

MOST IMMEDIATE

No.10-7/2010-CADWM
Government of India
Ministry of Water Resources
(CADWM Wing)

New Delhi, dated 30 July, 2010

To

All Principal Secretaries / Secretaries-in-charge of
CADWM Programme (as per list enclosed)

**Subject: Release of Central Assistance under the Command Area Development
& Water Management (CADWM) Programme for the year 2010-11.**

Sir,

This is to inform you that CADWM Programme is being implemented as State Sector Scheme from 2008-09 onwards and the guidelines for release of central assistance of the programme has been revised with effect from the current financial year i.e. 2010-11. Henceforth, the release of central assistance will be made project wise. You are, therefore, requested to send the proposals for release of Central assistance from the financial year 2010-11 onwards in accordance with the enclosed guidelines at the earliest.

2. It is also emphasized that the State Governments are also required to enter into MOU (Appendix IV) with Govt. of India as per proforma circulated vide Commissioner (CADWM) D.O. letter of even No. dated 1.6.2010 as MOU is a precondition for any release to be made during the current financial year onwards. As such, MOU for each project duly filled and signed, should be sent immediately or along with the proposal.

Yours faithfully,

Encl: As above.

(M.C.Chand)
Deputy Secretary to the Govt. of India
Tel/Fax: 23382482

Copy forwarded for information and necessary action to:-

1. All Commissioners / Administrators of CADAs (as per list enclosed). The proposals for release of funds for central Assistance may please be routed through State Government.
2. Directors of all WALMIs (as per list enclosed).

Copy for information to:-

1. PPS to Secretary (WR)
2. JS & FA (WR), Director (Finance).
3. All Sr. JCs. of (CADWM)
4. All CEs of field organizations of CWC monitoring CADWM projects (as per list enclosed).
5. All Field Directors, CWC monitoring CADWM projects (as per list enclosed at the end).

6. C.E. (P&D) / CE(Monitoring), CWC, Sewa Bhawan, R.K.Puram, New Delhi- 110066.
7. All release files for record.
8. Website of the Ministry (<http://www.mowr.gov.in>)
9. Guard File.

**GOVERNMENT OF INDIA
MINISTRY OF WATER RESOURCES**

GUIDELINES

ON

**COMMAND AREA DEVELOPMENT &
WATER MANAGEMENT PROGRAMME**

NEWDELHI

JULY,2010

1. Introduction

1.1 The Command Area Development & Water Management (CADWM) Programme has to be implemented in a holistic manner so that it not only improves water use efficiency but also increases agricultural productivity and production and brings sustainability in the irrigated agriculture in a participatory environment. All aspects of the CADWM Programme, need be taken up in an integrated and coordinated manner so as to achieve the envisaged objectives of raising food grains production to meet the increasing need of food for growing population.

1.2 In addition to 0.35 Mha covered under the centrally sponsored programme during 2007-08 with central assistance of Rs.277 crore, it is proposed to cover an area of 1.32 million hectare (Mha) under the Programme during XI Plan. Survey, planning, design and execution of On-Farm Development (OFD) works is proposed to be carried out in the entire area of 1.32 Mha; construction of field, intermediate and link drains in an area of 0.56 Mha; correction of system deficiencies in an area of 0.105 Mha; reclamation of waterlogged areas in 0.102 Mha, software activities like trainings, monitoring, evaluation, demonstration and adaptive trials as and where felt necessary; provide one time functional grant to registered Water Users' Associations (WUAs) in an area of 1.32 Mha and meet the establishment cost on construction activities with a total outlay of Rs.1600 crore as central assistance.

2.0. Inclusion of the projects under CADWM Programme

Project proposals received in the Ministry of Water Resources are to be examined by an Inter Ministerial Sanctioning Committee (IMSC) constituted by the Ministry of Water Resources (MOWR) for inclusion / deletion under CAD&WM Programme. At the time of inclusion of new project under the programme, the State Governments will have to submit a Detailed Project Report (DPR) in the prescribed proforma including techno-economic evaluation. Any new project having investment clearance by the Planning Commission and having provision in the State Budget will be included under the Programme only in lieu of completion of an on-going project in a particular State on the basis of completion certificate of Central Water

Commission (CWC) approved by IMSC. However, exemption from the stipulation of inclusion of one new project against completion of one on-going Project under CADWM Programme is given to the projects included in the Prime Minister's package for agrarian distress districts, projects benefiting the drought prone/tribal areas, projects in the States having irrigation development below the national average and projects located in Special Category States, namely, NE States, Uttarakhand, Himachal Pradesh, Jammu and Kashmir and Kalahandi-Bolangir-Koraput (KBK) districts of Orissa. Planning Commission has envisaged implementation of the Command Area Development and Water Management (CADWM) works along with the irrigation projects. No project which is receiving Central assistance under CADWM Programme will be allowed to be discontinued abruptly without its completion.

