



## An Overview of Irrigation Scenario in Odisha: Planning is in the Right Direction – its Effective Implementation is the Key for Agricultural Development

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### ABSTRACT

Irrigation is the lifeline of Agriculture. It reduces the vulnerability of the farmers to the vagaries of monsoon and also increases productivity and income through multiple crops. Keeping this in view, a good number of and need based irrigation schemes and projects have been introduced in Odisha. Besides, the Government's plan for investment in agriculture and water resources through appropriate budgetary outlay has been remained high and considered as significant component in the state budget. Moreover, Government of Odisha has taken strategic steps like bringing separate agriculture budget, separate agriculture cabinet, special farmer centric plans, etc. Irrespective of such good planning, Odisha's farmer are facing acute water problem for agriculture. Vast areas remain uncropped in rabi season. Supplementary irrigation during kharif is also not sufficient. It looks planning is at right direction. But, effective implementation and monitoring of ongoing and upcoming schemes and projects has to be strictly undertaken for agricultural development in Odisha

### KEYWORDS

Irrigation, water resources, agriculture, rice fallow, schemes, subsidy, salinity, river basin, budget outlay, implementation, development

### Background

Odisha has a geographical area of 155707 sq. km. and is divided into ten agro climatic zones depending upon the soil types, topography, rainfall and cropping pattern. The total cultivated land of the State is 61.80 lakh ha out of which 29.14 lakh ha (47%) is High land 17.55 lakh ha (28%) Medium land and 15.11 lakh ha (25%) low land and about 54% of cultivated land is irrigated. Majority of the farmers are small and marginal and have limited access to resources. Literacy too is a concern for this vulnerable group of farming community. As per Agricultural Census-2010-11 the number of operational holdings of the State is 46.67 lakh with operational area 48.52 lakh ha. The State witnessed a decline in operational area from 50.81 lakh ha in 2000-01 to 48.52 lakh ha in 2010-11 due to urbanization and more of land put to non-agricultural use. Accordingly, the average size of land holding for all social groups in the State too has declined to 1.04 ha.

Odisha depends largely upon monsoon for its water resources. South west monsoon triggers rainfall in the state. About 78% of total annual rainfall occurs during the period from June to September and the balance 22% in the remaining period. In addition to seasonal availability, the rainfall in the state also shows spatial variation i.e. from about 1200 mm in southern coastal plain to about 1700 mm in northern plateau. This has resulted in causing droughts in some parts of the state and floods in some others. The long-term average annual rainfall in the state is of the order of 1452 mm, which corresponds to an annual precipitation of about 230.76 billion cubic metres. Besides, rainfall, the climate of the state is tropical, characterised by high temperature, high humidity, short & mild.

### Crop coverage by seasons and RICE fallow

Based on climate and rainfall, the crop coverage during the year 2013-14 clearly indicates Odisha's agriculture is mostly rained. *Kharif* cropped area is 94.2% of total cultivated area (61.8 lakh ha), whereas the *rabi* cropped area is only 43.8%. The major crops in *Kharif* are rice (66.6%), pulses (11.8%) and vegetables (4.7%) and that of in *rabi* are pulses (51.8%), oilseeds (16.7) and vegetables (14.8%). Rice which need enough water takes fourth position in area coverage (11.1%) in *rabi* season.

Rice fallows basically covers those lowland *kharif*-sown rice areas that remain uncropped during *rabi*. In Odisha, *rabi* rice area (3 lakh ha) is only 7.73% of the *kharif* area (38.8 lakh ha) and the total *rabi* cropped area (27.0 lakh ha) is only 46% of the total *kharif* cropped area (58.2 lakh ha). This indicates how important irrigation infrastructure is particularly during *rabi* season.

### Crop-wise irrigated area and seasons

The gross irrigation potential created till 2013-14 from all sources was 50.05 lakh ha (33.53 lakh ha during *Kharif* and 16.52 lakh ha during *Rabi*) and gross irrigated area during the same year was 35.21 lakh ha (22.54 lakh ha during *Kharif* and 12.67 lakh ha during *Rabi*) which is 70.35% of the irrigation potential created. The table 1 also indicates wherever irrigation is available, crops have been grown. In case of rice, other cereals, sugarcane, spices, etc. 100% of crop area is irrigated during *rabi*. The details are presented below in the table. Moreover, while the total irrigated area increased by 6.0% over previous year and the utilization of potential too improved by 4.6 %.

