Department of
Water Resources

ANNUAL REPORT

CAD-PIM

2023-24

https://dowr.odisha.gov.in/

COMMAND AREA DEVELOPMENT AND WATER MANAGEMENT

1.0 Scope of CAD

Command Area Development and Water Management (CAD&WM) Programme is being implemented in the State since 1976-77 with an aim to increase water use efficiency through equitable distribution of water.

Command Area Development and Water Management (CAD&WM) Programme is being implemented in the State since 1976-77 with an aim to increase water use efficiency through equitable distribution of water.

Number of irrigation projects have been created in the State with huge investment to provide irrigation water for increase in agricultural production and productivity. But the full potential that has been created is yet to be utilized in absence of proper on-farm water management practices. Construction of adequate network of Field Channels (FC) in the farmers' field is therefore essential for full utilization of the irrigation potential created in the command. The old and dilapidated field channels constructed decades ago are also being reconstructed with RCC lining.

The main activities taken up under this programme are (a) survey and planning, (b) construction of field channels, (c) Reconstruction of old field channel, (d) farmers' training.

2.0 CAD network

By end of the FY 2023-24 a total of 11.28 lakh Ha of command area has been covered with FCs in 157 irrigation commands (Major:12; Medium: 44; Minor: 101) across 29 districts.

The project-wise status of construction of field channels is given in following table.

18	**Sunamuhni**		**614**	**614**
19	Singapaga		265	265
20	Darpanarayanpur MIP		280	280
21	Salandi Left	43317	2020	45337
22	Salandi Right	40178	0	40178
23	Baitarani	32770	0	32770
24	Rissia		1640	1640
25	Sunei	9825		9825
26	Remal	4313		4313
27	Kanjhari	9228		9228
28	Tenar		890	890
29	Jagadala		1160	1160
30	Dhobaghat MIP		411	411
31	Sanamachakandana MIP		905	905
32	Kalo	4644		4644
33	Khadkhai	7990		7990
34	Bankabahal	7140		7140
35	Baldhia	3832	0	3832
36	Gangahaar	444	1354	1798
37	Badajore	831	348	1179
38	Pokharia		144	144
39	Daha	4657		4657
40	Ramanadi	1280	0	1280
41	Jayamangal	4902		4902
42	Ghodahada	7758		7758
43	Upper Indravati	72475	500	72975
44	Bhaskel	4250		4250
45	Dumerbahal	2736		2736
46	Ret MIP	1200		1200
47	Karkata	388	0	388
48	Bagpur	596	0	596
49	Kaliganga		560	560
50	Tangakona		200	200
51	Phuljhari	1000	600	1600
52	Mandiaguda		420	420

53	**Chhamunda**		**907**	**907**
54	Saipala	2134		2134
55	Upper suktel		687	687
56	Bodenalla		910	910
57	Godanalla		303	303
58	Dhujabhata		300	300
59	Bagjharan		351	351
60	Masinakata		230	230
61	Badanala	9836		9836
62	Kanijodi MIP	1200		1200
63	Sanamuligaon MIP	920		920
64	Tandipur MIP	1143		1143
65	Siltiguda MIP	549		549
66	Hatimunda	1500	0	1500
67	Bhangi	2000		2000
68	Arbinala		452	452
69	Jagadalpur		542	542
70	Sakata		451	451
71	Bishnuguda		228	228
72	Kuli		683	683
73	Lower Gadagada		390	390
74	Upper Gadagada		275	275
75	Hirakud	153395		153395
76	Salki	18858		18858
77	Pitamahal	1106		1106
78	Bankasul MIP	1620		1620
79	Girishchandrapur MIP	745	412	1157
80	Kharla MIP	1484	397	1881
81	Kansbahal	4578		4578
82	Gohira	8304		8304
83	Ong	10005		10005
84	Jharbandh	2124		2124
85	Talasara	3036		3036
86	Masinanala	442	0	442
87	Pilasalki	2269		2269
88	Sarafgarh	2651		2651
89	Kayakud	618		618