3. **Funding Pattern:**

3.1 The following components under CADWM Programme may be undertaken by the States :

Sl. No.	Components	Cost sharing between Centre and States
1.	CAD Establishment	50:50
2.	Survey Planning and Design	50:50
3.	On-Farm-Development (OFD) works	50:50
4.	Construction of Field, Intermediate and Link Drains	50:50
5.	Reclamation of Waterlogged Areas	50:50
6.	Correction of system deficiencies	50:50
7.	Adaptive Trials and Demonstrations	75:25
8.	Training	75:25

3.2 The financing pattern and cost norms for various components are given in Annexure I

3.3 PROCEDURE FOR RELEASE OF CENTRAL ASSISTANCE

The central assistance for various components under CADWM Programme will be according to the pattern prescribed in para 3.1 of these Guidelines. The State Governments will be required to do phasing of expenditure and physical work year wise till completion of the Project, and as projected in the Memorandum of Understanding (MOU) stipulated in para 3.6 of these Guidelines. Based on this phasing during a financial year and budget provision covering both the Central and States shares, the admissible grant will be released in two instalments. 70% of the total grant admissible will be released on receipt of utilisation certificate as given in Annexure –II, Proforma -4, for the total amount released as central assistance during the last financial year as well as the state component. The balance 30% will be released when expenditure amounting to 70% of the first installment released is incurred and necessary utilisation certificate submitted. The grant component along with the state share must be released to the project authorities by the state governments within 15 days of its release by the Government of India. The States would be required to submit audited statements of expenditure incurred on the components of the project within 18 months of the completion of the financial year in which the Central assistance is released.

3.4 The following information in the prescribed Proforma as given in Annexure-II should be enclosed with the release proposal for the first installment of every financial year for every project :

- i. Check List for Holistic Implementation of CADWM Programme (Annexure II - Proforma-1)
- ii. Project-wise financial progress report for the last financial year (LFY) and budget provision for the current financial year (CFY) (Annexure II- Proforma-2).
- iii. Project-wise physical progress (Annexure II -Proforma-3).
- iv. Utilization Certificate in respect of the Central assistance released in a project in the last financial year (Annexure II -Proforma-4).
- v. Audited Statement of Accounts for a Project (Annexure-II, Proforma- 5)
- vi. Annual Review of status of progress of each project. (Annexure -II, Proforma-6)

4. State governments will be required to enter into a Memorandum of Understanding (MOU) with the MOWR for each project in the prescribed format as shown in the Annexure-IV.
5. Inclusion of Panchayat Representative in WUAs is to be considered by the State Government. Each CAD Authority is to ensure that in each project, 3 WUAs in head, middle and tail reach are formed and developed like a model to be replicated by others.
6. The guidelines on Reclamation of waterlogged areas, correction of system deficiencies, adaptive trial and preparation of Detailed Project Report (DPR) for inclusion will remain unchanged as already circulated. Technical details on various activities to be undertaken under CAD &WM Programme are given in Annexure-III
- 6.1 A quarterly progress report (QPR) of each project will be submitted both in hard copy and through internet as per on line web base monitoring of CADWM Programme.

.7. Monitoring and Evaluation

- i. Monitoring of the projects under CADWM Programme is primarily the responsibility of the State Governments. However, MOWR and CWC will also monitor through quarterly progress reports, field visits, meetings etc. Remote sensing and GIS techniques can also be employed to monitor the progress and assess impact of the programme. State Governments are also expected to use on line Web-based monitoring of CADWM Project more and more for sending status of progress.
- ii. Concurrent evaluation by an independent agency must be done by the states.
- iii. States to constitute a multidisciplinary Committee at State level (Wherever CADA Boards exist, the same can discharge the functions

of State Level Monitoring Committee) with following indicative Terms of Reference:

- a. To decide the future work programme and ensure its implementation in an integrated and holistic manner and advise suitably.
- b. To review the progress of programme and make suggestions for improving its performance at all levels.
- c. To decide upon the evaluation studies to be taken up at the State level.
- d. To review and recommend project proposals to be sent to the Ministry of Water Resources for inclusion of project under the scheme.

The committee shall include representatives from MOWR, Central Water Commission (CWC) and Central Ground Water Board (CGWB) and other members as per composition already circulated.