**Table 1: Irrigated area by crops and season (Area in lakh ha)**

Crops	Kharif			Rabi			Total		
	Total Area covered	Area irrigated	% of Total Area covered	Total Area covered	Area irrigated	% of Total Area covered	Total area covered	Area irrigated	% of Total Area covered
Paddy	38.80	18.24	47.0	3.00	3.00	100.0	41.80	21.24	50.8
Other Cereals	4.51	0.91	20.2	0.37	0.37	100.0	4.88	1.28	26.2
Pulses	6.86	0.45	6.6	14.03	2.10	15.0	20.89	2.55	12.2
Oilseeds	2.99	0.64	21.4	4.53	2.19	48.3	7.52	2.83	37.6
Fibres	1.52	0.09	5.9	--	--	--	1.52	0.09	5.9
Sugarcane	--	--	--	0.35	0.35	100.0	0.35	0.35	100.0
Vegetables	2.76	1.79	64.9	4.01	3.89	97.0	6.77	5.68	83.9

Crops	Kharif			Rabi			Total		
	Total Area covered	Area irrigated	% of Total Area covered	Total Area covered	Area irrigated	% of Total Area covered	Total area covered	Area irrigated	% of Total Area covered
Spices	0.80	0.42	52.5	0.75	0.75	100.0	1.55	1.17	75.5
Others	--	--	--	0.02	0.02	100.0	0.02	0.02	100.0
Total	58.24	22.54	38.7	27.06	12.67	46.8	85.30	35.21	41.3

Irrigated area (potential created)

The table below depicts sources of irrigation (potential created) up to 2013-14. From all sources area irrigated during *rabi* is 16.52 lakh ha. Which is about 50% of irrigation potential created during *kharif*. Major & medium are the major source of irrigation.

**Table 2: Irrigation potential created up to 2013-14 (Area in lakh ha)**

Source Kharif	Season		Total
	Rabi		
Major & Medium	13.83	6.32	20.14
Minor (Flow)	6.04	0.78	6.82
Minor (Lift)	LI Point	5.69	3.23
	Deep Bore well	1.39	0.28
Other Sources	6.58	5.91	12.49
Total	33.53	16.52	50.05

Irrigation Schemes / projects

The irrigation schemes and projects available in Odisha for agricultural development are briefed below.

**Biju Krushak Vikash Yojana (BKVY):** Minor irrigation projects are environment-friendly and they provide gainful employment opportunities to the rural population, resulting in optimum utilization of resources. A large number of small irrigation projects on streams & rivulets can provide irrigation to the lands of tribal beneficiaries. The technology close to the heart of the tribal and the projects are therefore amply suitable for self-management. The Pani Panchayat scheme has a roused widespread enthusiasm. Requests are pouring in to set up new minor and lift Irrigation projects and revive the derelict ones. It is, therefore, felt that new emphasis on minor & lift Irrigation projects can be cast in the mould of Pani Panchayats, which will provide increased momentum to the campaign. With the above objectives in view, Government launched a new scheme name as "Biju Krushak Vikash Yojana" during 2001. A total of 9063 Lift Irrigation projects and 84 Minor Irrigation Projects (MIPs) have been taken up, out of which 8128 LIPs and 84 MIPs have been completed up to end of March 2014 and additional irrigation to 164.94 thousand hectares have been created.

**Deep Bore-well irrigation programme:** Government of Odisha launched a new programme "Deep Borewell Secha Karyakrama" during 2010-11 to exploit ground water resources in hard rock areas of the state. The main objective is to provide irrigation facilities to small and marginal farmers through installation of deep bore wells covering cultivated area of minimum two hectares. Priority would be given to Blocks having less than 35% irrigation coverage. The scheme would be implemented in 256 blocks of 26 districts (18 Non- KBK districts, 8 KBK districts) of the state excluding Bhadrak, Kendrapara, Jagatsinghpur and Puri district. The project would be selected considering the data for groundwater potential of Central Ground Water Board (CGWB), Directorate of Ground Water Survey and Investigation (GWS&I), National Remote Sensing Agency (NRSA) and with necessary field check. Availability of 11 KV power line in the area is also an important consideration for finalizing the project. Cluster approach would be adopted in order to make the project cost effective and proper functioning of the points after energisation.

