

Command Area Development & Water Management (CAD&WM) Programme

Objective

Command Area Development and Water Management (CADWM) programme, a Centrally Sponsored Plan Scheme being implemented in the State since 1976-77 with the main objective of reducing the gap between irrigation potential created and that utilized. The programme aims at enhancing agricultural production and productivity in irrigated commands by judicious and equitable distribution of the available irrigation water with active involvement of farmers through participatory irrigation management (PIM).

Programme Coverage

The CADWM programme is being executed in major and medium irrigation projects. 17 major and medium irrigation projects having CCA of 845244 hectare was taken up under this programme. By

end of March 2009, 7 projects namely Salandi Left (Major), Pitamahal, Talsara, Salia, Kuanria, Kansbahal and Daha were closed. At present, the programme is being implemented in 8 major and 2 medium irrigation projects namely Mahanadi Delta Stage I Mahanadi Delta stage-II, Salandi Right, Baitarani, Hirakud, Rushikulya, Potteru-Satiguda, Upper Kolab Salki & Jayamangal covering an area of 773039 hectares in 19 districts and 94 blocks. There is a proposal to take up four new projects namely Gohira in Deogarh district, Remal in Keonjhar district, Sunei in Mayurbhanj district and Upper Indravati in Kalahandi district covering CCA 150617 hectare during 2009-10. There are 4 Command Area Development Authorities (CADAs) in the State located at Cuttack, Sambalpur, Berhampur and Jeypore to carry out the programme in the following irrigation commands:

SI No	Name of the CADA	Name of the Project
1.	CADA, Cuttack	1.Mahanadi Delta Stage-I
		2.Mahanadi Delta Stage-II
		3.Salandi Right
		4.Baitarani
		5. Sunei (New project, proposed during 2009-10)
		6.Remal (New project, proposed during 2009-10)
2.	CADA, Sambalpur	7.Hirakud
		8. Salki
		9.Gohira (New project, proposed during 2009-10)
3.	CADA, Berhampur	10.Rushikulya
		11.Jayamangal
4.	CADA, Jeypore	12.Potteru-Satiguda

		13.Upper Kolab
		14.Upper Indravati (New project, proposed during 2009-10)

Programme Components

Topographical survey

Topographical survey is carried out departmentally by the technical staff in the total Command Area of the Project for fixing alignment for construction of Field Channel, Field Drains. The beneficiaries on the basis of alignment voluntarily contribute the required land through the Pani Panchayats.

Construction of Field channel

Field channel is the core component under CADWM Programme. The field channels facilitate in carrying out water from outlets of minors, distributaries etc. up to tail end at very short time preventing loss of seepage in agricultural land. This helps in rotational water supply in judicious manner to each field to achieve higher production.

Construction of Field drain

Field drains help in draining out surplus water from the agricultural land to main and trunk drain. This prevents water logging in the crop field by which higher productivity is achieved and it helps in taking up cash crops after draining out the excess water from the field.

Reclamation of Waterlogged and Saline Lands

In order to reclaim the waterlogged and saline areas in the irrigated commands, surface drainage as well as sub surface

drainage systems are developed alongwith the option of bio-drainage at suitable locations.

Farmers' Training

Training camps are organized in villages to educate the farmers on water management and crop management. This is important activity for educating the farmers to adopt modern technologies for achieving higher production with regulated water supply.

Crop Demonstration

Demonstrations are carried out on the farmers' field to show them practically, how to adopt suitable cropping pattern and use of balanced dose of inputs with proper management of available water.

Correction of System Deficiencies

This component meant to rectify the deficiencies in the supply system above outlet up to distributaries of 150 cusec capacity.

For active participation of farmeres in irrigation management, Water Users Associations (Pani Panchayats) are being formed in different commands. The Pani Panchayats are to play key role in management of water supply in the field and adopt proper cropping pattern.

Financial Norms and Funding Pattern

The activities under CADWM programme being implemented in Orissa at present and the financing norms and funding pattern is given in the following table.