FINANCIAL PATTERN AND COST NORMS FOR CADWM PROGRAMME DURING XI PLAN (2008-09-2011-12)

Component	Cost Norms and Central Share during XI Plan (2008-09-2011-12)
1. Survey, Planning and designing of OFD Works	50% of actual expenditure subject to maximum of Rs. 500/ per ha. As central assistance (the assumed unit cost is Rs. 1000/- per ha.)
2. On-Farm Development (OFD) Works (comprising of construction of Field channels and also land leveling/shaping and realignment of field boundaries, where necessary) i) Special category States/area namely North Eastern States, Himachal Pradesh, Jammu & Kashmir, Uttarakhand and Kalahandi-Bolangir-Koraput (KBK) districts of Orissa.	50% of actual expenditure subject to maximum of Rs.11000/- per ha. As central assistance (the assumed cost is Rs. 22000/- per ha.)
ii) Projects in difficult areas such as Indira Gandhi Nahar Pariyojana (IGNP), Sidhmukh Nahar, Amarsingh Jassana and other projects in similar desert areas of Rajasthan, Teesta and Damodar Valley projects of West Bengal, projects benefiting districts of Haryana & Punjab States bordering IGNP and having similar conditions.	
iii) For States/areas other than given at item 2(i) and 2(ii) above	50% of actual expenditure subject to maximum of Rs. 7500/- per ha as central assistance (the assumed cost is Rs. 15000/- per ha)
3. Construction of Field, intermediate and link drains. i) Special category States/area namely North Eastern States, Himachal Pradesh, Jammu & Kashmir, Uttarakhand and Kalahandi-Bolangir-Koraput (KBK) districts of Orissa. ii) Projects in difficult areas such as Indira Gandhi Nahar Pariyojana (IGNP), Sidhmukh Nahar, Amarsingh Jassana and other projects in similar desert areas of Rajasthan, Teesta and Damodar Valley projects of West Bengal, projects benefiting districts of Haryana & Punjab States bordering IGNP and having similar conditions.	50% of actual expenditure subject to maximum of Rs. 2500/- per ha as central assistance (the assumed cost of construction is Rs. 5000/- per ha) (except KBK districts of Orissa)
iii) For States other than given at item 3(i) above	50% of actual expenditure subject to maximum of Rs 2000/- per ha as central assistance (the assumed cost of construction is Rs. 4000/- per ha.

4. Correction of system deficiencies in systems of capacity up to 4.25 cumec (150 cusec)	50% of actual expenditure subject to maximum of Rs. 3000/- per ha as central assistance (the assumed cost of correction of system deficiencies is Rs. 6000/- per ha).
5. Reclamation of water logged areas – for all the States/areas	50% of actual expenditure subject to maximum of Rs. 7500/- per ha for execution of surface drainage, bio-drainage etc. (total cost assumed @ Rs. 15000/- per ha.: and 50% of actual expenditure subject to maximum of Rs. 20,000/- per ha where sub-surface drainage is envisaged (the total cost assumed @ Rs. 40,000/- per ha)
6. Software activities namely training, monitoring, evaluation, demonstration and adaptive trials.	75% of the actual expenditure as central assistance.
7. One – time functional grant to registered WUAs	Rs. 1000/- per ha (Rs. 450:450:100 among Centre:States:Farmers
8. Establishment Cost	50% of the actual establishment expenditure subject to the maximum limit of 20% of the total central assistance for the items at Sr. No. 2,3,4 and 5.
9. Renovation and desilting of Minor Irrigation Tanks	This component is discontinued.

- Note:** 1. A minimum of 10% contribution (of the total cost) by the beneficiary farmers, as a part of the State Share, is mandatory for execution of OFD works and reclamation of waterlogged areas.
2. In case of one time functional grant to registered WUAs, a minimum of Rs. 100/- per ha is to be realized from the beneficiary farmers.

Annexure-II (Proforma-1)

**CHECK LIST FOR HOLISTIC IMPLEMENTATION OF CAWM
PROGRAMME DURING CURRENT FINANCIAL YEAR (CFY)***

Name of CADWM Project-----.

Sl. No.	Subject	AMOUNT / REMARKS
1.	Annual Plan outlay approved by Planning Commission for CADWM Programme for the State for CFY (Rs. in Lakh).	
2.	Provision made for the specific CADWM PROJECT in State Budget for CFY in Rs. lakh.	
3.	Whether soil survey, topographical survey, planning and design of OFD works have been completed for the area where actual execution of OFD works are proposed to be carried out during the current year? If not, the reasons thereof.	
4.	Whether an Act for implementation of Participatory Irrigation Management (PIM) has been enacted by the State?	
5.	Whether latest Quarterly Progress Report till the end of the last quarter is enclosed?	
6.	Detailed notes including financial details on trainings organized by the State Government for functionaries and farmers, the demonstrations conducted and evaluation studies made may be attached.	
7.	Whether State level monitoring Committee under the Chairmanship of Principal Secretary/ Secretary (I/C) CADWM Programme has been constituted. Number of meetings held in the year for	

* CFY – Current Financial Years i.e. year of proposal for release of Central Assistance

* LFY - Last Financial year – year before the current financial year.