**Repair, Renovation, Restoration of water bodies. (RR&R):** The Ministry of Water Resources has launched the scheme of

Repair, Renovation and Restoration (RR&R) of Water Bodies as a State Sector Scheme with domestic budgetary support during 2009-10. The Main Objectives are 1) Comprehensive improvement of selected tank systems including restoration, 2) Improvement of catchment areas of tank & ground water recharge. 3) Community participation and self-supporting system for sustainable management for water bodies covered by the programme, 4) Increase in storage capacity of water bodies, 5) Improvement in agriculture/horticulture productivity, 6) Environmental benefits through improved water use efficiency; irrigation benefits through restoration of water bodies, supplementation of the ground water use and promotion of conjunctive use of surface and ground water and 7) Increased availability of drinking water. The projects under Government of India funding are located in KBK districts. Naxal affected areas and drought prone areas availing 90% central assistance. By end of March 2014, 1193 water bodies (Gol funding 1127 nos., State funding- 66 nos.) have been completed & irrigation potential of 52031 hectares has been revived.

#### Canal Lining & System Rehabilitation Programme (CLSRP):

A new scheme namely "Canal Lining & System Rehabilitation Programme (CLSRP)" is being proposed under State Plan from the financial year 2013-14. The objectives are: 1) To improve the performance of an irrigation system and to increase the water use efficiency of canals, 2) To enhance water availability at farm level and reduce seepage losses in distribution system, 3) To reclaim the valuable agricultural land getting unsuitable for use due to water logging & salinity resulting out of seepage from canals, 4) To reduce the gap between irrigation potential created and irrigation potential utilized in various projects. So far 12 major & medium irrigation projects have been selected under this scheme.

#### Command Area Development & Water Management (CADWM) Programme:

CADWM programme, a Centrally Sponsored Plan Scheme is 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). At present, the programme is being implemented in 08 major and 04 medium irrigation projects. There are four Command Area Development Authorities (CADAs) in the state located at Cuttack, Sambalpur, Berhampur and Jeypore to carry out the programme.

**35% Irrigation Master Plan:** There is wide difference in geographical distribution of irrigation facility in the state. Some blocks have more than 50 % irrigation facility whereas other blocks have less than 5% facility. Krishanprasad block in Puri district has no irrigation facility. Government have, therefore, decided that a Master Plan for each district should be drawn up so as to provide at least 35% irrigation in every block during the next five years i.e. from 2005-06 to 2009-10. Collectors were requested to prepare Master Plan of their districts. All Collectors submitted their Master Plan, which incorporates Major/Medium, Minor, lift and other sources of Irrigation. From the master plan, 198 blocks were identified having less than 35% irrigation facility. Efforts are being made to augment irrigation potential in these blocks through conventional and other sources of irrigation viz. identifying suitable sites for water harvesting structures, check dams, *nala* bunds etc. and

also by identifying suitable pockets like ground water prospect zones, ground water recharge points such as percolation tank, recharge pit etc. For Blocks Identified for 35% Irrigation Programme (please see annexure). By the end of March 2014, out of 198 deficit blocks, 73 blocks have achieved 35% irrigation coverage.

**Mega Lift Construction Programme:** The programme has been launched by Govt. of Odisha during 2011-12 for providing irrigation to the farmers in the upland areas by lifting waters from river. Projects having irrigation command area within 500 to 2000 hectares would be taken up under this scheme. 174 sites in 15 clusters to provide irrigation to 214270 hectares has been identified in Vansadhara, Indrabati, Tel, Mahanadi, Brahmani, Baitarani, Budhabalanga rivers etc. and in periphery of Hirakud and Rengali reservoirs. In the 1st phase, 28 schemes of cluster no. XIV & XV (see Annexure) on either side of Tel river have been taken up. The projects are targeted for completion by February 2016.

**Accelerated Irrigation Benefit Programme (AIBP):** Accelerated Irrigation Benefits Programme (AIBP) was launched by Government of India during 1996-97 to provide financial assistance to State Governments for accelerating the pace of irrigation development in the country. Major & Medium Irrigation Projects accorded investment approval by the Planning Commission, which are in advanced stage of construction and can be completed in next four financial years and not receiving any other form of assistance. New projects could also be included under AIBP on completion of an ongoing project on one to one basis. ERM projects having investment clearance from Planning Commission and commissioned at least 10 years earlier from the proposed year of inclusion in AIBP will qualify for inclusion. Surface minor irrigation (MI) schemes (both new as well as ongoing) in drought prone undivided Koraput, Bolangir and Kalahandi (KBK) districts of Odisha.

