

CHAPTER 5

WATER RESOURCES

5.01 Orissa is one of the few states in the country, which is endowed with abundant water resources. But this resource is very unevenly distributed over time and space. The state has around 11% of the total water resources of the country with eleven river basins. Rainfall is the main source of water and long term average annual rainfall in the state is of the order of 1452 m.m. which is equivalent to 230.76 billion cubic metres (BCM). About 78% of the above is received in the monsoon season (June to September). Due to rapid growth of population; the per capita availability of water is reducing year by year. As per the assessment made in 2001, the average per capita availability of water (both surface and ground) in the state was around 3359 cum, as compared to national average of 1820 cum, per annum. Table 5.1

shows the water resources scenario of Orissa and India.

Table 5.1
Water Resources: Orissa & India.
(In BCM)

Description	Orissa	India
Annual precipitation	230.76	4000
Average Annual Water Resources	141.408	1869
Utilizable water resources	108.147	1122
Utilizable Resources (% of precipitation)	47%	28%

Source: E.I.C. (Water Resources), Orissa.

5.02 It is said 'water is life'. Water has always played an important role in providing livelihood, hygiene and environmental securities. The demand pattern is changing rapidly due to increase of population with more demand of food production, spreading of urbanization with sanitation and rapid industrialization. The requirement of water for different riparian purposes have been assessed and presented in Table 5.2 as below.

Table - 5.2
Water Requirement for different uses over years

(In BCM)

Type of uses	Year 2001			Year 2005		
	Surface	Ground	Total	Surface	Ground	Total
Domestic	0.798	1.198	1.996	1.202	1.803	3.005
Agriculture	18.000	4.688	22.688	40.000	9.408	49.408
Industry	0.606	0.100	0.706	1.750	0.200	1.950
Environment	21.000	8.400	29.400	21.000	8.400	29.400
Others	0.100	0.100	0.200	0.200	0.200	0.400
Total	40.504	14.486	54.990	64.152	20.011	84.163

Source: E.I.C. (Water Resources), Orissa.

5.03 In Orissa, a water storage capacity of 17.01 BCM has so far been developed through completed major, medium and minor (flow) projects. Another 4 major and 9 medium irrigation projects are in progress. On completion of these ongoing projects,, 1.47 BCM storage capacity will further be added.

Irrigation Development

5.04 Agriculture is an integral part of the development system and irrigation holds the key to increase agricultural productivity. The first proposal to utilize the river water of Orissa for irrigation was made in the year 1858. But after introduction of Five Year Plan by Govt. of India in 1951, attempts were made for rapid harnessing of water resources and emphasis was laid to accelerate the creation of irrigation potential. By the end of 10th Plan (March'2007), net irrigation potential of 2191.50 thousand hectares (Th. Ha.) has been created through major, medium and minor irrigation projects by using surface and ground water resources. In addition about 621.55 Th.Ha. of irrigation potential have been created through unconventional sources like dug wells, water harvesting structure, small check dam etc. Table 5.3 presents the source wise net irrigation potential created and actual area irrigated in Orissa by the end of 2006-07.

Table – 5.3

Net Irrigation Potential Created in Orissa.

Sources	Potential Created (th.ha.)			Actual area irrigated
	2000-01	2005-06	2006-07	
Major & Medium	1177.89	1239.84	1250.50	N.A.
Minor (flow)	450.37	510.63	519.03	407.16
Minor (lift)	336.05	408.68	421.97	110.68
Other sources	557.92	586.76	621.55	156.40
Total	2522.23	2745.91	2813.05	-

Source: E.I.C. (Water Resources), Orissa.

5.05 The state government has given top priority for providing irrigation facilities to at least 35% of the cultivable area of the state. It has been assessed that out of 314 blocks of the state, 116 blocks have already been provided with 35% irrigation facilities. It is planned that 469 Th. Ha. (Annex-5.1) will be covered in the 11th Five Year Plan period and 59.54 Th. Ha. during 2007-08. Source wise breakup is given in table 5.4.

Table – 5.4

Source wise irrigation potential to be created during 11th Plan period.

Sources	Potential to be created (in th.ha.)	
	During 11th plan period	During 2007-08
Major & Medium	321.73	32.71
Minor (flow)	47.27	6.83
Minor (Lift)	100.00	20.00
Total	469.00	59.54

Source: E.I.C. (Water Resources), Orissa.