18	**Sunamuhni**		**614**	**614**
19	Singapaga		265	265
20	Darpanarayanpur MIP		280	280
21	Salandi Left	43317	2020	45337
22	Salandi Right	40178	0	40178
23	Baitarani	32770	0	32770
24	Rissia		1640	1640
25	Sunei	9825		9825
26	Remal	4313		4313
27	Kanjhari	9228		9228
28	Tenar		890	890
29	Jagadala		1160	1160
30	Dhobaghat MIP		411	411
31	Sanamachakandana MIP		905	905
32	Kalo	4644		4644
33	Khadkhai	7990		7990
34	Bankabahal	7140		7140
35	Baldhia	3832	0	3832
36	Gangahaar	444	1354	1798
37	Badajore	831	348	1179
38	Pokharia		144	144
39	Daha	4657		4657
40	Ramanadi	1280	0	1280
41	Jayamangal	4902		4902
42	Ghodahada	7758		7758
43	Upper Indravati	72475	500	72975
44	Bhaskel	4250		4250
45	Dumerbahal	2736		2736
46	Ret MIP	1200		1200
47	Karkata	388	0	388
48	Bagpur	596	0	596
49	Kaliganga		560	560
50	Tangakona		200	200
51	Phuljhari	1000	600	1600
52	Mandiaguda		420	420

53	**Chhamunda**		**907**	**907**
54	Saipala	2134		2134
55	Upper suktel		687	687
56	Bodenalla		910	910
57	Godanalla		303	303
58	Dhujabhata		300	300
59	Bagjharan		351	351
60	Masinakata		230	230
61	Badanala	9836		9836
62	Kanijodi MIP	1200		1200
63	Sanamuligaon MIP	920		920
64	Tandipur MIP	1143		1143
65	Siltiguda MIP	549		549
66	Hatimunda	1500	0	1500
67	Bhangi	2000		2000
68	Arbinala		452	452
69	Jagadalpur		542	542
70	Sakata		451	451
71	Bishnuguda		228	228
72	Kuli		683	683
73	Lower Gadagada		390	390
74	Upper Gadagada		275	275
75	Hirakud	153395		153395
76	Salki	18858		18858
77	Pitamahal	1106		1106
78	Bankasul MIP	1620		1620
79	Girishchandrapur MIP	745	412	1157
80	Kharla MIP	1484	397	1881
81	Kansbahal	4578		4578
82	Gohira	8304		8304
83	Ong	10005		10005
84	Jharbandh	2124		2124
85	Talasara	3036		3036
86	Masinanala	442	0	442
87	Pilasalki	2269		2269
88	Sarafgarh	2651		2651
89	Kayakud	618		618

90	**Kumbho**	**1050**		**1050**
91	Talkhol	809		809
92	Nibrutijore	2491	109	2600
93	Padampurnala	840	726	1566
94	Kumudinala	1220	770	1990
95	Bandeswarinala	940	780	1720
96	Kukudanala	1820	80	1900
97	Kuliarijore MIP		972	972
98	Ichaa	1723	0	1723
99	Porpetta	821	0	821
100	Katangnala	368	0	368
101	Victoriasagar MIP		700	700
102	Sankudeswar MIP		335	335
103	Ostalia MIP		911	911
104	Sahebi MIP		207	207
105	Kantiali MIP		250	250
106	Bargaonmal Mip		386	386
107	Ghurlijore MIP		352	352
108	Rungaon MIP		278	278
109	Mulabadhan MIP		607	607
110	Ramial	6079		6079
111	Derjang	5648		5648
112	Dadaraghati	4120		4120
113	Damsala	500	621	1121
	SUB TOTAL	**840082**	**29020**	**869102**
	GRAND TOTAL	**1080713**	**47736**	**1128449**

Three CAD Authorities (CADAs) in the State, located at Cuttack, Sambalpur and Berhampur, carry out the field execution programme through 12 CAD Divisions and 3 offices of Deputy Director, Soil & Water Management.

