

भारत सरकार Government of India जल शक्ति मंत्रालय Ministry of Jal Shakti जल संसाधन, नदी विकास और गंगा संरक्षण विभाग Department of Water Resources, River Development and Ganga Rejuvenation

> केंद्रीय भूजल बोर्ड Central Ground Water Board

# वार्षिक कार्य योजना Annual Action Plan

2024-25

Faridabad May 2024



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डॉ. सुनील कुमार अम्बष्ट अध्यक्ष Dr. Sunil Kumar Ambast Chairman



भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन,
नदी विकास और गंगा संरक्षण विभाग
केन्द्रीय भूमि जल बोर्ड
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvention
Central Ground Water Board

#### Message

Dependence on groundwater and the Challenges in the sector are always evolving and so are the focus areas and activities of CGWB.

In addition to the continuing activities like ground water level monitoring, ground water quality monitoring, aquifer mapping, resource assessment etc., this year the activities proposed under the NAQUIM (PIB) project are also targeted to be started on ground. The new activities include construction of 1135 exploratory wells, construction of 7000 piezometers, installation of 7000 Digital Water Level Recorders and covering nearly 3 lakh sq km under heli-borne geophysical surveys. This is a huge challenge, but the Board is geared up to take up the challenge.

It is apparent that a lot of effort has gone into preparation of this document for which I compliment Member (HQ) and his team of officers. But, a lot more effort is required to achieve the goals and targets set for the year 2024-25. I recommend that the Members should prepare implementation and expenditure plans well in advance, coordinate with the respective field offices and monitor the activities to ensure that the targets are achieved in letter and spirit.

Everybody in the Board, irrespective of their post and position has been contributing towards achieving the targets of the Board. I am sure this year also we will work as a team and take the Board to newer heights.

( Dr Sunil Kumar Ambast )

Spanbal

Faridabad May 02, 2024

सतीश कुमार सदस्य Satish Kumar Member



भारत सरकार जल शक्ति मंत्रालय जल संसाधन, नदी विकास और गंगा संरक्षण विभाग केन्द्रीय भूमि जल बोर्ड

Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Board

Dated: - 02.05,2024

#### **FOREWORD**

Every year CGWB prepares an Annual Action Plan in which the activities and targets are defined at the beginning of the year. Like the previous years, this year also the Annual Action Plan has been prepared in consultation with all the regional offices and all the sections in the Central Headquarters.

There are many firsts to this booklet. The Annual Action Plan is being packaged in the form of such a booklet for the first time. In addition to region wise targets, the booklet also contains, salient features of major schemes being implemented by CGWB, Five year vision of CGWB, Annual Goals of CGWB and Deliverables for the first 100 days. A summarised sheet of the major targets is also included as a ready reckoner.

I appreciate the efforts of Dr. Ranjan Kumar Ray. Scientist E and Dr. G Praveen Kumar, Scientist D, who have worked hard to compile the AAP in this form.

I urge all the Members, Regional Directors, Heads off offices, Executive Engineers and all my colleagues to do their best to achieve the targets set for the year 2024-25.

(Satish Kumar)

# **Summarised Annual Action Plan 2024-25**

SI	Activity	Target	April	May	June	July	August	Sep	October	Nov	Dec	Jan	Feb	Mar
1	100 days deliverables (ref. table 1)	6		100	SIH soft MoU sig Commer Commer	of Coffee tab ware launch ming CGWB acement of Placement of Hoofeen	-FMDA IB projects eli-borne – ph							
2	Water Level Monitoring	27000	Pre-monsoon				Monsoon	Release of Year Book (2023-24)		Post monsoon		Winter		Pre monsoon (NER)
3	Quality Monitoring	23000	Pre-monsoon					Release of WQ Year Book (2023- 24)		Post monsoon				÷
4	Resource Assessment	All States	Data compilation	on and asse	essment as	per	CLEG meeting	Release of report				Initiation meet	ings (2025-26)	An
5	G W Fact Sheets	37 (36+1)				1.		•			1			Res+WL+WQ
6	Drilling (Monitoring Wells, Recharge Wells, Exploratory wells)	689		70			100			250	1		269	
7	Geophysical	4000		1200			200			1800			1200	
8	Chemical Analysis	37000		9250			9250			9250		Ĭ	9250	
9	NAQUIM 2.0/ Special Studies	60 (39-NAQUIM 2.0 & 21-Special)	Inception report	Field wo	rk			retation r's reports and	Mid-term Review meeting	Field work		Plan preparation	Report preparation	Review/ NLEC meeting
10	JSA	150				100			0.000			7		6100
П	Artificial Recharge	3				Tender for Kala Amb	Lokarpan- Rajasthan Structures							
12	PIB-EW	1135					77	77	77	77	116	22	116	116
13	PIB-PZ-DWLR	7000					205	205	410	410	0	410	0	410
14	PIB-Heli-borne	3 lakh sq km				Tender Floating	Tender Eval	uation and award	Field Survey			40		- 10-20
15	Major Meetings	06	RD meeting and Inception Reports review	NISC			CLEG		RD meeting Mid-term Review			NISC		NLEC meeting
16	Regulation and Control	Need based												
17	Training and Outreach including PIP	130+68												
18	Quarterly Dialogue with allied departments	04			By CWC			By CGWB			By CWC			By CGWB
19	Technical Assistance to States	Need based												
20	Data Integration	NAQUIM, WL, WQ												

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# **Annual Action Plan – 2024-25**

# 1. Introduction

Central Ground Water Board (CGWB) is a scientific organisation with its headquarters at Faridabad. The Board is headed by the Chairman and has five Members. The Board also functions as Central Ground Water Authority (CGWA) with its office at New Delhi. CGWB operates through its 18 Regional Offices, 10 Unit Offices, 17 Divisions, 16 Chemical laboratories and a Training Institute.

Most of the activities of the Board are undertaken as a part of the Central Sector Scheme titled 'Ground Water Management and Regulation (GWMR) scheme'. In addition to above, CGWB also is an implementing agency of National Hydrology Project (NHP). CGWB also implements specific components of other schemes of DoWR, RD & GR like i) RGNGWTRI ii) Ground Water component of the PMKSY – HKKP scheme, iii) supporting implementation of Atal Bhujal Yojana.

The Annual Action Plan of CGWB for 2024-25 (AAP 2024-25) is a compilation of activities that the Board has planned to carry out during the financial year 2024-25 (1st April 2024 to 31st March 2025). The AAAP has been prepared with inputs from field offices and after wider consultation within the CGWB.

# 2. Schemes and Activities

# 2.1 Ground Water Management and Regulation Scheme:

Ground Water Management and Regulation (GWMR) is a central sector scheme. The scheme has been approved for continuation till 2026. Aim of the scheme is to provide scientific inputs for sustainable development and management of ground water resources in the country. Total Outlay of the scheme for the period 2021-26 is Rs 997 cr. Aligned with the stated aim, the ground water management and regulation plan scheme has been devised with the following objectives:

- Periodic monitoring of ground water levels and ground water quality.
- Periodic assessment of ground water resources in association with State Governments.
- Regulation and control of ground water development/extraction.
- Preparation of ground water management plans.
- Implementing demonstrative projects on aquifer rejuvenation and springshed mapping in identified areas.
- Capacity building of ground water professionals of CGWB through training in reputed Indian and international training Institutes.

• Upgradation of technological capabilities and infrastructure of the Central Ground Water Board to meet the upcoming challenges in ground water field.

