

FINDINGS OF DYNAMIC GROUNDWATER RESOURCES ASSESSMENT

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Dynamic Ground Water Resources of the country are being annually assessed, jointly by Central Ground Water Board (CGWB) and State Governments. As per the 2025 assessment, the total Annual Ground Water Recharge in the country is 448.52 Billion Cubic Meter (BCM) and the Annual Extractable Ground Water Resources is estimated as 407.75 BCM. The Further, total Annual Ground Water Extraction of the entire country for the year 2025 has been assessed as 247.22 BCM. Based on this, the Stage of Ground Water Extraction (SoE), which is a measure of Annual Ground Water Extraction for all uses (irrigation, industrial and domestic uses) over Annual Extractable Ground Water Resource is worked out to be 60.63% for the country as a whole.

Regarding categorization of units in terms of their stage of ground water extraction, out of the total 6762 Assessment Units (Blocks/Taluks/Mandals) in the country, 730 (10.80%) units have been categorized as 'Over- exploited' indicating ground water extraction exceeding the annually replenishable ground water recharge. Further, 201 units (2.97 %) have been categorized as 'Critical', 758 units (11.21 %) as 'Semi-critical' and 4946 units (73.14 %) are in 'Safe' category. Additionally, 127 assessment units (1.88%) are categorized as 'saline'. State/UT-wise details are provided in **Annexure -I**.

Further, the District-Wise Ground Water Resources for all the states, including Madhya Pradesh, Andhra Pradesh, Karnataka, Maharashtra and Odisha can be seen in the National Compilation of Dynamic Ground Water Resources of India, 2025 which can be accessed at: <https://cgwb.gov.in/cgwbpmn/download/1741#page=171>

Central Ground Water Board (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 conducted as per the approved Standard Operating Procedure (SOP). Overall, the data on ground water quality indicates that the ground water in the country remains largely potable with localized occurrences of contaminants in isolated pockets.

State-wise distribution of major pollutants such as Arsenic, Fluoride, Nitrate and heavy metals, as per the Annual Ground Water Quality Report – 2025 can be viewed through the web link provided below:

<https://cgwb.gov.in/cgwbpmn/public/uploads/documents/1764833633531847433file.pdf>

Efforts of the Central government towards ground water monitoring, aquifer mapping and recharge along with spreading community awareness, are mainly channeled through the schemes/programmes like Ground Water Management & Regulation (GWM &R) Scheme, Jal Shakti Abhiyan (JSA), Jal Sanchay Jan Bhagidari (JSJB), Atal Bhujal Yojana etc.

GWM &R is a central sector scheme under which funds are not disbursed to states but rather are completely allocated and spent by CGWB for the purpose of ground water monitoring, mapping and regulation. Further, JSA and JSJB take up large scale construction/rejuvenation of artificial recharge/rain water harvesting works through convergence with ongoing central and state schemes and no separate funds are allotted for this purpose. As per the available data on JSA dashboard, an expenditure of approximately Rs. 1.5 lakh cr has been incurred towards this since 2021 through convergence with MGNREGS alone.

NAQUIM studies have been taken up across the country by the Central Ground Water Board (CGWB) for delineation and characterisation of aquifers and preparation of plans for ground water management. NAQUIM was initiated as a part of the 'Ground Water Management and Regulation' scheme and the entire mappable area of the country of about 25 lakh sq. kms has been mapped. State wise details of coverage area under NAQUIM is presented in **Annexure -II**.

Further, ground water management studies/ plans have been prepared for the entire targeted area across the country covering all the 14 Principal aquifers and 42 major aquifers and District-wise aquifer maps and management plans for 654 Districts of the country, which include both supply side and demand side measures for sustainable management of ground water resources, have been shared with the concerned State/District administrations for taking up suitable field interventions.

Moreover, Master Plan for Artificial Recharge to Groundwater- 2020 has been prepared by the CGWB 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 with estimated cost, which has a potential to harness around 185 BCM (Billion cubic meter) of water.

The Ministry of Jal Shakti is currently conducting stakeholder consultations for assessing the ground water extraction Guidelines.

