MODERNISATION OF COMMAND AREA DEVELOPMENT WORKS

Ver 11625

MCAD SCHEME OPERATIONAL

GUIDELINES 2025

Government of India
Ministry of Jal Shakti
Department of Water Resources, River Development & Ganga Rejuvenation
CADWM Wing
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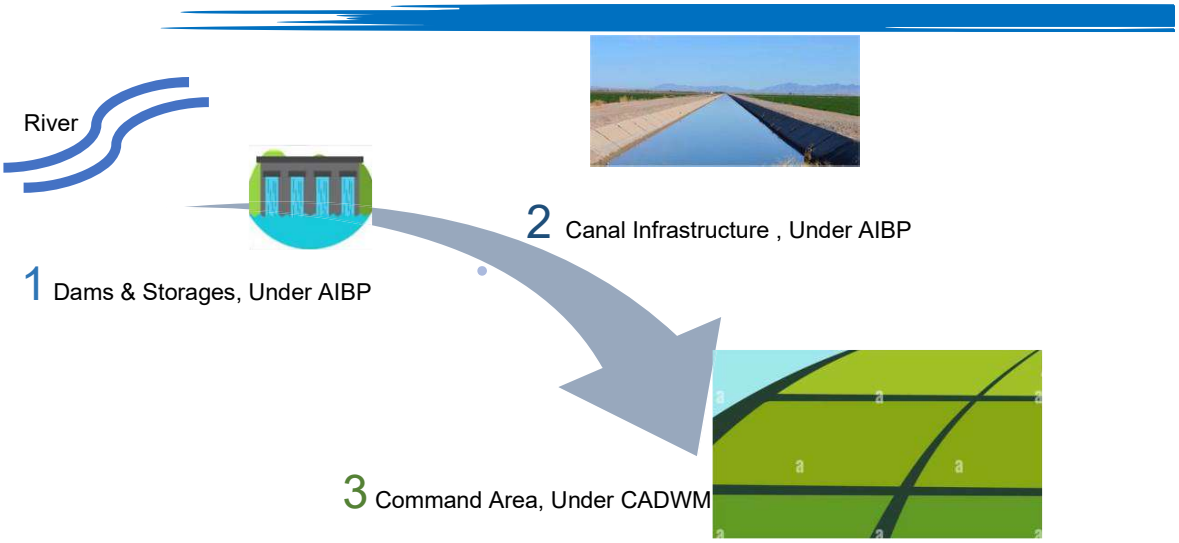
CONTENTS

ABBREVIATIONS AND ACRONYMS

AIBP	Accelerated Irrigation Benefit Program
BC	Benefit-Cost
CA	Central Assistance
CAD	Command Area Development
CCA	Cultivable Command Area
CGWB	Central Ground Water Board
CSS	Centrally Sponsored Scheme
CWC	Central Water commission
CPMU/NPMU	Central / National Project Management Unit
DDG	Detailed Demand for Grants
DoWR, RD&GR	Department of Water Resources, River Development and Ganga Rejuvenation
DMC	District MCAD committee
DPMU	District Project Management Unit
DDR	Detailed Design Report
EOI/RFP	Expression of Interest/ Request for Proposal
FPO	Farmer Producer Organization
FPC	Farmer Producer Company
GoI	Government of India
HKKP	Har Khet Ko Pani
Ha/ha	Hectares
IaaS	Irrigation as a Service
IoT	Internet of Things
ISP	Irrigation Service Provider
MCAD	Modernisation of Command Area Development and Water Management
MI	Micro Irrigation
MMI	Major & Medium Irrigation Project
MoF	Ministry of Finance
MoJS	Ministry of Jal Shakti
MOU	Memorandum of Understanding
NITI	National Institution for Transforming India
OMS	Outlet Management System
PFMS	Public Financial Management System
PACS	Primary Agriculture Co-operative Society
PIA	Project Implementation Authority
RKVY/PDMC	Rashtriya Krishi Vikas Yojna/ Per Drop More Crop
PMKSY	Pradhan Mantri Krishi Sinchayee Yojana
PMU	Project Management Unit
PPIC/PPIN	Pressurized Piped Irrigation Command/ Network
RRR	Repair, Renovation and Restoration
SLA	Service-Level Agreements
SMI	Surface Minor Irrigation
SNA	Single Nodal Agency (under Public Financial Management System)
SoP	Standard Operating Procedures
SPMU	State Project Management Unit
UC	Utilization certificate
VMS	Village Management System
WUA	Water User Association (generally used for an association at Outlet Level)
WUS	Water User Society (an association at a cluster level)