Annexure-II (Proforma-2)

PROJECTWISE FINANCIAL PROGRESS FOR LFY and Budget Provision for CFY

Name of the Project: _____

State -----

units: Rs Lakh

Financial Data

- 1 Original estimated cost at the time of Inclusion under CADDP:
- 2 Present estimated cost:
- 3 Expenditure incurred so far:

Central share
State share
Total
- 4 Balance Expenditure to be incurred:
- 5 Budget Provision For CFY

Sl. No.	Item	Central Assistance Released during LFY	Actual expenditure during LFY				Actual Expenditure during CFY till...			
			State share	Farmers share	Central share	Total	State share	Farmers share	Central share	Total
1	2	3	4	5	6	7	8	9	10	11
1	Establishment cost									
	a. Estt. cost of State headquarters									
	b. Estt. cost of CADAs/projects									
2	Survey, Planning and Designing of OFD works									
3	OFD Works (comprising of construction of field channels, land leveling/shaping and realignment of field boundaries, where necessary)									
4	Field, Intermediate and link drains									
5	One time functional grant for WUAs. Total amount deposited as Fixed deposit in the bank (provide details) along with copies of fixed deposit receipt of the same for proof of all amount collected from centre, state and Water User's Association during LFY									
6	a. Adaptive trials									
	b. Demonstrations									
	c. Action Research									
7	Training courses organised by the State									
8	Monitoring and Evaluation studies									
9	Reclamation of waterlogged areas									
10	Correction of conveyance system deficiencies above outlet up to distributaries of 4.25 cumec (150 cusec) capacity									
	TOTAL									
	Allocation / Expenditure on SC and ST farmers out of total grant.									

Signature of Incharge CADA/Administrator
Name:
Designation:
Seal:

Annexure-II (Proforma-3)

PHYSICAL PROGRESS OF THE PROJECT

Area in Th. Ha.

State: _____									
CADA: _____				Project: _____					
1. CCA: _____			4. Category of the project: General/Special						
2. UIP: _____			5. Year of inclusion under CADP: _____						
3. Irrigation potential									
a. Created during LFY: _____									
b. Utilised during LFY: _____									
c. Created up to the LFY under CADP: _____									
d. Utilised up to LFY under CADP: _____									
Sl. No.	Activity	Total quantum of work involved	Cumulative achievement up to the beginning of LFY	Targets and Achievements for LFY		Cumulative achievement up to end of LFY	Targets and Achievements for CFY		
				Targets	Achievements		Targets for the year	Achievements till....	Targets for the remaining periods
1	2	3	4	5	6	7	8	9	10
1	Survey, Planning and Design								
2	OFD Works (comprising of construction of field channels, land leveling/shaping and realignment of field boundaries, where necessary)								
	a. Unlined								
	b. Lined								
	Total of OFD works								
3	Construction of field, intermediate and link drains.								
4	Warabandi								
5	Adaptive Trials								
	a. No. of Trials								
	b. Area covered								

Sl. No.	Activity	Total quantum of work involved	Cumulative achievement up to the beginning of LFY	Targets and Achievements for LFY		Cumulative achievement up to end of LFY	Targets and Achievements for CFY		
				Targets	Achievements		Targets for the year	Achievements till....	Targets for the remaining periods
6	Demonstration programmes								
	a. No. of plots								
	b. Area covered								
7	State level trainings								
	a. No. of officials trained								
	b. No. of farmers trained								
8	Onetime functional grant to WUAs								
	a. No. of WUAs registered								
	b. Area covered under the WUAs								
	c.No of WUAs which have been handed over the system								
	d. Area Covered								
9	Monitoring and Evaluation studies conducted by the State (No.)								
10	Reclamation of waterlogged areas								
	a. No. of schemes approved by Gol								
	b. Area reclaimed								
11	Correction of Conveyance System Deficiencies								

Signature of Incharge CADA/Administrator
Name:
Designation:
Seal:

Annexure-II (Proforma-4)

UTILISATION CERTIFICATE

NAME OF PROJECT-----

MoWR's Sanction Letter No. with Date	Amount (Rs. In lakh)

1. Certified that out of the amount of Rs. _____ lakh sanctioned during the LFY for implementation of Command Area Development & Water Management (CADWM) Programme in----- CADWM Programme under the Ministry's letter quoted above and an unspent balance/balance due to the State (during the previous year i.e. 2007-08) amounting to Rs. _____ lakh, an amount of Rs. _____ lakh have been utilised for the purpose of implementation of the CADWM Programme for which it was sanctioned leaving a balance of Rs. _____ lakh and it will be adjusted towards the grants payable during the CFY.

