizu River at Zunheboto District'.	300.00	11.11	Ongoing
4	Seitsaru Multi Purpose Irrigation Project at Phesama Village, Kohima.	287.20	111.11	Ongoing
	TOTAL	1971.69	1,218.86	

3.7 AIRPORT AUTHORITY OF INDIA (AAI) DRAINAGE IMPROVEMENT WORKS (NEZCC NALLAH)

The Dimapur Airway Runway is frequently inundate during monsoon from May to October. The problem of inundation of the Airport Runway still persists mainly due to the overflow of the South Nallah, as such the Department has been entrusted to carry out studies to work out the possibility of diverting wholly/partially the Sugar Mill Nallah well as the NEZCC South Nallah to Chathe River.

Accordingly, the Department conducted a survey and it was observed that the Bed Level at the confluence of Sugar Mill Nallah and South Nallah was found to be lower than the HFL of Chathe River and there is a possibility of back flow from the Chathe River. Therefore, the Department is implementing the project “Diversion of NEZCC Nallah to Chathe river for improvement of Dimapur Airport Drainage” costing ₹ **241.84 lakh** at 2016 NPWD SOR which envisages for construction of Pucca drains of 1.09 Km length to divert NEZCC Nallah into Chathe River, which will relieve 20% of the Airport North Nallah drainage. So far, the physical progress of the work is 27 %.

The work includes:

1. Intake structure
2. Drainage Channel &
3. Cross Drains



VERIFICATION OF AAI DRAINAGE WORK AT DIMAPUR

3.8 RATIONALIZATION OF MINOR IRRIGATION STATISTICS (RMIS)

For the implementation of Minor Irrigation Census the Ministry of Jal Shakti, Department of Water Resources, River Development & Ganga Rejuvenation, Minor Irrigation (Statistics) Wing, Government of India has sanctioned six posts in the Statistical Cell, WRD to be manned by Statistical Personnel on deputation in coordination with the Water Resource Department the Nodal Department for implementation of Minor Irrigation Schemes.

The Department has successfully completed fifth Minor Irrigation Census (MIC) with reference year 1986 – 87, 1993 – 94, 2000 – 01, 2006 – 07 and 2013 – 14. Currently, the 6th Minor Irrigation Census (6th MIC) and 1st Census of Water Bodies (CWBs) with reference year 2017 – 18 was carried out in the State with an estimated cost of ₹ **63.26 lakh**. The Department has completed field works and on line Data Entry of sixth MIC & first CWBs. Total Number of Surface Minor Irrigation covered during sixth MIC is 19374 and total Nos. of Water Bodies covered during first CWBs is 1432.

The Department has so far received ₹ **50.00 lakh** as second Installment.

3.9 STATISTICAL CELL WRD UNDER (RMIS)

The Ministry has upgraded the following technical posts in the Cell under Restructured Statistical Cell, as one post of Assistant Director to Deputy Director, one post of Inspector of Statistics to Sr. Inspector of Statistics (Sr.IOS) and two posts of Sub-Inspector of Statistics to Inspector of Statistics (IOS) with full implementation of seventh Central Pay Commission to the Statistical Cell.

Presently, the Statistical Cell is headed by Deputy Director (stats) Assisted by one Sr. IOS, two IOS, one LDA and office Peon.

4.0 NATIONAL HYDROLOGY PROJECT (NHP)

National Hydrology Project (NHP) is a Central Sector Scheme of 8 years duration starting from 2016-17 onwards with an objective to modernize the data, information and knowledge support for water resources management, planning and operation. The Project in the State is headed by State Project Coordinator in the rank of Secretary/Commissioner & Secretary and assisted by Nodal Officer in the rank of Chief Engineer.

Under NHP, the Department has constructed the Hydrology Project Convention Centre at Dimapur at a budget of **₹ 248.33 lakh** with the objective to facilitate all NHP related Training/Workshops/Events. The centre has a training hall with a seating capacity of about 100 person, a conference hall with a capacity of 15 person along with 4 guest rooms for the Resource Persons. Also, it will serve as the State Data Backup Centre for National Hydrology Project (NHP). The construction of Hydrology Project Convention Centre commenced on 2nd August, 2019 and was successfully completed on 30th Sept, 2021.