A. Command Area Development & Water Management (CADWM)

The Command Area Development (CAD) deals with the productive and efficient distribution of water from the canal or from other source till the farm gate. The Water Management (WM) in the irrigation commands focusses on efficiency and increase in agriculture productivity.



Individual farm Level is covered under Ministry of Agriculture & Farmers Welfare

CADWM program focusses on efficient water service delivery till the farm gate. CADWM Programs delivers long-term and intangible benefits. It works with more collaborative and integrated approach with the Water User Societies and engages internal as well as external stakeholders in command areas. The CADWM also works in partnerships with the rural development and agriculture development programs to secure the best results for overall development of the irrigated areas.

B. Background about CADWM Program

1. During the post-independence era, a large number of irrigation projects were constructed for increasing the agricultural production in the country. However, during early seventies an analysis of irrigation potential created and that actually being utilized by the farmers revealed that there was a substantial gap between them. The Irrigation Commission made specific recommendations in its report in 1972 that systematic development of commands of irrigation projects should be taken up in order to fully utilize the irrigation potential created. Subsequently,

a Committee of Ministers set up by the Ministry of Irrigation and Power analyzed the issue and suggested in 1973 that a broad-based Area Development Authority should be set up for every major irrigation project to undertake the work of comprehensive area development. Based on this recommendation, the Government of India initiated a Centrally Sponsored Command Area Development Programme (CADP) in December 1974 to improve the irrigation potential utilization and optimize the agricultural production and productivity through integrated and coordinated approach of efficient water management.

2. A review of the CAD Programme implementation during the VIII and IX Five Year Plan periods revealed that the micro level distribution network for supply of water to individual holdings had been created in about 16 million ha and rotational supply of irrigation water had been enforced in about 11 million ha. This gap was attributed to a number of constraints such as unreliability of water supply at the outlet due to the deficiencies in the irrigation system above the outlet. The other factors were identified as absence of link and intermediate drains to let out surplus water into main drains, non-inclusion of minor irrigation projects from non-hilly areas, low priority by the State Governments to extension and training activities, non-revision of cost norms for various activities since VIII Plan etc. In view of these constraints, the program was restructured for the remaining period of X Plan (2004-07) and renamed as 'Command Area Development and Water Management Program (CADWM Program)' to make it more comprehensive and beneficial to farmers. The programme was brought under PMKSY and linked with the new scheme of prioritized Accelerated Irrigation Benefit program (AIBP) in July 2016. CADWM works thus got restricted from 245 projects to only 85 prioritized AIBP projects from 2016-17 onwards. The continuation of PMKSY-CADWM was approved up to 2026 again only for the ongoing AIBP projects on pari-passu mode. However, as the requisite progress in pari pasu mode for combining AIBP-CADWM could not yield desirable results in the field, the Modernisation of CADWM (MCAD) program is being launched by the Government of India in April 2025. The focus of MCAD to bring most efficient water delivery infrastructure and its sustainable management to any deserving command area in the country.
3. To understand the importance of the CADWM program on rural upliftment, the Programme Evaluation Organization (PEO), now the Development Monitoring and Evaluation Office (DMEO), of the erstwhile Planning Commission (now NITI Aayog), conducted an evaluation study in 2015 on the Command Area Development and Water Management Programme (CADWM) on the behest of the implementing ministry, i.e. the Ministry of Water Resources, River Development & Ganga Rejuvenation, Government of India. The study found that 97.63% of the farming households were benefitted from CADWM program. Out of them 25.51% were benefitted due to the improvement in irrigation facilities, 24.06% were benefitted due to the

receipt of sufficient water supply for farming / cultivation, 23.73% were benefitted due to increase in the number / variety of crops being grown in their fields / farms, 23.39% benefitted due to increase in the agricultural production or productivity, while remaining benefitted due to the increase in their annual income.