CAD & WM Activities during 2023-24

Components	Target 2023-24	Achievement 2023-24	Outlay 2023-24 (in lakhs)	Expdr. 2023-24 (`in lakhs)
Survey & Planning	38039 ha	38039 ha.	390.02	388.399
Construction of field channel	47872 ha.	47736 ha.	14241.92	14190.13
Farmer Training	239 nos.	239 nos.	38.24	38.24
Re-Construction of old field channels	11125 ha	11106 ha.	3309.79	3304.16
Re-Construction of old field channels(RIDF)	1044	1044	900.00	900.00
Other charges			20.00	20.00
Total (Plan)			18899.97	18840.93
Maintenance under EOME			1281.50	1281.48
Grand Total			20181.47	20122.41

Programme for the Next Five Years (2024-25 to 2028-29)

A perspective plan has been prepared to take up CAD&WM activities in 3.54 lakh Ha of uncovered ayacut and reconstruction of the old and dilapidated FCs in 3.62 lakh Ha, which were constructed with mostly earthen channels and brick lining, since 1976-77 till 2008-09.

Two new schemes have been approved for extension till 2028-29 to construct / reconstruct FCs of about 30 m / Ha at the per Ha cost norm of Rs 90,000, as per details submitted below.

i. CAD&WM activities in irrigated commands (Version: 2.0): Construction of 2400 KMs of RCC lined FCs in 80,000 Ha, with an outlay of Rs 763.47 Cr (WR: Rs 655.47 Cr and MGNREGS: Rs 108.00 Cr) .

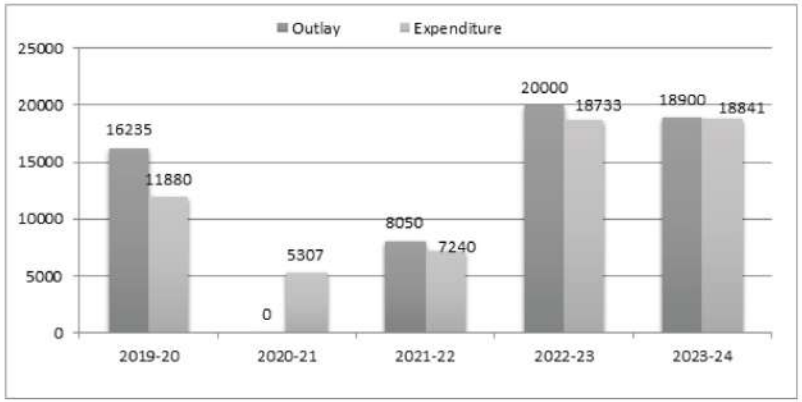
ii. Reconstruction of old FC works in irrigated commands (Version: 2.0): Re-construction of 1860 KMs of RCC lined FC in 62,000 Ha, with an outlay of Rs 574.74 Cr (WR: Rs 491.04 Cr and MGNREGS: Rs 83.70 Cr) .

Programme for the Next Five Years (2024-25 to 2028-29)

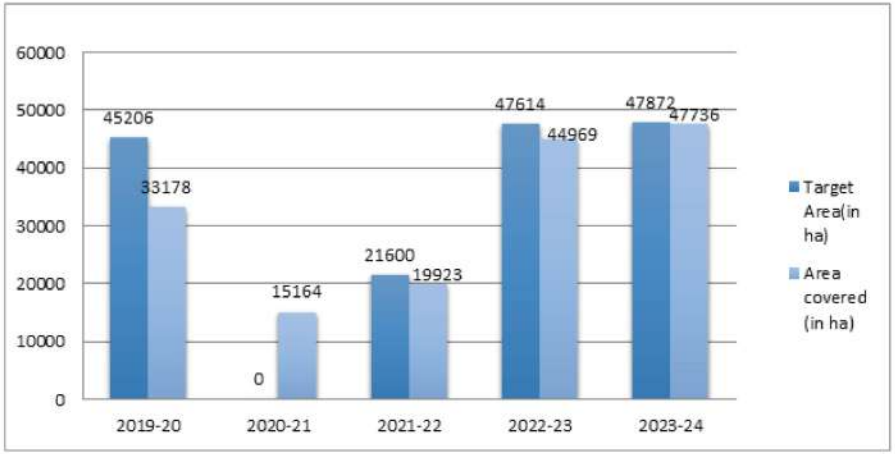
A perspective plan has been prepared to take up CAD&WM activities in 3.54 lakh Ha of uncovered ayacut and reconstruction of the old and dilapidated FCs in 3.62 lakh Ha, which were constructed with mostly earthen channels and brick lining, since 1976-77 till 2008-09.