**SIDE VIEW OF THE HYDROLOGY CONVENTION CENTRE (HPCC) AT
DIMAPUR**

5.0 CAPACITY BUILDING

For enhancing of Skill Development, the officers and staff of the Water Resources Department are trained and exposed to successful projects in the neighbouring districts and states for sharing of experience and benefits.

During the financial year of 2021-22, the Department Officers and Staff were trained in the following training programme:

1. Two Days Training on capacity building cum workshop programme held on 13th to 14th April 2021 for officers of WRD wherein 29 officials attended the training.
2. Three Days Training on “Office Procedure” held on 24th -26th November 2021 for Officers of the department wherein 13 officers attended the training.
3. Webinar on Project Hydrology held on 15th-19th February 2021 wherein three officers attended the training.
4. Webinar on Use of Geo Spatial Technology for Ground Water Exploration held on 15th -16th March 2021 wherein two officials attended the training.
5. Webinar on India-WRIS-System Overview held on 21st April 2021 wherein four officials attended the training.
6. Webinar on Data Entry, Data Validation and Data View held on 22nd April 2021 wherein four officials attended the training.
7. Webinar on Water Level Data Entry/Water Quality Data Entry/Water Quality Module held on 23rd April 2021 wherein four officials attended the training.
8. Webinar on Telemetry Management held on 23rd April 2021 wherein four officials attended the training.
9. Exposure trip to Manipur held on 17th to 18th February 2022 where Chief Engineer along with 8 officers attended the tour.

OFFICIALS OF WRD NAGALAND EXPOSURE TRIP TO MANIPUR ALONG WITH OFFICIALS OF WRD MANIPUR.



6.0 CONCLUSION

The Department has achieved the following during 2021-22.

- a) The Irrigation Potential area of 3744 Ha has been created out of the 8544 Ha CCA proposed for construction under 270 Nos. of MI Schemes under PMKSY-Har Khet Ko Pani.
- b) Under the National Hydrology Project (World Bank aided programme), the State Data Centre Building has been completed for use by different stake holders for the purpose of data entry, validation, analysis, retrieval and dissemination of data of meteorological, hydrological (Surface & Groundwater) and Water quality measurements. The Hydrology Project Convention Centre was also successfully completed for facilitating Department Trainings, workshops and events.
- c) The Department has started the implementation of 262 units of Ground Water Irrigation Scheme for enhancing the economic condition of small and marginal farmers which will be completed by the end of this financial year 2021-22.
- d) With the completion of the Diversion of NEZCC Nallah to Chathe river, the drainage problem of Dimapur Airport runway will be improved especially during the monsoon season.

