

Command Area Development & Water Management Information System (CADWM-IS)

CADWM-IS is a comprehensive integrated and user-friendly software for capturing and monitoring the progress of CADWM projects, analysis of project Information and long term archiving of project data. The software enables creation of role based user accounts permitting data entry and its review/analysis at multiple level; and its workflow feature facilitates recording of observations of project inspections and follow-up compliance by the Project authorities.

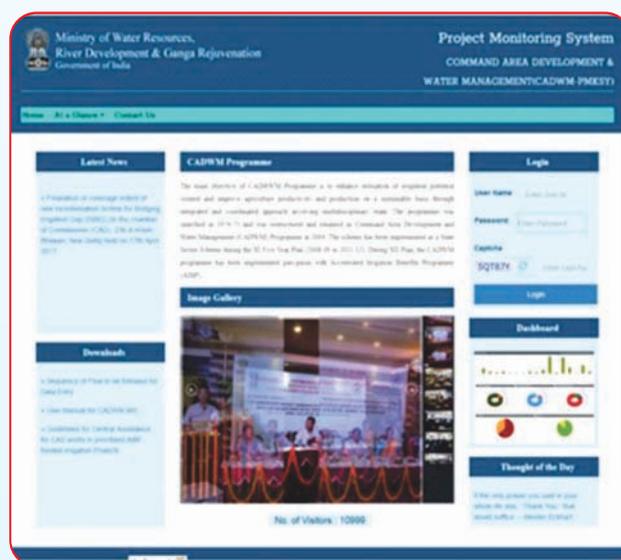
1. CADWM Program

The main objective of CAD&WM Program is to enhance utilization of irrigation potential created and improve agriculture productivity and production on a sustainable basis through integrated and coordinated approach involving Multidisciplinary team. The program was launched in 1974-75 and was restructured and renamed as Command Area Development and Water Management (CADWM) Program in 2004. During 2016-17, the Cabinet has approved establishment of the PMKSY Mission to ensure completion of 99 prioritized projects in phases by December, 2019 including completion of CAD&WM works.

Till the end of 12th Plan Period, CADWM works have been taken up in about 196 projects and the Culturable Command Area (CCA) to an extent of about 220 lakh hectares have been developed. Overall, the Central Assistance of about Rs. 7950 Crore have been extended to 29 states during five year plan periods.

2. CADWM – Information System

CADWM-IS has been developed with a view to help project officials in easy online recording of the voluminous project data including outlet wise kulawa details, details of contract packages, details of Water Users' Association, and time series data of projects physical/ financial progress. The Software, developed by the in-



house NIC team of Ministry of Water Resources, enables the concerned State and Central Agencies in carrying out the analysis of project information, and in the overall Project Monitoring.

The CADWM-IS is put in use by a large network of project officials with role-based user accounts for recording day-to-day progress of works, and also for archiving of valuable records such as Project DPRs, MoUs, Contracts, Inspection and audit reports etc. The authorized users of this software can also generate numerous reports using user-friendly tools for quarrying of information. General Public can also view the CADWM-IS portal containing comprehensive project information provided in a transparent manner along with access to the Dashboard containing project analytics.

In order to bring the desired emphasis on Participatory Irrigation Management (PIM), the revised guidelines of the CADWM Program demarcates CADWM intervention into 'Structural' and 'Non-Structural' components. Further the guidelines also mandates taking-over of the 'Control and Management' of CAD System by the respective WUAs as a mandatory requirement of project completion.