Sl	Item of works	Physical			Financial
		(Ha)	(KM)	(No.)	(Rs. Cr)
A	**CADWM Activities in irrigated commands**				
1	Survey and Investigation Expenses	30000			3.60
2	Construction of Field Channel	12000	360		91.80
3	Pilot on advanced OFWM			6	1.20
4	Adaptive Trial and Training			132	0.21
5	Others (Price Cont./AdmnExp etc.)				0.49
	Sub Total		**360**		**97.31**
B	**Reconstruction of old FC works**				
1	Reconstruction of old FCs	9300	279		71.15
2	Others (Price Cont./AdmnExp etc.)				
	Sub Total		**279**		**71.15**
C	**RIDF: Major works**	**4551**	**137**		**40.00**
D	**Total WR Programme Expenditure**				**208.45**
E	Annual maintenance Plan (EOME)				14.10
F	Survey & Investigation (EOME)	4167			0.50
G	OIIPCRA	6487	194		60.99
H	MGNREGS				31.76
H	**GRAND TOTAL**				**315.80**

OUTLAY AND EXPENDITURE DURING LAST FIVE YEARS (Rs. In Lakh)



CONSTRUCTION OF FIELD CHANNEL COVERED DURING LAST FIVE YEARS



» e-CAD «

1. The department understood the importance of digitization and adopted a paperless initiative. Three modules under e-CAD application have been developed to support this transformation: Pani Panchayat MIS, Infrastructure Management Information System (MIS), and Information Management System (IMS). These applications feature automated systems for real-time monitoring, user-friendly interfaces, and are precisely designed to meet department requirements. Out of the three modules, Pani Panchayat MIS was conferred the Skotch Award.

1.1. Pani Panchayat MIS: The Pani Panchayat MIS digitizes key processes in water resource management, from formation to Panipanchyat, for decision-making and transparent governance at the grassroots level.

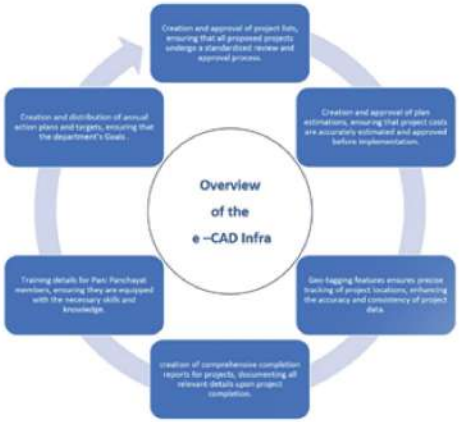
1.2. Infrastructure Management Information System (MIS): The Infrastructure Management Information System (MIS) streamlines project planning, execution, and monitoring, ensuring accountability and optimized resource allocation. Seamless integration with financial systems and meticulous asset tracking enhances efficiency and transparency in infrastructure management.

1.3. Information Management System (IMS): The Information Management System (IMS) centralizes administrative operations, facilitating efficient resource management, financial transparency, and regulatory compliance.

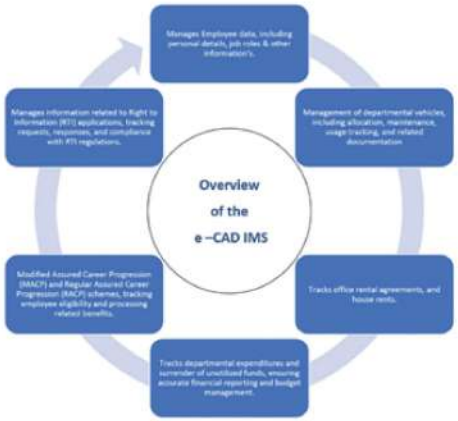
Water ERP(Go Water) Integration with eCAD

Pani Panchayat MIS and GIS and Canal monitoring system integrated with e-CAD enable the department to improve efficiency in water supply to the last mile and will help to increase the ayacut area. The System provides analytics on seasonal/ actual rainfall, rainfall forecast, ground water, soil Moisture, total projected seasonal water demand, water supplied till date through canal system and water release advisory etc.

