GOVERNMENT OF INDIA

MINISTRY OF JAL SHAKTI

DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT & GANGA REJUVENATION

RAJYA SABHA

UNSTARRED QUESTION NO. 124

ANSWERED ON 22.07.2024

DEPLETING WATER TABLE

124. SHRI RAGHAV CHADHA

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

(a) whether Government could provide data on the areas where the groundwater table has depleted to alarming levels in the last years in Punjab;

(b) the data on how the falling water table will affect the paddy cultivation and subsequently farmers in the Malwa region of Punjab;

(c) measures taken by Government to restore groundwater in Punjab which is depleting with an average of 51 cm every year; and

(d) if so, details of the ground-water restoration projects which are not operational or working below their capacity in the past five years in Punjab?

ANSWER

THE MINISTER OF STATE FOR JAL SHAKTI

(SHRI RAJBHUSHAN CHOUDHARY**)**

(a) CGWB monitors groundwater levels throughout the country including the state of Punjab, four times in every year during the months of April/May, August, November and January. In order to assess the long term fluctuation in ground water level in the State of Punjab, the water level data collected by CGWB in Punjab during November 2023 has been compared with the decadal mean of water levels for the month of November from 2013 to 2022. District-wise details of Decadal Water Level Fluctuation in respect of Punjab is presented in **Annexure-I**. Analysis of water level data indicates that about 34.66% of the wells monitored have registered rise in ground water levels.

(b) No such impact assessment study data is available regarding the effect of falling water table on paddy cultivation and farmers in the Malwa region of Punjab. However, the government of India as well as the state govt. of Punjab have initiated several steps through various schemes for reducing ground water stress in Punjab by creating awareness and promoting the adoption of water efficient agricultural practices by farmers like switching over to micro and drip irrigation, diversification to less water intensive crops, implementing Directly Seeded Rice(DSR) method, mulching etc.

(c) Water being a State subject, the efforts to effectively manage groundwater resources are primarily the mandate of State Government. The Central Government provides technical support and financial assistance through its various centrally sponsored schemes and projects. In this direction, the important

steps taken by the government of India to check ground water depletion in the State of Punjab are listed below:

National Aquifer Mapping Studies have been carried out in State of Punjab for an area of 50,369 Sq km. Based on NAQUIM studies, groundwater management plans have been prepared and reports have been shared with State and District Authorities for implementation. NAQUIM 2.0 studies are being carried out in priority areas of Ludhiana and Sangrur districts under poor quality and over-exploited area category respectively in Punjab to provide issue based scientific inputs for groundwater management.

Master Plan for Artificial Recharge to Groundwater- 2020 has been prepared by CGWB in consultation with States/UTs which is a macro level plan indicating various structures for the different terrain conditions of the country including estimated cost. In Punjab, Master plan envisages about 11 Lakh Rain water harvesting and artificial recharge structures to harness about 1200 Million Cubic Meter (MCM) of rain-water. The plan has been shared with the state Government which is devising suitable action plan for its implementation in priority areas.

Further, the Government is implementing Jal Shakti Abhiyan(JSA) in the country since 2019 in which special emphasis is being given for rainwater harvesting / groundwater recharge. Currently, JSA 2024 is being implemented in 10 water stressed districts of Punjab under which various ground water recharge and conservation related works are being taken up in convergence with various central and state schemes.

Department of Agriculture & Farmers Welfare is implementing Per Drop More Crop (PDMC) component of Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)which is operational from 2015-16 in the Country. The PMKSY-PDMC mainly focuses on water use efficiency at farm level through precision/micro irrigation. Besides promoting precision irrigation (Drip and Sprinkler Irrigation System) & better on-farm water management practices (to optimize the use of available water resources), this component also supports micro level water storage or, water conservation/management activities to supplement Micro Irrigation.

In addition to the above, the Government of India has taken several other significant initiatives for the improvement of groundwater situation in the country which can be seen through link below-
https://jalshakti-dowr.gov.in/document/steps-taken-by-the-central-government-to-control-water-depletion-and-promote-rain-water-harvesting-conservation/

The other important measures taken by the Government of Punjab for sustainable management of the ground water in the State is given at **Annexure -II.**

(d) Ground water rejuvenation projects are mainly taken up by various line departments of the state governments under central and state schemes and once completed the operation and maintenance of the structures also becomes the responsibility of the concerned state governments. As informed by the soil and water conservation department, water resources department and department of agriculture & farmers' welfare, government of Punjab, there are no ground water restoration projects which fall in the category of not operational or working below their capacity in the past 5 years in Punjab.

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ANNEXURE-I

ANNEXURE REFERRED TO IN REPLY TO PART (a) OF UNSTARRED QUESTION NO. 124 TO BE ANSWERED IN RAJYA SABHA ON 05.02.2024 REGARDING "DEPLETING WATER TABLE".

