GOVERNMENT OF INDIA

MINISTRY OF JAL SHAKTI

DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT & GANGA REJUVENATION

LOK SABHA

UNSTARRED QUESTION NO. 4461

ANSWERED ON 27.03.2025

WATER SCARCITY IN KASHMIR DUE TO CLIMATE CHANGE

4461. SMT. JYOTSNA CHARANDAS MAHANT

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

(a) whether the Government is aware of the recent water crisis in Kashmir including the drying up of springs and streams and if so, the details thereof;

(b) the data on groundwater levels, glacial melt rates and average annual precipitation in Kashmir during the last five years and the current year along with the data on water availability, district-wise; and

(c) the specific measures taken/being taken by the Government to mitigate water scarcity in the region and to address the broader impacts of climate change on water resources?

ANSWER

THE MINISTER OF STATE FOR JAL SHAKTI

(SHRI RAJ BHUSHAN CHOUDHARY**)**

(a) As reported by the Government of Jammu & Kashmir, there is no widespread water crisis in Kashmir. However, some water sources, especially springs got depleted/dried up, which resulted in shortage of drinking water in few areas being fed from these sources. However, the Government has provided potable drinking water to all inhabitants through alternate means. Further, the J&K Government has informed that in recent days, precipitation has occurred, leading to the recharge of springs/nallah sources, thereby enhancing water availability. Central Ground Water Board (CGWB) monitors groundwater levels throughout the country on a regional scale including Kashmir, in every year during the months of March/April/May, August, November and January. In addition to monitoring dug wells and piezometers, CGWB also monitors six springs in the hilly areas of Kashmir. A comparison of the discharge rates of these springs between November 2023 and November 2024 is presented in **Annexure-I**. The data indicates a decline in spring discharge in Baramulla, Srinagar, and Kulgam districts. Conversely, in Ganderbal District, an improvement in discharge levels has been observed.

(b) The district-wise data on groundwater levels during the last five years and the current year in respect of Kashmir is presented in **Annexure-II**. As reported by the Government of Jammu & Kashmir, research on glacier melt rates is carried out by various organizations, including academic institutions such as the University of Kashmir. Satellite imagery from the Department of Environment and Remote Sensing indicates that several glaciers in the region are receding. The annual average precipitation data for the past five years, as provided by the India Meteorological Department (IMD), is enclosed as **Annexure-III**. Additionally, district-wise water availability figures, as recorded in the UT Spatial Atlas of Water (UTSAP

on Water), are enclosed as **Annexure-IV**. The district-wise details of ground water availability (annual extractable groundwater resources) in last 5 assessment years viz. Ground Water Resource Assessment (GWRA) 2020, 22, 2023 & 2024 in respect of Kashmir is provided in **Annexure-V**.

(c) Water being a State subject, the aspects related to water resources including its conservation are studied, planned, funded and executed by the State Governments themselves as per their own resources and priorities. As reported by the Government of Jammu & Kashmir, the Public Health Engineering (PHE) wing of the Jal Shakti Department, Jammu & Kashmir, conducts periodic reviews to ensure an adequate and uninterrupted water supply in terms of both quality and quantity. Proactive measures are taken in anticipation of seasonal changes, and necessary steps are implemented to prepare for winter and summer challenges. In cases of water shortages, raw water is diverted at sources and water supply schemes through the construction of stone and muthu bunds. Additionally, tanker services are deployed to affected areas, with 82 departmental tankers currently operational in the Kashmir region. More tankers have been mobilized to cater to vulnerable areas. To ensure effective response and coordination, control rooms have been set up at the district level with dedicated helpline facilities working in close collaboration with the district administration.

In the irrigation sector, nearly 98% of irrigated areas in Kashmir depend on surface water sources. The primary impact of low precipitation is observed in lift irrigation schemes, for which various measures have been adopted to maintain functionality during periods of low water levels. These include desilting and channelization of intake channels to facilitate water entry, installation of horizontal drought pumps at the lowest possible contour levels to maximize water collection, and extension of suction lines to improve water lifting capacity. Additionally, if required, drought pumps are installed on an emergency basis depending on the severity of the situation.

To address the long-term impacts of climate change on water resources, several initiatives have been launched under the Jal Shakti Abhiyan: Catch the Rain campaign. These include the rejuvenation and protection of springs through spring shed development, catchment area treatment to improve water retention, conservation and restoration of water bodies to enhance storage capacity, and promotion of rainwater harvesting to augment local water availability. These efforts are aimed at ensuring sustainable water management and enhancing resilience against climate-induced water challenges in the region.

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ANNEXURE-I

ANNEXURE REFERRED TO IN REPLY TO PART (a) OF UNSTARRED QUESTION NO. 4461 TO BE ANSWERED IN LOK SABHA ON 27.03.2025 REGARDING "WATER SCARCITY IN KASHMIR DUE TO CLIMATE CHANGE".

