GOVERNMENT OF INDIA

MINISTRY OF JAL SHAKTI

DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT & GANGA REJUVENATION

LOK SABHA

UNSTARRED QUESTION NO. 3346

ANSWERED ON 20.03.2025

IMPLEMENTATION AND PROGRESS OF NATIONAL AQUIFER MAPPING AND MANAGEMENT PROGRAMME

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Will the Minister of **JAL SHAKTI** be pleased to state:

(a) the total area covered under the National Aquifer Mapping and Management (NAQUIM) programme, State and year-wise and the extent to which it has been mapped till today, particularly in Andhra Pradesh;

(b) the details of the aquifer mapping in Andhra Pradesh including groundwater availability, recharge potential and contamination risks, district-wise;

(c) the details of the funds allocated, sanctioned and utilized for NAQUIM during the last five years and the current year in Andhra Pradesh, year-wise;

(d) the number of aquifer management plans shared with State and district authorities, their implementation status and the interventions taken based on the recommendations, especially in Nandyal;

(e) the total number of Digital Water Level Recorders installed in Andhra Pradesh under the programme to monitor groundwater levels;

(f) the details concerning the extent of chemical contamination in groundwater identified in the areas already mapped in Andhra Pradesh under the programme; and

(g) the corrective steps taken/being taken by the Government to utilize the contaminated water for various purposes, including drinking and irrigation?

ANSWER

THE MINISTER OF STATE FOR JAL SHAKTI

(SHRI RAJ BHUSHAN CHOUDHARY**)**

(a) NAQUIM studies were taken up by the central Ground Water Board (CGWB) for delineation and characterization of aquifers and development of plans for ground water management. Out of ~33 lakh sq. km of the entire geographical area of the country, the mappable area of ~25 lakh sq. km was covered under the NAQUIM programme by 31st March 2023. Further, district-wise ground water management plans have been prepared and shared with all concerned State/District authorities for taking up further suitable field interventions. State wise areas covered under the NAQUIM are given in **Annexure-I**. In the state of Andhra Pradesh, out of the total 1.64 lakh sq. km of geographical area of the State, the total mappable area of 1.41 lakh sq. km has been covered.

(b) The district-wise details of ground water recharge and availability (annual extractable groundwater resources) for Andhra Pradesh, as per the Dynamic Ground Water Resource Assessment (GWRA), 2024 conducted by CGWB, is provided in **Annexure –II**. As per GWRA-2024, the total annual groundwater recharge in Andhra Pradesh is 278 MCM, with an annual extractable groundwater resource of 264.1 MCM. The current annual ground water extraction is 78.8 MCM with stage of ground water extraction is 29.8%.

Information regarding AP groundwater quality on certain major parameters is provided as per **Annexure-III**.

(c) NAQUIM programme is a component of Ground Water Management and Regulation (GWM &R) Scheme, which is being implemented in the entire country for the purpose of regular ground water monitoring, resource assessment, regulation, quality analysis etc. Funds under the scheme are not allocated to the States and the activities are implemented by CGWB. A total of Rs. 997 cr was allocated for GWM&R scheme for the period 2021-22 to 2025-26 and the total expenditure till date is Rs. 747.3 cr.

(d) NAQUIM reports of all the 26 districts of Andhra Pradesh including the report of Nandyal district have been shared with the State Government through the State Ground Water Coordination Committee (SGWCC) chaired by Principal Secretary, Govt of Andhra Pradesh. All these 26 reports have also been shared with the respective District Administration. However, it may be noted that these reports are only advisory in nature and the extent to which they should be taken up for implementation is decided by the State/district agencies based on administrative and budgetary factors.

(e) Digital Water Level Recorders (DWLRs) have not been installed under the NAQUIM programme. However, under the National Hydrology Project (NHP) being implemented by this Ministry, 783 DWLRs (state govt. and CGWB put together) with telemetry systems (groundwater sensors) have been installed in Andhra Pradesh.