A detailed overview of the Pani Panchayat application, highlighting its key components and functionalities.



A detailed overview of the e- CAD Infra application, highlighting its key components and functionalities.



A detailed overview of the e- CAD IMS application, highlighting its key components and functionalities.

1.Participatory Irrigation Management (PIM)

The Department of Water Resources is focusing on functioning of Pani Panchayats under various Irrigation Projects and ensuring greater participation of farmers in participatory irrigation management. Many new initiatives are being taken up for effective monitoring of activities in the command area development front and in promoting sustainable agriculture. They are key to provide timely and assured irrigation, focusing on equity, efficiency and inclusion.

1.1 Following introduction of PIM in the state, during 1995 Water User Associations were formed in these pilot projects. During 2000, PIM programme was extended to all commands of Major, Medium, Minor & Lift Irrigation Projects and water user associations were renamed as Pani Panchayats.

1.2 Legal status has been provided to Pani Panchayats by enacting the Odisha PP Act, 2002 & the Odisha PP Rules, 2003. Subsequently, the PP Act has been amended in 2008, 2014 and 2023.

1.2.1The Odisha Pani Panchayat Act, 2002 has been amended to ensure formation of Pani Panchayats under the Mega Lift Irrigation Projects and inclusion of spouses of land holders to increase representation of women in Pani Panchayats.

1.3 With about 700 Water Users Associations in 1995 to 2002, now more than 39000 Pani Panchayats are functioning in the state. Similarly, from providing irrigation to 3.32 lakh hectares in the beginning, Pani Panchayats are now providing 23.3 lakh hectares.

1.3.1 In the last one year and a half alone, more 25,000 Pani Panchayats have been activated by conduct of elections/ re-elections.

1.4 The detail status of PPs is given in table below.

Sector	Formation of PP Planned		Delineation Completed		Handed over to PPs	
	No	Area(In lakh ha)	No	Area(In lakh ha)	No	Area(In lakh ha)
Major & Medium	3050	13.37	2921	12.78	2736	11.94
Minor	2920	3.98	2870	3.98	2797	3.77
Lift	34754	7.7	34754	7.7	34490	7.6
Megalift	601	2.55	20	0.07	0	0
Total	41325	27.6	40565	24.53	40023	23.30

Grant-in-Aid is provided to Pani Panchayats for maintenance of canals of Major, Medium and Minor irrigation projects.

2. IEC/SBCC

Pani Panchayat Pakhya (PPP) 2023-24

2.1 Pani Panchayat Pakhya has been observed in the Department of Water Resources from 16th January to 30th January, 2024 throughout the state.

2.2 Pani Panchayat Pakhya had kick started in 117 Divisions of the State under DoWR on 16th January with launching of Pani Panchayat Rath and in the second phase, district level programmes have been held on 24th January with awareness campaign, awards to the students participated in different competitions held for the purpose, exhibitions held for the purpose, exhibitions and other field events. The third phase of the Pakhya was observed followed with State level function on 30th January held at Convention Centre, Lok Seva Bhawan, graced by the hon'ble Chief minister, Odisha Shri Naveen Patnaik.

2.3 The major events of the day centered around, besides the address of the Hon'ble Chief Minister; a state level exhibition; awards; release of the coffee table book titled 'Secha Sahabhagita 2.0'- a chronicle of the progressive journey of Pani Panchayats in Odisha. The event also showcased through a short film.

2.4 Smt. Anu Garg, DC-cum-ACS chaired the Seminar in order to spread water use efficiency literacy among the members of Pani Panchayat. A focused group discussion held with the members of Pani Panchayats, best farmers, practitioners, researchers and the academia on the topic themed "Ensuring inclusion and equity in Pani Panchayats".

2.5 On the occasion, 50 best Pani Panchayats from different wings i.e Major & Medium, Minor , Lift Irrigation and OIIPCRA (Odisha Integrated Irrigation Project for Climate Resilient Agriculture); 30 best farmers; 15 winners from various activities such as debate, essay, painting, quiz and exhibition of model competitions; 12 best projects and 15 best officers were felicitated.