4. The major shortcoming of the traditional Command Area Development and Water Management is that it is based on gravity and open field channels. This poses numerous challenges like: reluctance of the farmers to spare their land for field channels, water not reaching tail ends due to unauthorized withdrawals, not able to serve uplands and undulating lands and inadequate O&M of the channels. This situation has led to overexploiting ground water even in the areas where irrigation systems have been provided. Further, as surface water through gravity flow is difficult to be used for micro irrigation without additional interventions, this has resulted in use of micro irrigation (drip / sprinklers) by the farmer only on ground water.
5. The other shortcomings of the traditional CADWM works has been low water use efficiency (WUE) of field channels impacted by percolation, evaporation and seepage losses. Lack of volumetric water usage data in traditional CADWM, makes it difficult to recover water charges. Also, traditional CADWM is not based on integration of the water sources and lacks conjunctive use of water, water conservation and water harvesting for managing variable demands effectively. Traditional field channels are difficult to maintain through government agency and through water user associations have had very limited success. There has been also a limited success in transferring Irrigation Management to the farmers' associations.

C. Modernisation of Command Area Development (MCAD) Program

1. Based on the consultations with the central Ministries, State Governments, Private Sector and other Stakeholders and successful practices adopted at national and international level, three major reforms have been incorporated into MCAD scheme:
    a. **Infrastructure Modernisation**: Development of the Water use efficient pressurized piped water supply from canal to the farm to achieve an overall increase of on farm water use efficiency up to 75% (assuming 30% drip and 70% sprinkler use at the farm level). This will increase the overall average project efficiency to 50% from the present average of 35%.
    b. **Water Accounting Modernisation**: Measuring water usage volumetrically, conducting water audits, and leveraging satellite technologies for effective water management.

c. **Management Modernisation**: Dividing the command area into manageable clusters, integration of the water resources within the cluster, encouraging farmers to form the Water User Society (WUS) in the cluster, transfer of irrigation management to Water User Society (WUS), integration with micro irrigation scheme and construction contractor to provide irrigation as a service for a long-term service contract.

2. Modernisation of Command Area Development and Water Management (MCAD) scheme aligns with broader government policies for sustainable development and initiatives aimed at improving water use efficiency, enhancing agricultural productivity, ensuring food security, promoting sustainable water management practices and rural development. It aims to free agriculture water for other usages of the society. The community led sustainable irrigation system management is the key goal for long asset life.
3. The MCAD Scheme envisages development of suitable models for different agro-climatic zones, integrating various sources of water, with different levels of water availability, covering both areas of assured irrigation and protected irrigation. These models will serve as a foundation for formulating a national plan to modernize water management in rural areas, with a particular focus on improving irrigation services through integrated, efficient and sustainable water management. This will contribute to rural livelihoods and poverty reduction in rural areas by enhancing the productivity of labour and land, leading to higher incomes, higher wages, and lower food prices. Improvements in agricultural productivity stimulate aggregate economic growth, which can be helpful in reducing poverty and hunger. MCAD will promote investments in water, which are essential to achieve food security and rural employment, playing a critical role in promoting socio-economic development in rural areas.
4. As part of MCAD, Phase I proposes the implementation of pilot cluster based MCAD projects across various agro-climatic zones in the country. The clusters to be selected are open and are not tied up with AIBP or any other Scheme. These projects will integrate institutional, technical, and managerial reforms in the command areas. The learnings of the Phase I will be incorporated into a National Program during the 16th Finance Commission Cycle.
5. The Scheme has been appraised and recommended by the Cabinet for a total outlay of ₹ 1600 Crore for the period ending March 2026. The Ministry of Finance has recommended central outlay of ₹ 1100 Crore including ₹ 100 Crore of Central Component as Administrative & Other Expenses (A&OE). States will contribute ₹ 500 Cr. The projects will be sanctioned and executed during financial year 2025-26. The funding pattern for scheme shall be as indicated in this guideline.