SI No	Items	Cost Norms Per hectare	Central Share	State Share	Farmers Share
1	Construction of Field Channels	Rs 15,000/- for areas in Non-KBK districts and Rs 22,000/- for areas in KBK districts	50%	40%	10%
2	Construction of Field Drains	Rs 4,000/- for areas in Non-KBK districts and Rs 5,000/- for areas in KBK districts	50%	50%	
3	Reclamation of Waterlogged Area	Rs.15,000/-	50%	40%	10%
4	Adaptive Trials, Action Research and Demonstration	As per location specific need	75%	25%	
5	Farmers Training	As per location specific need	75%	25%	
6	Correction of system deficiencies above out let up to Distributaries of 150 Cusec capacity	Rs.6000/-	50%	50%	
7	One time functional grant to water Users' Association	Rs 1000/-	45%	45%	10%

Programme Status

By end of March 2009, field channel covering 478.204 thousand hectares and field drain covering 147.815 thousand hectares were completed that includes construction of 27.70 thousand hectare of field drain and 11.72 thousand hectares field channel during 2008-09. Emphasis is

being given to complete the ongoing projects. Accordingly a target was set to complete 3 projects during 2008-09, 4 projects by 2011-12 and 5 projects by 2013-14. As per target three projects namely Kuanria, Daha and Kansbahal projects were completed during 2008-09. Projectwise status is given in the table below.

Total status Field Channel and Field Drain in CAD projects as on 31.03.2009

SI No	Name of the Project	Year of inclusion	CCA in th.ha	Total area covered by March 2009 (in th.ha)		Remarks
				Field Channel	Field Drain	
Completed Projects						
1	Salandi Left	1976-77	44.635	43.317	11.912	Deleted
2	Salia	1994-95	8.310	0.526	0.000	Deleted
3	Pitamahal	1994-95	2.640	1.106	0.050	Deleted
4	Talsara	1994-95	3.030	0.524	0.000	Deleted
5	Daha	1998-99	4.760	4.657	0.390	Deleted

6	Kansbahal	2004-05	5.050	4.578	0.295	Deleted
7	Kuanria	2004-05	3.780	3.780	0.452	Deleted
	Total		72.205	58.488	13.099	
	Ongoing Projects					
1	Mahanadi Delta St I	1976-77	179.410	117.619	39.833	Under progress
2	Mahanadi Delta St II	1976-77	156.840	82.780	28.905	Under progress
3	Hirakud	1976-77	157.018	140.635	47.789	Under progress
4	Rushikulya	1994-95	61.790	15.519	1.577	Under progress
5	Salandi Right	1994-95	40.178	10.841	4.327	Under progress
6	Potteru-Satiguda	1988-89	70.100	13.924	0.400	Under progress
7	Baitarani	1998-99	32.768	8.695	7.404	Under progress
8	Upper Kolab	2004-05	47.715	16.863	4.020	Under progress
9	Salki	1994-95	19.870	11.036	0.251	Under progress
11	Jayamangal	1998-99	7.350	1.804	0.210	Under progress
	Total		773.039	419.716	134.716	
	New Projects to be included during 2009-10					
1	Upper Indravati	2009-10	128.000			
2	Gohira	2009-10	8.304			
3	Sunei	2009-10	10.000			
4	Remal	2009-10	4.313			
	Total		150.617	0.000	0.000	
	Grand Total		995.861	478.204	147.815	

Achievement during 2008-09

Name of the Scheme	Target (ha)	Achievement in ha	Revised Estimate 2008-09 (Rs lakhs)	Expenditure in Rs lakhs
Construction of Filed Channel	29107	27700	2619.60	2492.98
Construction of Filed Drain	12743	11721	509.72	468.84
Reclamation of Waterlogged Area	17	0	2.30	0.00
Crop Demonstration	2100	1840	105.00	87.19
Farmers' Training (in numbers)	29000	25400	31.32	27.26
Correction of system deficiencies	50	0	2.00	0.00
Sub Total Works			3269.94	3076.27
Project Administration			135.96	129.40
Topo Survey, Planning and Design	21000	19588	762.28	737.52
Sub Total Establishment			898.24	866.92
TOTAL CADWM			4168.18	3943.19
WORKS UNDER NON-PLAN			390.22	390.22
GRAND TOTAL			4558.40	4333.41

Programme 2009-10

A budget provision of Rs 3295.00 lakhs has been provided in the annual budget of 2009-10 for construction of field channels,

field drains and other required components of the scheme as given below.

