GOVERNMENT OF INDIA

MINISTRY OF JAL SHAKTI

DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT & GANGA REJUVENATION

LOK SABHA

UNSTARRED QUESTION NO. 803

ANSWERED ON 04.12.2025

ADOPTION OF DRIP IRRIGATION AND SPRINKLER SYSTEM

†803. Dr. SHIVAJI BANDAPPA KALGE:
SHRI BHUMARE SANDIPANRAO ASARAM:
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SHRI GYANESHWAR PATIL:
SHRI NILESH DNYANDEV LANKE:

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

(a) the manner in which the Government is promoting the efficient use of water in the agriculture sector including the adoption of drip irrigation and sprinkler systems;

(b) whether the Government is formulating any scheme to encourage farmers to cultivate crops requiring less water, if so, the details thereof, State/UT-wise including UT of Dadra and Nagar Haveli and State of Madhya Pradesh; and

(c) the manner in which the Government plans the modernization and maintenance of canals and other irrigation systems, State/UT-wise particularly in the State of Madhya Pradesh and UT of Dadra and Nagar Haveli?

ANSWER

THE MINISTER OF STATE FOR JAL SHAKTI

(SHRI RAJ BHUSHAN CHOUDHARY**)**

(a) & (b) The Cabinet has approved Modernization of Command Area Development and Water Management (M-CADWM) as a sub-scheme of Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) on 09.04.2025. The scheme aims for modernization of the irrigation water supply network to supply irrigation water from existing distributary canals or other water sources in a designated cluster. It is envisaged to facilitate the creation of backend infrastructure supporting micro-irrigation from established water sources up to the farm gate (up to about 1 Ha). The scheme envisages to enhance On Farm Water Use Efficiency (WUE) by providing pressurized pipe irrigation network and encouraging the farmers to adopt drip/ sprinkler systems for efficient use of water. The M-CADWM pilot implementation covers 23 States/UTs, as detailed at **Annexure-I**. The UT of Dadra & Nagar Haveli is not part of the pilot States/UTs.

To fulfil the requirements of one of the goals of National Water Mission (NWM) i.e. to increase water use efficiency by 20%, Bureau of Water Use Efficiency (BWUE) has been set up for efficient use of water in irrigation, industrial and domestic sectors.

The following actions were taken by BWUE to promote and create awareness among farmers regarding drip irrigation and sprinkler systems:

i. Sahi Fasal: The National Water Mission launched the “Sahi Fasal” campaign in 2019. Under this initiative, the BWUE, in collaboration with the Atal Bhujal Yojana and the Small Farmers’ Agribusiness Consortium (SFAC), planned 14 campaigns across 7 states during the financial year 2024–25, all of which have been completed. The campaign aims to encourage farmers in water-stressed areas to adopt less water-intensive and more water-efficient crops, and to raise awareness about micro-irrigation techniques for improved water management.

ii. Baseline Studies: To evaluate the WUE of major and medium irrigation projects, the NWM has completed 17 baseline studies through three premier institutions: the Water and Land Management Training and Research Institute (WALAMTARI), Hyderabad; the Water and Land Management Institute (WALMI), Aurangabad; and the Centre for Water Resources Development and Management (CWRDM), Kozhikode.

iii. Regional Conference of WUE in Irrigation Sector: The 1st Regional Conference on *"Water Use Efficiency (WUE) in the Irrigation Sector"* was organized on 22.11.2025 at Chaudhary Charan Singh National Institute of Agricultural Marketing (CCS NIAM), Jaipur, Rajasthan. The Conference focused on enhancing water efficiency and promoting best practices in water use across all sectors, with a special emphasis on the irrigation sector. Approximately 150 participants along with officials from the Water Resources and Agriculture Departments of six states (Rajasthan, Punjab, Haryana, Himachal Pradesh, Uttarakhand, and Karnataka) and two UTs (Leh, and Jammu & Kashmir), and farmers, participated in the event.

Department of Agriculture & Farmers Welfare (DA&FW) is implementing Centrally Sponsored Scheme of Per Drop More Crop (PDMC) in the Country from 2015-16. PDMC focuses on enhancing WUE at farm level through Micro Irrigation namely Drip and Sprinkler Irrigation Systems. From the year 2015-16 to 2021-22, the PDMC was implemented as a component of Pradhan Mantri Krishi Sinchayee Yojana (PMKSY). From the year 2022-23, the PDMC is being implemented under the Rashtriya Krishi Vikas Yojana (RKVY). Under the PDMC, the Government provides financial assistance @ 55% for small and marginal farmers and @ 45% for other farmers for installation of Drip and Sprinkler systems. Besides State Government also provide Top-up subsidy to farmers from their State Budget. The assistance for installation of Micro Irrigation systems is limited to 5 hectares per beneficiary.