Financial outlays and major activities along with their targets projected in the EFC memo of GWMR scheme for the period 2021-26 are summarised in the following tables (2.1 and 2.2)

	<b>Table 2.1:</b> Components and financial outlay of Ground Water Management and Regulation (GWMR) Scheme							
S.	Revenue	Components/ Activities		(	Outlay (	Rs in Cr	:)	
No	/ Capital		21-22	22-23	23-24	24-25	25-26	Total
1		Component I: Monitoring, Assessment, Management and Regulation	136	76	27	27	28	294
	Capital	Data acquisition for Aquifer Mapping (inhouse) ,Interventions for Aquifer Rejuvenation , Construction of Piezometers (inhouse), Committed liabilities towards activities sanctioned during previous years,						
2	Revenue	Ground Water monitoring, resource assessment, Regulation, information dissemination etc	82	86	90	95	100	453
3	Capital	Component II: Strengthening of Infrastructure for Technological upgradation (Machinery and Equipment)	40	145	26	29	10	250
		Total ( 1+2+3)	258	307	143	151	138	997

Activities	Targets	
VES/TEM	2600 per year	
Drilling	650 per year	
WQ analysis	38000 per year	
NAQUIM	8.5 lakh sq km (total)	
FTE	75 persons (total)	
Monitoring	23,000 per year	
Year book	23 per year	
GWRA	1 per year	
Profiling, Logging, Infiltration studies, Aquifer wise water level monitoring, Aquifer Rejuvenation, Technical Assistance, Outreach,	Need based	
Regulation	2000 ( 1)	
DWLR installation	2000 (total)	

#### 2.2 NAQUIM Project- PIB

Public Investment Board (PIB) has approved a project for National Aquifer Mapping to be implemented during 2022 to 2026. The Project is part of GWMR scheme. Salient features of the project are given below.

Activity	Physical Target	Estimated Cost (Rs in cr)			
Construction of Piezometers	7000 units	384			
	(1000+3000+3000+0)	(25+150+150+59)			
Installation of DWLRs with	7000 units	145			
telemetry	(0+1000+3000+3000)	(0+21+62+62)			
Heli-borne Geophysical Surveys	2.93 sq km	151			
	(0.62+1.33+0.98+0)	(45+45+61+0)			
Data generation	1135 wells	125			
	(1135+0+0+0)	(55+70+0+0)			
		805			
		(125+286+273+121)			
Numbers in bracket indicate break up for four years since the inception of the project (2022)					

#### 2.3 Training and Capacity Building (RGNGWTRI)

Rajiv Gandhi National Ground Water Training and Research Institute (RGNGWTRI), Raipur, Chhattisgarh is the training institute of CGWB dedicated to groundwater. RGNGWTRI implements a three-tiered training programme in association with the regional offices of CGWB.

#### 2.4 Other Activities

In addition to the schemes and programmes listed above, CGWB also carries out activities under National Hydrology Project, other activities under other schemes and programmes. Major activities are listed below.

- Jal Shakti Abhiyan
- Atal Bhujal Yojana

#### 2.5 Recommendations of Parliamentary committees

- Efficacy of Arsenic safe wells: CGWB has constructed more than 500 such wells. Resampling for Arsenic is to be taken up in at least 20% of the wells.
- Portal for reporting and redressal of cases related to illegal extraction: Usually such proposals are received through Emails/letters, a portal is to be developed
- Estimation/refinement of parameters for resource assessment: A Committee constituted for guidelines for such studies. One region one study
- Ground Water Flow Modelling: Area specific modelling done- nearly (4.5 lakh sq km). Regional scale ground water models to be taken up (~1 lakh sq km)

# 2.6 Major Goals for the Next Five Years (2024-29)

Survey Assessment and Moni	toring
Strengthening and Automation of Ground Water Monitoring	<ul> <li>Additional Piezometers and DWLRs: 12000</li> <li>(PIB-70000+GWMR-2000+@1000 per year after 2026)</li> </ul>
<ul><li>2. Integration of Ground Water Quality Data</li><li>3. Dissemination of usable information</li></ul>	<ul> <li>Designing of standard format and platforms.</li> <li>Integration of quality data from CGWB, States, JJM, CPCB etc.</li> <li>Development of web-based application and mobile app.</li> </ul>
Ground Water Exploration	
Innovative Ground Water Exploration Units	<ul> <li>Advanced exploration units including equipment for drilling, pumping test, water quality sampling, logging, borehole camera etc. for detailed aquifer mapping</li> </ul>
2. Climate Change- mitigation: Exploring carbon sequestration in deep aquifer (Saline) as an alternative sink	<ul> <li>Pilot field study</li> <li>Drilling of 6 wells (up to 1500 m) in northern &amp; NW alluvial zone</li> <li>Proposed under India EU WP</li> </ul>
Water Quality	
Mapping and Management of seawater ingress	<ul> <li>Airborne TEM survey along the coast to mark extent of saline ingress as on date.</li> <li>In-fill Surveys in vulnerable areas</li> <li>Management plan preparation</li> </ul>
Prevention of contamination and restoration of aquifers.	<ul> <li>Monitoring and Management of vadose zone</li> <li>Strengthening of laboratories</li> <li>Regulation for protection of aquifers against contamination</li> <li>Guidelines for use of treated wastewater</li> <li>Interventions for Prevention of ground water contamination</li> <li>Introducing guidelines for regulation:</li> <li>Protection of aquifers against contamination</li> <li>Prevention of salinity ingress in aquifers</li> <li>Use of treated water</li> </ul>
Centre of Excellence	<ul> <li>Centre of Excellence for Aquifer Mapping (proposed in collaboration with Denmark. Proposal submitted to DoWR.)</li> </ul>
Sustainable Management	
Managed aquifer recharge in priority areas	<ul><li>100 priority areas (to be saturated)</li><li>MAR (RWH) demo projects</li><li>Impact assessment of projects</li></ul>

Rejuvenation of Palaeochannels      Increasing groundwater use efficiency and optimization of groundwater use.      Ground Water Development and Springshed Management in	<ul> <li>Feasibility Study – upto 2026.</li> <li>Provision in EFC memo for rejuvenation of identified palaeochannels – 2026-29</li> <li>Metering of ground water draft for irrigation</li> <li>Surveys for assessing ground water use efficiency</li> <li>Preparation and implementation of plans for increasing water use efficiency</li> <li>New Guidelines</li> <li>Reducing virtual water transfer</li> <li>Implementation of the scheme</li> </ul>
Hilly areas (PMKSY-HKKP-	
GW) Research, Training and Outr	reach
Trainings by RGNGWTRI	<ul> <li>Training Plan: Integrated Training Strategy is being worked out.</li> <li>Introduce Certificate Courses in ground water</li> <li>Introduction of online training and exams</li> <li>Learning Management System (LMS) to be made operational.</li> <li>Online training modules in Mission Karmayogi's Integrated Government Online Training platform (iGOT)</li> </ul>
Indigenous Technology and Tools Development	<ul> <li>Software and Hardware Solutions to be developed under SIH</li> <li>Startup handholding for developing tools and solutions for groundwater management.</li> </ul>
Development of Earthquake early warning System	<ul> <li>Study initiated in 2024-25 in collaboration with Ministry of Mines and Ministry of Earth Science</li> </ul>
Outreach	<ul> <li>1000 programmes and 1 lakh persons</li> <li>Standardisation of study material</li> <li>Online platform for outreach activities</li> </ul>
Applied research in the field of ground water	<ul> <li>Collaborative Research</li> <li>Research activities are proposed primarily through collaboration with leading Indian and foreign institutes.</li> </ul>