State Water Policy

5.06 The State has formulated its first 'State Water Policy' in 1994 following the principle enunciated in the National Water Policy, 1987. In the mean time the National Water Policy, 1987 has been reviewed,

updated and a new policy titled National Water Policy, 2002 has been adopted by Government of India. Accordingly, the State Government has prepared a new water policy titled “Orissa State Water Policy – 2007” which has been approved by State Water Resource Board recently. The policy envisages.....

ADDING THE NEW PAGE

Major & Medium Irrigation

5.07 Major and medium irrigation occupy a key position in the irrigation map of Orissa. It has been assessed that among all sources of irrigation, only major and medium irrigation can provide irrigation to 31.30 lakh hectares. But, the end of March, 2007, 1250.50 thousand hectares of irrigation potential has been created. Besides, another 32 projects were in different stages of progress and on completion of these, another 352.04 thousand hectares of irrigation potential will be created. Table 5.5 represents the status of Major & Medium irrigation projects in the State as on 31.03.2007.

Table – 5.5
Status of major & Medium Irrigation projects in Orissa as on 31.03.2007.

(in 000' hectares)

Category	Completed Projects		On going projects		Balance potential to be created
	Nos.	Potential created	Nos.	Potential created	
Major	10	817.11	8	103.47	282.55
Medium	49	280.03	11	12.80	48.35
Creek	13	22.85	6	-	13.53
ERM	12	14.15	7	0.10	7.61
Total	84	1134.14	32	116.37	352.04

Source: E.I.C. (Water Resources), Orissa.

5.08 It has been targeted to create additional irrigation potential of 321.73 thousand hectares during 11th Five Year Plan including 32.71 thousand hectares during 2007-08 through major and medium irrigation projects. Two mega projects namely Mahanadi Basin Development Plan (MBDP) and Orissa Integrated Irrigated Agriculture and Water Management Project (OIIAWMP) are likely to be implemented during 11th Plan period. The estimated project cost of these two projects is about Rs.4690.30 crore. An out lay of Rs.1582.89 crore have been proposed in the 11th Five Year Plan including Rs.40.80 crore for 2007-08. Besides, another project “Rengali Ph-II” is expected to be implemented during 11th Five Year Plan with an out lay of Rs.50.00 crore with assistance from JBIC.

Bharat Nirman Programme

5.09 It is a time bound programme (2005-2009) launched for building rural infrastructure in the areas of irrigation, Road, Housing, water supply etc. The irrigation components of this programme aims at creation of irrigation potential of 100 lakh hectares including 3.923 lakh ha. in Orissa with project investment of Rs.2649.29 crore. All ongoing projects executed under existing schemes such as AIBP, AIDF, SCA, RR&R are clubbed up under this programme. The status of the programme by the end of 2006-07 is given in Table 5.6.

Table - 5.6
Status of Bharat Nirman Programme.

Sector	Scheme	Project (Nos)	Project cost (Rs. in cr.)	Potential to be created (Th.ha.)	Potential created by 2006-07 (Th. Ha.)	Financial Achievement by 2006-07 (Rs. in cr.)
Major & Medium	AIBP, RIDF, JBIC, State plan	26	2081.22	259.40	12.824	870.35
Minor (Flow)	AIBP, RIDF, RRB, RSVY, ACA.	652	242.29	52.03	30.258	120.66
Minor (River lift)	ACA, RIDF, WODC	3006	255.55	62.36	24.818	57.58
Ground Water	BKVY	63 Blocks	70.23	18.56	2.38	9.40
Total			2649.29	392.35	70.28	1057.99

Source: E.I.C. (Water Resources), Orissa.

Minor Irrigation (Flow)

5.10 Minor Irrigation (Flow) scheme has its own importance due to low gestation, less investment and quick benefit. The minor irrigation projects have contributed substantially to augment the irrigation potential in the State. It has been assessed that 970.00 Th. Ha. of irrigation potential can be created through M.I. (flow) projects. By the end of 31st March 2007, about 519.027 thousand hectares irrigation potential have been created as against 514.022 thousand hectares potential created by the end of 2005-06. At present, Minor Irrigation organization is looking after construction, operation & maintenance of Minor Irrigation (Flow) projects having ayacut above 40 hectares. Projects having ayacut below 40 hectares were transferred to Panchayati Raj Department. Further, some old MIPs which cannot be revived at all are also deleted from the account. The status of MIP (Flow) projects as on 31st March 2007 is given in table 5.7.

