

# **COMMAND AREA DEVELOPMENT & WATER MANAGEMENT (CADWM) PROGRAMME**

## **INTRODUCTION:-**

Command Area Development and Water Management (CADWM) programme is a Centrally Sponsored Plan Scheme being implemented in the State since 1976-77. The vision of CAD is to reduce the gap between irrigation potential created and that utilized by construction of On-farm Developmental works like, construction of field channel, field drain etc. by judicious and equitable distribution of the available irrigation water and with active involvement of farmers through participatory irrigation management(PIM).

## **2. AIMS & OBJECTIVES**

- ❖ **To bridge the gap between irrigation potential created & utilized**
- ❖ **To ensure timely and equitable distribution of irrigation water in the command**
- ❖ **To enhance the irrigated area by means of efficient water management**
- ❖ **To boost agriculture production and productivity in the command**
- ❖ **To involve the beneficiary farmers at grass roots level for management of water resources through Participatory Irrigation Management(PIM) & organization of Pani Panchayats.**

## **3. PROGRAMME COVERAGE**

The CADWM programme is being executed in major and medium irrigation projects only. So far CADWM activities have been completed in 15 nos. of projects, namely Salandi Left, Salia, Pitamahar, Talsara, Daha, Kansbahar, Kuanria, Salki, Hirakud, Gohira, Sunei, Remal, Jayamangal, Upper Kolab and Ramial. The programme is now being implemented in 8 Major projects and 4 Medium Irrigation Projects.

Out of the total CCA of 11.15 La.ha.(AIBP- 10.77 la.ha. + RKVY- 0.40 la.ha.) taken up under CADWM programme, 8.69 La.ha.(AIBP- 8.39 la.ha.

+RKVY- 0.31 la.ha.) have been covered with field channels and 2.55 lakh ha covered under field drain by end of March-2017. The CADWM programme is being implemented in 26 districts. There are 3 Command Area Development & Water Management Authorities (CADWMA) in the State located at Cuttack, Sambalpur and Berhampur to carry out the field execution programme in the following ongoing irrigation commands:

Sl No	Name of the CADWMA	Name of the Project
1.	<b>Cuttack</b>	1.Mahanadi Delta Stage-I 2.Mahanadi Delta Stage-II 3.Salandi Right 4.Salandi Left(ERM) 5.Baitarani 6. Kanjhari 7.Bankbahal 8.Kalo 9.Khadkhai
2.	<b>Hirakud CADA,Sambalpur</b>	10.Hirakud(ERM) 11.Rengali 12.Derjang 13.Talsara(ERM) 14.Ong
3.	<b>Rushikulya CADA,Berhampur</b>	15.Rushikulya 16.Jaymangal(ERM) 17.Bahuda 18.Baghua 19.Potteru-Satiguda 20.Upper Indravati 21.Upper Kolab(ERM) 22.Badnala 23.Uttei 24.Upper Jonk

#### 4. PROGRAMME COMPONENTS:

##### 4.1 Topographical survey

Topographical survey is carried out departmentally by the technical staff in the 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.

## **4.2 Construction of field channel**

Field channel is the core component under CADWM Programme. The field channels facilitate in carrying out water from out lets of minors, sub-minors and 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.

## **4.3 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.

## **4.4 Reclamation of Waterlogged and Saline Lands**

Vast tracks of croplands in command area suffer from Water Logging and salinity problems due to continuous Irrigation and seepage of canals. In order to reclaim these areas and to bring the land under agriculture, surface drainage as well as sub-surface drainage system has to be contemplated. By this process, the excess canal water is drained out through appropriate network of link drains which ultimately empty into a permanent out-fall point.

## **4.5 ADAPTIVE TRIALS**

### **4.5.1. Farmers Training**

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

### **4.5.2. Crop Demonstration**

Crop Demonstration programmes 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 in the command for active participation of farmers. Pani Panchayats are being involved in the programme that plays the key role in water management and

adopt suitable cropping pattern to boost agriculture production in the command.

#### **4.6 Correction of System Deficiencies**

Most of the irrigation projects have been operating much below their potential due to shortage of funds for operation and maintenance (O&M) related activities such as cleaning of channels by de-silting and weeding, raising earth work in embankments or dressing the slide slopes to the design standard, strengthening of banks in filling sections, restoring bed-gradients and lining in vulnerable section etc.