# 2.7 Goals for FY 2024-25

S.No	Goals/ Targets	Actionpoints/ Deliverables	Status
	Heliborne Survey phase I- Completion of Gram Panchayat wise High-resolution aquifer mapping and Release of Coffee Table Book	<ul> <li>Completion of Gram Panchayat wise High-resolution aquifer mapping studies for 1 lakh sq km in 92 blocks in Rajasthan, Haryana and Gujarat.</li> <li>Release of Coffee Table Book containing summary of findings.</li> </ul>	<ul> <li>For Rajasthan, identification of groundwater potential drilling sites, suitable Managed Aquifer Recharge (MAR) sites, Heliborne flight line data analysis &amp; resistivity sections completed for 10 Blocks and 3 Blocks are in process.</li> <li>For Haryana, 3 Blocks completed and 1 is in progress.</li> <li>13blocks—completed in 2023-24.</li> <li>79 blocks will be taken up in 2024-25.</li> </ul>
2	Launch of three indigenous software developed as part of SIH2022-as Significant step towards Atmanirbhar Bharat.	<ul> <li>Standalone Desktop application for pumping test data analysis.</li> <li>User friendly data visualization tool for interpretation of groundwater isotope data.</li> <li>Standalone desktop application for analysis, visualization and interpretation of hydro-chemical data.</li> </ul>	Under Development

S.No	Goals/ Targets	Actionpoints/ Deliverables	Status
3	Aquifer Management for Augmentation and Sustainability of Urban Water Supply-Faridabad	<ul> <li>To take up a study on augmentation of water supply to Faridabad city through sustainable ground water development in active Yamuna flood plain.</li> <li>In this regard, an MoU with Faridabad Metropolitan Development Authority (FMDA) will be signed with in the 100 days and the inception report will be finalised.</li> <li>Commencement of Project</li> </ul>	
4	Commencement of National Project for strengthening and automation of groundwater monitoring under PIB Project	<ul> <li>Construction of 772 wells.</li> <li>Construction of 1600 Piezometers and installation of 1200 DWLRs.</li> </ul>	Approval has been conveyed to CGWB on 15.3.2024 For construction of:-772 wells and 4,097 Pz with DWLRs.
5	Airborne geophysical survey for high Resolution Aquifer Mapping —phase II by TEM & Fix Wing	<ul> <li>Commencement of Airborne geophysical survey for high Resolution Aquifer Mapping phase II by TEM &amp; Fix Wing.</li> <li>An area of 1,85,370 Sq. Km is to be covered through Heliborne survey in Rajasthan, Gujarat and Himachal Pradesh States due to complex hydrogeological settings.</li> <li>An area of 86,020</li> </ul>	

S.No	Goals/ Targets	Actionpoints/ Deliverables	Status
		sq. km is to be covered through Fixed-wing survey in Punjab and Haryana States, where thick layered homogenous alluvium formation is present, with fair density of tubewells.	
6	Regulation and Control Launching of e-NIWARAN of NoC application on CGWB portal	00.01.2 MODEL (10.000.000.000.000.000.000.000.000.000.	Various features are already developed and the application may be inaugurated in June month.
7a	Ground Water Assessment2024	<ul> <li>Assessment of dynamic ground water resources 2024</li> <li>Release of National compilation.</li> </ul>	<ul> <li>Permanent State Level Committees constituted for all 36 states and UTs.</li> <li>Ground water resource assessment cell constituted for all 36 states and UTs (as on 31 March 2024)</li> <li>To be completed by 30 September 2024</li> </ul>
7b	Ground Water Quality Year Book	Release of ground water quality year book of India.	To be completed by 30 <sup>th</sup> September, 2024
7c	Ground Water Level Year Book	Release of ground water level Year book of India.	To be completed by 30 <sup>th</sup> September, 2024

#### 2.8 100 days goals

- **Goal-1:** Release of Coffee Table Book containing summary of findings of high-resolution aquifer mapping studies in nearly 1 lakh sq.km covering parts of Rajasthan, Haryana and Gujarat.
- **Goal-2:** Launch of three indigenous software developed as a part of SIH 2022- a small yet significant step towards Atmanirbhar Bharat.
  - Standalone Desktop application for pumping test data analysis
  - User friendly data visualization tool for interpretation of groundwater isotope data
  - Standalone desktop application for analysis, visualization and interpretation of hydro chemical data.
- **Goal-3:** Commencement of Project for Aquifer Management for Augmentation and Sustainability of Urban Water Supply- Faridabad
  - It is proposed to take up a study on augmentation of water supply to Faridabad city through sustainable ground water development in active Yamuna flood plain.
  - In this regard it is proposed to sign an MoU with Faridabad Metropolitan Development Authority (FMDA).
  - Within the 100 days, the MoU will be signed and the inception report will be finalised.
- **Goal-4:** Launching of revamped web-based application for NoC Issuance for Water Abstraction (e-NIWARAN)
- **Goal-5:** Commencement of National Project for strengthening and automation of ground water monitoring.
- **Goal-6:** Commencement of Airborne geophysical survey for high Resolution Aquifer Mapping phase II

# 3. Scheme wise activities and targets

Major Activities and their quantitative targets are outlined in this section. The activities are grouped based on the schemes.

# 3.1 Ground Water Management and Regulation

# 3.1.1 Ground Water Level Monitoring- State wise targets

S.No	Region	State	Number of wells to be monitored	Number of new wells to be added	Ground Water Year Books			
1	CR	Maharashtra	2075	100	1			
2		Andaman & 113 0		Andaman & 113		0		
3	ER	Sikkim	4	0	1			
4		West Bengal	1732					
5	IZD	Kerala	1644	10	4			
6	KR,	Lakshadweep	6	0	1			
7	MED	Bihar	916	31	1			
8	MER	Jharkhand	582	11	1			
9	NCCR	Chhattisgarh	1318	30	1			
10	NCR	Madhya Pradesh	1871	36	1			
11		Arunachal Pradesh	32	0				
12		Assam	443	6				
13		Manipur	6	0				
14	NER	Meghalaya	99	2	1			
15		Mizoram	3	0				
16		Nagaland	128	0				
17		Tripura	117	0				
18	NHR	Himachal Pradesh	217	10	1			
19	NR	Uttar Pradesh	ttar Pradesh 1464 60		1464 60	sh 1464 60	sh 1464 60	1
20	NIIIII	Jammu & Kashmir	425	14				
21	NWHR	Ladakh	0		1			
22		Chandigarh	23	0	2			
23	NWR	Punjab	1170	14	1			
24		Haryana	1297	26	1			
25		Puducherry	25	0				
26	SECR	Tamil Nadu	1464	25	1			
27	SER	Odisha	1784	40	1			
28	C.D.	Andhra Pradesh	1473	0	1			
29	SR	Telangana	1281	0	1			
30	SUO	Delhi	135	20	1			
31		Goa	135	0	1			
32	SWR	Karnataka	2146	75	1			
33	UR	Uttarakhand	279	20	1			
34		D&NH, D& D	43	0				
35	WCR	Gujarat	1293	40	1			
36	WR	Rajasthan	1302	100	1			
		TOTAL	27045	670	23			