D. Key action points in MCAD

1. **Focus on "ON Farm Water Use Efficiency"**: On-farm water use includes both the system for delivering water from the canal to the farm boundary and the method used by the farmer to distribute water within the farm. Farmers withdrawal of agricultural water using gravity irrigation in India is the highest in the world when compared to other leading food grain producing countries. The MCAD scheme focus on achieving 75% On Farm Water Use efficiency by using pressurized pipe irrigation network and promoting use of drip, sprinkler or center pivot systems by the farmer.
2. **Cluster based Approach**: To achieve the fast pace growth of canal based Micro Irrigation (MI) areas, the large command area of a project can be segmented into clusters of areas ranging from 50 ha to 5000 ha (Maximum) facilitating more effective operations and management. The cluster of 5000 ha will have around 4000 farmers who can adopt MI in one go once the canal based Pressurized Pipe Irrigation Network (PPIN) is created. This will enhance the reach of MI. The clusters can be given full support for all the central/ state Government schemes. The Clusters will have a clear water governance structure in the form of Water user Society (WUS). The creation of PPIN for a cluster is easy and fast, with a gestation period of around one year for the whole system becoming operational. Small states with low command areas will prefer 50~100 ha clusters. The cluster may encompass a group of villages
3. **Pressurized Piped Irrigation Network (PPIN):** Pressurized piped water network will eliminate the need for permanent land acquisition, stop unauthorized withdrawals and serve uplands and undulating lands also. It will reduce the losses due to evaporation, make surface water available for micro irrigation and provide volumetric data on water use. Substantial savings in water can be diverted for additional irrigation or alternative uses.
4. **Linkup of RKVY/ PDMC with PPIN under MCAD**: To increase the target area for use of Micro Irrigation (MI) by farmers, Ministry of Agriculture & Farmers Welfare gives the support to the farmers under PDMC component of RKVY scheme. MCAD will create a robust backend infrastructure for supply of pressurized water for MI, Clubbing of PDMC with Modernisation of Command Area Development (MCAD) works will be a technical, operational and water security necessity for enhancing water use efficiency in Agriculture sector. States are required to setup the mechanism to achieve this goal.
5. **Integration of all Water sources in a cluster:** In order to expand the assured and protected irrigation coverage, there is need to adopt integrated water resources management in which, surface water, groundwater and other components of the water cycle are considered as one

single resource in a cluster. This enables the farmers to go for multi cropping and full utilization of the MCAD assets throughout the year.

6. **Water User Society, Participatory Governance and Irrigation Management Transfer**: Participation of users and their associations is essential to ensure transparency, accountability, sustainability and long-term operation and management of irrigation infrastructure and services. The Scheme will have key focus on participatory governance through Water User Societies (WUS) and transfer of irrigation management to WUS. The WUS will be developed as a platform for delivery of water and allied programs. The WUS in a cluster can be in any legal form (under Society Act, Co-operative Act, Panchayati Raj Act etc.) to be adopted by the states. The institutional set up should give the freedom to WUS to undertake economic activities in addition to water management roles. The WUS will have adequate representation of women.
7. **Capacity building of WUS and farmers**: In order to make WUS successful in their role and responsibilities to manage irrigation infrastructure and services, the MCAD scheme has laid strong focus on training and capacity building of WUSs. It will cover all relevant aspects including technical, financial, administrative, extension, agri-business, marketing, credit, legal or dispute resolution. Social and professional organizations may be employed by states as Farmer Relationship Agency (FRA) for mobilization and capacity building of WUSs to link it to Farmer Produce Organization (FPO) or Primary Agricultural Credit Society (PACS).
8. **Irrigation as a Service (IaaS)**: The Scheme envisages transformation of the construction contractors to Irrigation Service Providers (ISP), who will be responsible for on demand delivery of water at farm gate as per agreed service performance indicators. This can be done by making long contract period (minimum of 5 years after construction) and scheduling substantial part of the contractual payments to ISP during the O&M period. ISP will be accountable to WUS and WUS will be responsible to collect charges towards operation and management of services. Long term performance-based service contracts will ensure commitment of ISP for the water use efficiency and sustainability of the infrastructure. Independent expert agency may be engaged to measure the service levels. Different PPP models will also be explored to de-risk the engagement for private sector.
9. **Innovation and Technology**: The Scheme will encourage innovative solutions for increasing efficiency and reliability of irrigation services including engagement with startups. Use of satellite data for planning, use of SCADA/ IoT based systems will be used for service level monitoring, measuring WUE and water productivity of each field.
10. **Convergence and saturation of the schemes**: The Scheme leverages an opportunity to converge various schemes related to water resources, agriculture, rural development in the