Comparison of the discharge rates of the springs in Kashmir between November 2023 and November 2024

S.No.	Location	District	Discharge Rate (LPM) during Nov. 2023	Discharge Rate (LPM) during Nov. 2024
1	Colony Bagh	Baramulla	120	30.36
2	Cheshmashahi	Srinagar	48	43.47
3	Gohbal	Ganderbal	600	720
4	TengporaGiraj	Ganderbal	1200	3600
5	Lar	Ganderbal	19.18	19.49
6	Parigam Bala	Kulgam	28.9	16.71

ANNEXURE-II

ANNEXURE REFERRED TO IN REPLY TO PART (b) OF UNSTARRED QUESTION NO. 4461 TO BE ANSWERED IN LOK SABHA ON 27.03.2025 REGARDING "WATER SCARCITY IN KASHMIR DUE TO CLIMATE CHANGE".

Table 1. Depth to Water Level Distribution of Percentage of Observation Wells - August 2021

S.No.	District	No. Of wells Analysed	Number of Wells Showing Depth to Water Level (mbgl) in the Range of									
			0–2		2–5		5–10		10–20		> 20	
			No.	%	No.	%	No.	%	No.	%	No.	%
1.	Anantnag	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2.	Baramulla	19	10	52.6	9	47.4	0	0.0	0	0.0	0	0.0
3.	Kupwara	24	2	8.3	18	75.0	3	12.5	1	4.2	0	0.0
4.	Ganderbal	1	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0
5.	Pulwama	3	1	33.3	0	0.0	1	33.3	1	33.3	0	0.0
6.	Srinagar	3	0	0.0	1	33.3	2	66.7	0	0.0	0	0.0
	Total	**50**	**13**	**26.0**	**28**	**56.0**	**7**	**14.0**	**2**	**4.0**	**0**	**0.0**

*Monitoring was not carried out for Year 2020. For 2021, water level monitoring data for August 2021 has been provided owing to unavailability of data for Nov., 2021.

Table 2. Depth to Water Level Distribution of Percentage of Observation Wells Post-Monsoon 2022

Sr. No.	District Name	No of wells analysed	No./Percentage of wells showing depth to water level (mbgl) in the range of											
			0 to 2		2 to 5		5 to 10		10 to 20		20 to 40		> 40	
			No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	Baramulla	16	7	43.8	8	50.0	1	6.3	0	0.0	0	0.0	0	0.0
2	Ganderbal	1	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0
3	Kupwara	32	12	37.5	17	53.1	2	6.3	0	0.0	0	0.0	1	3.1
4	Pulwama	2	1	50.0	0	0.0	0	0.0	1	50.0	0	0.0	0	0.0
5	Srinagar	3	0	0.0	1	33.3	2	66.7	0	0.0	0	0.0	0	0.0
Total		**54**	**20**	**37.0**	**26**	**48.1**	**5**	**9.3**	**2**	**3.7**	**0**	**0.0**	**1**	**1.9**

Table 3. Depth to Water Level Distribution of Percentage of Observation Wells Post-Monsoon 2023														
Sr. No.	District Name	No of wells analysed	No./Percentage of wells showing depth to water level (mbgl) in the range of											
			0 to 2		2 to 5		5 to 10		10 to 20		20 to 40		> 40	
			No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	Bandipora	4	0	0.0	4	100.0	0	0.0	0	0.0	0	0.0	0	0.0
2	Baramulla	22	6	27.3	15	68.2	1	4.5	0	0.0	0	0.0	0	0.0
3	Ganderbal	2	0	0.0	1	50.0	1	50.0	0	0.0	0	0.0	0	0.0
4	Kupwara	44	11	25.0	25	56.8	8	18.2	0	0.0	0	0.0	0	0.0
5	Pulwama	2	1	50.0	0	0.0	0	0.0	1	50.0	0	0.0	0	0.0
6	Srinagar	3	1	33.3	0	0.0	2	66.7	0	0.0	0	0.0	0	0.0
Total		**77**	**19**	**24.7**	**45**	**58.4**	**12**	**15.6**	**1**	**1.3**	**0**	**0.0**	**0**	**0.0**

Table 4. Depth of Water Level and Distribution of Percentage of Wells for the period of Postmonsoon-2024														
S.No.	District	No of well analysed	No./Percentage of wells showing depth to water level (mbgl) in range of											
			0 to 2		2 to 5		5 to 10		10 to 20		20 to 40		> 40	
			No	%	No	%	No	%	No	%	No	%	No	%
1	Bandipora	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0
2	Baramulla	19	3	15.8	14	73.7	2	10.5	0	0.0	0	0.0	0	0.0
3	Ganderbal	1	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0
4	Kupwara	37	11	29.7	19	51.4	7	18.9	0	0.0	0	0.0	0	0.0
5	Pulwama	2	1	50.0	0	0.0	0	0.0	1	50.0	0	0.0	0	0.0
Total		60	15	25.0	34	56.7	9	15.0	2	3.3	0	0.0	0	0.0

