GOVERNMENT OF INDIA

MINISTRY OF JAL SHAKTI

DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT & GANGA REJUVENATION

LOK SABHA

UNSTARRED QUESTION NO. 3418

ANSWERED ON 20.03.2025

SURVEY ON UNDERGROUND WATER QUALITY

3418. SHRI APPALANAIDU KALISETTI:

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

(a) whether the Government has conducted any recent nationwide survey on underground water quality, including assessment parameters and findings and if so, the details thereof, State and district-wise;

(b) the number of groundwater sources tested and found contaminated with fluoride, arsenic, nitrate, iron, heavy metals and salinity during the last five years and the current year, State and district-wise;

(c) the number of people affected by poor quality of groundwater, including those suffering from waterborne diseases and chronic illnesses, State and district-wise;

(d) the number of rural and urban households relying on contaminated groundwater along with the measures taken/being taken to provide safe alternatives, State and district-wise;

(e) the budgetary allocation released and utilized for groundwater quality improvement projects during the said period, State and district-wise; and

(f) the number of water treatment and decontamination projects undertaken, their implementation status and the number of fluoride and arsenic affected habitations, State and district-wise?

ANSWER

THE MINISTER OF STATE FOR JAL SHAKTI

(SHRI RAJ BHUSHAN CHOUDHARY**)**

(a) & (b) The Annual Groundwater Quality Report 2024 has been released by the Central Ground Water Board (CGWB) based on the ground water sampling and analysis data 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. The report has found the presence of some contaminants beyond the prescribed limits for human consumption in isolated pockets of some States/UTs. Apart from that, the report indicates that ground water in the country is largely suitable for drinking and agricultural purposes. State-wise data on contamination reported during 2023 and 2019 for some of the important parameters is provided in **Annexure –I & Annexure –II** respectively.

(c) Consumption of drinking water having contaminants like Arsenic, Fluoride, heavy metals etc. beyond permissible limits over a prolonged period of time is known to cause several adverse effects on human health

like Arsenicosis, Fluorosis, organ damage, developmental issues in children etc. However, data on number of people affected by poor ground water quality is not maintained by this Ministry.

(d) As such, there is no information on rural or urban households relying on contaminated ground water. Though both water and provision of drinking water are state subjects, the Union government is making continuous efforts to ensure safe drinking water is provided to the citizens. Jal Jeevan Mission (JJM) – Har Ghar Jal, being implemented by this Ministry in partnership with states, marks an important milestone for providing contamination free potable tap water to every rural household of the country in adequate quantity, of prescribed quality and on regular & long-term basis. Following measures have been taken under JJM to facilitate action on water quality aspects at state level :-

i. While allocating the funds to States/ UTs, 10% weightage is given to the population residing in habitations affected by chemical contaminants.

ii. To facilitate implementation of the Scheme, more than 2000 water quality testing laboratories have been set up in the country and an online JJM – Water Quality Management Information System (WQMIS) portal has been developed. Besides this, five persons, preferably women are identified and trained from every village for testing the water samples through Field Test Kits (FTKs).

iii. Under JJM, while planning for potable water supply to household through tap water connection, priority is given to quality-affected habitations. Further, with a view to provide immediate solution, States/ UTs have been advised to install community water purification plants (CWPPs) especially in Arsenic and Fluoride affected habitations to provide potable water to every household as an interim measure.

In addition to the above, 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.

(e) The government's efforts towards handling ground water quality issues are mainly channeled through the Jal Jeevan Mission. However, under JJM funds are not separately allocated for dealing with ground water quality improvement. Out of the allocated amount, up to 2% can be utilized by the states for Water Quality Monitoring & Surveillance. As per the available information, from 2019-20 to 2024-25 (till date), an amount of Rs.4.30 lakh Cr has been allocated to states under JJM and out of this, total amount released is Rs. 3.95 lakh Cr and expenditure is Rs. 3.77 lakh Cr.

Details of State-wise and year-wise allocation are available in public domain and can be accessed from the following web link :

https://ejalshakti.gov.in/JJM/JJMReports/Financial/JJMRep_StatewiseAllocationReleaseExpenditure.aspx

(f) D/o Drinking Water & Sanitation has released 'A Handbook on Drinking Water Treatment Technologies' in March 2023 to disseminate information regarding new technologies available amongst all stakeholders to understand and implement the new technologies that address local issues and challenges faced in water-quality affected villages. The States may take up appropriate numbers of water treatment system of one or a combination of technologies depending upon techno-economic feasibility. The State-wise details of water treatment plants geotagged under JJM for various categories of schemes are at **Annexure-III.** Further, it is to state that due to cumulative efforts of all stakeholders, it is reported that from August 2019 to March 2025 the number of Arsenic and Fluoride affected habitations in the country have declined from 14,020 to 314 and from 7,996 to 251 respectively. These remaining habitations have been provided clean & safe drinking water through Community Water Purifier Plants (CWPPs).