# 3.1.2 Ground Water Quality Monitoring- State wise targets

S.No	Region	on State Number of Samples to be collected					Ground
			Background	Trend	Hotspot	Total	Water Year
			, co=0.01	(Pre/Post)	(Pre/Post)		Books
1	CR	Maharashtra	0	1200	300	1500	1
2	000000	Andaman & Nicobar UT	0	120	120	240	6.1
3	ER	Sikkim	0	16	0	16	1
4		West Bengal	0	1040	1200	2240	
5	IZD.	Kerala	0	228	342	570	4
6	KR	Lakshadweep	0	0	0	0	1
7	MED	Bihar	0	422	600	1022	1
8	MER	Jharkhand	0	280	160	440	1
9	NCCR	Chhattisgarh	0	500	200	700	1
10	NCR	Madhya Pradesh	0	700	500	1200	1
11		Arunachal Pradesh	0	14	0	14	
12		Assam	0	160	0	160	
13		Manipur	0	0	0	0	
14	NER	Meghalaya	0	38	0	38	1
15		Mizoram	0	6	0	6	
16		Nagaland	0	6	0	6	
17		Tripura	0	46	0	46	
18	NHR	Himachal Pradesh		110	0	110	1
19	NR	Uttar Pradesh	0	2240	2000	4240	1
20	NWHR	Jammu & Kashmir	0	158	47	205	1
21	NWIIK	Ladakh	0		-		1
22		Chandigarh	0	0	0	0	1
23	NWR	Haryana	0	470	470	940	1
24		Punjab	0	500	500	1000	1
25	SECR	Puducherry	0	14	0	14	1
26	SECK	Tamil Nadu	0	686	700	1386	1
27	SER	Odisha	0	850	0	850	1
28	CD	Andhra Pradesh	0	792	500	1292	1
29	SR	Telangana	0	938	380	1318	1
30	SUO	Delhi	0	46	144	190	1
31	SWR	Goa	0	16	0	16	1
32	SWK	Karnataka	0	892	40	932	1
33	UR	Uttarakhand	0	106	0	106	1
34	WOD	D &NH, D&D	0	10	8	18	1
35	WCR	Gujarat	0	316	1168	1484	1
36	WR	Rajasthan	0	408	580	988	1
		TOTAL	0	13328	9959	23287	23

#### 3.1.3 Ground Water Resource Assessment

- All assessment units in all States
- Refinement of parameters for Recharge/Draft estimation as a part of NAQUIM2.0 studies.
- Ground water depletion, aquifer system compaction.

#### 3.1.4 Exploratory Drilling

- Types of wells will include: Monitoring wells (piezometers), Recharge Wells and Exploratory Well
- To be constructed in NAQUIM 2.0/special studies or other priority areas.
- Exploratory drilling(inhouse) to be carried out for NAQUIM 2.0, special studies and other priority areas.

S.No	Region	State	Piezometer Construction	NAQUIM 2.0	Special Studies/Recharge wells etc	Total	Number of Wells to be converted as Recharge Wells*
1	CR	Maharashtra	50	35	0	85	2
2		Andaman & Nicobar	0	0	0	0	
3	ER	Sikkim	0	0	0	0	2
4		West Bengal	15	7	3	25	
5	KR	Kerala	10	0	0	10	1
6	KK	Lakshadweep	0	0	0	0	1
7		Bihar	0	21	0	21	1
8	MER	Jharkhand	0	11	0	11	1
9	NCCR	Chhattisgarh	10	30	5	45	2
10	NCR	Madhya Pradesh	5	14	6	25	2
11		Arunachal Pradesh	0	0	0	0	
12		Assam	0	0	10	10	
13	And Engage	Manipur	0	0	0	0	
14	NER	Meghalaya	0	0	0	0	1
15		Mizoram	0	0	0	0	
16		Nagaland	4	2	0	6	
17		Tripura	0	0	0	0	
18	NHR	Himachal Pradesh	10	0	0	10	1
19	NR	Uttar Pradesh	27	12	15	54	2
20	NWH	Jammu & Kashmir	15	0	0	15	1
21	R	Ladakh	0	0	0	0	

S.No	Region	State	Piezometer Constructio n	NAQUIM 2.0	Special Studies/Recharge wells etc	Total	Number of Wells to be converted as Recharge Wells*
22		Chandigarh	0	0	0	0	1
23	NWR	Punjab	10	4	0	14	1
24		Haryana	4	3	3	10	1
25	SECR	Puducherry	0	0	0	0	2
26	SECK	Tamil Nadu	42	35	3	80	2
27	SER	Odisha	56	6	0	62	2
28	CD	Andhra Pradesh	0	22	0	22	1
29	SR	Telangana	0	38	0	38	1
30	SUO	Delhi	0	0	0	0	
31	CWD	Goa	0	8	0	8	
32	SWR	Karnataka	40	12	0	52	2
33	UR	Uttarakhand	0	2	0	2	
34	WCD	D & NH, D &D	0	0	0	0	2
35	WCR	Gujarat	25	9	0	34	2
36	WR	Rajasthan	40	0	10	50	2
	Total		363	271	55	689	30

#### 3.1.5 Geophysical Studies

Preparation of Gram Panchayat wise high resolution aquifer maps based on Heli-borne Geophysical Survey. Heli-borne geophysical studies have been carried out in nearly 1 lakh sq km area covering 92 blocks in parts of Rajasthan, Gujarat and Haryana. Gram panchayat wise high resolution aquifer maps have been prepared for 13 blocks. It is targeted to prepare Gram panchayat wise detailed aquifer maps in respect of the remaining 79 blocks in the current AAP. The activity is to be coordinated by the Centre for Advanced Geophysical Studies, Jaipur

S. No.	Region	State	Gram Panchayat level deliverables using Heliborne survey results (No. of Blocks)
1	WR	Rajasthan	37
2	WCR	Gujarat	36
3	NWR	Haryana	06
Total			79

# Geophysical studies to be carried out for NAQUIM 2.0, special studies and other priority areas.

S.No	Region	State	<b>N</b> A	NAQUIM 2.0			Special Studies		
			VES	TEM	ERT	VES	TEM	ERT	
1	CR	Maharashtra	140	0	0	0	0	0	
2		Andaman & Nicobar UT	40	0	0	0	0	0	
3	ER	Sikkim	0	60	0				
4		West Bengal	35	140	0	35	110	0	
5	KR	Kerala	50	150	0	0	0	0	
6	MER	Bihar	25	100	0	0	0	0	
7	MILK	Jharkhand	25	50	0	0	0	0	
8	NCCR	Chhattisgarh	200	200	0	0	0	0	
9	NCR	Madhya Pradesh	100	0	0	75	0	0	
10	NER	Assam	0	0	0	100	0	0	
11	IVLIX	Nagaland	10	0	0	0	0	0	
12	NR	Uttar Pradesh	100	0	0	0	300	0	
13	NWHR	Jammu & Kashmir	75	0	0	0	0	0	
14	NWR	Haryana	50	0	0	50	0	0	
15	NWK	Punjab	50	0	0	0	0	0	
16	SECR	Tamil Nadu	300	100	0	0	0	0	
17	SER	Odisha	150	0	0	0	0	0	
18	CD	Andhra Pradesh	125	45	0	0	0	0	
19	SR	Telangana	125	30	0	0	0	0	
20	SUO	Delhi	30	0	0	30	30	30	
21	SWR	Goa	20	150	0	0	0	0	
22	SWK	Karnataka	105	250	0	10	0	0	
23	UR	Uttarakhand	75	0	0	0	0	0	
24	WCR	Gujarat	75	0	0	0	0	0	
25	WR	Rajasthan	0	0	0	20	50	0	
		Total	1905	1275	0	320	490	30	