- b) Physical and financial progress of Non-Structural Intervention
- c) Monitoring Visits' observation and follow-up compliance.
- d) Financial audit and its compliances
- e) Cascading administration of authorized users
- f) Archiving of important project documents and project/ event photographs

3. Role Management

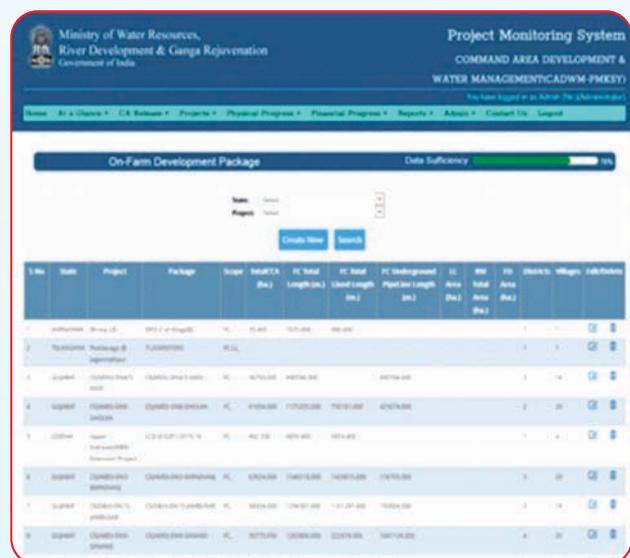
The Role Management permits the authorization of different users for accessing the specific features/ resource of the program. The five-fold roles, which can be administered in a cascading manner, includes:

- a) **Administrator** to control whole application; create Central and State nodal users.
- b) **Central Nodal** to view/edit the details/data of specific State and the projects therein.
- c) **State Nodal** to view/edit the details/data of his/ her State and the projects therein.
- d) **Project Nodal** to enter the details/ data of the specific project(s) assigned to the user.
- e) **General User** a guest user who can be created by any of the Central/ State/ Project Nodal. He/ She can only view the data within the domain of the concerned nodal.

4. Modular Framework

CADWM-IS provides a sound framework for gathering and dissemination of information in a modular manner covering:

- a) Physical and financial progress of Structural Intervention



5. Business Workflow

In order to assimilate the role and responsibility of various users and to interconnect their work outputs, the tools of business workflow has been provided in the CADWM-IS. The prime workflow relates to:

- a) Capturing of observations of Project inspections by the Central and Third-party agencies and the para-wise compliance by the concerned project officials;
- b) Capturing of audit paras and the compliance thereof by the project officials;
- c) Submission of proposals for CA release by the State nodal, recommendations by the

CWC regional officials and processing of CA release by the Union Ministry/ NWDA officials.

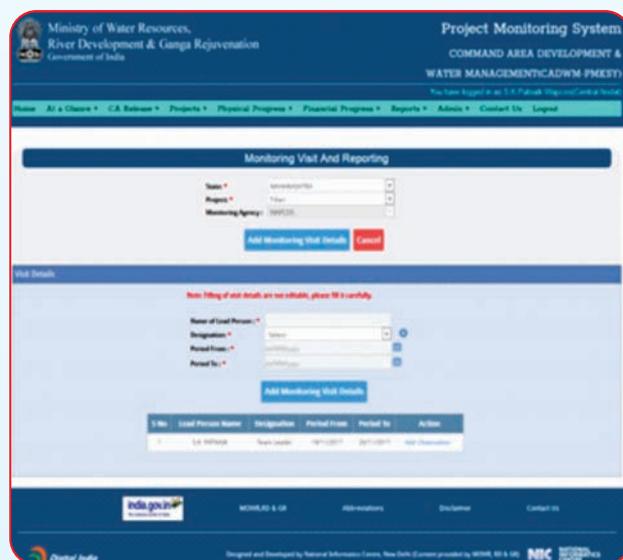
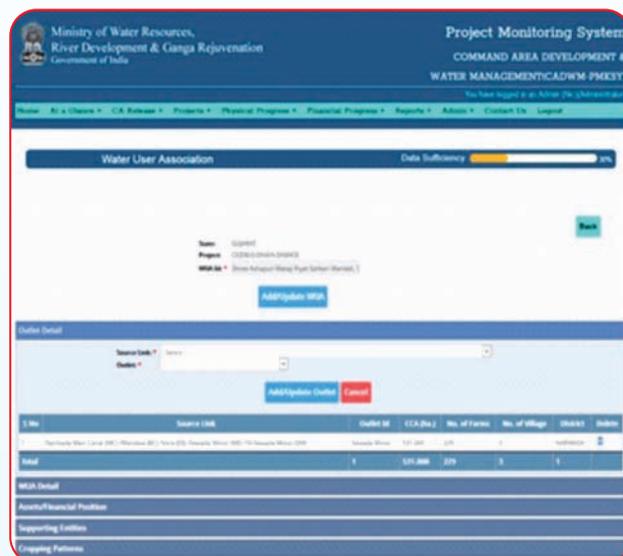
The CADWM-IS is being upgraded to include tools for: submission of proposals for Central Assistance (CA) by State Govts, recommendations by CWC Regional Offices, and processing of CA release by the Union Ministry/ NWDA. Further enhancement of CADWM-IS is expected to cover capturing of Water Users' Association's working, crop production/ productivity, farmers' income etc.