2. It is also certified that the expenditure indicated above does not include advances lying unutilized/treated as final expenditure and P.L. Account, Civil Deposit etc. treated as final expenditure.

3. Certified that I have satisfied myself that the conditions on which the grant was sanctioned have been duly fulfilled/are being fulfilled and that I have exercised the following checks to see that the money was actually utilised for the purpose of which it was sanctioned.

Kinds of checks exercised:

- a. Grants checked from the register maintained; and
- b. Expenditure checked from the register maintained.

Date:

Signature of Finance
& Accounts Officer with Seal

Counter Signature of
Secretary in-Charge CAD with Seal

**Certificate in respect of Audited statement of accounts for _____
CADWM Project for the year before LFY for Grant**

Certified that the audit of the accounts of the State Government/CAD pertaining to the State Sector Command Area Development and Water Management Programme for the year before LFY has been conducted by the State A.G. and audited statement of Accounts for the said year are as under:

Certificate to be submitted Project-wise & State-wise:

SL. No.	Item of work	Expenditure incurred during Year before LFY			Remarks
		(Centre + State Share)			
		Grant		Total (State & Central - Grant+ Loan)	
		State Share	Central Share		
1	Establishment				
2	Survey, Planning & Design				
3	Field Channels				
4	Full Package OFD				
5	Field, Intermediate and link drains				
6	Subsidy to marginal and small farmers.				
7	Adaptive trials				
8	Demonstration				
9	Action Research				
10	One-time Functional Grant for WUAs (Institutional Support)				
11	Training				
12	Crop compensation				
13	Monitoring and Evaluation studies.				
14	Reclamation of waterlogged areas				
15	Renovation and de-silting of existing tanks and control structures within irrigated commands				
16	Correction of system deficiencies above outlet upto distributaries of 4.25 Cumecs (150 ceseecs) capacity				
17	Any other				
Total Expenditure					

(Counter Signature)

Signature : Signature :
Name : Name :
Designation : Designation :

Seal Seal
(Fin. Adv./Sr. Acct. Off.) (Secretary Incharge)

Note : To be signed jointly by the Financial Adviser / Sr. Accounts Officers(s) of Finance & Accounts Office and counter signed by Secretary-in-charge of CAD.

Annexure-II (Proforma-6)

ANNUAL REVIEW OF STATUS OF EACH PROJECT

Name of the Project: _____ **CCA** _____ **UIP** _____

The following items reflecting status of progress in each project till LFY and target / achievement in CFY will need be submitted .

- > OFD Works.
- > PIM
- > Reclamation of Water Logged Areas.
- > Correction of system deficiencies.
- > Soft components, like Training, Evaluation, Demonstration and Adaptive trial.
- > Irrigation and Agriculture Development in the Project - The table given below may be filled up -

Sl. No.	Season & Name of the major crop	Area irrigated (TH. Ha.)	Productivity in t/ha	Production in tonnes
1	2	3	4	5
	Kharif			
1	(i)			
2	(ii)			
3	(iii)			
4	(iv)			
	Rabi			
5	(i)			
6	(ii)			
7	(iii)			
8	(iv)			
	Hot weather			
9	(i)			
10	(ii)			
11	(iii)			
12	(iv)			

Technical details about various components of CADWM Programme

1. Hardware Components (Grants on 50:50 basis between Centre and States)

1.1 CAD Establishment

The total cost on establishment of Command Area Development Authorities at project level and the Command Area Development and Water Utilization Departments and monitoring cell for monitoring of Command Area Development and Water Management Programme at State level should be kept to the minimum. The cost of establishment should not exceed 20% of the expenditure on works items namely, (i) OFD works, (ii) field, intermediate and link drains, (iii) reclamation of waterlogged areas and (iv) correction of system deficiencies. The expenditure on establishment, if any, over and above the 20% of the expenditure on works as stated above has to be met by the State Governments from their budget.

1.2 One-time functional grants to Water Users' Associations (WUAs)

a) Farmers themselves need to maintain Field Channels and Field Drains constructed under the programme in the subsequent years. It is, therefore, essential to involve WUAs in the planning and execution of OFD works, equitable distribution of irrigation water among all the land holders of an outlet command and repair/ maintenance of the distribution network after the same is handed over to them for management. Formation of WUAs at minor or in specified area of a canal is mandatory for implementing the CADWM Programme. In formation of WUAs, Panchayat representative should also be included as member.

b) To facilitate the working of these Water Users' Associations a provision has been made for One-time Functional Grant at the rate of Rs.1000 per ha. (Rs.450 per ha by Centre, Rs.450/- per ha by the State and Rs.100/- per ha by the farmers). The Functional Grant will be given where Water Users' Associations are formed, registered and actually engaged in distribution of water. The amount would be deposited in the fixed deposit account of Water Users' Associations in the bank and interest accrued thereon would be used for the activities of the Associations.