# 3.1.6 Ground Water Quality Sample Analysis (target for chemical labs)

S.No.	Region	State	No. of samples (NHS)	PZ samples	EW- OW (Other wells) samples	Special Studies & short- term studies	Hotspot- sample Analysis	NAQUIM 2.0 samples
1	CR	Maharashtra	1200	50	35	0	300	1008
2	- ER	Andaman & Nicobar UT	120	0	0	0	120	150
3	LK	Sikkim	16	0	0		0	90
4		West Bengal	1040	21	36	18	1200	1200
5	KR	Kerala	456	10	100	0	342	684
6	LIED	Bihar	422	20	40	0	600	1082
7	MER	Jharkhand	280	10	11	0	160	462
8	NCCR	Chhattisgarh	700	10	35	140	0	280
9	NCR	Madhya Pradesh	700	25	0	300	500	300
10		Arunachal Pradesh	14	0	0	0	0	0
11		Assam	160	10	6	1023	0	
12	NED	Manipur	0	0	0	0	0	0
13	NER	Meghalaya	38	0	0	0	0	0
14		Mizoram	6	0	0	0	0	
15		Nagaland	6	4	2	0	0	180
16		Tripura	46	0	0	0	0	150
17	NHR	Himachal Pradesh	110	0	0	0	0	0
18	NR	Uttar Pradesh	2240	54	54	244	2000	800
19	NWHR	Jammu & Kashmir	158	15	0	0	47	100
20 21		Chandigarh	0 470	0	30	0 120	0 470	60
22	NWR	Haryana Punjab	500	20	20	100	500	0
23	SECR	Puducherry (UT)	14	0	0	0	0	0
24	SECK	Tamil Nadu	686	40	50	10	700	1200
25	SER	Odisha	850	56	6	0	0	500
26	SR	Andhra Pradesh	792	5	5	400	500	186
27		Telangana	938	8	10	0	380	748
28	SUO	Delhi	46	0	0	30	144	100
29	CMD	Goa	16	102	8	5	12	285
30	SWR	Karnataka	892	40	12	20	40	1166
31	WCR	D &NH D& D (UT)	10	0	0	0	8	0
32		Gujarat	316	25	9	0	1168	480
33	WR	Rajasthan	408	80	20	50	580	0
		Total	13650	613	489	2442	8571	11211

#### 3.1.7 Artificial Recharge

Name of P	roject	Details of the Project	Targets for AAP 2024-25
		Construction of Zone earth fill clay core dam at Indroka, Jodhpur	Final closure of the Project
Artificial Recharge Project in Water	Phase-I	Construction of Concrete Gravity Dam at Bastawa Mata, Jodhpur	<ul><li>Completion of Remaining ancillary work and</li><li>final closure of the project</li></ul>
stressed Districts of Rajasthan	Phase-II	Construction of 101 WHS	<ul> <li>Completion of 2 partially completed WHS</li> <li>Final closure of the project</li> </ul>
	Phase-III	Construction of 53 WHS	• Execution of remaining 33 Nos of WHS
Artificial Recharge Project in Kala Amb Valley, Sirmaur District, Himachal Pradesh.		Construction of 07 concrete Check Dams and 12 Recharge Wells	<ul> <li>Finalization of Tender document</li> <li>Floating of Tender</li> <li>Award of Work</li> <li>Execution of AR Structures</li> </ul>
Recharge of Well Construction		New/Existing EW/OWs are to be converted to recharge wells.	• Please refer section 3.1.4

#### 3.1.8 Outreach Activities

Public Interaction Programme (PIP): Public Interaction Programme (PIP) are conducted to disseminate findings of NAQUIM studies at grassroots level. It is targeted to conduct one PIP in each of the NAQUIM 2.0 study area in which studies have been carried out during the previous AAP (2023-24) to disseminate the findings. In addition to above, it is also targeted to carry out outreach activities under MyBharat initiative. The outreach activities proposed under MyBharat initiative will be dovetailed (as far as possible) with the Public Interaction Programmes (PIP). Please refer section 3.1.11 for region/state wise targets.

# 3.1.9 NAQUIM 2.0 studies for AAP 2024-25

SI	Region	State	Area (sq km)	District (s)	Title of the study / Priority Type
1		Maharashtra	600	Mumbai and Mumbai Sub Urban **	Urban Agglomerates
2	CR	Maharashtra	756	Parts of Mohadi and tumsar blocks, Bhandara districts	Poor GW quality areas
3		Maharashtra		Sangola block, Solapur	Water stressed areas/OCS
4		Maharashtra	713	Karanja block, Wardha	Water stressed areas/OCS
5		Andaman & Nicobar UT	15	South Andaman	Water stressed areas/OCS
6	ER	Sikkim	10	Namchi	Urban Agglomerates
7		West Bengal	459	Nadia	Poor GW quality areas
8		Kerala	258	Kasargod**	Water stressed areas/OCS
9	KR	Kerala	550	Idukki**	Springshed areas
10		Kerala	892	Alappuzha	Poor GW quality areas
11		Bihar	710	Nalanda	Water stressed areas/OCS
12	MER	Jharkhand	644	(Lesliganj, Satbarwa, Pandwa, Medininagar blocks)  – Palamu District	Poor GW quality areas
13		Chhattisgarh	456	Devbhog, Gariyaband	Poor GW quality areas
14	NCCR	Chhattisgarh	427	Kunkuri, Jashpur	Poor GW quality areas
15		Chhattisgarh	720	Jagdalpur, Bastar	Poor GW Quality areas
16	NCR	Madhya Pradesh	400	Ratlam	Water stressed areas
17	NUMB	Nagaland	896	Kohima	Springshed
18	NER	Tripura	900	Dhalai**	Springshed
19	NR	Uttar Pradesh	736	Sonbhadra district* (Geographical area: 2504 & Mappable area:736)	Poor GW quality areas
20	NWHR	Jammu & Kashmir	200	Kathua: Kathua, Nagri &Barnoti Blocks	1.Industrial Cluster,     2.Auto-flow Zone and     3.Transboundary aquifers
21		Haryana	663	Bhiwani	Water stressed areas/OCS
22	NWR	Haryana	235	Charkhi Dadri	Water stressed areas/OCS
23	0.00000000000	Tamil Nadu	985	Salem &Namakkal districts	Water stressed areas/OCS
24	SECR	Tamil Nadu	890	Krishnagiri	Poor GW quality areas
25		Odisha	180	Jajpur**	Mining areas
26	SER	Odisha	890	Angul, Dhenkanal	Industrial clusters
27		Andhra Pradesh	373	Hindupur and Lepakshi	Water stressed areas
28	SR	Telangana	779	Parts of Hyderabad, Medchal Malkajgiri & Sangareddy**	Urban Agglomerates
29		Telangana	745	Parts Vikarabad & Rangareddy**	Water stressed areas
30		Delhi	100	South west, west, North east and North	Poor GW quality areas
31	SUO	Delhi NCR	165	Faridabad*	Sustainable drinking water supply for Faridabad City. (collaboration with FMDA)
32	SWR	Goa	478	North Goa	Coastal areas
1000	550000000000000000000000000000000000000	200000000000000000000000000000000000000	201375		

