GOVERNMENT OF INDIA

MINISTRY OF JAL SHAKTI

DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT & GANGA REJUVENATION

RAJYA SABHA

UNSTARRED QUESTION NO. 1211

ANSWERED ON 10.03.2025

ANNUAL GROUNDWATER QUALITY REPORT

1211. SHRI PRAMOD TIWARI

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

(a) whether Annual Groundwater Quality Report for 2024 has been released;

(b) if so, the key highlights;

(c) whether samples collected from some regions showed Nitrate, Fluoride, Arsenic and Uranium level exceeding permissible limit;

(d) if so, the regional variability, State-wise;

(e) whether report serves as a critical tool for policymakers to develop strategies aimed at enhancing groundwater sustainability; and

(f) if so, the steps proposed to be taken for mitigating contamination risks?

ANSWER

THE MINISTER OF STATE FOR JAL SHAKTI

(SHRI RAJ BHUSHAN CHOUDHARY**)**

(a) & (b) Yes. The Annual Groundwater Quality Report 2024 has been prepared by the Central Ground Water Board (CGWB) and released in December 2024. The report is based on the ground water sampling and analysis from 15,259 monitoring locations spread across the country. The major objective of the report is to study various water quality parameters like Electrical Conductivity(EC), Fluoride, Arsenic, heavy metals, Nitrate etc. in groundwater used for drinking and agriculture purposes. The key highlights of the report are:-

- This report presents the findings from the nationwide groundwater quality monitoring exercise based on a standardized methodology, following the newly established Standard Operating Procedure (SOP) by the Central Ground Water Board (CGWB).
- The Report finds that groundwater quality varies considerably across India. In certain states such as Arunachal Pradesh, Mizoram, Meghalaya and Jammu and Kashmir, 100% of the water samples met the BIS standards. In contrast, states like Rajasthan, Haryana, and Andhra Pradesh showed contamination in certain isolated pockets.
- Out of the samples tested, 19.8% have shown the presence of Nitrate beyond permissible limit, whereas Arsenic and Fluoride were high in 3.1% and 9.04% of the samples respectively.
- The suitability of groundwater for irrigation in India is generally favorable, with the majority of samples exhibiting safe levels of sodium and alkalinity.

(c) & (d) Some of the samples taken from certain isolated pockets of the country do indicate the presence of contaminants like Nitrate, Fluoride, Arsenic and Uranium beyond permissible limits. Contaminant-wise and State-wise details are provided in **Annexure.**

(e) & (f) This report along with other ground water quality data generated and disseminated by CGWB from time to time is meant to serve the purposes of raising awareness about ground water quality issues in the country, triggering quick action from the stakeholders to mitigate risks and guiding the planners in long term policy making for enhanced sustainability of ground water resources of the country. In addition to this, given the importance of managing the ground water quality in the country and mitigating the risks of contamination, the Central Government has already initiated several steps in this direction, which are continuing. Some of the important measures are mentioned below :

i. CGWB is successfully constructing Arsenic free wells in arsenic affected areas using the cement sealing technology for tapping contamination free aquifers and also providing technical assistance to state departments in Fluoride mitigation.

ii. Under the National Aquifer Mapping Programme (NAQUIM) of CGWB, while taking up aquifer studies, special attention is being given to the aspect of ground water quality including contamination by toxic substances such as Arsenic and Fluoride in ground water.

iii. 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.

iv. 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.

v. 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.

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 Abhiyan, PMKSY-Watershed Development, MGNREGA, Atal Bhujal Yojana etc.

ANNEXURE

ANNEXURE REFERRED TO IN REPLY TO PART (c) & (d) OF UNSTARRED QUESTION NO. 1211 TO BE ANSWERED IN RAJYA SABHA ON 10.03.2025 REGARDING "ANNUAL GROUNDWATER QUALITY REPORT".

