

GOVERNMENT OF INDIA
MINISTRY OF JAL SHAKTI
DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT & GANGA REJUVENATION
LOK SABHA

UNSTARRED QUESTION NO. 753

ANSWERED ON 23.07.2026

OUTCOME ASSESSMENT OF SCADA-IOT BASED IRRIGATION SYSTEMS

753. Shri DUSHYANT SINGH:

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

- (a) whether the Government has initiated any outcome-based evaluation framework for SCADA-IoT based irrigation systems under the Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) and the Modernisation of Command Area Development and Water Management (MCADWM) Scheme to assess improvements in water use efficiency, energy savings, irrigation reliability and crop productivity, particularly across the thirty-two sanctioned clusters and if so, the details thereof;
- (b) whether any baseline performance indicators have been prescribed for States to measure water savings, reduction in transmission losses and improvement in command area coverage and if so, the details thereof;
- (c) the steps being taken to develop replicable national models and best practice benchmarks across different agro-climatic zones as envisaged by the Government for scaling technology-enabled irrigation modernisation; and
- (d) whether the findings from the pilot clusters including the Bisalpur Right Main Canal cluster in Rajasthan are proposed to be used for a broader national irrigation modernisation roadmap and if so, the details thereof?

ANSWER

THE MINISTER OF STATE FOR JAL SHAKTI

(SHRI RAJ BHUSHAN CHOUDHARY)

(a) Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) was launched during the year 2015-16, with an aim to enhance physical access of water on farm and expand cultivable area under assured irrigation, improve on-farm water use efficiency, introduce sustainable water conservation practices, etc. Technological innovations such as underground pipelines, micro-irrigation, SCADA based monitoring etc. are promoted under Pradhan Mantri Krishi Sinchayee Yojana- Accelerated Irrigation Benefits Programme (PMKSY-AIBP). States are encouraged to adopt such interventions for enhanced water use efficiency. The list of some of the important projects under PMKSY-AIBP with SCADA as a component is at **Annexure - I**.

Further, the Cabinet approved the Modernization of Command Area Development and Water Management (M-CADWM) as a sub-scheme of PMKSY on 09.04.2025 for the period 2025-2026 to be implemented on pilot projects basis. The Scheme envisages monitoring of water use efficiency, water accounting and other performance parameters using SCADA, Internet of Things (IoT) and satellite-based technologies across the 38 sanctioned pilot clusters. Total 38 nos. of such projects spreading over in 28 States/UTs have been sanctioned (**Annexure-II**).

Water being State subject, it is for the State Government concerned to plan, implement and manage the irrigation projects, and to prepare action plan to make irrigation system more extensive in the State. The role of Government of India is limited to providing technical support, and partial financial assistance for identified projects under the ongoing schemes.

(b) The Modernization of Command Area Development and Water Management (M-CADWM) scheme provides for baseline indicators which include, cropping intensity, water use efficiency, water productivity, farmers' participation, adoption of micro-irrigation and energy efficiency etc. During the Operation and Management phase, water use efficiency, water accounting and other performance parameters are monitored through SCADA, IoT and satellite-based systems.

(c) The M-CADWM Scheme envisages implementation of pilot projects across different agro-climatic zones in the country incorporating institutional, technical and management reforms and strategies in the command area development and water management. Based on the learnings in design and structuring of these projects, National Programme for Modernisation of Command Area Development and Water Management will be designed. In this regard, total 38 nos. of such projects in 28 States/UTs has been sanctioned for implementation **(Annexure-II)**.

(d) Yes, based on the learnings in design and structuring of the 38 pilot clusters, including the Bisalpur Right Main Canal cluster in Rajasthan under M-CADWM scheme, the National Programme for Modernisation of Command Area Development and Water Management will be designed.

ANNEXURE-I

ANNEXURE REFERRED TO IN REPLY TO PART (a) OF UNSTARRED QUESTION NO. 753 TO BE ANSWERED IN LOK SABHA ON 23.07.2026 REGARDING “OUTCOME ASSESSMENT OF SCADA-IOT BASED IRRIGATION SYSTEMS”.