identified cluster. Area based approach will ensure physical convergence of the schemes at block and cluster level. Adaptation of a Fintech Model may also capture the flow of rupee from any Government scheme in the cluster in the form of benefits to farmer, village body or to the Wate User Society.

E. Activities under MCAD

The activities covered under MCAD Program are broadly categorized as 'Structural' and 'Non-Structural' components as detailed below. These will be shared by Centre and State as per the funding pattern.

1. Structural Components include:

a. Survey, Planning and Design and development of Detailed Design Report (DDR) for the cluster
b. System level improvements u/s up to Distributary level in automation or infrastructure, Improvement of Water Logged or Saline farm lands etc. limited to the optimal functioning of PPIN in a cluster
c. Clubbing of water resources for PPIC (reused water, existing pond or ground water source etc.) through pipelines
d. Construction of Pump House, Irrigation Management Command and control centers at 300 ha/ 1000 ha/5000 ha level (Civil Works and Porta structure)
e. Establishment of Communication network and cloud-based Automation Command Centers
f. Electro-Mechanical works (Pumping Machineries. Electrical substation and accessories), Primary filtration system, and Surge Protection system without electrical transmission line
g. Primary Pipeline Network from water source to 300 ha Village Management System (VMS) outlet without Farm Pond.
h. Secondary Pipeline Network from 300 ha Village Management System (VMS) outlet to 20/30 ha OMS Chak outlet without Farm Pond.
i. Tertiary Pipeline Distribution from 20/30 Ha OMS outlet to each 1 ha manual Valve without Farmer MI system
j. Operation and Maintenance for five years (@1% per annum of the project cost)

2. Non-Structural Components include:

a. At State Level: Establishment of State Project Management Unit with Experts, Farmer Field Training center for Demonstrations & Implementation of Community Irrigation System etc.

b. At WUS Level: Matching Grant to WUS up to Max 50 Lakh for economic strengthening, Agency Management Fees for Beneficiaries Capacity building, Awareness of all Government schemes, handholding Support to WUS for linking WUS to FPO/FPC etc., till the end of O&M period of 5 years.
c. Provisions for credit support for PPP Model

F. Phases in the implementation of the MCAD

1. **Preparatory Phase:** In the preparatory phase,
   a. Central institutional structure, Empowered Committee, National Program Management Unit will be established
   b. The State Department will identify clusters based on the Challenge Fund SoP for Phase I as well as for the National Program for MCAD.
   c. The State Department shall submit the Proposal Report (PR) as per SoP to the Empowered Committee and the Committee will carry out selection of project area for the implementation of the scheme through challenge mode.
   d. The State Government will issue an executive order demarcating the border of the cluster and guiding the farmers in the clusters to form a water user society (WUS).
   e. CADWM Wing, MoJS will sign MOUs with the respective States Department-Project Implementation Authority after the formation of the WUS.