District-wise Decadal Water Level Fluctuation with Mean (Post-Monsoon 2013 to 2022) and Post-monsoon 2023 in respect of Punjab

S.N.	District	No wells	No./Percentage of wells showing depth to water level (mbgl) in the range of												Total No./ % of Well			
			Rise						Fall						Rise		Fall	
			0 to 2		2 to 4		> 4		0 to 2		2 to 4		> 4		No.	%	No.	%
			No.	%	No.	%	No.	%	No.	%	No.	%	No.	%				
1	Amritsar	6	0	0	1	16.7	0	0	4	66.7	1	16.7	0	0	1	16.67	5	83.33
2	Barnala	3	0	0	0	0	0	0	0	0	0	0	3	100	0	0.00	3	100.00
3	Bathinda	16	1	6.3	0	0	0	0	6	37.5	1	6.3	8	50	1	6.25	15	93.75
4	Faridkot	14	4	28.6	0	0	0	0	6	42.9	4	28.6	0	0	4	28.57	10	71.43
5	Fatehgarh Sahib	8	3	37.5	1	12.5	0	0	3	37.5	1	12.5	0	0	4	50.00	4	50.00
6	Fazilka	10	3	30	0	0	0	0	7	70	0	0	0	0	3	30.00	7	70.00
7	Firozpur	3	2	66.7	0	0	0	0	1	33.3	0	0	0	0	2	66.67	1	33.33
8	Gurdaspur	11	3	27.3	0	0	0	0	6	54.5	1	9.1	1	9.1	3	27.27	8	72.73
9	Hoshiarpur	18	11	61.1	1	5.6	1	5.6	3	16.7	2	11.1	0	0	13	72.22	5	27.78
10	Jalandhar	9	2	22.2	0	0	1	11.1	2	22.2	2	22.2	2	22.2	3	33.33	6	66.67
11	Kapurthala	6	2	33.3	0	0	0	0	3	50	0	0	1	16.7	2	33.33	4	66.67
12	Ludhiana	8	0	0	1	12.5	2	25	2	25	2	25	1	12.5	3	37.50	5	62.50
13	Mansa	3	0	0	0	0	0	0	1	33.3	1	33.3	1	33.3	0	0.00	3	100.00
14	Moga	5	0	0	0	0	0	0	1	20	2	40	2	40	0	0.00	5	100.00
15	Muktsar	8	2	25	0	0	0	0	6	75	0	0	0	0	2	25.00	6	75.00
16	Pathankot	11	4	36.4	0	0	0	0	6	54.5	0	0	1	9.1	4	36.36	7	63.64
17	Patiala	7	0	0	2	28.6	1	14.3	0	0	2	28.6	2	28.6	3	42.86	4	57.14
18	Rupnagar	7	5	71.4	1	14.3	0	0	1	14.3	0	0	0	0	6	85.71	1	14.29
19	Sangrur	5	0	0	0	0	0	0	0	0	0	0	5	100	0	0.00	5	100.00
20	SAS Nagar	6	3	50	1	16.7	0	0	2	33.3	0	0	0	0	4	66.67	2	33.33
21	SBS Nagar	4	0	0	0	0	1	25	2	50	1	25	0	0	1	25.00	3	75.00
22	TaranTaran	8	2	25	0	0	0	0	2	25	4	50	0	0	2	25.00	6	75.00
	Total	**176**	**47**	**26.7**	**8**	**4.5**	**6**	**3.4**	**64**	**36.4**	**24**	**13.6**	**27**	**15.3**	**61**	**34.66**	**115**	**65.34**

ANNEXURE-II

ANNEXURE REFERRED TO IN REPLY TO PART (c) OF UNSTARRED QUESTION NO. 124 TO BE ANSWERED IN RAJYA SABHA ON 05.02.2024 REGARDING "DEPLETING WATER TABLE".

Initiatives taken by Punjab for sustainable management of the ground water in the State

1. State Government has set-up a dedicated Directorate of Ground Water Management, with the prime objective of conserving and managing water resources.
2. Punjab Government has engaged M/s Mekorot, National Water Company of Israel to formulate the Water Conservation and Management Master Plan for the State of Punjab.
3. The Punjab Preservation of Sub-Soil Water Ordinance, 2008- The Ordinance provides for the prohibition of sowing nursery of paddy before 10th May and transplanting paddy as notified by State Government, i.e. before 15th June. The contravention of the provisions of the Ordinance invites penalty, in addition to the expenses incurred for destroying the nursery of paddy sown or transplanted before the specified or notified dates.
4. Diversification from Paddy to Maize under National Adaptation for climate change for 2019-20. Area under cotton has also been taken during 2019-20.
5. Encouragement of Resource Conservation Technology (RCT) like Laser Land Leveling, Zera Tilling, etc. is being done in farming communities. The state government provides subsidy to farmers for custom hiring of this machinery.
6. Medium/Short Duration Rice Cultivars are being promoted over long duration ones, to save water. Information regarding the same is being disseminated at district, block and village level camps. Further, these varieties are being popularized through demonstration plots.
7. Micro Irrigation: Farmers growing vegetables/horticulture crops and some regions in Kandi area which are not conductive to paddy cultivation are being tapped for 100% coverage of micro irrigation.
8. Use of Treated Water for Irrigation: Government of Punjab has implemented irrigation projects from Sewerage Treatment Plants of the State.
9. Roof Top Rain Water Harvesting has been made mandatory in all buildings above 200 Sq. Yards. by amending the buildings by-laws vide Notification dated 28.12.2005.
10. Punjab has constructed low dams to provide irrigation facilities under Bharat Nirman Program. These dams facilitate in augmenting the Ground Water Resources of the State & in arresting the declining ground water table.

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