SI	Region	State	Area (sq km)	District (s)	Title of the study / Priority Type		
33	33 Karnataka 630		630	Chikballapur	Poor GW quality areas (Tank filling scheme)		
34		Karnataka	21	Dakshin Kannada	Industrial clusters		
35		Karnataka	711	Bengaluru Urban**	Urban Agglomerate		
36	LID	Uttarakhand	337	Haridwar	Industrial clusters		
37	UR	Uttarakhand	2000	Udham Singh Nagar	Autoflow Zones		
38	MCD	Gujarat	800	Ahmedabad	Industrial clusters		
39	WCR	Gujarat	628	Narmada	Water stressed area		
	Total Studies: 39 ; Total Area : 23724 Sq.km						

# 3.1.10 Priority area wise NAQUIM 2.0 studies for AAP 2024-25

2						Pr	iority Ty	pe			
S.No.	Region	State	Water stressed area/ OCS	Poor GW quality	Ind. cluste rs	Urban Agglo merate	Springs -hed	Auto flow Zones	Coastal area	Mining area	Total
1	CR	Maharashtra	2	1		1					4
2	ED	Andaman & Nicobar UT	1								1
3	ER	Sikkim				1					1
4		West Bengal		1							1
5	KR	Kerala	1	1			1				3
6	MER	Bihar	1								1
7	1000 AND 100	Jharkhand		1							1
8	NCC	Chhattisgarh		3							3
9	NCR	Madhya Pradesh	1								1
10	NER	Nagaland					1				1
11	NEK	Tripura					1				1
12	NR	Uttar Pradesh		1							1
13	NWHR	Jammu & Kashmir			1						1
14	NWR	Haryana	2								2
15	SECR	Tamil Nadu	1	1							2
16	SER	Odisha	0		1					1	2
17	SR	Andhra Pradesh	1								1
18	SK	Telangana	1			1					2
19	SUO	Delhi		1		1					2
20	SWR	Goa							1		1
21	SWK	Karnataka		1	1	1					3
22	UR	Uttarakhand			1			1			2
23	WCR	Gujarat	1		1						2
		TOTAL	12	11	5	5	3	1	1	1	39

# 3.1.11 Finalisation and sharing of Reports of Studies taken up during 2023-24

S. No.	REGION	STATE	NAQUIM 2.0 (2024-25) Sharing with SGWCC	NAQUIM 2.0 (2024-25) Sharing with DMDC	Public Interaction Programmes (PIP)
1	CR	Maharashtra	3	3	3
2		Andaman & Nicobar UT	1	1	1
3	ER	Sikkim	1	1	1
4		West Bengal	2	2	2
5	L/D	Kerala	2	2	2
6	KR	Lakshadweep (UT)	1	1	1
7	MER	Bihar	3	3	3
8	MEK	Jharkhand	1	1	1
9	NCCR	Chhattisgarh	5	5	5
10	NCR	Madhya Pradesh	4	4	4
11		Arunachal Pradesh	1	1	1
12	NER	Assam	3	3	3
13		Meghalaya	1	1	1
14	NHR	Himachal Pradesh	1	1	1
15	NR	Uttar Pradesh	4	4	4
16	NWHR	Jammu & Kashmir	3	3	3
17	NWHK	Ladakh	1	1	1
18	NWR	Haryana	2	2	2
19	NWK	Punjab	2	2	2
20	SECR	Tamil Nadu	4	4	4
21	SER	Odisha	4	4	4
22	SR	Andhra Pradesh	2	2	2
23	SK	Telangana	1	1	1
24	SUO	Delhi	2	2	2
25	SWR	Goa	1	1	1
26	SWK	Karnataka	3	3	3
27	UR	Uttarakhand	1	1	1
28	WCR	Gujarat	5	5	5
29	WR	Rajasthan	4	4	4
			68	68	68

# 3.1.12 Special Studies/Collaborative Studies

S.No	Region	State	Area (sq km)	District (s)	Continuin g/New study	Title of the study	Collaborati on/Special Study and Name of agency
1	ER	West Bengal	170	Arsenic affected Chakdah Block, Nadia district	New Study	Efficacy of wells with cement sealing	Special study
2	ER	West Bengal	125	KMC Area	New Study	East Kolkata Wet lands (Ramsar)-Impact of waste dumping on ground water regime in time and space.	Special study
3	MER	Jharkha nd	2017	Palamu	Continuing study	Assessment of fluoride contamination in surface and ground water and its management in Jharkhand 2020-2025	Collaboration Study GSI (taken up as a part of NAQUIM 2.0)

S.No	Region	State	Area (sq km)	District (s)	Continuin g/New study	Title of the study	Collaborati on/Special Study and Name of agency
4	MER	Bihar	595.5	Buxar	New Study	Arsenic contamination in Ground water.	Special Study
5	NCCR	Chhatti sgarh	1316	Pondi Uproda, Korba dist.	New study	Geo-environmental appraisal of Fluoride and possible heavy metals contamination in ground water.	Collaboration Study GSI
6	NCR	Madhya Pradesh	200	Jhabua	Continuing study	Assessment of Groundwater and soil contamination in Meghnagar Industrial Area, Jhabua district, Madhya Pradesh	Collaboration Study GSI
7	NER	Assam	300	Cachar and Hailakandi Districts, Assam	Continuing study	Saline spring studies of Cachar and Hailakandi districts of Assam using stable isotopes	Collaboration Study BARC
8	NER	Assam	90	Kamrup Dist., Assam	Continuing study	Study on Uranium, Lead, Arsenic, Fluoride and Mercury contamination of Groundwater in the industrial areas.	Collaboration Study GSI
9	NR	Uttar Pradesh	4772	Gazipur & Ballia	New Study	Arsenic (Testing the efficacy of Cement sealing technology)	Special Study
10	NR	Uttar Pradesh	20298	Amroha, Bareilly, Bijnor, Budaun, Farukhabad,Hard oi,Moradabad, Pilibhit, Rampur, Sambhal, Shahjahanpur	Continuing study	Study for understanding recharge dynamics of deeper aquifers in Ramganga Basin through isotope studies	Collaboration Study BARC
11	NR	Uttar Pradesh	3664	Varuna river Basin (parts of Prayagraj and Varanasi)- one year study	New Study	Geophysical survey and real time field measurement and data collections for river aquifer flow dynamic modelling.	Collaboration Study IIT BHU
12	NWR	Haryana	1344	Bhiwani (Bhiwani block)and Rohtak Districts (Kalanaur)	Continuing study	Ground water contamination study	Collaboration Study GSI
13	NWR	Haryana	1088	Yamunanagar	New Study	Delineation of Autoflow zones	Special study
14	NWR	Punjab	675	Amritsar	New Study	Study on Transboundary aquifers	Special study
15	RGNGW TRI in associatio n with NER, Guwahati	Assam			New Study	Development of Earthquake Early Warning System from aquifer responses from Easter Himalayan Region, NER	Collaboration BARC, GSI, NSC

