GOVERNMENT OF INDIA

MINISTRY OF JAL SHAKTI

DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT & GANGA REJUVENATION

LOK SABHA

UNSTARRED QUESTION NO. 1514

ANSWERED ON 13.02.2025

GROUNDWATER RESERVES IN TAMIL NADU

1514. SHRI ROBERT BRUCE C

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

(a) the status of groundwater reserves in Tamil Nadu, district-wise;

(b) the steps taken/being taken by the Government to mitigate the depletion of groundwater reserves;

(c) the status of groundwater contamination in Tamil Nadu, district-wise; and

(d) the steps taken/being taken by the Government to enhance the groundwater levels in Tirunelveli?

ANSWER

THE MINISTER OF STATE FOR JAL SHAKTI

(SHRI RAJ BHUSHAN CHOUDHARY**)**

(a) The Dynamic Ground Water Resource Assessment is being carried out annually for the whole country, including the state of Tamil Nadu, jointly by Central Ground Water Board (CGWB) and the respective State Nodal departments. As per the latest assessment of 2024, in Tamil Nadu, the Total Annual Ground Water Recharge is 21.51 Billion Cubic Metres (BCM) and the Annual Extractable Ground Water Resources is 19.46 BCM. Further, the total Annual Ground Water Extraction for all purposes (irrigation, industrial, domestic etc.) is 14.45 BCM. Accordingly, the Stage of Ground Water Extraction (SoE), which is a measure of Annual Ground Water Extraction for all purposes over Annual Extractable Ground Water is arrived at 74.26%. The district wise details are given in **Annexure- I**.

(b) Water being a State subject, the responsibility of addressing the ground water related issues lies primarily with the concerned State Governments. However, the Central Government facilitates the efforts of the State Governments by way of technical and financial assistance through its various schemes and projects. In this direction, the important steps taken by the Ministry of Jal Shakti and other central ministries for mitigation of ground water depletion in the country, including Tamil Nadu, are given below:-

i. The Government is implementing Jal Shakti Abhiyan (JSA) in the country since 2019 which is a mission mode and time bound programme for harvesting the rainfall and taking up water conservation activities. Currently, JSA 2024 is being implemented in the country with special focus on 151 water stressed districts of the country, including 10 such districts in Tamil Nadu. JSA is an umbrella campaign under which various ground water recharge and conservation related works are being taken up in convergence with various central and state schemes.

ii. CGWB has taken up National Aquifer Mapping and Management Programme (NAQUIM) with an aim to delineate aquifer disposition and their characterization. Entire mappable area of the country of around 25 lakh sq. km, including 1.05 lakh sq km of Tamil Nadu, has been mapped under the scheme and management plans have been shared with the respective State/District administrations.

iii. Master Plan for Artificial Recharge to Groundwater- 2020 has been prepared by the CGWB for the entire country, including Tamil Nadu, and shared with States/UTs providing a broad outline for construction of around 1.42 crore rain water harvesting and artificial recharge structures in the country to harness 185 BCM (Billion cubic meter) of water.

iv. Department of Agriculture & Farmers' Welfare (DA & FW), GoI, is implementing Per Drop More Crop Scheme in the country, including Tamil Nadu, since 2015-16, which focuses on enhancing water use efficiency at farm level through Micro Irrigation and better on-farm water management practices to optimize the use of available water resources.

v. Mission Amrit Sarovar was launched by the Government of India, which aimed at developing and rejuvenating at least 75 water bodies in each district of the country, including Tamil Nadu. As an outcome nearly 69,000 Amrit Sarovars have been constructed/rejuvenated in the country, with 2,488 in Tamil Nadu.

vi. Government of India has placed a major thrust on construction of water conservation and rainwater harvesting in states, including in Tamil Nadu, through its schemes like MGNREGS and PMKSY-WDC.

vii. Details of several other significant initiatives of the Government of India for improvement of groundwater situation in the country can be seen through the link below-
https://jalshakti-dowr.gov.in/document/steps-taken-by-the-central-government-to-control-water-depletion-and-promote-rain-water-harvesting-conservation/

viii. In addition to the above, as per the information received from the State Government of Tamil Nadu, the Directorate of Town Panchayats is actively engaged in construction of rooftop rainwater harvesting structures on all government, commercial and residential buildings falling within the jurisdiction of around 90 town panchayats in Tamil Nadu and so far more than 19 lakh buildings have been provided with such structures. Further, under various state government projects like Tamil Nadu Irrigated Agriculture Modernization Project (TNIAMP), Mission on Sustainable Dryland Agriculture (MSDA), Chief Minister's Dryland Development Mission (CMDDM) etc. large scale construction of farm ponds and check dams has been taken up across the state.