### **5. FUNDING PATTERN**

The Ministry of Water Resources, Government of India reimburses more than 50% of the eligible expenditure under the schemes as per the revised norms of expenditure.

The MoWR, Gol have issued interim guidelines for taking up CADWM works with effect from 2016-17. The details of cost norm are given below.

**(Guideline issued by MoWR,Gol during September-2015)**

Sl.No	Items	Cost norms	Central Share	State Share
1	Construction of Field channels	`35000/ Ha.	50%	50%
2	Construction of Field Drains	`6000/-ha.	50%	50%
3	Reclamation of Water Logged Areas	`20000/-ha.	50%	50%
4	Micro Irrigation	`50,000/-ha.	50%	50%
5	Crop Demonstration	`15,000/-ha.	75%	25%
6	Farmers' Training(50 nos)	`16,000/-ha.	75%	25%
7	Infrastructure grant to WUAs	`3,00,000/-	75%	25%
8	Correction of System deficiencies	`8000/-ha.	50%	50%
9	One time functional grant to WUAs	`1,200/-ha	45%	45%
10	Survey ,Planning Design	`1,200/-ha.	50%	50%
11	Establishment cost @10% of item No.1,2,3&8		50%	50%

### **6. SCALING OF CADWM ACTIVITIES.**

**Programme & Progress for 2016-17:-**

During the 2016-17, there is physical target of 60701 Ha. – Field Channel, 12094 Ha.- Field Drain, 2625 Ha. Crop Demonstration, 255 nos- Farmers' Training with the financial provision of `212.456 Crore -Field Channel, `7.26 crore -Field Drain, 1.56 crore- Crop Demonstration, `0.23 crore -Farmers' Training, `18.50 crore - Establishment cost with total budget provision of `240.00 Crore.

The achievement during 2016-17 is 59675 ha. –Field Channel, 12094 ha. – Field Drain, 2625Ha. –Crop Demonstration and 239 nos. of Farmers Training which is 97 %.

Programme for the year 2017-18:-

During 2017-18, the target has been fixed to execute Field Channel works in 51184.30 Ha., ERM of field channel in 10567.70 Ha., 12906 Ha.- Field Drain, 10500 Ha- Survey, 1480 Ha.-Crop Demonstration and 160 nos of Farmers Training with the budget provision of Rs.268.34 Crore.

## **7. MAINTENANCE OF ON FARM DEVELOPMENT WORKS**

### **Non Plan funds:-**

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 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. Funds for repair of these old projects have been provided under Non Plan schemes since 2007-08. During the year 2016-17, an amount `10.04 Crore has been utilized for (ERM) Extension, Renovation and Maintenance of 2868 Ha. of Field channels. All these works have been executed by the concerned Pani Panchayats and handed over to them for use and future maintenance.

### **Programme for 2017-18 under Non-Plan:-**

During the year 2017-18, there is budget provision of Rs.10.038 Crore for ERM of Field Channels in 2867.95 Ha.

## **8. CADWM ACTIVITIES UNDER RKVY**

During the year 2016-17, 15 nos ( 5 nos New OFD projects with an area of 8874 Ha. of `31.203 Crores and 10 nos.ERM of CADWM works with an area of 13788 Ha. of `48.257 Crore ) under RKVY have been sanctioned with total cost of `79.463 Crore to be taken up & to be completed from 2016-17 to 2018-19(three years).

CADWM works are being taken up under RKVY Programme for which funds are being received from Agriculture and Farmers' Empowerment Deptt. During 2016-17, CADWM works are continuing in 05 nos of Medium Irrigation Projects namely Ghodahada, Bhaskel, Ddaraghati, Dahuka and Sarapgarh Command covering an area of 22003 ha. with an estimated cost of `6517.02 lakh. Out of that, CADWM works have been completed in 13955 ha. with expenditure of `3129.21 lakh. The CADWM works was completed in Ghodahad and Bhaskel Medium Irrigation Projects during 2016-17.

ERM works have been taken up in the Budhabudhiani, Kuanria, Salia, Ramial, Kanjhari, Ong and Bankabahal Commands. ` 710.0 lakhs has been provided to cover 2028.57 ha. out of which 409.25 lakh has been utilized to complete the works over 1171 ha.