S.No	Region	State	Area (sq km)	District (s)	Continuin g/New study	Title of the study	Collaborati on/Special Study and Name of agency
16	SR	Andhra Pradesh	1000	Parts of Kadapa & Ananthapur	Continuing study	Geo-environmental appraisal in parts of Y.S.R Kadapa and Anantapur districts, Andhra Pradesh with special emphasis on Uranium contamination in water.	Collaboration Study GSI
17	SWR	Karnat aka	711	Bengaluru City	New Study	Tritium injection to estimate rainfall recharge rate	Collaboration Study BARC
18	UR	Uttarakh and	439	Tehri Garhwal	Continuing study	Springshed mapping and allied work in Pratapnagar& Bhilangana Blocks.	Collaboration Study NIH
19	UR	Uttarakh and	1200	Almora, Nainital, Udham Singh Nagar	Continuing study	Study for understanding recharge dynamics of deeper aquifers in Ramganga Basin through isotope studies	Collaboration Study BARC
20	WR	Rajasthan	400	Jaipur Urban	New Study	Sustainable urban ground water resources	Collaboration Study SGWD
21	WR	Rajasthan		Jaipur	New Study	Uranium & Fluoride contamination	Collaboration Study GSI

# 3.1.13 Categorisation of Special/Collaborative studies

.No	Study category	No. of Studies	State where studies are taken up
1	Efficacy of wells with cement sealing	3	Bihar, Uttar Pradesh and West Bengal
2	Assessment of Contaminants like Fluoride, Uranium Heavy metals and waste dumping.	8	Andhra Pradesh, Assam, Chhattisgarh, Haryana, Jharkhand, Madhya Pradesh, Rajasthan, West Bengal
3	Springshed mapping and saline spring studies	2	Assam, Uttarakhand
4	Understanding Aquifer flow dynamics like recharge dynamics, river aquifer flow dynamic, Autoflow zones, Tritium injection to estimate rainfall recharge rate etc.	6	Haryana, Karnataka, Punjab, Uttar Pradesh, Uttarakhand,
5	Development of Earthquake Early Warning System from aquifer responses from Easter Himalayan Region, NER	1	RGNGWTRI (Assam)
6	Sustainable urban ground water resources	1	Rajasthan
	Total Stud	dies :21 No	o.s

# 3.1.14 Centrally Coordinated Projects

S.No	Activity	Section with resource persons
1	Data Integration and Development of Aquifer Information System	Technical Cell – Member (HQ)
2	Land Subsidence studies	Technical Cell – Member (HQ)
3	Stable isotope studies- establishment of lab and coordinated research on isotopic signature of wetlands	Technical Cell – Member (South)
4	Ground water Modelling- regional ground water flow model (Cauvery, Tapi and Ramganga)	CoE Modelling -Member (East)
5	Rapid Mapping of Seawater Ingress	Technical Cell – Member (NW)
6	Artificial Recharge – Impact assessment	Technical Cell – Member (East)
7	National compilation of the outputs of NAQUIM (50K) Studies	Technical Cell – Chmn.
8	National compilation of the 150 technical reports prepared under Jal Shakti Abhiyan (JSA) 2023-24.	Technical Cell – Chmn.

# 3.1.15 MoUs

# **Existing:**

# National Collaborations

S No.	Organisation/Institute	Theme of collaboration
1	Geological Survey of India	Ground Water Quality Studies in Andhra Pradesh, Uttar Pradesh, Assam, Bihar, Chhattisgarh, Jharkhand, Punjab, and Haryana
2	Central Water Commission	For the testing of water samples in CWC labs for pathogenic/bacteriological/pesticide analysis
3	Prajapita Brahma Kumaris Ishwariya Vishwa Vidyalaya	Creating Awareness for Ground Water Conservation
4	Geological Survey of India (GSI); Drinking Water and Sanitation Department, Ranchi Jharkhand	Assessment of fluoride contamination in surface and ground water and its management in Jharkhand
5	Anna University, Chennai	Cooperation and Research in Ground Water Sector
6	Geological Survey of India and CGWB- NCR Bhopal	Assessment of Groundwater and soil contamination in Meghnagar Industrial Area, Jhabua district, Madhya Pradesh
7	National Institute of Hydrology	Springshed Mapping und allied work in Pratapnagar& Bhilangana Blocks, Tehri Garhwul District and Ukimath Block, Rudrapriya District, Uttarakhand State.

#### International Collaborations

S No.	Country	Activities taken up
1	Australia	<ol> <li>In-situ Salinity Remediation, Jhajjar-Haryana</li> <li>Village Cooperatives for groundwater management-Study Area in Rajasthan/Gujarat</li> <li>Study of seawater ingress - Study area Tamil Nadu and Puducherry</li> <li>Field testing of MyWell app of Western Sydney University (WSU) and adoption in CGWB</li> <li>Data analytics for high frequency water level data</li> </ol>
2	Denmark	<ol> <li>Collaboration with IIT-BHU in setting up of Smart Laboratory for Clean Rivers (SLCR) in Varanasi</li> <li>Collaboration in Sustainable Urban Aquifer management-Jaipur City, Rajasthan</li> <li>Training for heliborne geophysical studies at Aarhus University</li> <li>DFC (Danida Fellowship Centre) Learning programmes (As per requirement from DFC)</li> <li>Proposed for setting up a Centre for excellence in Ground Water Mapping</li> </ol>
3	Netherlands	<ol> <li>Other than MoU there exists a Strategic Water Partnership (SPW) between India and the Netherlands.</li> <li>Pilot project on AR using treated wastewater along Chennai Coastal tracts to arrest sea water intrusion.</li> </ol>
4	European Union	<ol> <li>River Basin Management studies in Tapi River System</li> <li>Study for understanding recharge dynamics of deeper aquifers in Ramganga Basin through isotope studies.</li> <li>Training programmes on isotope data analysis and interpretations</li> </ol>
5	Hungary	<ol> <li>Comparison studies on Aquifer Management Practices in India and Hungary</li> <li>Ground water flow Modelling study in karst aquifers- Chhattisgarh.</li> </ol>

# **Proposed MoUs:**

- 1. With Faridabad metropolitan Development Authority (FMDA) on augmentation of Ground Water potential in Yamuna flood plains of Faridabad district.
- 2. MoU with IIRS for Land subsidence studies in Ludhiana, Kanpur-Hamirpur area (UP), Ahmedabad-Gandhinagar (GJ), Chennai (TN), Vijayawada (AP), Bengaluru (Karnataka), Mumbai (MH), Kolkata (WB), Guwahati (Assam).
- 3. MoU with MNNITA, Prayagraj and Institute of Medial Science, BHU (IMS-BHU), Varanasi (NAQUIM 2.0 Study).
- 4. Umbrella MoU with ICAR on irrigation and agriculture management for sustainability of ground water resources.

- 5. MoU between CGWB, ICAR-NBSS-LUP & CICR for sharing of data and technical inputs for NAQUIM 2.0 studies in Karanja block, Wardha district, Maharashtra.
- 6. MoU with University of Kerala in the field of Ground water research.
- 7. MoU between RGNGWTRI, BARC, GSI, NCS Early warning system for earthquakes.

#### 3.1.16 Regulation and control of ground water extraction

The Central Ground Water Authority deals with regulation of ground water . Authority issues No Objection Certificate (NOC) for ground water abstraction. The Ministry of Jal Shakti has notified the guidelines on 24.09.2020 (SO No. 3289(E)) for regulation and control of ground water development in the country. These guidelines have Pan India applicability. CGWA is pursuing with State Authorities to adopt these guidelines. Amendment to guidelines have also been issued vide notification dated 29.03.2023 (SO No. 1509(E)).