Further, to encourage micro irrigation for enhancing WUE in agriculture, the Government created a Micro Irrigation Fund (MIF) with initial corpus of Rs. 5000 crore with NABARD in 2018-19. The main objective of MIF is to facilitate States in mobilizing the resources for top up/additional incentives to farmers for micro irrigation over and above the assistance available under PDMC Scheme.

The MoA&FW provides interest subvention@2% on the loan availed by the States. The interest subvention is being made available from the budget allocation of PM-RKVY-PDMC. Union Cabinet in its meeting dated 03.10.2024 has approved to double the corpus to Rs.10000 crores.

The Central Ground Water Board (CGWB) under Ground Water Management & Regulation (GWM&R) Scheme, has taken up National Aquifer Mapping and Management Programme (NAQUIM). 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 including UT of Dadra and Nagar Haveli and State of Madhya Pradesh. Based on NAQUIM studies, groundwater management plans have been prepared wherein crop-diversification, promotion and adoption of WUE & conservation practices *viz.* drip/sprinkler has been proposed as one of the demand side management measures for sustainable groundwater development.

The Indian Council of Agricultural Research (ICAR) suggests judicious use of water through efficient irrigation techniques including micro-irrigation for various crops to save irrigation water substantially. As per ICAR, the water use efficiency of micro irrigation including drip irrigation is as high as 80-95% in comparison to only 30-50% in conventional flood irrigation. Farmers are given advisories for adoption of modern agronomic practices like raised bed sowing, alternate furrow irrigation, sprinkler irrigation, drip irrigation, mulching, Direct Seeding of Rice (DSR) through seed drills and drum seeders, alternate wetting & drying method, laser land leveling, adoption of varieties which require less water etc. In order to promote drip and sprinkler irrigation and use of water-soluble fertilizers through drip irrigation (fertigation), ICAR imparts training, organizes field demonstrations to educate farmers in this regard.

The Central Agricultural Universities (CAUs) under Department Agricultural Research and Education (DARE) are actively contributing to the promotion of efficient water use in the agriculture sector, particularly through the adoption of drip and sprinkler irrigation systems. CAUs are also undertaking several research, demonstration, and extension activities through programmes/projects such as: (i) All India Coordinated Research Project (AICRP) on Irrigation Water Management (IWM) (ii) Precision Farming Development Centre (PFDC) (iii) Climate Resilient Agriculture Programme (iv) National Innovations in Climate Resilient Agriculture (NICRA) Project (v) Krishi Vigyan Kendra (KVKs).

Further, the efficient use of water resources has been strongly emphasized in the National Water Policy (2012).

Department of Agriculture & Farmers Welfare (DoA&FW) is implementing Crop Diversification Programme (CDP) under Pradhan Mantri Rashtriya Krishi Vikas Yojana (PM-RKVY) in Original Green Revolution States namely Haryana, Punjab and western Uttar Pradesh to divert the area of water guzzling paddy to alternative crops viz; pulses, oilseed, coarse cereals, nutri cereals (Shree Anna), cotton and Agroforestry. Under CDP, the assistance is being provided to farmers through State

Governments for four major components viz., alternate crop demonstrations, farm mechanization & value addition, site-specific activities & contingency for awareness, training etc. Under Site Specific activities, the assistance is being provided on water application tools.

Public Interaction Programs (PIP) are being organized at the grassroots level to disseminate the principles of the Aquifer Management Plans as part of the NAQUIM Programme. Around 1550 public interaction programs have been conducted across different parts of the country including UT of Dadra and Nagar Haveli and State of Madhya Pradesh, raising awareness among stakeholders including farmers about various ground water management plans including crop-diversification promoting efficient use of water in agriculture sector.

ICAR suggests diversifying cropping pattern from water intensive crops to pulses, oilseeds, maize and agro-forestry. Further, the Central Agriculture Universities are promoting cultivation of less water-consuming crops by encouraging farmers to shift towards millets, pulses, and oilseeds, which are climate-resilient and require significantly lower water compared to traditional water-intensive cereals. The Krishi Vigyan Kendras (KVKs) under the CAUs are conducting Frontline Demonstrations (FLDs) and training on pulses, oilseeds, and millets to popularize these crops, enhance productivity, and support diversification towards sustainable, low-water-use agriculture.