Table – 5.7
Status of MI (Flow) Projects
(as on 31.03.2007)

Category	No. of projects		Designed ayacut (000)ha.)	Certified ayacut (000)ha.)
	Total	KBK region		
a) Functional MIPs	2082	243	337.00	324.00
b) Partly derelict MIPs	844	239	103.00	68.00
c) Completely derelict MIPs	540	41	44.00	1.00
d) Ongoing MIPs	180	70	63.00	8.00
Total	3646	593	547.00	401.00

Source: Chief Engineer (M.I), Orissa.

5.11 From the total 3646 M.I. (flow) projects, 593 projects are in the KBK region out of which 243 are completed, 239 are partly completed and 41 are complete derelict projects. By the end of 2006-07, about 106.754 thousand hectares of irrigation potential have been created by these projects including 0.880 Th. ha. created during 2006-07.

Lift Irrigation

5.12 Orissa Lift Irrigation Corporation was set-up in the year 1973 to exploit the surface and ground water resources on a massive

scale by pooling funds from all sources. Prior to that, lift irrigation projects were executed by the Directorate of Lift Irrigation. During 2002, the State Government decided to restructure OLIC claiming to execute new L.I. projects to create additional irrigation potential and handing over the same to Pani Panchayat for operation and maintenance in the State. After implementation of Pani Panchayat Act, 2002, OLIC is no more collecting water charges from the cultivators of the Pani Panchayats. By the end of 31st March 2007, 18,028 LIPs have been installed and energized in the State and irrigation potential of 421.97 thousand hectares has been created. The status of LIPs in the State as on 31.03.2007 is given in table 5.8.

programmes are being implemented in the State under various Centrally Sponsored Schemes like Drought Prone Area Programme (DPAP), Integrated Waste Land Development Programme (IWDP), River Valley Project (RVP) etc. Besides, WDP are also being implemented under Western Orissa Rural Livelihood Project (WORLP) for Baragarh, Bolangir, Nuapada and Kalahandi districts. The Orissa Watershed Development Mission (OWDM) has been setup for co-ordination, monitoring and strengthening the implementation mechanism of all Water shed programmes in the State. By the end of 2006-07 about 156.396 ha. irrigation potential have been created in Kharif Session through 14655 Water Harvesting Structures including 34.788 ha. irrigation potential created in Kharif Session through 2135 Water Harvesting Structure completed during 2006-07. It has been targeted to create 10.456 ha. irrigation potential by constructing 786 water harvesting structure during 2007-08.

Table – 5.8

Status of Lift Irrigation Projects in Orissa as on 31.03.2007.

Description	KBK districts	Non-KBK districts	Total
No. of operable L.I.Projects	2238	6801	9039
No. of defunct L.I.Projects	1609	7380	8989
Total	3847	14181	18028

Source: OLIC, Orissa.

SOIL CONSERVATION

5.13 Watershed Development Programme (WDP) focuses on harnessing and conserving land and Water through various soil and water conservation interventions for increasing and sustaining productivity of land and improving livelihood of the community. These

Schemes / Programmes

5.14 A number of schemes / programmes are being implemented in the State for development of Irrigation. They are as fallows:

- *Accelerated irrigation Benefit Programme (AIBP).*
- *Rural Infrastructure Development Fund (RIDF).*
- *Externally Aided Projects (JBIC, hydrology Ph-II).*

- *Repair, Renovation & Restoration of Water Bodies.*
- *Biju Krushak Vikash Yojana*

Accelerated Irrigation Benefit Programme (AIBP)

5.15 Government of India launched the Accelerated Irrigation Benefits Programme (AIBP) during 1996-97 for providing loan assistance to State Governments for accelerating the pace of irrigation development in the country. The primary objectives of AIBP are:

- ◆ *To accelerate implementation of ongoing irrigation projects.*
- ◆ *To realize bulk benefits from irrigation projects.*

5.16 To carry on reformation, the state of Orissa has been availing central assistance as per relaxed norms of AIBP. The projects in KBK districts are treated at par with Special Category States & the projects in Non-KBK districts are treated under relaxed norm. Altogether 18 Major and Medium Irrigation Projects & 22 Minor (flow) Projects have been approved under AIBP. Out of the above, one MI (flow) project has been dropped. The status of Projects under AIBP is given in table 5.9.

Table – 5.9

Status of AIBP as on 31.03.2007.

