GOVERNMENT OF INDIA

MINISTRY OF JAL SHAKTI

DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT & GANGA REJUVENATION

RAJYA SABHA

UNSTARRED QUESTION NO. 4142

ANSWERED ON 30.03.2026

AI-BASED WATER MANAGEMENT AND RAINWATER CONSERVATION

4142 SHRI I.S. INBADURAI:

Will the Minister of Jal Shakti be pleased to state:

(a) whether Government proposes to adopt Artificial Intelligence technologies for efficient management of drinking water supply systems across the country, including pilot projects in Tirunelveli and Thoothukudi in the State of Tamil Nadu, if so, the details thereof;

(b) whether Government has undertaken any initiatives to utilise AI-based monitoring systems for groundwater levels, rainfall patterns and drinking water distribution in droughtprone districts such as Tirunelveli and Thoothukudi, if so, the details thereof; and

(c) whether Government proposes to promote advanced rainwater harvesting technologies supported by AI and digital mapping to conserve rainwater and improve water availability in Tamil Nadu, if so, the details thereof?

ANSWER

THE MINISTER OF STATE FOR JAL SHAKTI

(SHRI RAJ BHUSHAN CHOUDHARY**)**

(a) to (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 as per their own resources and priorities. The Central Government supplements the measures and efforts being taken up by the State Governments.

The State Government of Tamil Nadu reported that:

i. Artificial Intelligence (AI) technology has not been utilized in drinking water supply systems

ii. A total of 239 observation wells (open wells) and piezometers (bore wells) 104 in Tirunelveli and Thoothukudi districts groundwater levels is monitored manually every month via Water Resources Department's Android app "WALDAS". Out of 104 Piezometers, 45 in Tirunelveli and 48 in Thoothukudi have been installed with Real Time Data Acquisition System (DWLR) under the National Hydrology Project. This system provides automated groundwater level monitoring four times a day at six-hour intervals. No AI-based monitoring

systems have been implemented for groundwater levels in Tirunelveli and Thoothukudi districts under the Water Resources Department.

iii. Rainwater harvesting is done by construction of recharge structure such as Check Dams, Anicuts, Regulators and Recharge Shafts. The above structures have been constructed based on time-tested methods.

Further, Central Ground Water Board (CGWB) utilizes digital mapping using GIS tools, analytical techniques, and data derived from remote sensing and satellite platforms for scientific assessment and monitoring of groundwater resources, including groundwater levels and related parameters. These tools are used to generate region-specific groundwater maps, management plans and recharge strategies.

Moreover, CGWB has adopted advanced digital technologies for efficient monitoring of the groundwater regime across the country. Under the Ground Water Management & Regulation (GWM&R) Scheme and the National Hydrology Project (NHP), Digital Water Level Recorders (DWLRs) with telemetry systems have been installed at several locations, including in Tamil Nadu enabling near real-time groundwater level monitoring. In Tirunelveli and Thoothukudi, CGWB has established 73 monitoring stations fitted with DWLRs and telemetry systems. The data received from these stations are used for monitoring, trend analysis and groundwater management. CGWB also uses digital tools such as GIS, remote sensing and data-based aquifer analysis for scientific planning of groundwater recharge and rainwater harvesting measures.

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