State-wise details of affected habitations can be accessed from the following web link :
https://ejalshakti.gov.in/JJM/JJMReports/qaualityissue/JJMRep_NoOfQualityAffHabitations_S.aspx

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ANNEXURE-I

ANNEXURE REFERRED TO IN REPLY TO PART (a) & (b) OF UNSTARRED QUESTION NO. 3418 TO BE ANSWERED IN LOK SABHA ON 20.03.2025 REGARDING "SURVEY ON UNDERGROUND WATER QUALITY".

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

SNo.	State	EC			Nitrate			Fluoride		
		No. of samples analysed	% of samples with EC > 3000 µS/cm	No. of districts having EC > 3000 µS/cm in isolated pockets	No. of samples analysed	% of samples with NO_3> 45 mg/L	No. of districts having Nitrate > 45 mg/L in isolated pockets	No. of samples analysed	% of samples with F >1.5 mg/L	No of districts having F > 1.5 mg/L in isolated pockets
1	Andaman & Nicobar Islands	113	0	0	113	0	0	113	0	0
2	Andhra Pradesh	1149	9.7	23	1149	23.5	26	1149	11.31	17
3	Arunachal Pradesh	12	0	0	12	0	0	12	0	0
4	Assam	155	0.6	1	155	0	0	155	0	0
5	Bihar	808	0.9	5	808	2.35	15	808	4.58	6
6	Chandigarh UT	8	0	0	8	0	0	8	0	0
7	Chhattisgarh	783	0.3	2	783	11.49	20	783	1.79	8
8	Dadra And Nagar Haveli & Daman and Diu	17	5.9	1	17	0	0	17	0	0
9	Delhi	103	23.3	5	103	20.39	7	103	16.5	6
10	Goa	10	0	0	10	0	0	10	0	0
11	Gujarat	632	19.6	24	632	18.04	23	632	13.92	25
12	Haryana	879	21	19	879	14.56	21	879	23.66	17
13	Himachal Pradesh	171	0	0	171	9.36	6	171	1.17	2
14	Jammu & Kashmir	250	0	0	250	9.2	6	250	0	0
15	Jharkhand	397	0	0	397	5.79	9	397	2.77	8
16	Karnataka	345	14.5	15	345	48.99	27	345	17.68	19
17	Kerala	342	0	0	342	6.73	10	342	0.29	1
18	Madhya Pradesh	589	1.2	5	589	22.58	39	589	1.02	6
19	Maharashtra	1567	3.6	21	1567	35.74	32	1567	1.91	10
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	1.1	4	625	14.4	15	625	4.48	10
24	Pondicherry	4	0	0	4	25	1	4	0	0
25	Punjab	922	6.7	9	922	12.58	20	922	13.77	17
26	Rajasthan	630	48.6	26	630	49.52	30	630	43.17	31
27	Tamil Nadu	916	9.2	24	916	37.77	31	916	9.72	21
28	Telangana	1150	3	16	1150	27.48	32	1150	14.87	28
29	Tripura	81	0	0	81	2.47	2	81	0	0
30	Uttar Pradesh	1387	2.7	13	1387	9.37	48	1387	5.7	27
31	Uttarakhand	207	0	0	207	17.39	5	207	0.48	1
32	West Bengal	959	0.8	5	959	8.65	18	959	0.73	3
Grand Total		**15259**	**7.3**	**218**	**15259**	**19.8**	**443**	**15259**	**9.04**	**263**
		Parts of 218 districts in 18 States/UTs			**Parts of 443 districts in 23 States/UTs**			**Parts of 263 districts in 20 States/UTs**		

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

ANNEXURE-II

ANNEXURE REFERRED TO IN REPLY TO PART (a) & (b) OF UNSTARRED QUESTION NO. 3418 TO BE ANSWERED IN LOK SABHA ON 20.03.2025 REGARDING "SURVEY ON UNDERGROUND WATER QUALITY".