Description	Major & Medium			Minor (flow)
	Non-KBK	KBK	Total	KBK only
Projects taken up (Nos.)	9	9	18	21
Projects Completed (Nos.)	4	3	7	15
Projects under Progress (Nos.)	5	6	11	6
Appraisal Potential (in Th. ha)	-	-	-	-
(a) Creation	184.558	151.59	336.14	9.52
(b) Stabilization	61.62	-	61.62	-
Potential created (in Th. ha)	13.39	45.384	58.774	7.701
Potential Stabilised (in Th. ha)	54.508	-	54.508	-

Source: Source: E.I.C. (Water Resources), Orissa & Chief Engineer (M.I), Orissa

Rural Infrastructure Development Fund (RIDF):

5.17 Agriculture and Rural Infrastructure Sectors play an important role for growth of economy. There are many infrastructure projects, which have been started but are lying incomplete for want of resources. Even though there is an urgent need of creating adequate employment opportunities in rural areas through development of infrastructure, there had been virtually no institutional arrangements for financing rural infrastructure.

5.18 Against this background, the Government of India in the Budget of 1995-96 announced the scheme for setting up Rural Infrastructure Development Fund (RIDF) to be operationalised by NABARD. This fund has emerged as a popular and effective scheme

for financing rural infrastructure projects. The primary objective is to assist State Governments for the completion of ongoing rural infrastructure projects and also taking up new projects.

5.19 The Water Resources Department has availed loan under RIDF scheme since inception of the programme. Earlier the loan was extended for taking up new as well as completion of ongoing Major, Medium & Minor Irrigation projects. Later, during 2004-05, NABARD agreed to provide loan for Flood control & Drainage Projects. The status of projects taken up under different RIDF trenches is given in table 5.10.

Table – 5.10
Status of RIDF projects as on 31.03.2007.

Sector	Taken up	Completed	Under progress	Reposed	Design potential (Th. Ha)	Potential Created (Th. Ha.)
Major & Medium	54	32	20	2	95.155	55.581
Minor Flow	256	133	105	18	91.551	55.48
Flood Control	24	04	20	-	-	-
Drainage works	23	01	22	-	-	-

Source: E.I.C. (Water Resources), Orissa

Externally Aided Projects:

Japan Bank of International Co-operation (JBIC):

5.20 Japan is providing ODA (Overseas Development Assistance) loan to developing countries at low rates of interest and with long repayment periods to develop and improve the economic and social infrastructure for

sustainable economic development. JBIC's Overseas Economic Cooperation Operations are in charge of the major part of ODA loans. So far 3 Major Projects namely Upper Indravati Irrigation Project (RD 15.00 to 52.00 Km.), Upper Kolab irrigation Project (RD14.00 to 41.78 Km) & Rengali Left Bank Canal (RD 29.177 to 71.313 km.) have been sanctioned under this scheme. Out of three sanctioned projects, two projects namely Upper Indravati and Upper Kolab have been completed. At present, Rengali Left Bank Canal (RD 29.177 to 71.313 Km.) is under progress since 1997. The project is scheduled to be completed by 2010-11. The physical and financial progress is given in table 5.11.

Table – 5.11
Total Status as on 31.03.2007.

Latest Cost	Financial (Rs. in Cr.)			Physical (Th.ha.)			
	Expdr. by 03/2006	Expdr. during 2006-07	Total Expdr. by 03/2007	Appraisal potential	Potential created by 03/2006	Potential created during 2006-07	Total Potential created by 03/2007.
686.4	406.8	70.5	477.3	29.2	0.3	0.3	0.6

N.B. = Rounded up to 1 decimal point.
Source: E.I.C. (Water Resources), Orissa

World Bank (Hydrology Project Phase-II)

5.21 Hydrology Project, Phase-II is a follow of Hydrology project , Ph-I to extend and promote the sustained and effective use of Hydrological Information System (HIS) by all potential users concerned with water resources planning and management. This is

a World Bank funded project and implemented nationwide. Orissa is a participatory state in this project. The estimated cost of Orissa portion work is Rs.21.35 crore (Surface water component – Rs.10.12 crore & Ground water component – Rs.11.23 crore). During 2006-07 an amount of Rs.2.29 crore has been spent under this programme and an outlay of Rs.6.45 crore has been provided for 2007-08.