1.3 Enforcement of Warabandi

a) The Command Area Development Authority should enforce the Warabandi below the outlets. Integrated water management including supply from the head regulator of main canal up to the farm gates should be considered as a single unit. Effective coordination with the irrigation staff is necessary in working out operation plan for the main system, which would be in conformity with the warabandi schedules prepared below the outlets. Preparation of operation plan for the main canal systems should be attempted in advance, considering the recommended sowing time of various crops for Kharif and Rabi seasons. Coordination with the Agriculture Department (extension wing of Agriculture Department as well as zonal research centers of State Agricultural Universities and ICAR or any other reputed Institute) who would advise about the most suitable dates of sowing of crops as well as crop sequences is also necessary for effective implementation of warabandi. Working out

scheduled water distribution for opening of the canal, roastering of the branches or distributaries for providing equitable water supply in various sub-commands and informing the farmers in advance, need be done.

b) Central assistance for enforcement of warabandi is not available with effect from 1.4.2004. The expenditure on regulatory/control structures to be installed for enforcement of warabandi can however be met from the component relating to correction of system deficiencies above the outlet upto distributaries of 150 cusec capacity. The regulatory structures could be:

- Construction of Adjustable Proportionate Modules (APMs) at outlet head and measuring devices in field channel like parshall flumes, notches (rectangular or trapezoidal) or weirs depending upon situation.
- Providing gates for the outlets in case of ungated or pipe outlets so as to control deliveries in the field channels.
- Display boards at outlet head showing the name of outlet, discharge, CCA, name of farmers, area of these fields, their turn indicating day and time for taking water, duration of time etc. The name of farmers' Association, if any, functions, responsibilities and duties of the farmers should also appear on the board.
- Auto-transmitters coupled with gauge recorders for speedy and reliable transmission of gauges to the control stations. Training of farmers on Warabandi can be carried out by WALMIs and other State/Central agencies/Institutes and the cost met from software items. It is essential to maintain records of Warabandi system and progress of the same shall be monitored by the State level Monitoring Committee (as mentioned in Proforma-13 of Annexure-II) as well as this Ministry.

1.4 Survey Planning and Design

Topographic survey is meant for proper planning and designing of OFD works so as to ensure their quality. Soil survey is meant for land capability classification so as to understand their capability for crop planning and undertake proper treatment measures to realize their full potential. Proper topographic and soil survey maps of the project should be maintained in CADA records.

1.5 On-Farm-Development (OFD) works (comprising construction of field channels and also land leveling/shaping and realignment of field boundaries, where necessary)

a) This is an important activity under the Programme for efficient utilization of irrigation water. Properly planned, aligned and designed field channels should be constructed from the Government outlet in a manner that each and every field of the outlet command is connected by field channel. The assistance would be available for construction of field channels with related structures like cistern, measuring devices, drop structures, division boxes, turnouts, flumes, culverts, inverted siphons, subject to the prescribed cost norms. As a general guideline, a minimum of 20% length of the field channels may be lined, the length of lined channels may be less or more than 20% according to the actual conditions and subject to prescribed cost ceiling per ha. The Central assistance will be limited only to the prescribed cost norms and any additional cost involved will have to be borne by the State Governments.

b) To promote water use efficiency in irrigation, financial assistance can also be availed to be by the States for development of infrastructure to facilitate use of sprinkler / drip irrigation systems as an alternative to construction of field channels. The assistance under this item will not be admissible for sprinkler and drip irrigation systems but will be limited to construction of stilling tank, pump house and laying conveyance pipes from outlets upto farmers' fields. The cost norms as applicable for On-Farm Development (OFD) works will also be applicable for such works.

1.6 Field, Intermediate and Link Drains

The expenditure under this component would be admissible on field drains from individual fields and other intermediate/link drains to provide connectivity to the main drains.

