

GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE & FARMERS' WELFARE
DEPARTMENT OF AGRICULTURE & FARMERS' WELFARE

RAJYA SABHA
STARRED QUESTION NO. 55
TO BE ANSWERED ON THE 07/02/2025

STEPS TO ADDRESS GROUNDWATER DEPLETION

*55. DR. SYED NASEER HUSSAIN:

Will the Minister of AGRICULTURE AND FARMERS WELFARE be pleased to state:

- (a) whether Government has conducted any comprehensive assessment/ study of groundwater depletion in major agricultural States, particularly in regions practicing water-intensive cropping patterns, and if so, the details thereof and actions taken;
- (b) the number of blocks/districts categorized as 'over- exploited' in terms of groundwater usage, State-wise;
- (c) the specific measures being taken to regulate groundwater extraction for agricultural purposes in such areas and to restore/replenish groundwater resources; and
- (d) the steps taken to promote crop diversification away from water-intensive crops such as paddy, particularly in water-stressed regions?

ANSWER

THE MINISTER OF AGRICULTURE AND FARMERS' WELFARE
(SHRI SHIVRAJ SINGH CHOUHAN)

- (a) to (d): A Statement is laid on the Table of the House

**STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (d) OF RAJYA SABHA
STARRED QUESTION NO. 55 REGARDING STEPS TO ADDRESS
GROUNDWATER DEPLETION DUE FOR REPLY ON 07/02/2025.**

(a): Central Ground Water Board (CGWB), Ministry of Jal Shakti monitors groundwater levels throughout the country including regions practicing water-intensive cropping pattern, four times in a year. State-wise detailed analysis of water level fluctuation data collected during November 2024 compared with the decadal mean of November (2014-2023) is given at Annexure-I.

Further, CGWB and State Governments are annually assessing Dynamic Ground Water Resources of the country jointly. As per the latest (2024) assessment, the Annual Extractable Ground Water Resource is 406.19 Billion Cubic Metre (BCM). The Annual Ground Water Extraction for all uses is 245.64 BCM, out of which, about 213.29 BCM (87%) has been utilised for irrigation activities.

(b): Assessment of Dynamic groundwater resources was conducted by CGWB during 2024 in the country. 751 units (Blocks/ Mandals/ Talukas) in various States/ UTs have been categorized as 'Over-exploited' indicating groundwater extraction exceeding the annual replenished groundwater recharge. State-wise number of 'Over-exploited' units is given in Annexure II.

(c): As per Ministry of Jal Shakti guidelines, use of groundwater for agricultural activities is exempted from obtaining No Objection Certificate from CGWB. However, the guidelines advise a participatory approach for sustainable ground water management in the agriculture sector. The guidelines also advice States/UTs to review their free/ subsidized electricity policy to farmers, bring suitable water pricing policy and work further towards crop rotation/ diversification/ other initiatives to reduce overdependence on groundwater. The Government is taking various initiatives/ measures for water conservation and groundwater restoration/ replenishment under Jal Shakti Abhiyan, Atal Bhujal Yojana, Watershed Development Programme, Mahatma Gandhi National Rural Employment Guarantee Scheme, etc.

(d): Under National Aquifer Mapping and Management Programme of Ground Water Management and Regulation scheme of MoJS ground water management plans with community participation have been prepared wherein crop-diversification, has been recommended as one of the demand side management measures for sustainable groundwater development for implementation by State Governments.

Besides, Department of Agriculture & Farmers Welfare is also implementing Crop Diversification Programme (CDP) and Per Drop More Crop (PDMC) Scheme. CDP is being implemented in original green revolution States viz. Punjab, Haryana and in Western Uttar Pradesh since 2013-14 in the districts having more than 50,000 hectare paddy area to divert water intensive paddy crop to alternative crops like oilseeds, pulses, coarse cereal, nutri cereals (Shree Anna), cotton and agro-forestry etc. The area covered under alternate crop demonstrations under CDP for replacing paddy since inception is 6.07 lakh hectares till 2023-24. PDMC focuses on enhancing water use efficiency at farm level through use of Micro Irrigation. PDMC also promotes crop diversification. From 2015-16 till date, 95.58 lakh hectares have been covered under micro irrigation through PDMC.

Annexure-I to the Starred PQRS No. 55 due for 07.02.2025

State-wise Decadal Water Level Fluctuation (in meters) with Mean (Post-Monsoon 2014 to 2023) and Post-Monsoon 2024 (Unconfined Aquifer)