‘Water’ being a State subject, sustainable development and management of groundwater resources and address contamination issues is primarily the responsibility of the State Governments. The Central Government, on its part, facilitates the efforts of the State Governments by way of technical and financial assistance through its various schemes and projects. The major steps taken by the government in this direction, for improving ground water conservation and recharge, regulating over-extraction, mitigation of contamination and saltwater intrusion and ensuring long term sustainability of the resource in the country, along with their impact, are provided below:

- i. Efforts of the Central government for augmenting the water/groundwater resources of the country, are mainly channeled through the flagship campaign of Jal Shakti Abhiyan (JSA). JSA is a time bound and mission mode programme being conducted annually since 2019 by the M/o Jal Shakti, wherein all the efforts and funds under various schemes and projects are converged to deliver water harvesting and artificial recharge works on the ground.

Currently, JSA 2025 is underway in the country with special focus on over-exploited and critical districts. As per the available information, under JSA, completion of around 1.21 crore water conservation and artificial recharge works has been coordinated through convergence in the country in the last 4 years, which has played a key role in enhancing the sustainability of ground water resources.

- ii. To further strengthen the momentum of Jal Shakti Abhiyan, Jal Sanchay Jan Bhagidari (JSJB): A Community-Driven Path to Water Sustainability in India has been launched by the Hon’ble Prime Minister with a vision to make rain water harvesting a mass movement in the country. By promoting community ownership and responsibility, the initiative seeks to develop cost-effective, local solutions tailored to specific water challenges across different regions.
- iii. M/o Jal Shakti has constituted the Central Ground Water Authority (CGWA) for the purpose of regulation and control of ground water extraction in the Country and has notified Guidelines dated 24.09.2020 for the purpose of such regulation, which have pan India applicability. Additionally, stringent measures like imposition of heavy penalties & Environmental Compensation Charges (EC) extraction without valid NOC, prohibiting new large-scale industries in over-exploited areas, sealing of bore wells for illegal extraction etc. have been mandated by the Guidelines to regulate over extraction.
- iv. M/o Jal Shakti has successfully demonstrated the efficacy of community led participatory ground water management through Atal Bhujal Yojana, which was implemented in 80 water stressed districts in 7 States, viz. Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh. Construction/rejuvenation of more than 83,000 rain water harvesting and recharge structures like check dams, ponds, shafts etc. was completed under the scheme and more than 9 lakh Ha area was brought under efficient irrigation practices.
- 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. As an outcome nearly 69,000 Amrit Sarovars have been constructed/rejuvenated in the country, leading to enhanced water storage and ground water recharge.
- vi. In addition to conducting extensive aquifer mapping activities throughout the country, CGWB has also prepared the Master Plan for Artificial Recharge to Groundwater- 2020, which is a macro level plan indicating various structures for the different terrain conditions of the country for serving as a technical guide for construction of artificial recharge and rain water harvesting structures.
- vii. Regarding ground water quality aspect, CGWB regularly monitors ground water quality samples throughout the country as per its SOP and issues Annual reports, Half-yearly Bulletins and fortnightly alerts regarding its findings for quick action by stakeholders; Technique for constructing Arsenic and Fluoride safe wells has also been developed by CGWB and guidance is provided to states for replication and upscaling; Further, the Government is also implementing Jal Jeevan Mission (JJM) in partnership with states for providing safe and adequate drinking water to all rural households of the country.
- viii. Various organizations under this Ministry like National Institute of Hydrology (NIH), CGWB, Central Water Commission (CWC) etc. have conducted independent studies in various parts of the country affected by salinity ingress and saltwater intrusion and made several recommendations like construction of embankments, sea walls, inlet control mechanism at creeks etc.

In order to assess the impact of various water conservation interventions on ground water level in the last five years, the post-monsoon 2024 State/ UT-wise water level data for the country is compared with the Mean of the previous 5 years (post-monsoon water level data from 2019-23), which is provided in **Annexure-III**. Such analysis indicates that in the country as a whole, about 54.4 % of analyzed wells showed rising water levels in 2024 as compared to the mean level of previous 5 years.