2. **Preparation and approval of Detailed Design Report (DDR) :** Pursuant to signing of MoU,
   a. Funds will be released to the States for preparation of detailed design report (DDR).
   b. The States will set up SPMUs and undertake activities for mobilization, formation of Water User Societies and capacity Building of WUS concurrently.
   c. To streamline the process and standardization, a panel of consultants shall be maintained by NPMU through EOI/RFP who will be fully appraised to create the standardized DDR encompassing technical, social and economic aspects. This will ensure Standardization of works throughout India.
   d. Detailed Design Report (DDR) for Technical, Social & Agri Economic aspects will be prepared as per respective SoP. The DDR shall capture the following details for a cluster:
      I. *Technical Aspects:* Master plan of the area covering all available sources of water, visual representation of the area in topography and digital

elevation, agro climatic zone, soil and agriculture readiness, Size of cluster, detailed pipeline design of the MCAD works

II. *Social Aspects:* Breakdown of landholding size (e.g., small, medium, large farms), Irrigation practices currently used, readiness of farmers to adopt micro irrigation, Farmers' readiness to shift in cropping pattern

III. *Economic Aspects:* Major crops grown and the markets, likely agri business opportunities in the Area after MCAD, farmers' readiness to adopt to new or existing FPO/ Self Help Group (SHG)/ PACS

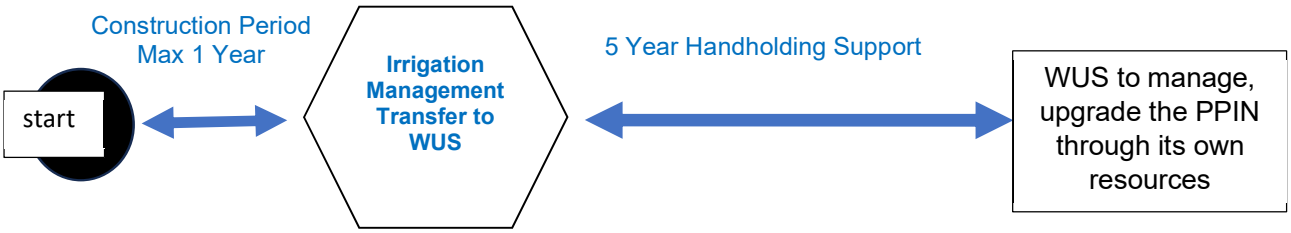
3. **Implementation Phase:** Once the programmatic and projectized interventions are sanctioned,
    a. The State Project Implementation Authority will carry out the implementation of various components and interventions in time bound manner to complete the activities before 31 March. 2026 as time is the essence during Phase I of MCAD
    b. Based on DDR, the State Government will carry out the lumpsum procurement for the Irrigation Service Provider (ISP) through a short competitive tendering process.
    c. The Farmer Relationship Agency (FRA), appointed by the State, will be responsible for supporting Water User Societies (WUSs) and farmers through handholding, training, capacity building, and facilitating the implementation of convergence components.
    d. Once the core infrastructure components enabling service delivery are completed, tested and accepted by the Project Implementation Authority, the project will be declared as commenced.
    e. Project Implementation Authorities will then initiate the steps for Irrigation Management Transfer to WUS.
4. **Operation and Management Phase:** Once the irrigation management has been fully transferred to WUS, and WUS has been fully trained and empowered and can manage the irrigation system as stipulated in the irrigation management transfer Agreement:
    a. Project Implementation Authority will exit from the project and confine to bulk supply of water to WUS and maintain the upstream systems within its control.
    b. The Project Implementation Authority will ensure that Irrigation Service Providers (ISP) will be responsible to WUS for performance. WUS will make payments to ISP after deducting payments for breaches in service levels, if any.
    c. The capacity building and handholding of WUS will be continued for a period of 5 years.

d. Integration with RKVY-PDMC, and Convergence with other Government schemes will continue for 5 years in the cluster by the Farmer Relationship Agency (FRA). It will also continue to engage the WUS for its development as an economic entity.

e. A mechanism will be set up to carry out annual third-party audit of the WUS.

f. Water use efficiency and other performance parameters will be monitored using IoT, SCADA and satellite-based data. The accurate water accounts will be captured on the portal during Operation and Management phase.

