

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

RAJYA SABHA
UNSTARRED QUESTION NO - 518
TO BE ANSWERED ON THE 26/07/2024

DEPENDANCE OF FARMERS ON GROUNDWATER

518. Dr. Fauzia Khan

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

- (a) whether it is a fact that there is significant dependence of farmers on groundwater for irrigation considering 70-80 per cent of farmers of irrigated lands rely on groundwater;
- (b) if so, the details thereof;
- (c) if not, the reasons therefor;
- (d) whether specific policies have been implemented to address over-exploitation of groundwater in agriculture, especially in regions where groundwater levels have been categorized as 'over-exploited' or 'critical';
- (e) if so, the details thereof;
- (f) if not, the reasons therefor;
- (g) whether steps are being undertaken to encourage crop diversification and adoption of less water-intensive crops and educate farmers on crop-rotation; and
- (h) if so, details thereof?

ANSWER

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

(a) to (c) The Central Ground Water Board (CGWB), Ministry of Jal Shakti (MoJS) and State Ground Water Departments are jointly carrying out assessment of Dynamic Ground Water Resources of the country since 2022. As per the assessment report for the year 2023, the Total Annual Ground Water Recharge is 449 Billion Cubic Meter (BCM) and the Annual Extractable Ground Water Resource is 407 BCM. The Total Annual Ground Water Extraction of the entire country for the year 2023 has been estimated as 241 BCM. The Agriculture sector is the largest consumer of groundwater resources, accounting for 87% of the total Annual Groundwater Extraction, which amounts to 209.74 BCM. As per Land Use Statistics at a Glance (2021-22), the Net Irrigated Area in the Country is 77.91 million ha out

of which the area irrigated through Groundwater Sources is 47.1 million ha which is about 60 % of the total Net Irrigated Area.

(d) to (h) The Ministry of Jal Shakti has notified Guidelines during year 2020 and amendments thereto for Regulation of Ground Water withdrawal by industrial, infrastructure and mining projects. As per these Guidelines, use of groundwater for agricultural activities is exempted from obtaining No Objection Certificate from the Central Ground Water Authority. However, the guidelines advise a participatory approach for sustainable Ground Water Management in 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. These guidelines have Pan-India Applicability. In the states where State Government is regulating groundwater, MoJS is pursuing with them to adopt/align their guidelines in conformity with these guidelines.

CGWB has taken up National Aquifer Mapping and Management Programme (NAQUIM) under the scheme of Ground Water Management and Regulation (GWMR). The Aquifer Mapping is aimed to delineate aquifer disposition and their characterization for preparation of aquifer/ area specific ground water management plans with community participation. The Aquifer mapping for the entire mappable area of the Country of about 25 lakh sq. km has been completed. Based on NAQUIM studies, groundwater management plans have been prepared wherein crop-diversification has been proposed as one of the demand side management measures for sustainable groundwater development. The management plans have been prepared and shared with the respective State governments for taking appropriate measures / implementation. Additionally, Public Interaction Programs (PIP) are being organized at the grassroots level including semi-critical, critical or over exploited blocks to disseminate the principles of the Aquifer Management Plans as part of the NAQUIM programme. Around 1439 public interaction programs were conducted across different parts of the country, raising awareness among stakeholders including farmers about various ground water management plans including crop-diversification.

Besides, Department of Agriculture & Farmers Welfare, Ministry of Agriculture & Farmers Welfare is also implementing Crop Diversification Programme (CDP) and Per Drop More Crop Scheme. The Crop Diversification Programme (CDP) is being implemented in original green revolution States viz. Punjab, Haryana and in Western Uttar Pradesh since

2013-14 to divert the area of water intensive paddy crop to alternative crops like oilseeds, pulses, coarse cereal, nutri cereals, cotton etc. Per Drop More Crop (PDMC) Scheme, being implemented across the country from the year 2015-16, focuses on enhancing water use efficiency at farm level through use of Micro Irrigation technologies, namely, Drip and Sprinkler Irrigation systems. The Scheme emphasises to promote micro irrigation in water intensive/consuming crops like sugarcane, banana, paddy etc to minimise water requirement. Not only this, under the Scheme emphasis is also given to promote micro irrigation in water scarce, water stressed and critical ground water blocks/districts. So far, an area of about 90 lakh hectare has been covered under Micro Irrigation in the Country through PDMC.

In order to ensure sustainable management of groundwater resources for agricultural purposes, Indian Council of Agriculture Research (ICAR) also suggests rainwater harvesting measures, groundwater recharge and conjunctive use of surface and groundwater resources besides use of micro-irrigation and resource conservation technologies. ICAR also suggests diversifying cropping pattern from water intensive crops to pulses, oilseeds, maize and agroforestry alongwith other agronomic practices like raised bed sowing, alternate furrow irrigation, mulching, Direct Seeded Rice (DSR) through seed drills and drum seeders, System of Rice Intensification (SRI), alternate wetting & drying method, laser land leveling, adoption of varieties for judicious use of water. The Council also imparts training on these aspects to educate farmers.