(c) Central Ground Water Board (CGWB) generates ground water quality data for the whole country as part of its ground water quality monitoring program and various scientific studies. As per the latest Annual Ground Water Quality Report, 2024, localized occurrences of nitrate beyond permissible limit has been reported in 37.8% of the samples from isolated pockets of the state of Tamil Nadu. Similarly, Electrical

Conductivity (EC) has been found higher than the prescribed limit in 9.2% of samples and Fluoride has been detected in 9.7% of samples from certain isolated pockets. The district-wise details of these major contaminants are provided in **Annexure-II.**

(d) Most parts of the country, including the Tirunelveli district of Tamil Nadu has got covered under the above mentioned measures taken by the Government for improvement of ground water resources. To give a specific account,

- In the Master Plan for artificial recharge prepared by CGWB, a total of 5,207 nos. of Rain water harvesting and Artificial recharge structures have been recommended for the Tirunelveli District. While implementing Jal Shakti Abhiyan, the masterplan recommendations have also been given due consideration apart from additional requirements observed in the field. Under JSA, it is to submit that construction of total 16,309 water conservation structures has been completed/ongoing in Tirunelveli district in the past 3 years.
- Under NAQUIM programme, aquifer mapping of entire Vaippar river basin covering totally five districts including Tirunelveli has been carried out by CGWB and suitable groundwater management plan, containing recommendations for both demand and supply side interventions have been prepared and shared with State and District Authorities.
- In the Dynamic Ground Water Resources of the country has been carried out in 2024, the Stage of Ground Water Extraction has been assessed at 43% for Tirunelveli district, indicating the District is under 'Safe' category.
- As per the available data, under Mission Amrit Sarovar 70 water bodies/lakes/ponds have been constructed/rejuvenated in Tirunelveli District.
- A total of 31 nos. Digital Water level Recorders (DWLRs) have been installed in Tirunelveli district to monitor the ground water level fluctuation and 2 nos. DWLRs with quality monitoring features have been installed for real time monitoring of ground water status.

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ANNEXURE-I

ANNEXURE REFERRED TO IN REPLY TO PART (a) OF UNSTARRED QUESTION NO. 1514 TO BE ANSWERED IN LOK SABHA ON 13.02.2025 REGARDING "GROUNDWATER RESERVES IN TAMIL NADU".