State-wise details of Nitrate, Fluoride, Arsenic and Uranium Contamination in Ground Water for Year 2023

S. No	State	Nitrate			Fluoride			Arsenic			Uranium		
		No. of samples analysed	% of samples with NO_3> 45 mg/L	No. of districts having Nitrate > 45 mg/L	No. of samples analysed	% of samples with F >1.5 mg/L	No of districts having F > 1.5 mg/L	No. of samples Asanalysed	% of samples with As> 10 ppb	No of districts having Arsenic > 10 ppb	No. of samples U analysed	% of samples U> 30 ppb	No of districts having U > 30 ppb
1	Andaman & Nicobar Islands	113	0	0	113	0	0						
2	Andhra Pradesh	1149	23.5	26	1149	11.31	17	588	3.9	7			
3	Arunachal Pradesh	12	0	0	12	0	0				12	0	0
4	Assam	155	0	0	155	0	0	155	0.6	1	155	0	0
5	Bihar	808	2.35	15	808	4.58	6	607	11.9	20	752	0.1	1
6	Chandigarh UT	8	0	0	8	0	0				8	0	0
7	Chhattisgarh	783	11.49	20	783	1.79	8	917	0.8	3	783	0.6	3
8	Dadra & Nagar Haveli and Daman and Diu	17	0	0	17	0	0						
9	Delhi	103	20.39	7	103	16.5	6	103	2.9	2	103	10.7	6
10	Goa	10	0	0	10	0	0				6	0	0
11	Gujarat	632	18.04	23	632	13.92	25	543	0.2	1			
12	Haryana	879	14.56	21	879	23.66	17	857	0.7	5	857	18.7	16
13	Himachal Pradesh	171	9.36	6	171	1.17	2						
14	Jammu & Kashmir	250	9.2	6	250	0	0	250	0.8	2	250	0	0
15	Jharkhand	397	5.79	9	397	2.77	8	397	0.3	1	342	0	0
16	Karnataka	345	48.99	27	345	17.68	19	125	3.2	2	125	4.8	3
17	Kerala	342	6.73	10	342	0.29	1	423	0.2	1	342	0	0
18	Madhya Pradesh	589	22.58	39	589	1.02	6				1064	0.5	3
19	Maharashtra	1567	35.74	32	1567	1.91	10	1073	0.2	2	1567	0.2	3
20	Meghalaya	39	0	0	39	0	0				39	0	0
21	Mizoram	3	0	0	3	0	0				3	0	0
22	Nagaland	6	0	0	6	0	0				6	0	0

23	Odisha	625	14.4	15	625	4.48	10	904	0.7	3	904	0.3	3
24	Pondicherry	4	25	1	4	0	0				4	0	0
25	Punjab	922	12.58	20	922	13.77	17	908	4.8	12	908	32.6	20
26	Rajasthan	630	49.52	30	630	43.17	31	671	1.9	8	627	21.2	21
27	Tamil Nadu	916	37.77	31	916	9.72	21	1208	1.4	9	915	2.3	9
28	Telangana	1150	27.48	32	1150	14.87	28	345	0.6	1			
29	Tripura	81	2.47	2	81	0	0				81	0	0
30	Uttar Pradesh	1387	9.37	48	1387	5.7	27	1386	6.7	29	1386	8.3	43
31	Uttarakhand	207	17.39	5	207	0.48	1	207	3.9	3	206	0.5	1
32	West Bengal	959	8.65	18	959	0.73	3	959	8.8	6			
	Grand Total	**15259**	**19.8**	**443**	**15259**	**9.04**	**263**	**12626**	**3.1**	**118**	**11445**	**6.6**	**132**
		Parts of 443 districts in 23 States/UTs			**Parts of 263 districts in 20 States/UTs**			**Parts of 118 districts in 20 States/UTs**			**Parts of 132 districts in 13 States/UTs**		

***Data from the States/UTs of Manipur, Lakshadweep, Ladakh and Sikkim is not available.**

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