1.7 Reclamation of Waterlogged Areas

a) The problem of water logging in the Commands of irrigation projects has affected the health of the soil and reduced the agricultural productivity considerably. Central assistance to States is therefore being provided for reclamation of waterlogged areas in the irrigated command of the projects covered under CADWM Programme. The items of work under this scheme are:-

- Assessment of problem areas in the commands of irrigation projects.
- Planning and designing for preventive and reclamation measures.
- Taking up the preventive and remedial activities like land management, drainage (surface, sub-surface, vertical etc.).
- Monitoring and evaluation.

b) A component on bio-drainage has also been added w.e.f 1.4.2004. Wherever feasible, bio-drainage techniques alone or in conjunction with conventional techniques may be used for reclamation of waterlogged areas. Proper guidance on implementing this component from Central/ State forest Departments, Agricultural Universities, ICAR/ WTC Centres etc.

c) Prior approval of the Government of India will be necessary before undertaking the reclamation work. A consolidated proposal for all the pockets of a project where reclamation work has to be taken up may be prepared. The proposal so prepared may be discussed in the State level committee and then sent to the regional office of CWC and to the Ministry. Upon recommendations of the CWC, the multi-disciplinary Core Group of the Ministry will consider the proposal for approval.

1.8 Correction of system deficiencies

a) A number of irrigation projects in the country have been operating much below their potential due to shortage of funds for O&M related activities such as cleaning of the channels by de-silting and weeding, raising earthwork in embankments or dressing the bed and side-slopes to the design standard and removing undercuts in hard strata, strengthening of banks in filling sections, restoring bed gradients, replacing and painting metal parts in gates and hoists, making control and measuring devices fully functional etc. This has been by and large responsible for unreliability in availability of irrigation water at farm level and consequently the reduced irrigation efficiency. The scope of the CADWM Programme has, therefore, been expanded to take care of system deficiencies occurring above the outlet up to distributaries of

4.25 cumec (150 cusec) capacity. This would eventually improve the output of the activities below the outlet as well.

b) The State Governments will be required to ensure that distributory Committees are formed, who can take over these distributaries for operation and maintenance, after these have been rehabilitated. Work on this item is to be executed with Minor/distributary as a unit and preferably on those distributaries where all outlets have been saturated and the OFD works have been handed over to the WUAs. Prior approval of the Government of India will be necessary before undertaking the rehabilitation work and the process of approval shall be the same as described under the item 'reclamation of waterlogged areas'.

2. Software Components (grants on 75: 25 sharing basis between Centre and States)

2.1 Adaptive Trials and Demonstrations

a) Appropriate water management practices at the field level, usually called on-farm water management, which include preparation of fields to receive irrigation water, improved methods of irrigation such as, border strips, check basins, furrows, determining the optimal length of fields, suitable stream size etc. are required to be experimented in different locations and demonstrations there of arranged for the benefit of the farmers. Working out appropriate frequencies and water dosages for different crops, evolving water allowances in the command after considering the total water available, field application losses as well as the conveyance losses so as to ensure equity in distribution of water in various subcommands as well as among the farmers can also be experimented under these trials. Training farmers in respect of irrigated agriculture, switching over from rain fed crops with low risk-low inputs to high inputs high risk irrigated crops so as to increase yields as well as profits is required to be included in these trials. This change over has to be gradual after considering the financial capability of the farmers which can be done by adjusting the most suitable combination of fertilizer ingredients (NPK) after testing the soils. For this purpose comprehensive adaptive trials should be taken up in the respective command areas according to the guidelines already issued. Prior approval from the Ministry may be taken by the State Governments in respect of Adaptive Trials before their execution and incurring of expenditure and the mode of approval shall be as defined under the item 'reclamation of waterlogged areas'. The job can also be entrusted to WALMIs/ other appropriate central and State organizations.

b) It has been observed that not much activities under action research on PIM has been undertaken either by the CADAs or the WALMIs. Efforts under CADWM therefore need to be intensified to initiate action research on various aspects of PIM such as creating awareness on PIM, stress on equity, rights and duties of farmers, enforcement of Warabandi, collection of water charges, O&M of the system, running of Water Users' Associations etc.

2.2 Training

a) The Staff of irrigation department at management level, field staff and functionaries of the Command Area Development Authorities would need training in improving the deliveries from the main system, on-farm water management, enforcement of Warabandi, planning & designing of OFD works, Participatory Irrigation Management etc. The farmers would also need training in distribution of water below the outlet or minor and maintenance of field channels/field drains, use of improved water management and agricultural practices.

b) The superintending engineers, executive engineers and deputy engineers can be trained at the respective WALMI's in the states but the field level staff and farmers need to be trained at the project level. Project level training centers may therefore be set up for imparting training in respect of the activities or works entrusted to the various categories of staff so as to improve their capabilities and also to ensure effective quality control. The job can also be entrusted to WALMIs/ other central and State Agencies wherever feasible. The farmers particularly the members of the executive body of WUAs and members of the minor/distributory committees may be trained in irrigated crops, crop rotations, proper sowing times, crop water-soil relationship, warabandi, Participatory Irrigation Management and maintenance of field channels/drains. This can be done by organizing 3-5 days workshops, training programme, etc.