ANNEXURE-III

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Average Annual Rainfall for Kashmir Valley in last five years as per IMD

	2020			2021			2022			2023			2024		
	Actual	Normal	Departure	Actual	Normal	Departure	Actual	Normal	Departure	Actual	Normal	Departure	Actual	Normal	Departure
ANANTNAG	658.8	967.4	-32	749.5	967.4	-23	817.4	967.4	-16	943.2	967.4	-3	641.9	967.4	-34
BADGAM	446.5	717.1	-38	605.1	717.1	-16	665.2	717.1	-7	770.4	717.1	-34	654.5	717.1	-37
BANDIPORE	394.8	774.1	-49	525.2	774.1	-32	476.8	774.1	-38	613.2	774.1	-21	523.7	774.1	-32
BARAMULA	742.2	920.9	-19	976.2	920.9	6	916.0	920.9	-1	932.7	920.9	1	854.1	920.9	-7
GANDERBAL	997.5	914.4	9	1076.5	914.4	18	650.3	914.4	-29	844.6	914.4	-8	605.0	914.4	-34
KULGAM	967.6	1228.1	-21	1015.7	1228.1	-17	915.1	1228.1	-25	1095.6	1228.1	-11	771.6	1228.1	-37
KUPWARA	1150.4	1057.1	9	839.2	1057.1	-21	725.6	1057.1	-31	750.5	1057.1	-29	803.0	1057.1	-24
PULWAMA	396.9	578.7	-31	582.6	578.7	1	536.8	578.7	-7	583.6	578.7	1	463.1	578.7	-20
SHOPIAN	93.0	806.9	-88	355.0	806.9	-56	287.2	806.9	-64	526.2	806.9	-47	185.0	806.9	-77
SRINAGAR	659.8	815.7	-19	943.4	815.7	16	801.4	815.7	-2	784.5	815.7	-4	683.6	815.7	-16
Kashmir Division	650.8	878.0	-28.0	766.8	878.0	-12.4	679.2	878.0	-22.1	744.5	878.0	-15.4	598.6	878.0	-31.8

ANNEXURE-IV

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District wise and UT water balance

S.No.	Districts	Total Water Storage(in MCM	Total Water Demand in MCM	Water Balance, in MCM	Water Balance, in %
1.	Anantnag	19797.74	3161.2694	16636.474	84.03
2.	Badgam	9700.07	1204.8497	8495.223	87.58
3.	Bandipore	16765.27	790.0909	15975.179	95.29
4.	Baramulla	14070.24	1640.6541	12429.586	88.34
5.	Doda	16428.64	1027.4174	15401.221	93.75
6.	Ganderbal	11381.95	861.6488	10520.302	92.43
7.	Jammu	19024.76	3259.9525	15764.804	82.86
8.	Kathua	20086.88	2149.5665	17937.311	89.30
9.	Kishtwar	66167.14	603.9559	65563.186	99.09
10.	Kulgam	8393.56	251.5171	8142.038	97.00
11.	Kupwara	19252.41	2338.0238	16914.385	87.86
12.	Poonch	9037.72	1275.9619	7761.759	85.88
13.	Pulwama	7663.22	1288.3878	6374.827	83.19
14.	Rajouri	16838.14	1872.8412	14965.297	88.88
15.	Ramban	7792.46	849.3626	6943.093	89.10
16.	Reasi	16823.96	826.2856	15997.677	95.09
17.	Samba	8595.36	1016.9488	7578.410	88.17
18.	Shopian	6108.87	540.7966	5568.078	91.15
19.	Srinagar	10662.36	2510.7559	8151.601	76.45
20.	Udhampur	19988.46	1403.8687	18584.592	92.98
21.	UT-JK	324579.20	28874.1552	295705.0438	91.10

ANNEXURE-V

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District-wise data on ground water availability of Kashmir in last 5 assessment years

S. No.	District	Annual Extractable Ground Water Resource (Ham) 2020	Annual Extractable Ground Water Resource (Ham) 2022	Annual Extractable Ground Water Resource (Ham) 2023	Annual Extractable Ground Water Resource (Ham) 2024
1	Anantnag	19597.06	24866.7	24866.7	12550.67
2	Bandipora	3243.23	1177.37	1177.37	5839.38
3	Baramulla	51113.75	59583.81	57935.46	15441.85
4	Budgam	38062.45	28295.8	28295.8	4765.08
5	Ganderbal	2729.98	1009.45	1078.04	845.77
6	Kulgam	8440.71	12439.42	12439.42	6130.63
7	Kupwara	30587.46	33284.46	33284.46	5623.96
8	Pulwama	21462.88	25243.9	24779.16	6055.28
9	Shopian	13500.79	16266.62	16266.62	6646.22
10	Srinagar	12884.35	10968.87	10434.92	10986.71
	Total (Ham)	**201622.66**	**213136**	**210563**	**74885.55**

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