2.6 Circulation of Varta of the Hon'ble Chief Minister for Pani Panchayat members, farmers and other important stakeholders; Raths, carrying Information Education Communication, Social Behavioural Change Communication materials and audio visuals; Samabesha in presence of Pani Panchayat members, farmers and other important stakeholders; exhibitions in convergence with stakeholder Departments, including Agriculture & Farmers' Empowerment; having talk shows in DD, AIR, Community Radio; holding debate, essay, painting, quiz and exhibiton of Model competitions amongst school children and awarding them have been carried out in the Pakhya.

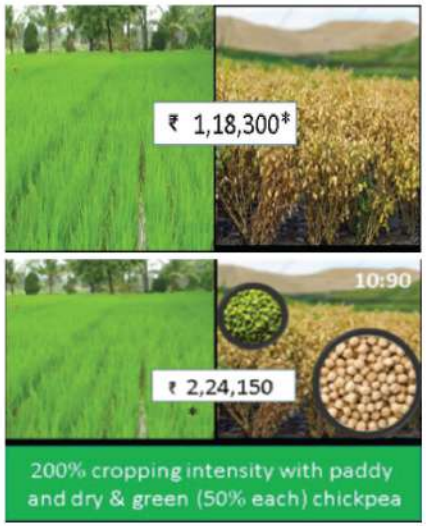
2.7 Anthem, oath, banners, posters, brochures, slogans, tagline, centering water governance at the cutting edge were also circulated for creation of awareness on efficient water use, participatory irrigation management etc.

Launching of Coffee Table Book 2.0 by Hon'ble Chief Minister, Odisha during the celebration of Pani Panchayat Pakhya in presence of Hon'ble Minister, Water Resources, Development Commissioner-cum- Additional Chief Secretary, Water Resources and other dignitaries. The Coffee Table Book enshrines the project achievements for advocacy

BEST PRACTICES:

Women Empowerment and Crop Diversity:
Various crops are being demonstrated in rice fallows especially sunflower, groundnut and sweet corn by the women farmers of Pani Panchayat from Ganjam have enhanced resilience to climate change and market variability. Demonstrations like these are crucial in promoting sustainable agriculture practices and providing farmers with valuable insights into alternative crop options.

Achieving 200% Cropping Intensity
Bringing the economic and nutritional benefits of green pod chickpea among the Pani Panchayats for enhancing their livelihood and resilience in Rayagada and Mayurbhanj districts. Higher quality 'chana' command a greater demand in the market and incentive farmers to increase cultivation.



Smart Village:
Crop intensification/diversification with suitable sequence crops after rice harvest at Balangir,Mayurbhanj and Ganjam.

Pani Panchayats have been involved in several activities to address short duration, sustainable, and resource-efficient water projects in the landscape. One key focus has been on implementing Short Term Resource Variability (STRV) measures to manage water resources effectively. These measures include rainwater harvesting, construction of check dams and ponds, and groundwater recharge techniques. Pani Panchayats have also been actively promoting the cultivation of crop varieties that are suitable for the local climate and require less water. Through these initiatives, they have ensured the long-term availability of water resources while supporting agricultural practices in the region.

Controlled Irrigation Uniformity and Parity

Mahurikalua Pani Panchayat consists of 192 members in the General Body and 10 members in it's Executive Committee. 47 women members find place in the General Body and 3 in it's Executive Committee symbolizing inclusion and equity. Most importantly more than 90% farmers of this belong to tribal community. The Pani Panchayat has a designated ayacut area of 103 Ha. An additional 30.21 Ha has been covered by micro irrigation. It is also levying an affordable water rate with the consent of its members. A Standard Operating Procedure for canal maintenance and repair of structures has been shared also covering maintenance of canal distribution system and building of their capacity. 85% of irrigation efficiency; 100% ayacut area is cultivated during Kharif and 25 Ha during Rabi. Short duration crop varieties promoted during Kharif to pave way for pulses and oilseeds by leveraging residual moisture.

Pack-house Controlled Irrigation Uniformity and Parity

Pack-houses, having specialized physical structures where harvested produce is consolidated, treated and prepared, have been built for storage before transport and distribution of farm produce to markets. It is a platform for farm business which maximizes economy of scale, improves market access, and facilitates technical and agri-business development interventions.