6. Photo Gallery & Archiving of Documents

User can upload any number of images related to projects and events like trainings, Conference, Site inspections etc.; all these images are reflected in an integrated photo gallery visible to any visitor of the Application portal. Integration of photos with the specific observations of site inspection is also possible. Tools have also been provided for uploading the 'pdf' files of important project documents such as Project DPRs, MoUs, Contracts, Inspection Reports, Audit Reports, CA release orders etc; and these can be accessed by any visitor of the application portal in a transparent manner.

7. Report Generation

Reports communicate formatted information compiled from the desired analysis of data. Reports cover a wide range of analysis focusing on transmitting information with a clear purpose to a specific user group. Reports generated from CADWM-IS are expected to be accurate, objective and complete and can be used in the key decision making processes.



Different types of Reports presently available in the Application are:

- Physical Progress of Structure Intervention and Non-Structure Intervention
- Financial Progress of Structure Intervention, Non-Structure intervention and Establishment cost
- Monitoring visits observation and compliance Reports
- Financial Audit and Compliance Reports
- Reports containing abstracts of Project Details, Completed Outlets, No of WUAs created, Districts benefitted etc.

'Data Sufficiency Marker' has been provided in CADWM-IS as a simple visual tool for indicating (in percentage terms) the data sufficiency of information cumulated at the level of data-form/ Project/ State. Color coding has been used to represent data sufficiency – (a) Red color for 0-25%; (b) Yellow for 25%-50%; (c) Orange for 50% - 75%; and (d) Green for >75%.

8. Processing of CA Release (to be made operational shortly)

The Application is presently being upgraded to facilitate overall Central Assistance (CA) release process in a systematic and transparent manner. The workflow for CA release will entail following stages:

- a) **Generate Proposal:** State Nodal officer will generate request proposal for CA Release; automated forwarding of proposal to concerned CWC Regional Office for recommendation.
- b) **Recommend Proposal:** CWC Regional Nodal officer will review the proposal and take actions related to recommendation or returning of proposal to State Nodal with remarks for modifications; automated movement of recommendation/ remarks to concerned Nodal office.
- c) **Sanction Proposal:** CADWM Wing of union ministry will take actions for CA release

approval (if in order) or return the proposal to CWC Nodal with remarks for modifications; automated movement of sanction letter/ remarks to concerned Nodal office.

- d) **CA Release:** The Nodal officer of PMU in NWDA will initiate actions for release of funds from NABARD, and record details of CA release actually affected; automated communication to all concerned.

9. Dashboard

Dashboard is an information management tool that visually tracks, analyzes, and displays the key performance parameters of the State/ Projects, thereby providing the users with critical information at-a-glance. With the CADWM-IS dashboard, user can monitor/analyze the physical progress, financial progress and WUA progress, in different visual formats. Users can also track record of performance of the States and their Projects using the 'snap-shot' or 'time-line' related charts/ graphs.



The CADWM-IS Application is presently accessible at <http://164.100.94.70/CADWM-PMKSY>. Application will be shortly shifted to the CADWM portal with URL "http://cadwm.gov.in"