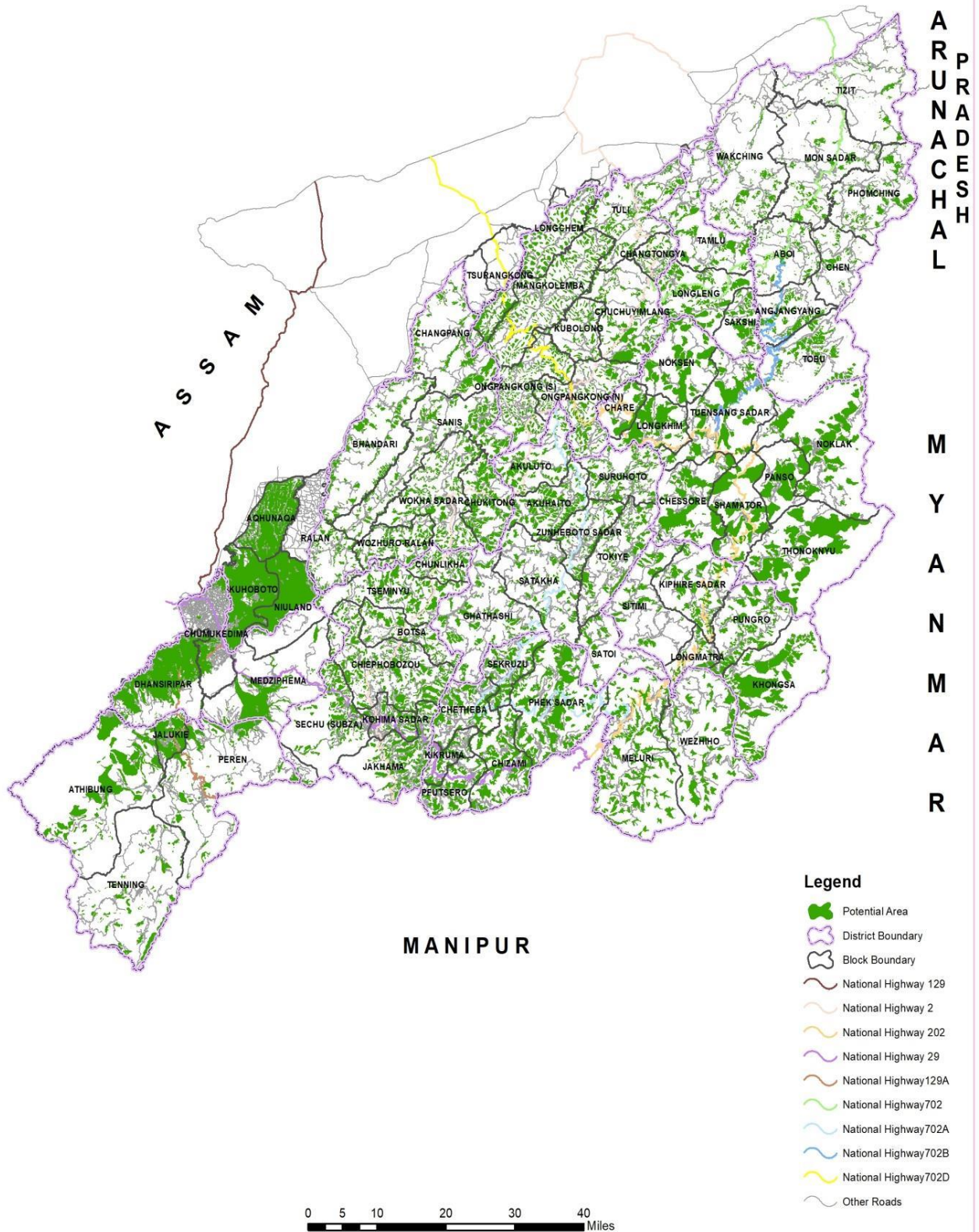
7.0 FUTURE VISION

To develop 'state of art' facilities for Hydrological Information System in the State through Implementation of National Hydrology Project with 100% funding by World Bank through MoWR, GoI. Also, as per the Road map of the Department it is envisioned to carry out the following activities by 2024.

Theme/activities	Baseline scenario in 2019	End line scenario in 2024
Irrigation Development and Management(IDM)	Potential created is 36.45% of Ultimate Irrigation potential	Potential created is 45% of Ultimate Irrigation potential
On-farm WaterManagement(OFM)	Proposal has been formulated under ISBIG	ISBIG is implemented subject sanction of funds by central government
Data base preparation and data centre	Not yet established	Data centre is established and functional
Data updating on minor irrigation schemes/projects	Latest information up to the year 2019 on minor irrigation projects is not available	Minor irrigation census will be completed and updated data on village wise MI schemes will be available
Awareness programmes for water conservation and water Management	Awareness programmes are organised when Ministry requests and provide funds	Every year district/sub-basin level awareness programmes and conducted
Flood Risk and Erosion Management FREM	Few Flood control programmes are constructed and for some others sites are identified	Requirement FREM will be assesses and 50 % of assessed works will be completed
Hydrology and Basin Planning and Climate Change adaptation	It is negligible	State Specific Action Plan on water sector under National Water Mission will be ready. Substantial progress will be made on basin planning and state water plan
Capacity addition in WRD including expansion and restructuring (CA)	Department having 1 Chief Engineer, 1 Additional Chief Engineer, 2 Superintending Engineers, 1 S.E circle	Principal Chief Engineer, Two Chief Engineers, Two Additional Chief Engineers heading separate branches on (i) Irrigation Design & Planning ii) Flood Management (iii) Hydrology and Water Plans are in position in WRD along with 4 SEs and 4 EEs. One Principal Chief Engineer, One Chief Engineer, One Additional Chief Engineer, Three Superintending Engineers and Four Executive Engineers posts will be created.



NAGALAND IRRIGATION POTENTIAL MAP



CONSERVE WATER : SAVE LIFE