Vertical farming

Vertical farming under controlled atmospheric conditions minimize the occurrence of pest infections with reduced use of water, chemicals and pesticide.

Demonstration of Direct Seeded Rice (DSR) in Ranajahli Village, Ganjam

Farmers from the Dahaninala Pani Panchayat are extremely happy receiving agricultural implement at the CHC. Some of the implements received are DSR, thresher, rotavator, hand winding machine, power tiller, this enables to take up farm operation on time.

BEYOND ENGINEERING

Revising State Water Policy

17 years have passed ever since the State Policy was formulated in 2007 last. Meanwhile many aspects of water governance and issues related to them have undergone perceptible change.

An attempt had been made to draft a State Policy in 2016 but While the need for a State Policy has been dealt with in the draft, in order to make it comprehensive, further deliberations are required.

Besides, there is a need for hitherto well or less cover areas such as Emerging areas of data management, IT, sustainability and climate change, Disaster management, Seashore management, Saline ingress, gender mainstreaming etc. among others, Elements of evidence-based informed planning; technology driven initiatives; improved Composite Water Management Index (CWMI), Convergence and collaborations with Government departments, UN agency, policy makers, academia, practitioners, industries, farmers, partners, experts and other key stakeholders.

In this context, the Department conducted a brainstorming session in participation with all senior officials of the key stakeholder departments. As a follow through, intra departmental deliberations had already been conducted in physical mode, with branches like Major & medium, minor, OLIC, Megalift, Ground water, CAD-PIM. As result through the brain storming season, a draft for State Water Policy has been prepared. Also inter-departmental deliberations have been conducted with E & IT, Ag & FE, PR & DW, Industry, F & ARD, W&CD, SPCB, Energy and H&UD Department.

To add value and being capped to the draft, Inter State comparative analysis have been conducted through the resource persons of Water Resources Department in the presence of DC-cum-ACS, DoWR.

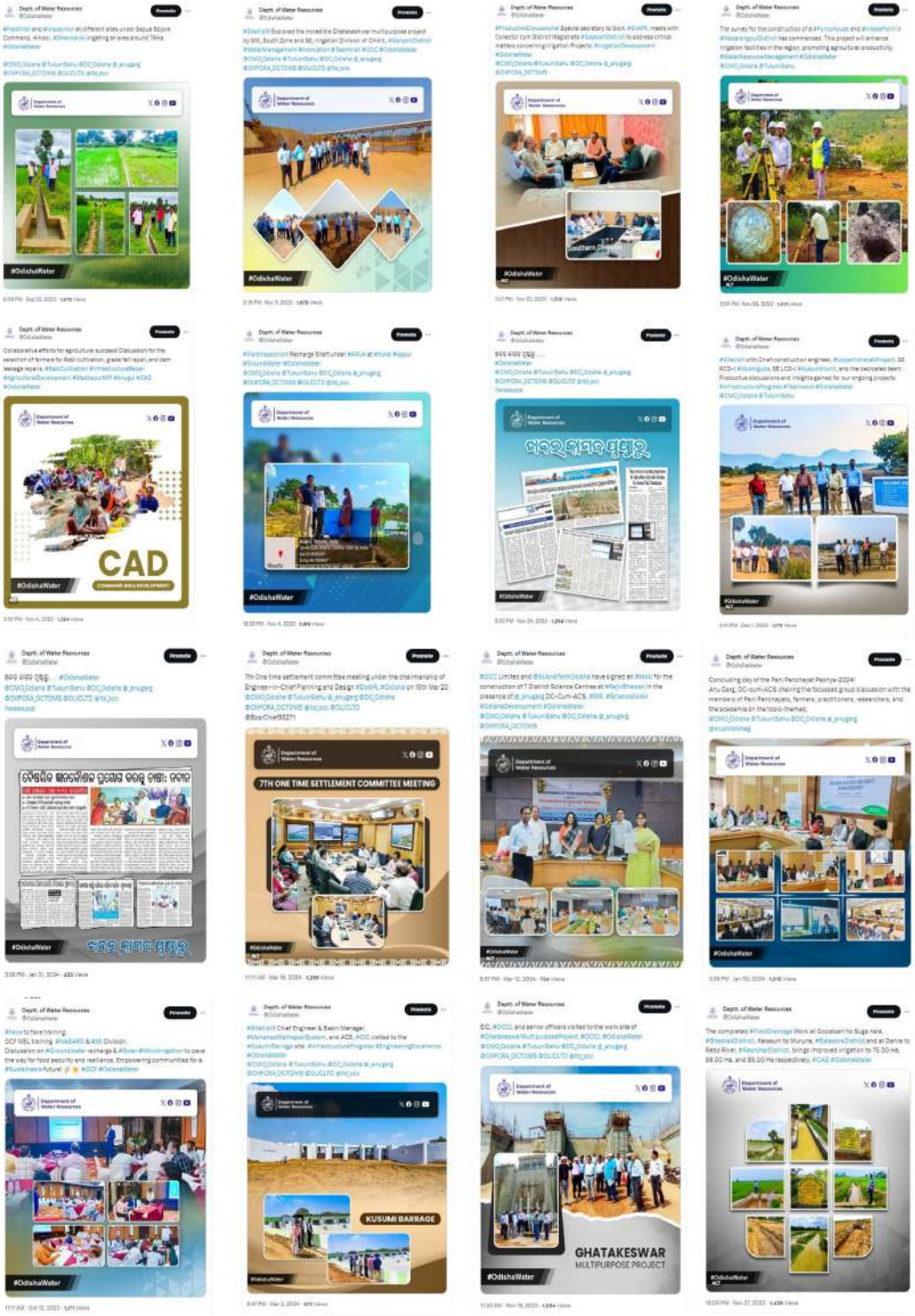
Group Discussion during consultation & workshop with various Dept. on revisit of state water policy