5. **Exit Phase:** WUS will continue to manage, upgrade the system at its own costs after the expiry of the handholding period of 5 years. The support and interference of the Government shall be minimal as WUS will be grown as an independent economic unit.



G. Funding Pattern in MCAD

1. The schedule of the cost for various activities / works is given in a SoP with detailed definitions of the items.
2. The funding shall be as per centrally sponsored program norms that is 60:40 (Centre: State) contribution to all states in India and 90:10 (Centre: State) in case of projects in Himalayan, North Eastern(NE) States & Union Territories namely: Jammu and Kashmir, Ladakh, Uttarakhand, Himachal Pradesh, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura and Assam.

H. Steering & Monitoring under MCAD

1. There will be an institutional set up and governance mechanism at central, state, district and cluster level for smooth implementation of the Scheme.

a. Central level : An empowered committee under Secretary (Water Resources) will be set up for effective implementation of the Scheme:

1.	**Secretary, DoWR, Ministry of Jal Shakti**	**Chairperson**
2.	Chairman, CWC	Member
3.	Chairman, CGWB	Member
4.	Additional Secretary, DoWR, Ministry of Jal Shakti	Member
5.	Financial Advisor, DoWR, Ministry of Jal Shakti	Member
6.	Representative of Department of Agriculture (not below JS level)	Member
7.	Representatives of Department of Rural Development (not below JS level)	Member
8.	Representatives of NITI Aayog (Not below JS level)	Member
9.	Representative of Ministry of Environment (Not below JS level)	Member
10.	**Commissioner, CADWM, MoJS**	**Member Secretary**

The Empowered Committee will have the following powers and functions:

I. To take all the necessary decisions for smooth implementation of the Scheme to achieve its objectives,

II. To approve the projects submitted by the States and other interventions under the Scheme,

III. To approve standard operating procedures /guidelines / model contracts including engagement models for irrigation as a service,

IV. To approve the convergence of various components of different schemes such as SMI/ RRR component of PMKSY, Watershed development component of PMKSY, Micro Irrigation Fund (MIF), PDMC component under RKVY etc., other relevant schemes and programs of Central and State Governments.

V. The Empowered Committee may be assisted by experts as may be required.

VI. The Chairperson may invite representative of any other department or ministry as may be required.

VII. CADWM Wing, Department of Water Resources will coordinate the implementation of the Scheme at national level. National Program Management Unit (NPMU) will be set up through reputed professional agency to provide support for national level governance for MCAD Program.

b. State level: A State Level Steering Committee will be set up under Chief Secretary and comprising of all the relevant stakeholders with administrative secretary of the nodal department as member secretary. The Steering Committee will ensure effective oversight, coordination and convergence of various schemes. The State will identify a nodal department, project implementation authority and a State Nodal Officer. The Project Implementation Authority will be responsible for implementation of the project. There will also be a State Program Management Unit set up through professional agency to support state level program governance.

c. District and Cluster level: The state may create a District MCAD Committee under the chairpersonship of District Collector and comprising of all the relevant stakeholders at the district level. District MCAD Committee will : integrate Water User Societies with other agencies (including gram panchayats) through a suitable mechanism at the block/ cluster level for effective coordination, ensure Irrigation Management Transfer to WUS and support for smooth implementation of the scheme.

2. The details of monitoring framework will be as given below:

a. At National level :

I. MCAD Program Review chaired by Hon'ble Minister (Jal Shakti) for individual project(s) from time to time.

II. The Empowered Committee chaired by Secretary (WR,D&GR) will monitor and work for resolution of major hurdles.

III. The Online Program Management Information System portal through CAD&WM-Information System portal under NPMU will capture progress of MCAD works. The India Irrigation Management System (IIMS) Portal will capture the water accounting for the clusters.