Sl No	Name of the Schemes	Physical target for 2009-10 (ha)	Budget provision for 2009-10 (in Rs lakhs)		
			State share	Central share	Total
1	Construction of Field Channel	15327	489.80	1366.56	1856.36
2	Construction of Field Drain	750	16.00	16.00	32.00
3	Reclamation of waterlogged area	17	1.00	1.28	2.28
4	Demonstration	500	6.25	18.75	25.00
5	Training (<i>in camps of 100 farmers</i>)	101	2.73	8.19	10.92
6	Correction of system deficiency	33	1.00	1.00	2.00
7	Topo survey	33550	604.26	604.26	1208.52
8	Project Admn.		78.96	78.96	157.92
	GRAND TOTAL		1200.00	2095.00	3295.00



Field channel construction in progress in Madhyakhanda (Kuanria)



Field channel in Rait Odasara (Kuanria)



Field channel in Dandipadar (Daha)



Field channel in Hatiguda (Daha)



Field channel in Jhagarpur (Kansbahal)



Farmers Training in Kansbahal command



Sunflower grown through Field channel in Rait Odasara (Kuanria)

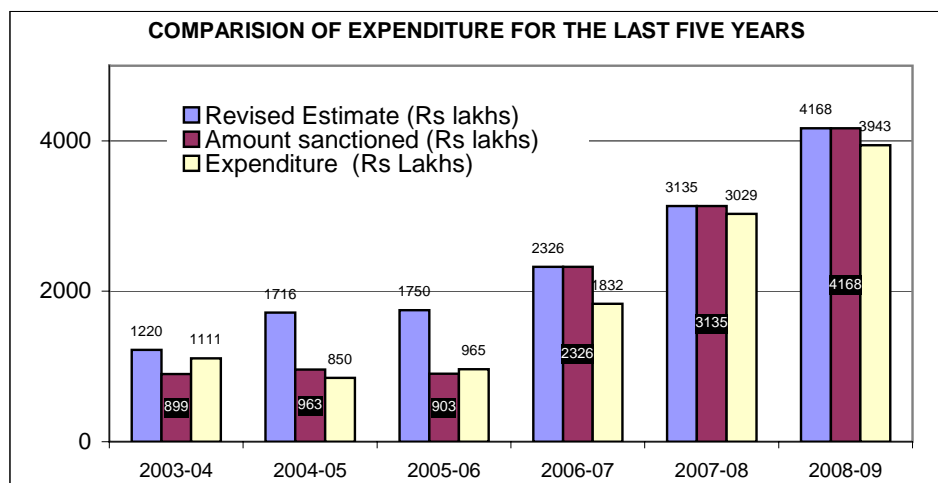
CADWM programme in last five years

The CADWM programme has been scaled up in the last few years with higher allotment of funds year after year. Against the budget provision of Rs 1220 lakhs an amount of Rs 1111 lakhs was utilized



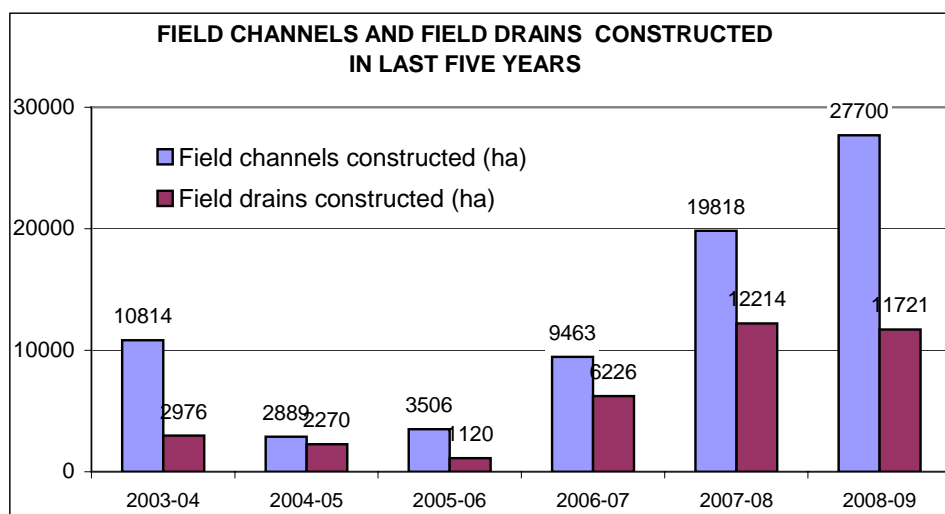
Field drain at Dalaksahi to Dihagaon (Kuanria))

during 2003-04. The provision went on increasing and an amount of 3943.19 lakhs were spent during 2008-09 against the revised estimate of Rs 4168.18 lakhs.