State-wise details of EC, Nitrate, Fluoride, Iron, Arsenic and Uranium Contamination in Ground Water for Year 2019

S.No.	State	EC			Nitrate			Fluoride		
		No. of samples analysed	% of samples with EC > 3000 µS/cm	No. of districts having EC > 3000 µS/cm in isolated pockets	No. of samples analysed	% of samples with NO_3> 45 mg/L	No. of districts having Nitrate > 45 mg/L in isolated pockets	No. of samples analysed	% of samples with F >1.5 mg/L	No of districts having F > 1.5 mg/L in isolated pockets
1	Andaman & Nicobar Islands	95	1.05	1	95	0.00	0	95	0.00	0
2	Andhra Pradesh	594	14.65	13	594	32.66	13	594	8.25	11
3	Arunachal Pradesh	3	0.00	0	3	0.00	0	3	0.00	0
4	Assam	265	0.00	0	265	0.00	0	265	3.02	6
5	Bihar	640	0.16	1	640	8.28	22	640	0.31	2
6	Chandigarh UT	10	0.00	0	10	10.00	1	10	0.00	0
7	Chhattisgarh	914	0.00	0	913	12.71	21	914	5.14	12
8	Dadra And Nagar Haveli & Daman and Diu	12	0.00	0	12	0.00	0	12	0.00	0
9	Delhi	63	31.75	5	63	15.87	6	63	7.94	2
10	Goa	71	0.00	0	71	5.63	2	71	0.00	0
11	Gujarat	544	21.14	20	544	36.58	26	544	12.50	18
12	Haryana	447	23.04	16	447	14.54	10	447	15.21	11

13	Himachal Pradesh	120	0.00	0	120	10.83	6	120	0.83	0
14	Jammu & Kashmir	314	0.00	0	314	0.00	0	314	0.00	0
15	Jharkhand	392	0.00	0	392	21.43	19	392	6.38	10
16	Karnataka	818	5.13	15	818	19.19	26	818	12.84	21
17	Kerala	351	0.00	0	351	9.12	9	351	0.28	1
18	Madhya Pradesh	1194	1.01	8	1194	30.82	50	1194	3.18	10
19	Maharashtra	1049	2.48	17	1049	4.10	10	1049	1.53	9
20	Meghalaya	51	0.00	0	51	0.00	0	51	5.88	2
21	Nagaland	2	0.00	0	2	0.00	0	2	0.00	0
22	Odisha	1240	0.73	5	1240	0.00	0	1240	2.90	14
23	Pondicherry	6	0.00	0	6	16.67	1	6	0.00	0
24	Punjab	302	7.95	7	302	23.18	21	302	10.26	11
25	Rajasthan	650	31.69	28	650	37.38	32	650	30.62	27
26	Tamil Nadu	1202	14.23	27	1202	46.92	31	1202	8.32	23
27	Telangana	343	7.58	7	343	43.15	10	343	17.78	9
28	Tripura	135	0.00	0	135	0.00	0	135	2.22	3
29	Uttar Pradesh	817	2.33	8	817	6.73	36	817	2.57	14
30	Uttarakhand	186	0.00	0	186	3.76	3	186	1.08	1
31	West Bengal	718	1.67	4	718	6.41	6	718	4.74	7
		13548	**6.45**	**182**	**13547**	**18.25**	**361**	**13548**	**6.81**	**224**
		Parts of 182 districts in 16 States/Uts			**Parts of 361 districts in 22 States/Uts**			**Parts of 224 districts in 22 States/Uts**		

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

ANNEXURE-III

ANNEXURE REFERRED TO IN REPLY TO PART (f) OF UNSTARRED QUESTION NO. 3418 TO BE ANSWERED IN LOK SABHA ON 20.03.2025 REGARDING "SURVEY ON UNDERGROUND WATER QUALITY".

Status of Geo-tagged water treatment plants

S. No.	State/ UT	No. of Water treatment plant geotagged
1.	Andaman & Nicobar Islands	-
2.	Andhra Pradesh	277
3.	Arunachal Pradesh	3,311
4.	Assam	17,762
5.	Bihar	-
6.	Chhattisgarh	63
7.	Dadra And Nagar Haveli & Daman and Diu	-
8.	Goa	12
9.	Gujarat	209
10.	Haryana	1,059
11.	Himachal Pradesh	662
12.	Jammu & Kashmir	1,315
13.	Jharkhand	351
14.	Karnataka	1,871
15.	Kerala	522
16.	Ladakh	-
17.	Lakshadweep	2
18.	Madhya Pradesh	416
19.	Maharashtra	919
20.	Manipur	444
21.	Meghalaya	1,471
22.	Mizoram	295
23.	Nagaland	643
24.	Odisha	104
25.	Puducherry	-
26.	Punjab	763
27.	Rajasthan	547
28.	Sikkim	136
29.	Tamil Nadu	254
30.	Telangana	-
31.	Tripura	445
32.	UttarPradesh	650
33.	Uttarakhand	532
34.	West Bengal	543
Total		**35,578**

Source: JJM-IMIS

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