Some of the important projects under PMKSY-AIBP with SCADA as a component

Sl. No.	State	Name of the Project	Status of the project
1.	Karnataka	ERM of Narayanpur Left Bank Canal	Completed
2.	Maharashtra	Lower Wardha Project	Completed
3.	Maharashtra	Bembla River Project	Completed
4.	Maharashtra	Dongargaon Project	Completed
5.	Madhya Pradesh	Indira Sagar Canal Project Phase-V (Khargaon Lift)	Completed
6.	Telangana	J. Chokka Rao Devadula Lift Irrigation Scheme	Ongoing
7.	Maharashtra	Bodwad Parisar Sinchan Yojna Stage-I	Ongoing
8.	Jharkhand	Subernrekha Multipurpose Project	Ongoing
9.	Maharashtra	Gosikhurd Project	Ongoing

ANNEXURE REFERRED TO IN REPLY TO PART (a) & (c) OF UNSTARRED QUESTION NO. 753 TO BE ANSWERED IN LOK SABHA ON 23.07.2026 REGARDING “OUTCOME ASSESSMENT OF SCADA-IOT BASED IRRIGATION SYSTEMS”.

List of Clusters included under M-CADWM

SN	State / UT	Cluster Name	Likely CCA (in Ha)	Likely Total Cost (Rs. In Cr.) (approx.)	Likely CA (Rs. in Cr.) (approx.)
1	Andhra Pradesh	Peddagedda Project WUA -3,4,5,6 Clusters	3061	60.76	36.46
2	Arunachal Pradesh	Dekam Rikmeng (Ledum Village)	978	19.41	17.47
3	Assam	Singua FIS	1200	23.82	21.44
4	Bihar	Mahmadpur Badal(480)	2450	48.6325	29.18
5	Bihar	Bangra- Kishunpur	2,195	43.57	26.14
6	Chhattisgarh	Bagiya	4831	95.90	57.54
7	Goa	Sal, Vadaval, Mencurem /Advalpal	1,563	31.03	18.62
8	Gujarat	Mandvi-Mangrol Taluka Villages	6,069	120.46	72.28
9	Gujarat	Pinchhavi	523	10.38	6.23
10	Haryana	Panihar-Choudhariwas	4,950	98.26	58.95
11	Himachal Pradesh	Haroli Block, District Una	4889	97.05	87.34
12	Karnataka	Distributary 54 9R of Tungabhadra Left Bank Canal	2,600	51.61	30.97
13	Karnataka	Hattikuni	2,145	42.58	25.55
14	Madhya Pradesh	Gudariya	2,320	46.05	27.63
15	Madhya Pradesh	Netangaon	2,387	47.38	28.43
16	Madhya Pradesh	Bahuti PH2	3160	62.73	37.64
17	Maharashtra	Asoda Bhadali Branch canal of Waghur LBC	4996	99.17	59.50
18	Manipur	Pengjang	500	9.93	8.93
19	Meghalaya	Lyngkhohi FIP	170	3.37	3.04
20	Mizoram	Champhai Sub-Valley MCAD Cluster, Champhai	320	6.35	5.72
21	Nagaland	Mongleu Jalukie	200	3.97	3.57
22	Odisha	MCAD Cluster-V	3,180	63.12	37.87
23	Punjab	SBS Nagar	856	16.99	10.19
24	Punjab	Ludhiana, Malerkotla, Fatehgarh Sahib	1500	29.78	17.87
25	Rajasthan	Right Main Canal (RMC) of Bisalpur Project	5,000	99.25	59.55
26	Tamil Nadu	Palladam Extension canal	4,989	99.03	59.42
27	Tripura	Brahmacherra	135	2.68	2.41
28	Uttar Pradesh	Bargadwa	149	2.96	1.77
29	Uttar Pradesh	Malaon & Majhagavan	550	10.92	6.55
30	Uttar Pradesh	Prajapatipur	284	5.64	3.38
31	Uttar Pradesh	Rajdhani	790	15.68	9.41
32	J&K	Patyari	400	7.94	7.15
Newly included clusters					
33	Jharkhand	Gamharia Cluster	1300	12.74	7.64
34	Sikkim	Soreng District Clusters	2573	77.19	69.47
35	Ladakh	Stakna Cluster	59	4.34	4.34
36	Ladakh	Kaksar Cluster	60	4.41	4.41
37	Telangana	Jakora-Chandur-Chinthakunta Command Area	3220	64.12	38.47
38	Keralam	Palathully-Olassery-Mavukkad Cluster	554	11	6.60