The physical achievement towards construction of main items like Field channels and Field drains have also been increased substantially in the last few years. The achievement under construction of field channels and field drains were only 2889 hectare and 2270 hectare respectively during 2004-05. Construction of field channels increased to

3506 hectare during 2005-06, 9463 hectare during 2006-07, 19818 hectare during 2007-08 and 27700 hectare during 2008-09. Construction of field drains, similarly has been increased to 6226 hectare during 2006-07, 12214 hectare during 2007-08 and 11721 hectare during 2008-09.



Reclamation of Water-logged Areas:

The XIX meeting of the core group of officers was held in the month of February 2009 in MoWR, GoI, for approval of project proposals for

reclamation of waterlogged areas. Four project proposals were approved for an amount of Rs 38.00 lakhs. The details are given in the table below

Sl No	Name of the project	Command/Block	Area	Estimated cost
1	Kakudikusanga	Mahanadi Delta Stage II, Pipili Block	85.50 ha	Rs 12.74 lakhs
2	Nirmala, Potala to Thengipada	Mahanadi Delta Stage II, Pipili Block	56.00 ha	Rs 8.40 lakhs
3	Manikdeipur to Jagannathpur	Mahanadi Delta Stage II, Pipili Block	38.00 ha	Rs 12.88 lakhs
4	Rokida	Mahanadi Delta Stage II, Niali Block	30.00 ha	Rs 4.50 lakhs

CADWM activities under RKVY

CADWM activities are also being extended in other irrigation projects by availing funds from Rastriya Krishi Vikas Yojana (RKVY). Budhabudhiani medium irrigation project of Nayagarh district with financial involvement of Rs 552.85 lakhs (511.85 RKVY share and 41.00 beneficiaries' contribution) and Salia medium irrigation project (balance area) with financial involvement of Rs 1256.80 lakhs (1167.60 RKVY share and 89.20 beneficiaries' contribution) of Khurda district have been included under stream I of RKVY. 31 Pani Panchayats (9 in Budhabudhiani and 22 in Salia) are being directly involved in the process of planning and execution of these projects.

CADWM activities under OIIAWMIP

On-Farm Water Management and CAD activities under participatory mode are to be taken up in command areas of 15 major and medium irrigation projects under "Orissa Integrated Irrigated Agriculture and Water Management Investment Programme (OIIAWMP)" with financing from ADB in four tranches.

Works in four irrigation projects, namely, Goriha, Sunei and Remal and the Taladanda Canal system of Mahanadi Delta Stage I command are to be taken up in the Tranch I of the programme. The scheme components like field channels and field drains etc are to covered under centrally sponsored scheme and the additional support interventions like improvement to field channels and field drains, construction of lateral channels, scheduling (warabandi) and conjunctive use of surface and ground water are covered under OIIAWMIP. An amount of Rs 100.57 lakhs have been provided for On-Farm Water Management and CAD activities of Taladanda canal system under this scheme during 2008-09.

Maintenance of On Farm Development Works

The On Farm Development works in the initial years were left for the farmers to maintain. Many a projects, which are quite old are in a dilapidated conditions. Funds from Non Plan schemes are now provided for repair and renovation of these dilapidated field channels and field drains constructed decades ago. An amount of Rs.390.22 lakh was provided under Non-plan schemes in the annual

budget of 2008-09 for maintenance of the field channels and field drains in 4 completed and 13 ongoing irrigation projects. All these works were executed by the concerned Pani Panchayat.

Maintenance under NREGS

Repair and restoration of old and defunct field channels and field drains are also being taken up under NREGS. During 2008-09, 31 projects covering 6 nos. of districts namely, Cuttack, Kendrapara, Jagatsinghpur, Bhadrak, Jajpur and Sonapur in Orissa amounting to Rs 51.25 lakhs under NREGS have been sanctioned and works were taken up for repair and rehabilitation of CAD field drain structures for ensuring optimal utilization and equitable distribution of water and also for mitigating waterlogging situation in low lying areas.