(f) Like other ground water parameters, quality of ground water is dynamic in nature and varies between place and time. For that purpose, every year, CGWB generates ground water quality data of the country on a regional scale as part of its ground water quality monitoring program and various scientific studies. These studies indicate the occurrence of contaminants such as Flouride, Nitrate and elevated EC etc. beyond permissible limits (as per BIS) for human consumption in certain isolated pockets in some States / UTs, including Andhra Pradesh. Details of such reported contamination for the year 2023 for the state of Andhra Pradesh are provided in **Annexure –III.**

(g) Water is a state subject and the responsibility of ground water management, including taking initiatives for improving ground water quality and mitigate the contamination issue, lies primarily with the state governments. However, several steps have been taken by the Central Government in this direction. In general, the government's approach is to identify and segregate the contaminated sources through testing and make

provision from alternative safer sources. Community Water Purifier Plants (CWWPs) have been set up in those quality affected habitations where water from alternative sources cannot be readily provided.

Some of the important measures taken by the government for ensuring safe water to the citizenry for drinking and irrigation purposes are mentioned below:-

i. Government of India in partnership with States, is implementing Jal Jeevan Mission (JJM) – Har Ghar Jal, since August 2019, to make provision of potable tap water supply in adequate quantity, of prescribed quality and on regular & long-term basis to every rural household in the country. Under the JJM, Bureau of Indian Standards' BIS:10500 standards have been adopted as prescribed norms for quality of tap water service delivery. Water safety has been one of the key priorities under the JJM since its inception. Further, under JJM, while allocating the funds to States/ UTs, 10% weightage is given to the population residing in habitations affected by chemical contaminants.

ii. States/ UTs have been advised to plan and implement piped water supply schemes of bulk water transfer based on safe water sources such as surface water sources or alternative safe ground water sources for the villages with water quality issues.

iii. Data on ground water quality available with CGWB are made available in public domain through reports as well as through the web site (http://www.cgwb.gov.in) for use by various stakeholders. The data is also shared with concerned State Governments for taking necessary remedial measures. The practice of issuing Half-yearly Bulletins and Fortnightly Alerts for quick action by the stakeholders has also been started.

iv. CGWB is successfully constructing Arsenic free wells in arsenic affected areas using the innovative cement sealing technology for tapping contamination free aquifers and also providing technical assistance to state departments in construction of Fluoride safe wells. Such safe wells can be used for both drinking and irrigation purposes.

v. Central Pollution Control Board (CPCB) in association with State Pollution Control Boards/Pollution Control Committees (SPCBs/PCCs) is implementing the provisions of the Water (Prevention & Control) Act, 1974 and the Environment (Protection) Act, 1986 to prevent and control pollution in water. CPCB has made a comprehensive programme on water pollution for controlling point sources by developing industry specific standards and general standards for discharge of effluents notified under the Environment (Protection) Act, 1986 for enforcement by SPCBs/PCCs.

vi. Further, the quality of groundwater can be improved to some extent if concerted efforts are made to improve the groundwater resources through appropriate groundwater recharge/rainwater harvesting. Government of India in this regard has taken up a number of initiatives/schemes like Jal Shakti Abiyan, PMKSY-Watershed development, MGNREGA, Atal Bhujal Yojana etc.

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ANNEXURE-I

ANNEXURE REFERRED TO IN REPLY TO PART (a) OF UNSTARRED QUESTION NO. 3346 TO BE ANSWERED IN LOK SABHA ON 20.03.2025 REGARDING "IMPLEMENTATION AND PROGRESS OF NATIONAL AQUIFER MAPPING AND MANAGEMENT PROGRAMME".