(c) Water Resources Projects are planned, funded, executed and maintained by the State Governments themselves as per their own resources and priority. Further, in order to supplement their efforts, Government of India provides technical and financial assistance to State Governments to encourage sustainable development and efficient management of water resources through various schemes/programmes such as PMKSY, National Projects, Special Package, etc. The ERM (Extension, Renovation and Modernization) Projects which include modernization and maintenance of canals are also funded under PMKSY - Accelerated Irrigation Benefits Programme (AIBP).

The technological interventions and innovative measures such as Underground Pipeline (UGPL) networks, piped distribution networks (PDN), SCADA based water distribution, GIS/ Satellite-based monitoring, Management Information Systems (MIS), micro irrigation etc. are being promoted under PMKSY to reduce conveyance losses, improve *per-drop* water productivity and enable micro-irrigation up to farm-gate. Underground Pipelines (UGPL) has been extensively used under PMKSY. The state-wise details of UGPL in distribution networks are at **Annexure-II**.

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ANNEXURE-I

ANNEXURE REFERRED TO IN REPLY TO PART (a) & (b) OF UNSTARRED QUESTION NO. 803 TO BE ANSWERED IN LOK SABHA ON 04.12.2025 REGARDING "ADOPTION OF DRIP IRRIGATION AND SPRINKLER SYSTEM".

Details of Pilot Projects/Clusters under M-CADWM Scheme

SN	State / UT	Cluster Name	Cluster CCA (Ha) (approx.)
1.	Andhra Pradesh	Peddagedda Project WUA -3,4,5,6 Clusters	3,061
2.	Arunachal Pradesh	Dekam Rikmeng (Ledum Village)	978
3.	Assam	Singua FIS	1200
4.	Bihar	Mahmadpur Badal (480)	2,450
5.	Bihar	Bangra- Kishunpur	2,195
6.	Chhattisgarh	Bagiya	4831
7.	Goa	Sal, Vadaval, Mencurem /Advalpal	1,563
8.	Gujarat	Mandvi-Mangrol Taluka Villages	6,069
9.	Gujarat	Pinchhavi	523
10.	Haryana	Panihar-Choudhariwas	4,950
11.	Himachal Pradesh	Haroli Block,District Una	4889
12.	Karnataka	Distributary 54 9R of Tungabhadra Left Bank Canal	2,600
13.	Karnataka	Hattikuni	2,145
14.	Madhya Pradesh	Gudariya	2,320
15.	Madhya Pradesh	Netangaon	2,387
16.	Madhya Pradesh	Bahuti PH2	3160
17.	Maharashtra	Asoda Bhadali Branch canal of Waghur LBC	4996
18.	Manipur	Pengjang	500
19.	Meghalaya	Lyngkhoi FIP	170
20.	Mizoram	Champhai Sub-Valley MCAD Cluster, Champhai	320
21.	Nagaland	Mongleu Jalukie	200
22.	Odisha	MCAD Cluster-V	3,180
23.	Punjab	SBS Nagar	856
24.	Punjab	Ludhiana, Malerkotla, Fatehgarh Sahib	1500
25.	Rajasthan	Right Main Canal (RMC) of Bisalpur Project	5,000
26.	Tamil Nadu	Palladam Extension canal	4,989
27.	Tripura	Brahmacherra	135
28.	Uttar Pradesh	Bansgaon	224
29.	Uttar Pradesh	Bargadwa	149
30.	Uttar Pradesh	Jangal Gauri-I	152
31.	Uttar Pradesh	Malaon & Majhagavan	550
32.	Uttar Pradesh	Prajapatipur	284
33.	Uttar Pradesh	Rajdhani	790
34.	J&K	Patyari	400
Total			**69,715**

ANNEXURE-II

ANNEXURE REFERRED TO IN REPLY TO PART (c) OF UNSTARRED QUESTION NO. 803 TO BE ANSWERED IN LOK SABHA ON 04.12.2025 REGARDING "ADOPTION OF DRIP IRRIGATION AND SPRINKLER SYSTEM".

Details of UGPL in distribution networks

Sl. No.	State	UGPL in distribution system (in Km approx.)
1	Assam	64.29
2	Goa	34.49
3	Gujarat	35939.80
4	Himachal Pradesh	562.000
5	Jharkhand	1901.70
6	Madhya Pradesh	222.72
7	Maharashtra	9209.00
8	Manipur	75.87
9	Odisha	1133.14
10	Punjab	1443.72
11	Rajasthan	18594.12
Total		**69180.85**

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