

GOVERNMENT OF INDIA

MINISTRY OF JAL SHAKTI

DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT & GANGA REJUVENATION

LOK SABHA

UNSTARRED QUESTION NO. 4551

ANSWERED ON 27.03.2025

DECLINING LEVEL OF GROUNDWATER

†4551. SHRI GIRIDHARI YADAV SHRI DINESH CHANDRA YADAV

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

- (a) whether it is true that the volume of groundwater is declining and only about 65 percent is left in 155 main water reservoirs as per the latest estimate;
- (b) if so, the details thereof along with the reasons therefor despite having adequate rainfall during the last monsoon season; and
- (c) whether the shortage of groundwater is likely to affect the agricultural sector and if so, the details thereof?

ANSWER

THE MINISTER OF STATE FOR JAL SHAKTI

(SHRI RAJ BHUSHAN CHOUDHARY)

(a) & (b) The Dynamic Ground Water Resources of the country are being assessed annually from 2022 onward, jointly by Central Ground Water Board (CGWB) and State Governments. As per the 2024 assessment, the Total Annual Ground Water Recharge is 447 Billion Cubic Meter (BCM) and the Annual Extractable Ground Water Resource is 406 BCM. The present Total Annual Ground Water Extraction of the entire country for the year 2024 has been estimated as 246 BCM. The Stage of Ground Water Extraction, which is a measure of Annual Ground Water Extraction for all uses (irrigation, industrial and domestic uses) over Annual Extractable Ground Water Resource is 60% for the country as a whole.

Out of 6746 assessment Units (Blocks/Taluks/Tehsils/Mandals), 4951 (74%) assessment units are categorized as Safe assessment units, 711 (10.5%) assessment units are categorized as Semi Critical, 206 (3%) assessment units are categorized as Critical and 751 (11.13 %) assessment units are categorized as Over Exploited.

The comparative Ground Water Resource Assessment for the country since 2017 is presented below:

S.No	Parameter	As per Ground Water (GW) Resource Assessment in				
		2024	2023	2022	2020	2017
1.	Annual GW Recharge	446.90 BCM	449.08 BCM	437.6 BCM	436.15 BCM	431.86 BCM
2.	Annual Extractable GW Resource	406.19 BCM	407.21 BCM	398.08 BCM	397.62 BCM	392.7 BCM
3.	Annual GW Extraction for all uses	245.64 BCM	241.34 BCM	239.16 BCM	244.92 BCM	248.69 BCM
4.	Stage of GW Extraction (SoE)	60.47%	59.26 %	60.08 %	61.6 %	63.33 %

The perusal of assessment from 2017 to 2024 indicates the following facts:-

- Total Annual Ground Water Recharge has increased (15 BCM) substantially and Extraction has declined (3 BCM) in 2024 from 2017 assessment.
- With respect to the year 2017, there is an increase of 11.36 BCM in recharge from Tanks, Ponds & Water Conservation Structures (WCS) (from 13.98 BCM in 2017 to 25.34 BCM in 2024).
- Percentage of Assessment Units under Safe Category have increased from 62.64% in 2017 to 73.39 % in 2024.
- Over Exploited Assessment units have declined from 17.24 % in 2017 to 11.13 % in 2024.

The decline in volume of groundwater in few regions of the country is driven by multiple factors, including over-extraction, deforestation, inefficient irrigation practices, and region-specific hydrogeological conditions. In the northwestern states, particularly in Punjab, Haryana, Delhi, and Uttar Pradesh, excessive groundwater withdrawal beyond the annual recharge capacity has contributed to significant depletion. In the western states of Rajasthan and Gujarat, the prevailing arid climate leads to low natural recharge, placing additional stress on groundwater resources. In peninsular India, groundwater decline is primarily linked to the limited storage and transmission capacities of hard rock aquifers, which restrict the availability of the resource.

Further, Central Water Commission (CWC) is monitoring live storage status of 155 reservoirs of the country and is issuing weekly bulletin on every Thursday. The total live storage capacity of 155 reservoirs is 180.85 BCM which is about 70.15% of the live storage capacity of 257.812 BCM which is estimated to have been created in the country. As per reservoir storage bulletin dated 20.03.2025, live storage available in these reservoirs is 80.70 BCM, which is 45% of total live storage capacity of these reservoirs (i.e. 180.85 BCM). Moreover, the live storage available in 155 reservoirs as per Bulletin dated 20.03.2025 is 118% of the live storage of corresponding period of last year and 115% of Normal storage (average of last 10 years storage).

(c) Groundwater is a replenishable resource that undergoes natural recharge annually through rainfall and other sources such as return flow from irrigation, canal seepage, and recharge from surface water bodies. Hence, it can be inferred that there shall be no shortage of groundwater across the country and further, no significant adverse impact on agricultural production is anticipated at the national level. The availability of groundwater, however, varies regionally due to diverse hydrogeological conditions, rainfall distribution, and extraction patterns.