State wise areas covered under the NAQUIM studies

Sl. No.	State/UT	Total area covered under NAQUIM programme (Sq.km)
1	Andaman & Nicobar UT	1,774
2	**Andhra Pradesh**	**1,41,784**
3	Arunachal Pradesh	4,703
4	Assam	61,826
5	Bihar	90,567
6	Chandigarh UT	115
7	Chhattisgarh	96,000
8	Dadra & Nagar Haveli, Daman & Diu UT	602
9	Delhi	1,483
10	Goa	3,702
11	Gujarat	1,60,978
12	Haryana	44,179
13	Himachal Pradesh	8,020
14	Jammu & Kashmir UT	9,506
15	Jharkhand	76,705
16	Karnataka	1,91,719
17	Kerala	28,088
18	Lakshadweep UT	32
19	Ladakh UT	963
20	Madhya Pradesh	2,69,349
21	Maharashtra	2,59,914
22	Manipur	2,559
23	Meghalaya	10,645
24	Mizoram	700
25	Nagaland	910
26	Odisha	1,19,636
27	Pudducherry UT	454
28	Punjab	50,368
29	Rajasthan	3,34,152
30	Sikkim	1,496
31	Tamil Nadu	1,05,829
32	Telangana	1,04,824
33	Tripura	6,757
34	Uttar Pradesh	2,40,649
35	Uttarakhand	11,430
36	West Bengal	71,947
	Total	**2514437**

ANNEXURE-II

ANNEXURE REFERRED TO IN REPLY TO PART (b) OF UNSTARRED QUESTION NO. 3346 TO BE ANSWERED IN LOK SABHA ON 20.03.2025 REGARDING "IMPLEMENTATION AND PROGRESS OF NATIONAL AQUIFER MAPPING AND MANAGEMENT PROGRAMME".

District-wise Ground Water Recharge & Availability in Andhra Pradesh as per GWRA 2024

S.NO	Name of District	Total Annual Ground Water Recharge (MCM)	Annual Extractable Ground Water Resource (MCM)	Current Annual Ground Water Extraction (MCM)	Stage of Ground Water Extraction (%)
1	Alluri Sitharama Raju	15.82	15.03	0.22	1.5
2	Anakapalli	8.20	7.79	2.10	26.9
3	Ananthapuramu	12.20	11.59	4.09	35.3
4	Annamayya	8.66	8.22	3.55	43.1
5	Bapatla	7.03	6.68	1.83	27.3
6	Chittoor	9.04	8.59	5.09	59.3
7	East Godavari	10.73	10.19	3.42	33.5
8	Eluru	18.28	17.37	4.77	27.5
9	Guntur	5.45	5.18	1.06	20.5
10	Kakinada	11.26	10.72	1.71	16.0
11	Konaseema	11.22	10.66	1.06	9.9
12	Krishna	16.67	15.84	4.70	29.7
13	Kurnool	6.75	6.41	1.96	30.6
14	NTR	6.43	6.10	2.39	39.1
15	Nandyal	8.22	7.81	1.29	16.5
16	Palnadu	10.15	9.64	2.92	30.3
17	Parvathipuram Manyam	9.14	8.69	2.18	25.1
18	Prakasam	9.83	9.34	4.67	50.0
19	Sri Potti Sriramulu Nellore	19.70	18.71	4.39	23.5
20	Sri Sathya Sai	11.99	11.39	6.91	60.7
21	Srikakulam	13.22	12.56	4.44	35.3
22	Tirupati	16.15	15.35	5.36	34.9
23	Visakhapatnam	1.26	1.20	0.54	44.9
24	Vizianagaram	14.27	13.56	3.58	26.4
25	West Godavari	5.59	5.31	0.44	8.4
26	Y.S.R Kadapa	10.72	10.19	4.14	40.7
	Total (MCM)	**277.99**	**264.11**	**78.80**	**29.8**

ANNEXURE-III

ANNEXURE REFERRED TO IN REPLY TO PART (b) & (f) OF UNSTARRED QUESTION NO. 3346 TO BE ANSWERED IN LOK SABHA ON 20.03.2025 REGARDING "IMPLEMENTATION AND PROGRESS OF NATIONAL AQUIFER MAPPING AND MANAGEMENT PROGRAMME".

Details of samples showing high Electrical Conductivity (EC), Fluoride and Nitrate in Andhra Pradesh

Andhra Pradesh	% of samples with EC >3000µS/cm.	% of samples with Fluoride>1.5mg/L	% Samples with Nitrate>45mg/L
Total	9.70%	11.30%	23.40%

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