Special package of the Hon'ble Chief Minister for Hirakud Command Area Development

An amount of Rs 202.00 lakhs were sanctioned during 2008-09 under special package of the Hon'ble Chief Minister for taking up of repair and rehabilitation works of field channels in Hirakud command. 48 Pani Panchayats in Sambalpur, Bargarh and Sonapur districts executed the above works. After execution of these works water is now reaching the tail end areas. The details of repair and restoration made under this scheme are as follows. During 2009-10, budget provision of Rs.1.00 crore proposed for OFD works in Harakud Command.

SI No	Name of the district	Name of the Block	No of projects restored	No of Pani Panchayats involved	Area covered (ha)	Estimated cost (Rs lakhs)
1	Sambalpur	Jujomura & Maneswar	23	16	1457.15	102.00
2	Bargarh	Attabira, Bargarh, Bheden & Barpalli	17	18	735.09	50.00
3	Subarnapur	Binika & Dunguripalli	14	14	715.15	50.00
	Total	8 blocks	54	48	2907.39	202.00



Field channels under Hirakud Command

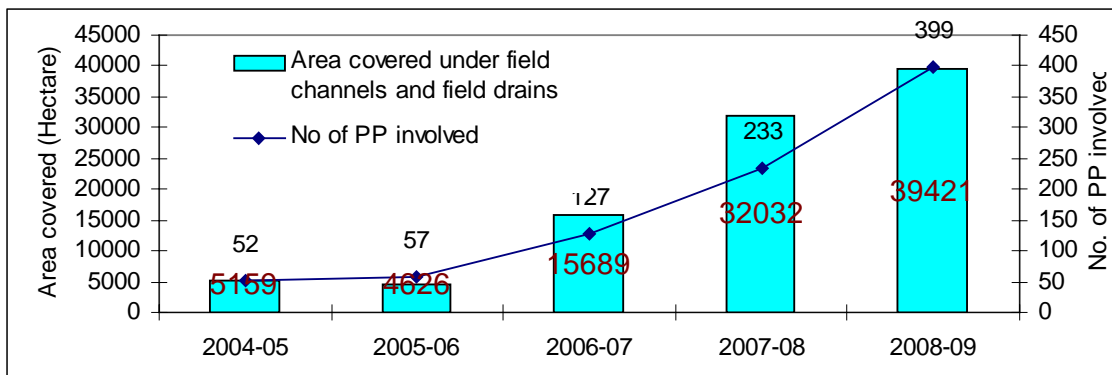


Field channels under Hirakud Command

Role of Pani Panchayats

Participation of farmers and execution of CAD works through the Pani Panchayats is a pre-requisite for CADWM programme as per Govt. of India norms. Under the Command Area Development programme, the execution of Field channel and Field Drains are taken up solely by the concerned Pani Panchayats with the supervision of the technical personnel of CAD organization. The Pani Panchayat plays a key role in motivating the farmers and are involved in land donation (for construction) and

beneficiary contribution in shape of labour (10% in construction of field channel and reclamation of waterlogged areas). The Pani Panchayats take keen interest in maintaining the quality of work. As the farmers are directly associated with the work during execution, they feel that the work belongs to them and is their property. From the year 2004-05, the construction of field channel and field drain of 5169 ha through 52 nos of Pani Panchayats has been increased to 39421ha with 399 nos. of Pani Panchayats in 2008-09 as shown in the following figure.



Visit of Commissioner, CADWM, MoWR, Gol

The team comprising of the Commissioner and Joint Commissioner,

CADWM, Ministry of Water Resources, Govt. of India visited and inspected the CADWM works in Orissa during August 2008. Basing on their report, the high level technical committee of MoWR have accorded, in principle,



Field channel at Binayakpur (Mahanadi Delta Stage II) being inspected by Commissioner, CADWM, MoWR, GoI

clearance of three medium irrigation projects, namely, Gohira, Sunei and Remal and one major irrigation project namely, Upper Indravati for inclusion under CADWM programme from 2008-09.



Commissioner, CADWM, MoWR, GoI in discussion with the members of Dula Dei Pani Panchayat at Pratappur Sasan (Mahanadi Delta Stage II)