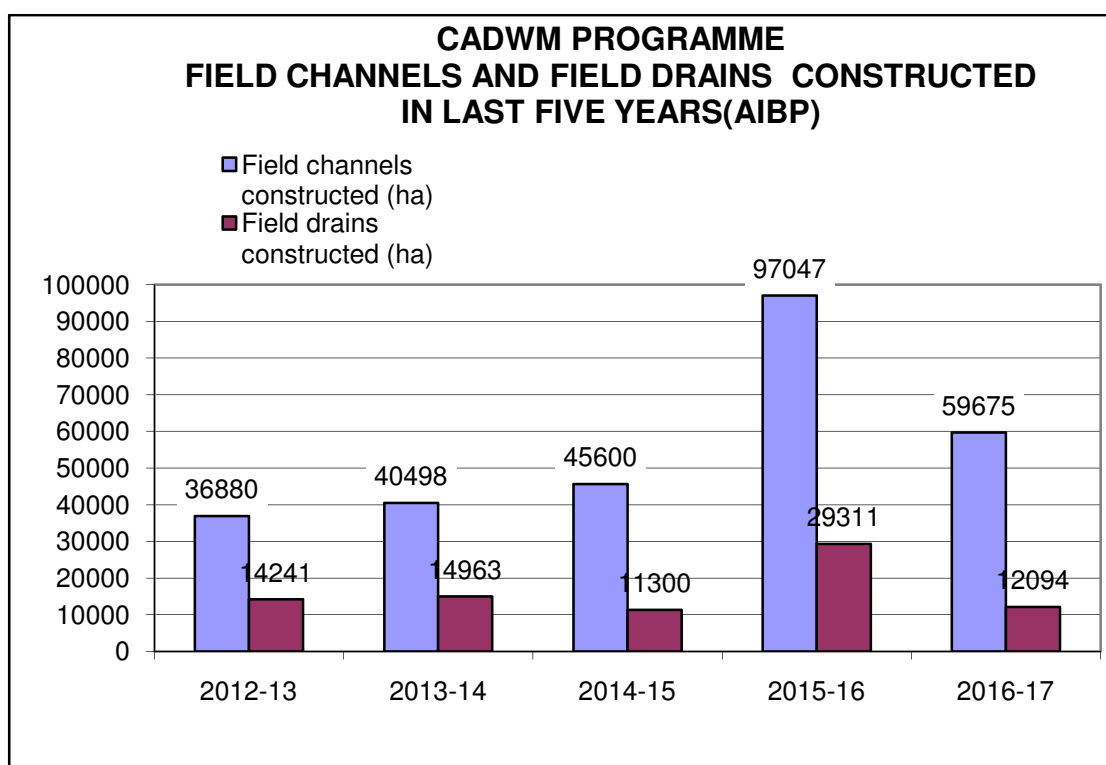
## **9. ON-FARM WATER MANAGEMENT & CAD ACTIVITIES UNDER OIIAWMP.**

It has been proposed to take up CAD works in 18600 ha. with an estimated cost of Rs.65.10 Crore under Tranche-II in MDS-I( Major ) and Kansbahal(Medium) Commands during 2017-18 under "Orissa Integrated Irrigated Agriculture and Water Management Programme (OIIAWMP)" with financing from ADB.