**Rural Infrastructure Development Fund (RIDF):** With an objective Assisting State Governments for the completion of ongoing rural infrastructure projects and also taking up new projects of major, medium & minor category. This is operated by NABARD.

**Japan International Co-operation Agency (JICA):** Japan is providing ODA (Official Development Assistance) loan to developing countries at low rates of interest and with long repayment period to develop and improve the economic and social infrastructure for sustainable economic development. Overseas Economic Cooperation Operations of Japan are in charge of the major part of ODA loans. So far three Major Projects have been sanctioned under this scheme.

**Odisha Integrated Irrigated Agriculture and Water Management Investment Programme (OIAWMIP):** The Odisha Integrated Irrigated Agriculture and Water Management Investment Programme (OIAWMIP) was conceptualized with the support of the Asian Development Bank (ADB) to maximize the state irrigation potential and for the continued development of water resources sector. The project aims to develop four contiguous river basins by enhancing the productivity and sustainability of the existing underutilized major, medium and minor lift irrigation projects, while simultaneously strengthening and empowering water users associations (WUAs) and allied institutions like the Water and Land Management Institute (WALMI). This includes Extension, Renovation and Modernisation (ERM) work of 14 major and medium irrigation Projects, Rehabilitation of 1400 Lift Irrigation Project.

**Odisha Community Tank Management Project (OCTMP):** Government of Odisha in partnership with the Government of India has initiated the Odisha Community Tank Management Project, with funding from the World Bank. The project aims at achieving sustainability of restored minor irrigation systems through community participation and empowerment to develop self-owned, self-managed and self-controlled Pani Panchayats. By end of March 2014, renovation work of 64

tanks covering Culturable Command Area (CCA) of 7254.53 hectares was completed. A Vision The concept of "Self Reliant Pani Panchayats-A Vision" is being developed by OCTMP for building PPs in fields like 1) Knowledge & Skill (O & M, Crop- Water Management), 2) Entrepreneurial Vision & Skills, 3) Collective Actions, 4) Self Governance (Conflict Resolution, Transparency) and 5) Financial Management.

**Dam Rehabilitation and Improvement Project (DRIP):** Dam Rehabilitation and Improvement Project (DRIP) for rehabilitation of distressed dams are being implemented at National level through World Bank Assistance. The main objective is to improve the safety and operational performance of the distressed dam. In Odisha 38 dams are proposed under the project.

**Hydrology Project:** Hydrological Information is required to provide reliable data sets for long term planning, design and management of water resources and water use systems and research activities in related aspects together with improvement in the infrastructure for data collection. This project is funded by World Bank and implemented nationwide. Odisha is a participatory state in this project. The objectives of this project are 1) To extend and promote sustained and effective use of the Hydrological Information System (HIS) created during HP-I, 2) Formulation of design aids and development of design support system for early flood warning, drought monitoring & management, 3) Strengthening the capabilities of implementing agencies at state/central level in HIS data utilization for efficient, water resource planning and management, 4) Awareness building and outreach services about HIS.

**Check Dam construction programme:** Government of Odisha launched a new programme "Construction of Check Dams / in stream storage structure" in small rivers / streams and *Anicuts* in major streams / rivers during 2010-11 to utilize a part of the surface run-off flowing down to the sea. The main objectives of the programme are to conserve water at the end of monsoon to meet the drinking water requirement of nearby villages, to provide incidental irrigation to crops in the adjacent cultivated land and to recharge the groundwater. During selection of sites, priority would be given to Blocks having less than 35% irrigation coverage, areas where people are using traditional method of irrigation by constructing temporary cross bunds on streams and where the people are willing to take up operation & maintenance of the structures. To involve beneficiaries during execution of project, Pani Panchayats (WUAs) would be formed during the process of selection of site for check dams. By end of March 2014, 4690 check dams have been completed.

#### Private lift irrigation projects and pattern of assistance

The Government of Odisha have announced an Agriculture Policy which has come into effect since 1<sup>st</sup> April-2013. The said policy provides for payment of subsidy on private lift irrigation points as follows:

#### Jalanidhi-I (Individual)

- Shallow Tube Well: 50% of the project cost subject to a limit of Rs.20,000.
- Dug Well: 75% of the project cost subject to a limit of Rs.75,000.
- Deep Bore Well: 75% of the project cost subject to a limit of Rs.50,000 (excluding cost of electrification). In addition 75% of Genset/electrification cost subject to a limit of Rs.50,000 (for energisation).
- River Lift/Surface Lift Project: 75% of the project cost subject to a limit of Rs.60,000.