IEC Activities of Department of Water Resources

An Action Plan for IEC, 2023-24 has been prepared and approved by the Department of Water Resources. Different IEC activities like social media; celebrating Pani Panchayat Pakhya; cultural troops; advertisements; campaigns; social branding; audio visuals. Out of 24.00 Cr budget 17.99 Cr has been incurred expenditure.

SOCIAL MEDIA

For Social Media Management & Implementation of the IEC activities, Department of Water Resources empanelled consulting firm to oversee the social media management for different divisions, including Major & Medium, Minor, OLIC, Mega Lift, CAD-PIM, and OCCL. Additionally, the team assists in preparing PPT presentations, creating reels, shorts, and documentary videos with voice-over, and translating success stories from English to Odia for "Saphala Katha." They also design leaflets, banners, and animations for the department. Furthermore, they organized the event “Bande Utkal Janani” at Rajiv Bhawan for the Odia Bhasa Sammilami and are part of the Video Verification Committee on OLIC.



Training:

Training of officials on climate resilient agriculture and District level Training program on Direct Seeded Rice(DSR)

Hands-on Training on SAMANWAYA Application

"Samanwaya" is an extended irrigation management practices dashboard system for ensuring assured irrigation. It is an interactive query-based system for officials and a mobile application for users. It involves and produces spatial data sets, geotagging, integrating data from various scales, organizing data structures, and establishing GIS database for MIPS.

Training of Pani Panchayat Office Bearers on PP Act and Rules at WALMI, the nodal training centre

Demonstration on mechanized
Direct Seeded Rice

Awareness on Agri-entrepreneurship and identifying opportunities for sustainability

Pani Panchayats in Farmers Producer Groups
The aim is to enhance farmers' competitiveness and increase their advantage in emerging market opportunities. It provides support to small farmers with end-to-end services covering almost all aspects of cultivation from inputs, technical services to processing and marketing. Training on Farmers Producer Organization management and governance system to enhance the ability for emerging market opportunities.

Exposure Visit

Exposure visit to Central Institute of Agricultural Engineering,
Bhopal on advance on-Farm
Water Management

Value added products from high quality nutritious rice varieties and facility built to breed varieties with the speed of climate change, exposure visit to IRRI, ISARC Varanasi

An integrated team consisting of Functionaries from WR, A&FE and F&ARD visiting WBADMIP, West Bengal

Climate resilient paddy being demonstrated in the Rice Varietal Cafeteria at Loisingha, Bolangir. It is an effective method for selection of new varieties suitable for growing on farmland.

THANK YOU