3. IMPLEMENTATION OF THE PROGRAMME IN A HOLISTIC MANNER :

a. Water Users' Associations are to be formed before taking up on farm development activities

b. On Farm Development Works must be implemented with active involvement of Water Users' Associations and handed over to them after completion.

c. Field link & intermediate drains are also to be simultaneously constructed along with OFD works wherever required

d. WALMIs are to be intimately involved in training and other related activities.

e. After the On-farm development works have been completed and all outlets are saturated, an MOU must be signed between Minor/distributory committees and Irrigation departments for future maintenance.

**Memorandum of Understanding (MoU) between the Ministry of Water Resources,
Government of India and Government of..... for completion of
.....CAD Project**

- 1 This MoU is made between the Ministry of Water Resources, Government of India and the Government offor the completion ofCAD Project in the next..... financial years which was included under CADWM Programme.
2. According to the State Government, the expenditure up to 3/2010 is Rs..... crore andha of CCA has already been covered. The balance cost for completion of the project is thus Rs.....crore with a balance CCA ofha and annual physical and financial targets under different activities of the project from the year 2010-11 onwards are as shown at **Annex-IV(I)**.
3. No cost overrun shall be allowed without the appraisal and approval of competent authorities as prescribed in the scheme guidelines.
4. The Ministry of Water Resources, Government of India agrees to extend Central Assistance of Rs.....crore under different activities as shown in **Annex-IV(II)** for the completion of project subject to the following conditions:
 - i) The Project will be completed by the Government of as per the annual physical and financial target shown in **Annex-IV(I)**. Its completion will be informed immediately to the Ministry of Water Resources, Government of India.
 - ii) The Central assistance will be given in two installments as per the condition prescribed in the scheme guidelines.
 - iii) In case of shortfall below 10% of the target and delay in completion of various activities against annual targets, a revised MoU is to be entered into incorporating modified annual physical and financial targets as well as modified central assistance which would be considered on a case to case basis.

- iv) The project will also be closely monitored by the Ministry of Water Resources / Central Water Commission (CWC) in addition to the monitoring by State Government as prescribed in the scheme guidelines and the release of the central assistance will be based on the recommendations of CADWM Wing of Ministry of Water Resources.
 - v) Quarterly Progress Report indicating quarterly physical and financial target / achievement, matching with annual target shall be submitted to the Commissioner(CAD), Ministry of Water Resources by the end of month of January, April, July and October positively.
 - vi) The State Government shall ensure quality control in the execution of the works and a report of an independent institution on the works executed during the immediate preceding financial year will be submitted to the Ministry of Water Resources in the month of July-August of every financial year.
 - vii) Brief description of project alongwith its salient features and maps as per **Annex-IV(III)** may also be furnished.
5. In case of persistent shortfalls in achievements, no further central assistance shall be released for the project and the grants released earlier would be adjusted against another CAD project of the state receiving central grants. In the absence of such project, grant released shall be converted into loan and recovered as per normal terms of recovery of central loan.

Signed on the day 20 at New Delhi.

For and on behalf of the State Govt. of For and on behalf of Govt. of India

**Secretary, Government of Commissioner (CADWM), Ministry
of Water Resources.**

Physical and Financial Targets for completion of the CAD Project

S.No.	Activities	2010-11		2011-12		2012-13		2013-14		2014-15	
		Physical	Financial	Physical	Financial	Physical	Financial	Physical	Financial	Physical	Financial
1.	Establishment										
2.	Survey,Plann,Design										
3.	Field Channel										
4.	Field, Intermediate and link Drains										
5.	Warabandi Ha.										
6.	Correction of System Deficiency										
7.	Adaptive Trials										
8.	Training										
9.	Demonstration										
10.	Reclamation of WL										
11.	Evaluation Study										
12.	Farmers Participation										
	Total										

Annex-IV(II)

Total Balance Cost: Rs----lakhs

S.No.	Activities	2010-11		2011-12		2012-13		2013-14		2014-15	
		State Share	Central Share	State Share	Central Share	State Share	Central Share	State Share	Central Share	State Share	Central Share
1.	Establishment										
2.	Survey,Plann,Design										
3.	Field Channel										
4.	Field, Intermediate and link Drains										
5.	Warabandi Ha.										
6.	Correction of System Deficiency										
7.	Adaptive Trials										
8.	Training										
9.	Demonstration										
10.	Reclamation of WL										
11.	Evaluation Study										
12.	Farmers Participation										
Total											

Brief Details of CAD Project

i) Project in Brief:-

ii) Salient features:-

iii) Index map:- All projects of a State may be shown in one index map

iv) Project map showing project components and command area