Further, similar analysis for Palghar district (Maharashtra), Nabarangpur district (Odisha) and Pali Lok Sabha Constituency in Rajasthan (covering Pali & Jodhpur Districts) is presented in **Annexure -IV**, which indicates that in Palghar District of Maharashtra 80% analyzed wells have shown rise in 2024 as compared with the mean of previous 5 years, in Nabarangpur district of Odisha, 25% of wells have shown rise and in Jodhpur & Pali districts under Pali Lok Sabha Constituency, respectively 68.9% & 81.25% of wells have shown rising trends .

The information was provided by THE MINISTER OF STATE FOR JAL SHAKTI **SHRI RAJ BHUSHAN CHOUDHARY** in a written reply to

a question in Lok Sabha today.

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ANNEXURE-I

STATE-WISE GROUND WATER RESOURCES OF INDIA, 2025

S. No.	States / Union Territories	Total Annual Ground Water Recharge (in BCM)	Annual Extractable Ground Water Resource (in BCM)	Annual GW Extraction for all uses (in BCM)	Stage of Ground Water Extraction (%)	
1	Andhra Pradesh	26.34	25.02	7.88	31.51	
2	Arunachal Pradesh	3.69	3.29	0.01	0.41	
3	Assam	26.36	20.29	2.93	14.45	
4	Bihar	34.51	31.32	14.47	46.20	
5	Chhattisgarh	14.30	13.07	6.30	48.18	
6	Goa	0.38	0.31	0.07	23.30	
7	Gujarat	27.58	25.61	14.33	55.95	
8	Haryana	10.27	9.30	12.72	136.75	
9	Himachal Pradesh	1.12	1.01	0.39	38.50	
10	Jharkhand	6.15	5.63	1.85	32.89	
11	Karnataka	19.27	17.41	11.58	66.49	
12	Kerala	5.45	4.93	2.46	49.95	
13	Madhya Pradesh	36.07	34.15	20.26	59.32	
14	Maharashtra	33.89	31.99	16.57	51.79	
15	Manipur	0.44	0.40	0.04	9.09	
16	Meghalaya	1.84	1.54	0.08	5.24	
17	Mizoram	0.21	0.19	0.01	4.03	
18	Nagaland	0.55	0.50	0.02	4.72	
19	Odisha	17.44	16.02	7.81	48.75	
20	Punjab	18.60	16.80	26.27	156.36	

21	Rajasthan	12.87	11.62	17.10	147.11	
22	Sikkim	0.24	0.22	0.01	5.87	
23	Tamil Nadu	22.61	20.46	15.04	73.50	
24	Telangana	21.93	19.84	9.26	46.69	
25	Tripura	1.53	1.24	0.12	10.06	
26	Uttar Pradesh	73.39	66.97	46.89	70.00	
27	Uttarakhand	2.13	1.95	1.05	53.92	
28	West Bengal	25.85	23.50	10.62	45.19	
29	Andaman And Nicobar	0.38	0.35	0.01	2.27	
30	Chandigarh	0.05	0.05	0.03	67.00	
31	Dadra and Nagar Haveli and Daman and Diu	0.13	0.12	0.05	40.45	
32	Delhi	0.38	0.35	0.32	92.10	
33	Jammu And Kashmir	2.30	2.07	0.51	24.73	
34	Ladakh	0.07	0.06	0.02	30.93	
35	Lakshadweep	0.01	0.01	0.00	57.79	
36	Puducherry	0.19	0.17	0.13	75.98	
	Grand Total	448.52	407.75	247.22	60.63	
*Minor discrepancies in numbers may arise due to rounding off at various levels.						