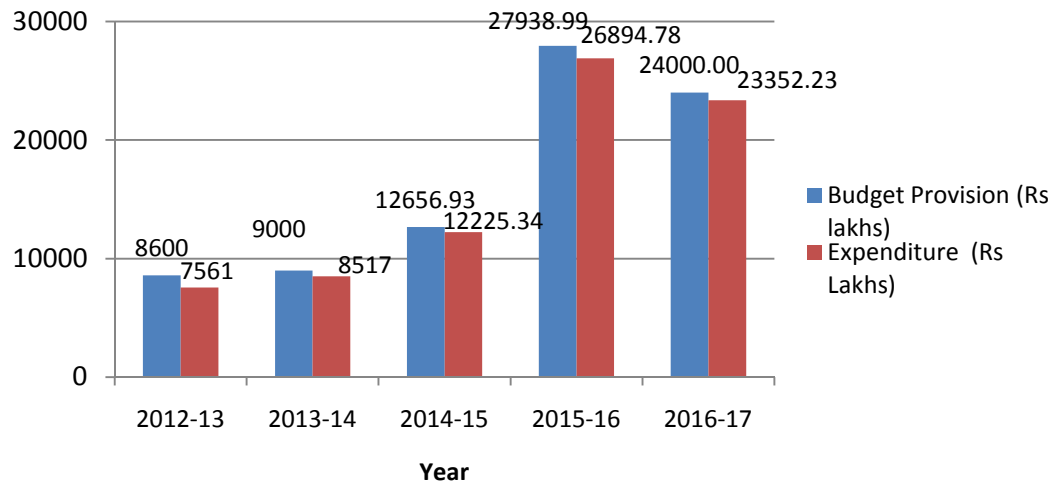
## **10. ROLE OF PANI PANCHAYATS**

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 for 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. After execution of the project, it is handed over to the concerned Pani Panchayat for operation and future maintenance. On an average, about **814** Pani Panchayats have involved in various activities under the programme during 2016-17.



### Budget Provision and Expenditure of CADWM Programme during last 5 years(AIBP)







Field channel in Kantapal village of Ramial Command.





Field channel works in Salandi Command



Field channel work in Jawanpali village of Potteru-Satiguda command(Ground nut patch)



FC at Kuanrpur, State Plan, 2016-17, MDS - II Command,  
Bhubaneswar



FC at Poipani,  
2016-17, State Plan





FC at Bankadungri, 2016-17, State  
Plan



Maranpalli ,CAD Divn,Malkangiri(2016-17)







F.C. project Banjibahal of Jayapatna Block (Indravati Command)



Maranpalli ,CAD Divn,Malkangiri(2016-17)



FC work in village- Bouli,(Block-GoP) MDS-II Command(2016-17)





FC work in Jangalbori (Block-Delang)MDS-II(2016-17)



### Status of Field Channel and Field Drain works up to 31.03.2017

SI No	Name of the Project	Total Command Area (Th. Ha)	Total Field Channel Completed (Th. Ha.)by 31.03.2017	Total Field Drain Completed
<b>Completed projects (AIBP)</b>				
1	Salandi Left	44.635	43.317	11.912
2	Salia	8.310	0.526	0.000
3	Pitamahal	2.640	1.106	0.050
4	Talsara	3.030	0.524	0.000
5	Daha	4.760	4.657	0.390
6	Kansbahal	5.050	4.578	0.295
7	Kuanria	3.780	3.780	0.452
8	Salki	19.890	17.829	0.251
9	Hirakud	153.240	153.395	51.799
10	Gohira	9.172	8.304	1.715
11	Sunei	10.000	9.825	3.003
12	Remal	4.313	4.313	0.600
13	Jayamangal	7.350	4.902	1.325
14	Upper Kolab	47.200	35.136	10.893
15	Ramiala	9.600	5.202	1.800
<b>TOTAL</b>		<b>332.97</b>	<b>297.273</b>	<b>84.485</b>
<b>Completed projects (RKVY)</b>				
1	Budhabudhiani	4.130	4.130	0
2	Salia	9.455	9.455	0
3	Pilasalki	2.269	2.269	0
4	Ghodahada	7.758	7.758	0
5	Salki	1.029	1.029	0
6	Bhaskel	4.250	4.250	0
<b>TOTAL</b>		<b>28.891</b>	<b>28.891</b>	<b>0</b>
<b>Ongoing Projects ( AIBP)</b>				
1	Mahanadi Delta St I	179.410	150.219	53.602
2	Mahanadi Delta St II	156.890	112.304	52.196
3	Rengali	41.133	27.156	5.185
4	Rushikulya	61.230	53.782	6.652
5	Salandi Right	40.180	24.741	10.359
6	Potteru-Satiguda	70.100	62.611	2.950
7	Baitarani	32.770	25.145	14.234
8	Upper Indravati	128.000	63.561	22.539
9	Kanjhari	9.800	6.928	1.700
10	Bankbahal	6.840	5.586	1.050
11	Ong	10.670	7.285	0.750
12	Derjang	7.392	1.648	0.000
<b>TOTAL</b>		<b>744.415</b>	<b>540.966</b>	<b>171.217</b>
<b>Ongoing Projects ( RKVY)</b>				
1	Sarafgarh	2.747	1.494	0.000
2	Dadaraghati	4.120	0.282	0.000
3	Dahuka	2.278	0.171	0.000
<b>TOTAL</b>		<b>9.145</b>	<b>1.947</b>	<b>0.000</b>
<b>G. Total</b>		<b>1115.421</b>	<b>869.077</b>	<b>255.702</b>