During the AAP 2024-25 following items are proposed

- i. Revision of the NOCAP portal i.e., e-NIWARAN (NOCAP 2.0)
- ii. NOC application processing and compliance monitoring-Target 3,500 application
- iii. Improving the reach- NOC applications in respect of 10,000 more users to be processed Target 10,000 application
- iv. Renewal of NOCs that are due for renewal till 31st March 2025 Target 3,000 application
- v. Sharing of Impact Assessment Reports: GW modelling reports, IAR/CHR, to State GW, CGWB CHQ and RD, CGWB to study the impact assessment.
- vi. Data Analysis: Strengthening of Data available in NOCAP; Category wise, project wise, quantum of Data Analysis and using as DSS for refinement of policy matters
- vii. Pan India Implementation of the guidelines for regulation and control of ground water extraction.
- viii. Formulation of NEW guidelines: Formation of Inter-departmental committees, Issuance of OM, Preparation and circulation of guidelines and consultation with various concerned Ministries
  - 1. Reuse of treated water (proposed to take up in 2024-25)
  - 2. Proposal for next Five years (2024-25 2028-29)
    - a. Protection of aquifers against contamination
    - b. Prevention of salinity ingress in aquifers
    - c. Reducing virtual water transfer

# 3.2 NAQUIM Project - PIB:

# 3.2.1 Construction of Piezometers and Installation of DWLRs

Total 7000 piezometers are targeted to be constructed and total 7000 DWLRs are targeted to be installed under the NAQUIM-PIB Project in the entire project period. During the current Annual Action Plan it is targeted to construct 1600 piezometers and install 1200 DWLRs.

S.	Package	Name of States	Total No. of	N	umber of DW	LRs
No ·			Piezometers	Without Quality probe	With Quality probe	Total
1	Package 1	Andhra Pradesh, Telangana, Tamil Nadu, Kerela	768	716	52	768
2	Package 2	Maharashtra, Gujarat	1011	999	12	1011
3	Package 3	M.P, Chhattisgarh	1612	1,612	0	1612
4	Package 4	Delhi, Punjab, Haryana, Uttarakhand, Himachal Pradesh	1004	1,004	0	1004
5	Package 5	Rajasthan	1508	1,508	0	1508
6	Package 6	UP, Bihar, Jharkhand, West Bengal, Odisha	810	790	20	810
7	Package 7	Assam, Nagaland, Meghalaya, Tripura, Manipur, Arunachal Pradesh	37	37	0	37
8	Package 8	Jammu & Kashmir, Ladakh	250	250	0	250
	То	tal	7000 (Target for 2024-25- 1600)	6916	84	7000 (Target for 2024-25-1200)

# 3.2.2 Construction of EWs and OWs for data generation for aquifer mapping.

S. No.	Package	Name of States	Total No. of wells
1	Package 1	Assam, West Bengal, Bihar, Odisha	271
2	Package 2	Andhra Pradesh, Karnataka	149
3	Package 3	Chhattisgarh, Madhya Pradesh	254
4	Package 4	Rajasthan, Gujarat	305
5	Package 5	Uttar Pradesh	156
		Total	1135
			(Target for 2024-25- 772)

# 3.2.3 State-wise details of 7000 Pz under PIB

r. No.	State	Number of Pz with DWLR
1	Andhra Pradesh	223
2	Arunachal Pradesh	4
3	Assam	15
4	Bihar	75
5	Chhattisgarh	212
6	Delhi	109
7	Gujarat	117
8	Haryana	276
9	Himachal Pradesh	205
10	Jharkhand	85
11	Kerala	55
12	Madhya Pradesh	1400
13	Maharashtra	894
14	Manipur	5
15	Meghalaya	5
16	Nagaland	4
17	Odisha	34
18	Punjab	305
19	Rajasthan	1508
20	Tamil Nadu	303
21	Telangana	187
22	Tripura	4
23	UT OF J&K	189
24	UT of Ladakh	61
25	Uttar Pradesh	467
26	Uttarakhand	109
27	West Bengal	149
	Total	7000 (Target for 2024-25-1600)

# 3.2.4 State-wise details of 1135 EW& OW under PIB

Sr. No.	State	Total Wells (EW& OW)
1	Andhra Pradesh	99
2	Assam	36
3	Bihar	57
4	Chhattisgarh	64
5	Gujarat	135
6	Karnataka	50
7	Madhya Pradesh	190
8	Odisha	56
9	Rajasthan	170
10	Uttar Pradesh	156
11	West Bengal	122
	Total	1135
		(Target for 2024-25- 772)

#### 3.2.5 Heli-borne Survey.

High resolution mapping of aquifers through Heli-born survey is planned in parts Gujarat, Haryana, Punjab and Rajasthan

# 3.3 Training and Capacity Building (RGNGWTRI)

S.No.	Region	RGI- Tier I Training	RGI- Tier II Training	RGI- Tier III Training
1	NR, Lucknow		1	3
2	NWR, Chandigarh		1	3
3	NCR, Bhopal		1	3
4	WR, Jaipur		1	3
5	CR, Nagpur		1	3
6	WCR, Ahmedabad		1	2
7	ER, Kolkata		1	3
8	SR, Hyderabad		2	4
9	SWR, Bangaluru		1	3
10	SER, Bhubaneswar		1	3
11	NER, Guwahati		1	4
12	KR, Trivandrum		1	3
13	MER, Patna		2	3
14	SECR, Chennai		1	3
15	NWHR, Jammu		1	1
16	NCCR, Raipur		1	3
17	SUO, New Delhi		0	1
18	NHR, Dharamsala		1	1
19	UR, Dehradun		1	1
	RGNGWTRI	60	20	50

- Design and development of e-Modules on Springshed Management for uploading on the Mission Karmayogi portal / iGoT (as per the directives of Ministry).
- Finalization of 5th Round of accreditation of Groundwater Professionals for the AAP 2024-25.

#### 3.4 National Hydrology Project (NHP)

CGWB has taken up installation of 5260 DWLRs throughout the country. Following activities are targeted to be taken up in the current AAP

- i. Primary and Secondary Data Validation of 5260 Realtime Monitoring Stations to be Taken up
- ii. Data integration of 5260 Realtime Monitoring Stations with WIMS server of NWIC
- iii. Subsequently to be integrated with India WRIS for public usage

#### 3.5 Technical Assistance to other Schemes

#### 3.5.1 Jal Shakthi Abhiyan

The fifth edition of Jal Shakthi Abhiyan, Catch the Rain 2024 will be carried out during the year 2024-25. Current year event is under the theme 'Nari Shakthi Se Jal Shakti'. Objective of the campaign is to establish strong connection between women empowerment and the sustainable management of water resources.

The current year campaign will be taken up in 150 Districts for which 150 officers of CGWB will be deputed as Technical Officers.

#### 3.5.2 Technical Assistance to Government Agencies

Technical assistance to Defense Establishments and Government Agencies is provided through Short Term Investigations aimed at addressing their immediate water supply/artificial recharge issues. These investigations are request based and involve identification of suitable sites for the construction of ground water abstraction structures and artificial recharge structures.

# 3.5.3 Sharing of outputs with State Government and Quarterly meetings with allied agencies.

The quarterly dialogue will be organized alternatively by CWC and CGWB with CWC Regional Offices organizing 1st& 3rd event in a Financial Year and CGWB Regional Offices organizing the 2<sup>nd</sup> & 4th event.

Govt of India Ministry of Jal Shakti Dept of WR, RD & GR Central Ground Water Board