ANNEXURE-II

State wise areas covered under the NAQUIM studies

Sl. No.	State/UT	Total Area (Sq.km)	Area targeted for coverage (Sq.km)	Coverage till March 2023 (Sq.km)
1	Andaman & Nicobar UT	8,249	1,774	1,774
2	Andhra Pradesh	1,63,900	1,41,784	1,41,784
3	Arunachal Pradesh	83,743	4,703	4,703

4	Assam	78,438	61,826	61,826
5	Bihar	94,163	90,567	90,567
6	Chandigarh UT	115	115	115
7	Chhattisgarh	1,36,034	96,000	96,000
8	Dadra & Nagar Haveli and Daman & Diu UT	602	602	602
9	Delhi	1,483	1,483	1,483
10	Goa	3,702	3,702	3,702
11	Gujarat	1,96,024	1,60,978	1,60,978
12	Haryana	44,212	44,179	44,179
13	Himachal Pradesh	55,673	8,020	8,020
14	Jammu & Kashmir UT	1,67,396	9,506	9,506
15	Jharkhand	79,714	76,705	76,705
16	Karnataka	1,91,808	1,91,719	1,91,719
17	Kerala	38,863	28,088	28,088
18	Lakshadweep UT	32	32	32
19	Ladakh UT	54,840	963	963
20	Madhya Pradesh	3,08,000	2,69,349	2,69,349
21	Maharashtra	3,07,713	2,59,914	2,59,914
22	Manipur	22,327	2,559	2,559
23	Meghalaya	22,429	10,645	10,645
24	Mizoram	21,081	700	700
25	Nagaland	16,579	910	910
26	Odisha	1,55,707	1,19,636	1,19,636
27	Puducherry UT	479	454	454
28	Punjab	50,368	50,368	50,368
29	Rajasthan	3,42,239	3,34,152	3,34,152

30	Sikkim	7,096	1,496	1,496
31	Tamil Nadu	1,30,058	1,05,829	1,05,829
32	Telangana	1,11,940	1,04,824	1,04,824
33	Tripura	10,492	6,757	6,757
34	Uttar Pradesh	2,46,387	2,40,649	2,40,649
35	Uttarakhand	53,484	11,430	11,430
36	West Bengal	88,752	71,947	71,947
	Total	3294105	2514437	2514437

ANNEXURE-III

State-wise Water Level Fluctuation (in meters) with Mean (Post-Monsoon 2019 to 2023) and post-monsoon 2024 (Unconfined Aquifer)

S. No.	State/ UT Name	No of wells analysed	No. of wells in different fluctuation ranges in meters												Total No. of wells			
			Rise						Fall									
			0 to 2 (m)	%	2 to 4 (m)	%	> 4 (m)	%	0 to 2 (m)	%	2 to 4 (m)	%	> 4 (m)	%	Rise	%	Fall	%
1	Andaman & Nicobar	101	70	69.3	0	0.0	0	0.0	31	30.7	0	0.0	0	0.0	70	69.3	31	30.7
2	Andhra Pradesh	603	288	47.8	49	8.1	22	3.6	200	33.2	29	4.8	13	2.2	359	59.5	242	40.1
3	Arunachal Pradesh	20	12	60.0	2	10.0	0	0.0	6	30.0	0	0.0	0	0.0	14	70.0	6	30.0
4	Assam	201	124	61.7	5	2.5	1	0.5	61	30.3	8	4.0	2	1.0	130	64.7	71	35.3
5	Bihar	556	125	22.5	16	2.9	3	0.5	347	62.4	53	9.5	8	1.4	144	25.9	408	73.4
6	Chandigarh	7	6	85.7	0	0.0	0	0.0	1	14.3	0	0.0	0	0.0	6	85.7	1	14.3
7	Chhattisgarh	761	427	56.1	75	9.9	15	2.0	206	27.1	30	3.9	7	0.9	517	67.9	243	31.9
8	Delhi	68	27	39.7	14	20.6	9	13.2	14	20.6	3	4.4	1	1.5	50	73.5	18	26.5
9	Goa	73	49	67.1	5	6.8	0	0.0	19	26.0	0	0.0	0	0.0	54	74.0	19	26.0