#### Jalanidhi-II (Cluster)

- Cluster Shallow Tube Wells: The cluster STWs will be executed by the OLIC within the norms of Water Resources Department.
- Cluster River Lift Projects: The cluster RLPs will be executed by the OLIC and OAIC within the norms of Water Resources Department.

## SUBSIDY FOR IRRIGATION PROMOTION

- Individual tube wells and bore wells are promoted under the Jalanidhi program with maximum subsidy upto 75% of the project cost.
- Community Lift Irrigation projects with subsidy upto 80% of the project cost in the non-TSP areas and non-KBK districts and upto 90% of the project cost in the TSP areas and KBK districts is continued under Biju Krushak Vikas Yojana (BKVY).
- For large-scale community lift irrigation projects 90% subsidy is available if they are executed by OLIC/ OAIC.
- Subsidy is provided for community-based mega lift irrigation projects covering not less than 40 hectares irrigated area, if the community forms a registered society that will execute the project and also run the project later. The subsidy will be to the extent of 90% excluding the cost of land.
- Micro irrigation (drip and sprinkler irrigation): Micro irrigation is promoted in a big way in the State by providing subsidies for drip and sprinkler irrigation maximum up to 90% of the cost.
- Drawing of electric line for electrification of dug well / private L.I. points is subsidized under Biju Gram Jyoti Yojana (BGJY).
- Deep Bore Well: Beneficiary contribution in the project would be 10% of the project cost subject to a maximum of Rs.20,000/-. Beneficiary is to pay Rs.1000/- (non-refundable) after scrutiny of application and the remaining Rs.19,000/- would be paid after successful completion of drilling and testing of bore well. Subsidy is provided to the extent of 75% limited to Rs.50,000 per deep bore well for the purposes of electrification.
- The cost of electrification of a cluster of Shallow tube wells, not less than 10 per cluster, can be borne by the Government, subject to a limit of Rs.4,00,000 per cluster.
- Supply of irrigation water through underground conduits in place of over ground canals will be encouraged to minimize transmission loss.
- Farm ponds can be executed free of cost in the field of BPL farmers (Below Poverty Line) in the State under MGNREGA (Mahatma Gandhi National Rural Employment Guarantee Act) and State plan.

## RESTRICTION ON SHALLOW TUBE WELL / BORE WELL

It was found in some Gram Panchayats of nine coastal districts (Balasore, Bhadrak, Cuttack, Ganjam, Jagatsingpur, Jajpur, Kendrapara, Khurda and Puri) of Odisha the digging of shallow tube well has been restricted. The GPs has been identified by agencies like Directorate of Ground Water Survey and Investigation (GWS&I), National Remote Sensing Agency (NRSA), Central Ground Water Board, and field checks, etc. So a number of GPs have been communicated as saline. It is decided that the Assistant Agriculture Officer concerned will not issue permits in the notified saline GPs as execution of STWs in saline affected areas is bound to create more draft which may disturb the existing fragile balance between saline and fresh water zone and will cause irreversible damage initially affecting the drinking water source.

Secondly, under Deep Bore Well Secha Karyakrama, four districts like Bhadrak, Kendrapara, Jagatsinghpur and Puri have not been taken. Because, this scheme is meant to exploit ground water resources in hard rock areas of the state and these districts are not coming under hard rock area. Bore well is not feasible in these districts.

## CANAL IRRIGATION

The benefits of flow irrigation are evident. However, a good number of irrigation projects (major, medium and minor) in the state are quite old and have been operating below their potential due to various reasons including lack of maintenance of the canal systems. The main canals and distribution system are not capable of carrying the designed capacity. Seepages in canals are observed near the structures, high embankments and in areas passing through permeable soils. This has result-

ed in the problem of unreliability in the availability of irrigation water at farm level causing low efficiency of water usage and low productivity. Farmers in the tail end areas of the project are the worst sufferers. Sometimes farmers of high reaches damage the earthen canal embankment and draw excess water. To alleviate these deficiencies in the system above the outlet and for efficient management of water for irrigation, a new scheme namely "Canal Lining & System Rehabilitation Programme (CLSRP)" is being proposed under State Plan from the financial year 2013-14.

In some areas canal flow had been stopped because of renovation work or road/bridge work. But it will be active once work is over.