District-wise Dynamic Ground Water Resources of Tamil Nadu, 2024

S.No.	Name of District	Total Annual Ground Water Recharge (in Ham)	Annual Extractable Ground Water Resource (in Ham)	Annual Ground Water Extraction (in Ham)	Stage of Ground Water Extraction (%)
1	Ariyalur	37721.25	34339.78	17926.61	52.20
2	Chengalpattu	62787.98	56583.85	38638.20	68.28
3	Chennai	10217.89	9296.52	11609.99	124.89
4	Coimbatore	60383.89	54421.92	47180.46	86.69
5	Cuddalore	111824.88	100940.65	65583.44	64.97
6	Dharmapuri	47810.97	43029.84	41074.89	95.46
7	Dindigul	62166.17	56087.70	62174.95	110.85
8	Erode	73605.86	66369.68	54124.99	81.55
9	Kallakurichchi	67131.54	61034.42	50907.82	83.41
10	Kancheepuram	57920.51	52255.09	25835.83	49.44
11	Kanniyakumari	32933.53	29640.18	4940.63	16.67
12	Karur	34015.99	30795.17	29831.63	96.87
13	Krishnagiri	48402.82	43886.28	42081.02	95.89
14	Madurai	78705.70	73366.74	49119.70	66.95
15	Mayiladuthurai	39485.34	35536.80	43906.57	123.55
16	Nagapattinam	0.00	0.00	0.00	Saline
17	Namakkal	59780.72	54217.01	60918.67	112.36
18	Perambalur	25321.14	22900.04	25062.87	109.44
19	Pudukkottai	96945.89	87294.89	44365.37	50.82
20	Ramanathapuram	48633.81	43770.38	4522.44	10.33
21	Ranipet	28341.01	25829.98	22927.83	88.76
22	Salem	52995.79	47696.16	69990.28	146.74
23	Sivagangai	66038.65	59693.81	17582.53	29.45
24	Tenkasi	58059.41	52384.29	40164.38	76.67
25	Thanjavur	104762.25	94354.19	95117.13	100.81
26	The Nilgiris	14741.30	13267.16	902.35	6.80
27	Theni	31406.73	28266.03	21636.12	76.54
28	Thiruvarur	23692.54	21323.29	14338.38	67.24
29	Thoothukudi	68729.18	62013.40	21614.22	34.85
30	Tiruchirappalli	80486.24	72493.05	52991.30	73.10
31	**Tirunelveli**	**83678.90**	**75788.59**	**32748.55**	**43.21**
32	Tirupathur	10037.15	9033.43	12575.96	139.22
33	Tiruppur	62009.74	55944.24	46783.04	83.62
34	Tiruvallur	86267.47	78655.65	42933.82	54.58
35	Tiruvannamalai	121599.71	110146.16	91275.12	82.87
36	Vellore	16999.72	15335.17	18629.72	121.48
37	Villupuram	103094.63	93425.09	81585.10	87.33
38	Virudhunagar	82588.45	74736.43	41700.76	55.80
	Total(Ham)	2151324.75	1946153.06	1445302.67	74.26
	Total(BCM)	**21.51**	**19.46**	**14.45**	**74.26**

ANNEXURE-II

ANNEXURE REFERRED TO IN REPLY TO PART (c) OF UNSTARRED QUESTION NO. 1514 TO BE ANSWERED IN LOK SABHA ON 13.02.2025 REGARDING "GROUNDWATER RESERVES IN TAMIL NADU".

District-wise Ground Water Quality Data for Tamil Nadu for year 2023

*S.No.	District	Total no. of samples analyzed	Percentage (%) of Samples above Permissible limits		
			EC (%) (>3000 micro siemens/cm)	Fluoride (%) (>1.5 mg/l)	Nitrate (%) (>45 mg/l)
1	Ariyalur	15	0.0	6.7	53.3
2	Chennai	12	8.3	8.3	25.0
3	Coimbatore	46	6.5	8.7	43.5
4	Cuddalore	51	0.0	9.8	33.3
5	Dharmapuri	28	35.7	7.1	50.0
6	Dindigul	41	9.8	14.6	46.3
7	Erode	83	1.2	8.4	36.1
8	Kancheepuram	58	3.4	0.0	24.1
9	Kanyakumari	17	0.0	0.0	29.4
10	Karur	14	0.0	7.1	42.9
11	Krishnagiri	33	6.1	33.3	21.2
12	Madurai	35	0.0	5.7	37.1
13	Nagapattinam	16	6.3	0.0	56.3
14	Namakkal	44	2.3	9.1	50.0
15	Nilgiris	7	28.6	28.6	85.7
16	Perambalur	18	27.8	16.7	83.3
17	Pudukkottai	30	13.3	6.7	26.7
18	Ramanathapuram	11	18.2	0.0	18.2
19	Salem	39	17.9	5.1	41.0
20	Sivaganga	3	0.0	0.0	33.3
21	Thanjavur	14	0.0	0.0	7.1
22	Theni	33	6.1	21.2	42.4
23	Thiruvannamalai	36	0.0	0.0	30.6
24	Tirunelveli	28	21.4	25.0	46.4
25	Tiruvallur	49	4.1	0.0	12.2
26	Tiruvarur	6	16.7	0.0	33.3
27	Trichy	41	9.8	0.0	34.1
28	Tuticorin	27	18.5	11.1	29.6
29	Vellore	5	20.0	60.0	80.0
30	Villupuram	48	16.7	8.3	56.3
31	Virudhunagar	28	35.7	42.9	39.3
		916	9.2	9.7	37.8

* The Quality data is provided for the erstwhile districts of Tamil nadu State, which include the results of 8 new reorganized districts

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