Sr. 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	%	2 to 4	%	> 4	%	0 to 2	%	2 to 4	%	> 4	%	Rise	%	Fall	%
1	Andaman And Nicobar Islands	101	65	64.4	0	0.0	0	0.0	35	34.7	0	0.0	0	0.0	65	64.4	35	34.7
2	Andhra Pradesh	586	297	50.7	63	10.8	32	5.5	168	28.7	17	2.9	9	1.5	392	66.9	194	33.1
3	Arunachal Pradesh	17	11	64.7	1	5.9	0	0.0	5	29.4	0	0.0	0	0.0	12	70.6	5	29.4
4	Assam	193	121	62.7	7	3.6	1	0.5	55	28.5	7	3.6	2	1.0	129	66.8	64	33.2
5	Bihar	551	182	33.0	18	3.3	4	0.7	307	55.7	31	5.6	4	0.7	204	37.0	342	62.1
6	Chandigarh	7	5	71.4	0	0.0	0	0.0	1	14.3	1	14.3	0	0.0	5	71.4	2	28.6
7	Chhattisgarh	732	445	60.8	84	11.5	14	1.9	159	21.7	17	2.3	9	1.2	543	74.2	185	25.3
8	Delhi	74	24	32.4	13	17.6	19	25.7	9	12.2	5	6.8	4	5.4	56	75.7	18	24.3
9	Goa	73	48	65.8	2	2.7	0	0.0	23	31.5	0	0.0	0	0.0	50	68.5	23	31.5
10	Gujarat	614	266	43.3	157	25.6	118	19.2	55	9.0	10	1.6	7	1.1	541	88.1	72	11.7
11	Haryana	169	62	36.7	12	7.1	5	3.0	54	32.0	26	15.4	10	5.9	79	46.7	90	53.3
12	Himachal Pradesh	91	25	27.5	2	2.2	2	2.2	56	61.5	1	1.1	2	2.2	29	31.9	59	64.8
13	Jammu and Kashmir	208	63	30.3	4	1.9	1	0.5	118	56.7	16	7.7	2	1.0	68	32.7	136	65.4
14	Jharkhand	221	106	48.0	23	10.4	3	1.4	79	35.7	10	4.5	0	0.0	132	59.7	89	40.3
15	Karnataka	1087	611	56.2	127	11.7	66	6.1	242	22.3	26	2.4	8	0.7	804	74.0	276	25.4
16	Kerala	1348	705	52.3	45	3.3	14	1.0	536	39.8	32	2.4	13	1.0	764	56.7	581	43.1
17	Madhya Pradesh	1047	517	49.4	154	14.7	73	7.0	235	22.4	41	3.9	21	2.0	744	71.1	297	28.4
18	Maharashtra	1543	823	53.3	260	16.9	92	6.0	298	19.3	57	3.7	10	0.6	1175	76.2	365	23.7
19	Meghalaya	29	8	27.6	0	0.0	0	0.0	21	72.4	0	0.0	0	0.0	8	27.6	21	72.4
20	Nagaland	12	4	33.3	0	0.0	1	8.3	3	25.0	2	16.7	2	16.7	5	41.7	7	58.3
21	Odisha	1135	330	29.1	9	0.8	4	0.4	687	60.5	92	8.1	9	0.8	343	30.2	788	69.4
22	Puducherry	6	3	50.0	2	33.3	0	0.0	1	16.7	0	0.0	0	0.0	5	83.3	1	16.7
23	Punjab	185	40	21.6	8	4.3	4	2.2	74	40.0	24	13.0	34	18.4	52	28.1	132	71.4
24	Rajasthan	818	241	29.5	124	15.2	141	17.2	145	17.7	70	8.6	96	11.7	506	61.9	311	38.0
25	Tamil Nadu	568	236	41.5	109	19.2	86	15.1	116	20.4	13	2.3	4	0.7	431	75.9	133	23.4
26	Telangana	247	104	42.1	52	21.1	28	11.3	55	22.3	5	2.0	3	1.2	184	74.5	63	25.5
27	Dadra And Nagar Haveli And Daman And 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	66	47	71.2	3	4.5	0	0.0	12	18.2	1	1.5	0	0.0	50	75.8	13	19.7
29	Uttar Pradesh	426	180	42.3	19	4.5	8	1.9	185	43.4	26	6.1	7	1.6	207	48.6	218	51.2
30	Uttarakhand	152	51	33.6	7	4.6	14	9.2	56	36.8	13	8.6	10	6.6	72	47.4	79	52.0
31	West Bengal	617	452	73.3	23	3.7	3	0.5	124	20.1	7	1.1	7	1.1	478	77.5	138	22.4
	Total	12934	6077	47.0	1331	10.3	733	5.7	3916	30.3	551	4.3	273	2.1	8141	62.9	4740	36.6

* 53 (0.5%) sites show no rise or fall in water level

Annexure-II to the Starred PQRS No. 55 due for 07.02.2025

**State-wise number of 'Over-exploited' assessment units as per National Compilation of
Dynamic Ground Water Resources of India (2024)**

S.No.	State/Union Territories	Total No of assessment units	No. of Over- Exploited assessment units
1	Andhra Pradesh	679	9
2	Bihar	535	4
3	Gujarat	252	22
4	Haryana	143	88
5	Jharkhand	263	5
6	Karnataka	237	45
7	Madhya Pradesh	317	26
8	Maharashtra	359	8
9	Punjab	153	115
10	Rajasthan	302	214
11	Tamil Nadu	313	106
12	Telangana	620	32
13	Uttar Pradesh	836	59
14	Dadra and Nagar Haveli and Daman and Diu	3	3
15	Delhi	34	14
16	Puducherry	8	1
	Total	5054	751