The scheduling is done by executive engineer based on farmers' demand and water availability. But the starting time for *rabi* and closing time for *kharif* is planned in advance.

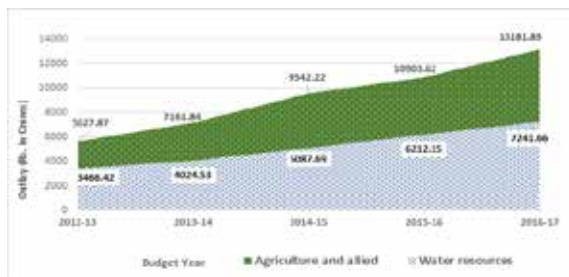
## River Basins of Odisha

Many experts from Government of Odisha and Central Government Institutions located at Odisha opined Integrated River Basin Management is a futuristic approach for water management and to sort out water related problems in agriculture. The state has taken initiative in forming River Basin Board for all the existing 11 river basin and various studies have been undertaken by different national and international research and devolvement organizations. The initiative encompasses by integrating both administrative and hydrological boundaries of the basin resources.

The development and utilization of the water resources in these river basins is still lower and provide huge scope for further development of the same, the scope for quantitative development does not comply with the qualitative aspect. The availability of mineral resources of iron, manganese, chromium, bauxite and nickel in the upper catchment of basins give opportunity for more number of industries and mines which are the potential threat to the ground water and surface water resources. Moreover, the increased interest of the State in mining and industrial activities as well as demand of farmers to expand irrigation is going to put tremendous pressure on Basin wise water resources. While assessment and use of surface water is measured to some extent and along with implications on source, considered for planning and management, in terms of ground water, these are grey areas and often contentious. With metering of water use by industries and tariff increase and the proposed legalization of ground water regulations, more and accurate information about ground water situations are highly imperative.

## Budget outlay for agriculture & allied and water resources

Government of Odisha has been giving importance to agriculture as indicated from strategic steps like separate agriculture budget, separate agriculture cabinet, special farmer centric plans, etc. Within agriculture budget, water resource development is most priority area with more focus on irrigation infrastructure development. Irrigation is the lifeline of Agriculture. It reduces the vulnerability of the farmers to the vagaries of monsoon and also increases productivity and income through multiple crops. There is also a need to reduce the gap between the potential created and the actual area irrigated. With improvement in water use efficiency we can increase the area under irrigation and conserve water. Having said this, government of Odisha is allocating good sum of fund for irrigation. The chart below reflect the government's plan for investment in agriculture and water resources, which looks at right place. In every budget the outlay for agriculture sector is increasing at a good rate. Moreover, the important point here is the share of water resources has always been remained high and priority component in agriculture. In current budget (2016-17) the share of water resources (Rs.7241.66 crore) out of total agriculture & allied outlay (Rs.13181.89 crore) is about 55%. The agriculture & allied outlay in 2016-17 has increased by 20.9% over the previous year 2015-16 whereas for water resources it has increased by 16.6%.



**Chart 1: Budget outlay for agriculture & allied and water resources in Odisha**

### suggestions

- Convergence of programmes and coordination between departments for proper implementation of schemes/projects
- About 3 lakh hectares of cultivable area in Odisha remains water-logged due to poor drainage. Integrated development of these areas can be attempted through appropriate engineering and land / crop management interventions
- It is suggested to have a comprehensive and integrated assessment of ground water along with the surface water and use of GIS for superimposition of the aquifer boundaries and quality with watershed boundaries, land-use and water-use patterns to help development of better decision making tools and more informed choices in river basin management.
- There is need of promoting stakeholders' participation in decision making and rationale use of resources. Equity in water consumption – fair distribution of water
- Exclusive scheme/ action plan for *rabi* fallow development – This should be a special agenda in state agriculture policy to bring more land into *rabi* cropping.
- Review/resurvey of areas banned for shallow tube well installation under private sector- Farmers are highlighting this issue saying some of those banned areas don't have salinity problem
- Mass awareness about available schemes/projects and the benefits associated
- Keep Pani Panchayats out of ground politics. Its leaders must be farmers
- Irrespective of sufficient fund allocation and so many irrigation schemes Odisha's farmer are facing acute water problem for agriculture. Government has to come out of simply strategy for supplementary irrigation in kharif, which even at lower strata. Effective implementation and monitoring of ongoing and upcoming schemes/projects is a must in this situation. If required, International experts/institution may be approached for consultation and intervention.

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