10	Gujarat	598	308	51.5	117	19.6	55	9.2	92	15.4	16	2.7	10	1.7	480	80.3	118	19.7
11	Haryana	163	61	37.4	11	6.7	7	4.3	57	35.0	19	11.7	8	4.9	79	48.5	84	51.5
12	Himachal Pradesh	92	23	25.0	1	1.1	2	2.2	57	62.0	5	5.4	4	4.3	26	28.3	66	71.7
13	Jammu and Kashmir	196	56	28.6	1	0.5	1	0.5	124	63.3	9	4.6	4	2.0	58	29.6	137	69.9
14	Jharkhand	290	144	49.7	18	6.2	6	2.1	100	34.5	19	6.6	2	0.7	168	57.9	121	41.7
15	Karnataka	1072	615	57.4	76	7.1	28	2.6	300	28.0	42	3.9	8	0.7	719	67.1	350	32.6
16	Kerala	1346	567	42.1	68	5.1	18	1.3	583	43.3	90	6.7	19	1.4	653	48.5	692	51.4
17	Madhya Pradesh	1044	454	43.5	77	7.4	34	3.3	376	36.0	62	5.9	34	3.3	565	54.1	472	45.2
18	Maharashtra	1597	812	50.8	154	9.6	42	2.6	481	30.1	81	5.1	20	1.3	1008	63.1	582	36.4
19	Meghalaya	38	9	23.7	0	0.0	0	0.0	29	76.3	0	0.0	0	0.0	9	23.7	29	76.3
20	Nagaland	11	3	27.3	1	9.1	0	0.0	3	27.3	1	9.1	3	27.3	4	36.4	7	63.6
21	Odisha	1249	277	22.2	11	0.9	3	0.2	826	66.1	110	8.8	16	1.3	291	23.3	952	76.2
22	Puducherry	6	3	50.0	0	0.0	0	0.0	3	50.0	0	0.0	0	0.0	3	50.0	3	50.0
23	Punjab	174	43	24.7	9	5.2	4	2.3	74	42.5	30	17.2	13	7.5	56	32.2	117	67.2
24	Rajasthan	824	263	31.9	120	14.6	132	16.0	163	19.8	61	7.4	85	10.3	515	62.5	309	37.5
25	Tamil Nadu	566	238	42.0	55	9.7	28	4.9	194	34.3	34	6.0	13	2.3	321	56.7	241	42.6
26	Telangana	248	93	37.5	32	12.9	15	6.0	83	33.5	18	7.3	7	2.8	140	56.5	108	43.5
27	DNH & Daman-Diu	11	5	45.5	3	27.3	0	0.0	2	18.2	1	9.1	0	0.0	8	72.7	3	27.3
28	Tripura	78	56	71.8	4	5.1	0	0.0	17	21.8	0	0.0	0	0.0	60	76.9	17	21.8
29	Uttar Pradesh	421	151	35.9	13	3.1	8	1.9	212	50.4	30	7.1	7	1.7	172	40.9	249	59.1
30	Uttarakhand	155	51	32.9	6	3.9	12	7.7	64	41.3	9	5.8	12	7.7	69	44.5	85	54.8
31	West Bengal	636	409	64.3	16	2.5	4	0.6	185	29.1	10	1.6	8	1.3	429	67.5	203	31.9
	Total	13205	5769	43.7	959	7.3	449	3.4	4910	37.2	770	5.8	304	2.3	7177	54.4	5984	45.3

NB.: 44 (0.3%) sites not showing rise or fall.

Ground Water Level Fluctuation (in meters) with Mean (Post-Monsoon 2019 to 2023) and
Post-Monsoon 2024 (Unconfined Aquifer) for specified Districts

S No.	State	District Name	No of Wells Anal- ysed	No./Percentage of wells showing fluctuation to water level (m) in the range of												Total Number of Wells			
				Rise						Fall									
				1 to 2 m		2 to 4 m		> 4 m		0 to 2 m		2 to 4 m		> 4 m					
				No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	Rise	%	Fall	%
1	Rajasthan	Jodhpur	45	13	28.9	6	13.3	12	26.7	10	22.2	1	2.2	3	6.7	31	68.9	14	31.1
		Pali	16	6	37.5	4	25	3	18.8	2	12.5	0	0	1	6.3	13	81.2	3	18.7
2	Odisha	Nabarangpur	20	3	15.0	2	10.0	0	0.0	14	70.0	1	5.0	0	0.0	5	25	15	75
3	Maharashtra	Palghar	30	24	80	0	0.0	0	0.0	6	20.0	0	0.0	0	0.0	24	80	6	20