Repair, Renovation & Restoration of Water Bodies (RR&R):

5.22 The water bodies, both traditional & constructed, have been a part and parcel of minor irrigation in the country, under which even today two-thirds of irrigated agriculture is covered in our country. Such Minor irrigation schemes generally suffer from the problem of loss of storage capacity due to silting of the tanks, poor maintenance and management, encroachment, etc. Damage to various structures, inadequate surplus arrangements & silting are some of the reasons for deteriorating conditions in the irrigation system. It is necessary to restore the storage capacity of water bodies with the purpose of recovering their lost irrigation potential.

5.23 With this goal in view, a new Scheme called “National Project for Repair, Renovation and Restoration of Water Bodies directly linked to Agriculture” has been launched on pilot basis by Govt. of India during 2004-05. The main objectives are-

- (a) To restore and augment storage capacities of water bodies.
- (b) To recover and extend their lost irrigation potential.

5.24 Under this pilot scheme, 127 nos. of MIPs in the district of Ganjam & Gajapati at a cost of Rs.18.84 cr. have been taken up to restore lost ayacut of 9,619 thousand hectares. The physical and financial performance is given in Table 5.12.

Table – 5.12

Status of Repair, Renovation & Restoration of Water Bodies as on 31.03.2007.

District	Project (Nos.)			Potential to be revived (Th.ha.)	Potential revived (Th.ha.)
	Taken up	Completed	Ongoing		
Ganjam	68	53	15	6.081	4.015
Gajapati	59	51	8	3.538	1.585
Total	127	104	23	9.619	5.603

Source: E.I.C. (Water Resources), Orissa

BIJU KRUSHAK VIKASH YOJANA (BKVY):

5.25 This novel scheme was launched by State Government in 2001 with an objective to revive derelict projects & construction of new projects particularly in minor irrigation sector through people’s participation. The assistance will be limited to 80% of the estimated capital cost and contribution of Pani Panchayat shall be 20% of the cost. In case of tribal sub-plan areas and KBK Districts, the assistance may be raised to 90% of the capital cost. The Pani Panchayat may contribute its share either in cash or in terms

of labour or in the form of land etc. The assistance to a Pani Panchayat towards the capital cost shall be given only after it is registered as Society under the Societies Registration Act, 1860 for which a model bye-law will be furnished by the DOWR. At present the funding for execution of MIPs & LIPs in KBK districts are basically met from Special Central Assistance (SCA) received

under RLTA. Similarly, loan assistance from NABARD is being availed under RIDF scheme for execution of MIPs & LIPs in non-KBK Districts. As on 31st March 2007, the state level screening committee has approved 233 MIPs and 4997 LIPs including 56 MIPs and 2262 LIPs of KBK districts. The status of BKVY is given in table 5.13.

Table - 5.13
Achievement made under BKVY as on 31.03.2007.

Project Particular	Minor (flow)			Lift Irrigation (OLIC & OAIC)		
	Non-KBK (RIDF)	KBK (SCA under RLTA)	Total	Non-KBK (RIDF)	KBK (SCA under RLTA)	Total
1. Taken up (No)	59	34	93	1526	1401	2927
2. Completed (No)	25	22	47	1089	1278	2367
3. Ongoing (No)	34	12	46	437	123	560
4. Appraisal Potential in Th. Ha. (Taken up Projects)						
(a) Creation (New)	2.538	4.172	6.710	30.400	26.820	57.220
(b) Revival	1.618	1.885	3.503	0.572	2.980	3.552
5. Potential created.(Th.ha.)	0.796	2.298	3.094	21.020	24.740	45.760
6. Potential revived (Th.ha.)	0.160	1.708	1.868	0.572	2.580	3.152

Source: Chief Engineer, M.I., Orissa and OLIC, Orissa

OTHER IMPORTANT ACTIVITIES:

Pani Panchayats, Participatory Irrigation Management (PIM)

5.26 PIM concept has been introduced in the State during 1995, on pilot basis in four projects with the assistance of World Bank under the banner Framers' organization & Turn over (FOT). To motivate farmers in irrigation management, massive awareness campaign, training programmes & work shops have been done at regular intervals. Due to overwhelming response, during 2000, the programme was named "Pani Panchayat" and

was extended to all commands of Major, Medium, Minor & Lift Irrigation Projects. To make Pani Panchayats successful, legal status has been provided by enacting the 'Orissa Pani Panchayat Act, 2002' & the 'Orissa Pani Panchayat Rule, 2003'.