IV. Regular Monitoring visits shall be undertaken by NPMU

V. Progress of Implementation of works will also to be reviewed periodically through Zone level review meetings under Commissioner, CADWM Wing.

VI. Final system installation technical test Certificate, will be issued by a designated Agency.

VII. Annual Conference/ workshops at various levels viz. CAD Secretaries, WUS, Farmers will be organized.

b. At State level:

I. The State level steering Committee headed by Chief Secretary will monitor projects

II. SPMU will be responsible for monitoring at farm level.

III. Social monitoring of the Non-structural intervention by the WUS.

IV. The Water User Society will have a third-party Annual Audit by the State Government and randomly by the Central Government for performance evaluation.

c. At District level:

I. The District Collector will lead the monitoring of the MCAD Program at District level

II. The monitoring at District Level will include nonstructural activities, Irrigation Management Transfer, convergence of the Govt. schemes in the cluster.

d. Financial Audit

I. Central component of the pilot projects will have the CAG audit, while State component will have audits of the State Auditor General.

II. On completion of the Pilot projects, an 'Evaluation and Impact Study' will be undertaken, which will also include component of Social Audit and Financial Audit.

I. Performance Linked Incentives (PLI) in MCAD

Suitable incentives will be designed for the States and WUS for early completion of the projects and achieving higher level of performance in delivery of services etc. A specific SoP may be consulted for the same.

J. TARGET DATES under MCAD

SN	Major milestones	Time Frame
1.	Completion of works under Pilot Projects of MCAD including transfer of Irrigation Management to Water User Society (WUS)	31 March 2026
2.	Handholding of WUS (since inception of project) and O&M support for 5 years (starting from the transfer of Irrigation Management to WUS)	31 March 2031
3.	National Program for MCAD	1 April 2026 onwards

K. Overall Benefits of the MCAD Program

The successful MCAD will bring the following benefits:

1. **Employment Generation:** The Scheme will generate employment during the implementation and operation and management phase of the project in the fields of

irrigation automation, manufacturing and maintenance of pumps/ filters/ pipes/ valves/ sensors/ outlet management system etc. There will also be other direct and indirect livelihood opportunities in rural areas due to assured and protected irrigation to be provided under the scheme. The expected direct beneficiaries under Pilot Phase will be 80,000 farmers and the indirect beneficiaries of about 4 lakh.

2. **Make In India :** The Scheme will promote both large and MSME enterprises and manufacturing in the fields of irrigation automation, pumps/ filters/ pipes/ valves/ sensors/ outlet management system etc. MCAD scheme will pave the way for a robust irrigation, sustainable agriculture, and self-sufficient food production, boost to domestic economic sector and boosting food exports, underpinning the broader objectives of Atmanirbhar Bharat.
3. **Water Savings through Water Use Efficiency:** Phase I of the Scheme will make available approximately 150 million cubic meters (MCM) of water, conserved by achieving 90% water use efficiency (WUE). This will be huge economic saving in creating an equivalent storage. This will also be useful for water supply to nearby cities, source augmentation under Jal Jeevan Mission(JJM), Environmental flows or Increasing the culturable area under assured irrigation in completed MMI/SMI/RRR/Ground water/treated water projects.
4. **Energy Savings**: The scheme will have an impact on the energy footprint as the pumping required for transfer of water from canal or extraction of ground water will be eliminated. An estimated 0.64 million Kg of CO_2 will be saved.
5. **Cluster as Agri growth engine**: the Idea of One cluster one crop can bolster the Agri growth prospects. After handholding period, the clusters will be independent economic demand units for the goods and services.

L. Standard Operating Procedures (SoP)

1. These guidelines will be supplemented by Standard Operating Procedures (SoPs), each tailored to address specific issues within defined domains. As pilot implementations progress and insights are gained, challenges arise, or technological advancements occur, existing SoPs may be revised or new ones introduced as needed.
2. The latest SoPs shall be placed on the web site of the MCAD scheme.