Physical Projections and achievements:

5.27 At present, it has been programmed to hand over 17.10 lakh ha. to Pani Panchayats for operation and maintenance. The Physical achievements ending 31.03.2007 is given in the table 5.14.

Table – 5.14

Status of Pani Panchayats in Orissa as on 31.03.2007.

Sector	Total Programme		Registered / Formed		Handed Over		Delineation	
	Nos	Area (lakh ha.)	Nos	Area (lakh ha.)	Nos	Area (lakh ha.)	Nos	Area (lakh ha.)
Major & Medium	2587	11.30	1458	6.37	1126	4.96	705	2.93
Minor (flow)	1883	3.28	1005	1.92	775	1.50	948	1.31
Minor (lift)	11432	2.51	11432	2.51	10834	2.39	1852	0.36
Total	15902	17.09	13895	10.80	12735	8.85	3505	4.60

Source: E.I.C. (Water Resources), Orissa, OLIC, Orissa, and Chief Engineer, M.I., Orissa.

Flood Control

5.28 Most part of the state is regularly affected by flood each year causing damage to life of people and animal as well as to crops. Major rivers namely Mahanadi, Brahmani, Baitarani, Subernarekha, Rushikulya, Budhabalanga, Vansadhara, Indravati and Kolab and their branches have the potential of causing severe floods in their delta. The flood prone area of the State has been assessed as 33.40 lakh ha, which is 21.45% of its geographical area. Almost every alternate year, the State experiences large scale devastation either due to flood or flood

coupled with cyclone. During the last five decades, some structural and non-structural measures have been taken to mitigate flood. As a part of structural measures, two flood control reservoirs namely Hirakud on Mahanadi River & Rengali on Brahmani River have been constructed. Similarly the Chanduli Dam & Icha Dam (under construction) in Jharkhand State will control flood to some extent in Subernarekha Delta. Besides, 6,515 kms. of protective embankments have been constructed in different basins to control the flood & saline ingress in the deltaic / low lying area which is given in the table 5.15.

Table – 5.15

Status of Flood Control Programme as on 31.03.2007.

Name of Basin	Capital Embankment (in Km.)	Other Agricultural Embankment (in Km.)	Test Relief Embankment (in Km.)	Saline Embankment (in Km.)	Total (in Km.)
Mahanadi	1281.14	1205.78	428.69	961.72	3877.33
Brahmani	144.21	218.67	258.35	323.20	944.43
Baitarani	127.87	122.13	184.54	161.80	596.34
Rushikulya	-	486.46	-	30.00	516.46
Subernarekha	30.00	28.70	225.60	28.00	312.30
Budhabalanga	-	20.50	144.85	12.95	178.30
Vamsadhara	4.98	1.70	82.91	-	88.59
Total	1588.20	2083.94	1324.94	1517.67	6514.75

N.B. : In addition, 1952 nos of spurs and 253 km of Stone packing have been constructed.

Source: E.I.C. (Water Resources), Orissa

5.29 There is no specific irrigation scheme under which these works can be taken up. Govt. of India's intervention in this sector is limited to Northeast & Ganga Basin States. To overcome the funding problem, during 2003-04, a proposal integrating flood control and drainage with irrigation has been prepared on a pilot basis for Mahanadi Basin "Mahanadi Basin Development Plan" submitted to MOWR for necessary clearances. After obtaining necessary clearances, the same has been planned to be placed to the World Bank for funding. At present, the emergent natures of works in selected patches are taken up through CRF/SGRY/ NCCF/RIDF.

5.30 Apart from that, during 2004-05, Government of India under anti-sea-erosion works sanctioned one project namely Construction of Seawall of Jamboo Saline Gherry on river Gobari Left from RD 8.67 km. to 10.855 km. at an estimated cost of Rs.314.00 lakh of which Central share being Rs.235.00 Lakh. The Project is scheduled to be completed during 2007-08. Central assistance of Rs.150 lakh has been released for this project & an amount of Rs 201.00 lakh has been spent up to end of 31.03.2007.

Drainage:

5.31 The coastal belt of Orissa is one of the most densely populated areas of the country. In spite of fertile land, suitable agro climatic

conditions and irrigation systems, the crop yield is low. This is mainly due to the fact that 30% of the CCA, i.e, 2.17 lakh ha suffers from poor drainage and water logging problems. To harness the potential for increased agricultural growth, a Master plan amounting to Rs.856.46 Cr. for treatment of 1.90 lakh ha. of waterlogged area has been prepared & submitted to CWC for necessary clearance.

5.32 To address the drainage congestion and water logging problems, there is no specific scheme available as Government of India's intervention is limited to Ganga & Brahmaputra Basin States. However, during 2004-05, NABARD agreed in principle to provide loan assistance under RIDF for this sector. During 2005-06, twenty project proposals have been submitted to NABARD for sanction, which are under scrutiny. Though, separate drainage organization was created during 2001 to look after the drainage work, due to constraints of funds, the activities are scaled down. At present, the emergent nature of works in selected patches are taken up through CRF/SGRY/ NCCF/ACA/CSP. Apart from that, during 2004-05, Government of India sanctioned a project, namely Improvement of Drainage System & Improvement of Coast Canal Range-III in Bhogarai & Jaleswar Block of Balasore District at an estimated cost of Rs.1,446.26 lakh (Central share-Rs.1,283.81 Lakh) under this scheme. The Project is

scheduled to be completed during 2007-08. By the end of March 2007, Central assistance of Rs.8.23 Cr. has been released for this project. The physical and financial progress of the project under CSP is given in Table 5.16.

Table – 5.16
Status of Drainage project in
Orissa as on 31.03.07.

Financial (Rs. in Cr.)				Physical (Th.ha.)			
Appraisal Cost	Expdr. by 03/2006	Expdr. during 2006-07	Total Expdr. by 03/2007	Area to be retrieved	Area retrieved by 03/2006	Area retrieved during 2006-07	Total Area retrieved by 03/2007
14.46	1.50	8.84	12.84	11600	6185	300	6485

Source: E.I.C. (Water Resources), Orissa

quin-quennial period. The 3rd Minor Irrigation Census was conducted in the State during 2001-02 with reference year 2000-01. The Census report provides district level information on number of different minor irrigation schemes, culturable command area (C.C.A.), irrigation potential created (I.P.C.) and irrigation potential utilized (I.P.U.) in respect of five types of M.I. schemes viz. dug well, shallow tube well, deep tube well, surface flow and surface lift. A comparative picture of 3rd Minor Irrigation Census and 2nd Minor Irrigation Census have been presented in Table 5.17.

MINOR IRRIGATION CENSUS

5.33 The Minor Irrigation Census is being conducted by Government of India in every

Table 5.17
Gross Irrigation Potential Created and Utilised in the State
as per 2nd and 3rd Minor Irrigation Census.

Scheme (In numbers)	Number of Scheme			Gross Irrigation Potential Created (in lakh hectare)			Gross Irrigation Potential Utilized (in lakh hectare)		
	1993-94(2 nd M.I.Census)	2000-01(3 rd M.I.Census)	Percent changes	1993-94(2 nd M.I.Census)	2000-01(3 rd M.I.Census)	changes	1993-94 (2 nd M.I.Census)	2000-01(3 rd M.I.Census)	changes
Dug well (lakh)	3.23	3.78	17	2.06	1.91	(-) 7.40	0.92	0.77	(-) 16.1
Shallow tube well	18095	43881	142.5	1.31	1.53	16.4	0.54	0.66	22.3
Deep tube well	2911	4592	57.8	0.82	0.94	14.7	0.14	0.11	(-) 20.6
Surface flow	24103	28303	17.4	6.98	6.9	(-) 1.3	4.31	3.64	(-) 15.5
Surface lift	20604	32844	59.4	2.83	3.03	7.1	1.13	1.03	(-) 8.5

Source: Directorate of Economics & Statistics, Orissa.

5.34 Out of the total 3.78 lakh dug wells, 2.83 lakh are in use, 0.26 lakh are not in use permanently, and remaining 0.69 lakh are not in use temporarily. The gross irrigation potential created is under utilized in the case of 2.07 lakh dug wells out of 2.83 lakh in use due to less discharge of water, mechanical break down and inadequate power etc. The gross irrigation potential utilized during the 3rd M.I. Census through deep tube wells was 0.11 lakh hectares as against 0.14 lakh hectares during 2nd M.I. Census showing a

declining trend of 20.6% over the 2nd M.I. Census. This may be due to large-scale defunct, poor and irregular maintenance and inadequate power supply. The declining trend of surface flow during 3rd M.I. Census is due to siltation of storage tanks, breakdown of channels and inadequate storage due to erratic rainfall. In case of surface lift, the reasons for such under utilization were mostly due to inadequate power supply, mechanical breakdown and less discharge of water etc.

