MINOR IRRIGATION (GROUND WATER)

Water is an important basic need for agriculture development and economic advancement in the Union Territory of Puducherry. The water required for irrigation, drinking and industrial purposes in Puducherry region are mainly met-out from ground water resources. The irrigation water requirement is in the order of around 80% of the total consumption of water for all sectors. The surface water bodies are supplementing irrigation to some extent. But, the intensity of irrigation through tube wells, which was 55% during the pre-independence period, has increased to 98% now. Besides drinking water for the entire population is being met-out from the ground water resources in addition to providing irrigation to 98% of net area sown in Pondicherry region through tube wells. Ground water development and management poses special challenges in view of its cross-sectoral users for drinking, industrial and irrigation purposes. Puducherry faces an increasingly urgent situation, since its finite and fragile water resources are stressed and depleting while sectoral demands are growing rapidly. Owing to the excessive load on ground water, there is steep decline of water level in the aquifers to a depth ranging from 15 to 40 metres, which has resulted in seawater intrusion along the coast.

To protect the ground water regime of Puducherry from de-saturation attention towards harvesting rainwater for recharging ground water and conservation of water was bestowed on priority basis during the 10th Five Year Plan period under "Integrated Scheme for Development, Harvesting, Recharging and Conservation of Ground Water".

ACHIEVEMENTS DURING 2007-08

➢ Construction of recharge tube wells for recharging ground water in nos.	-	10
➢ Construction of roof top rain water harvesting structure in the Govt. buildings in nos.	-	3
➢ Renovation of dug wells/dug-cum- bore wells in nos.	-	20
➢ Construction of tube well in SC farmer's holdings	-	3
➢ Laying of underground pipelines at subsidized cost in mtrs.	-	35,184
➢ Installation of sprinkler/drip irrigation sets at subsidized cost in nos.	-	45
➢ Construction of New/Replacement community tube wells in nos.	-	1

- Construction of medium / deep tube wells in nos. - 34
- Construction of filter points / shallow tube wells in nos. - 25
- Area to be stabilized in Hects. - 93

LIKELY ACHIEVEMENT DURING 2008-09

- Desilting/reconstruction of percolation ponds/ channels/ water bodies in Govt. prompoke for rainwater harvesting and recharging ground water in nos. - 2
- Construction of recharge tube wells for recharging ground water in nos. - 8
- Construction of roof top rain water harvesting structure in the Govt. buildings in nos. - 2
- Renovation of dug wells/dug-cum- bore wells in nos. - 30
- Construction of tube well in SC farmer's holdings - 5
- Laying of underground pipelines at subsidized cost in mtrs. - 20,000
- Installation of sprinkler/drip irrigation sets at subsidized cost in nos. - 25
- Construction of New/Replacement community tube wells in nos. - 1
- Construction of medium / deep tube wells in nos. - 24
- Construction of filter points / shallow tube wells in nos. - 15
- Area to be stabilized in Hects. - 120

PROPOSED TARGET FOR 2009-10

During 2009-10, it is proposed to continue the programmes / components undertaken during the year 2008-09 with a view to concentrate on rain water harvesting with innovative recharging techniques to increase the potential of ground water. Simultaneously main emphasis is proposed for adoption of water saving techniques like drip / sprinkler irrigation methodology duly enhancing the existing subsidy assistance to farmers.

- Construction of Farm Ponds in Karaikal in nos. - 5
- Desilting/reconstruction of percolation ponds/ channels/ water bodies in Govt. prompoke for rainwater harvesting and recharging ground water in nos. - 2
- Construction of recharge tube wells for recharging ground water in nos. - 8
- Construction of roof top rain water harvesting structure in the Govt. buildings in nos. - 2
- Renovation of dug wells/dug-cum- bore wells in nos. - 30

➢ Construction of tube well in SC farmer's holdings	-	5
➢ Laying of underground pipelines at subsidized cost in mtrs.	-	23,000
➢ Installation of sprinkler/drip irrigation sets at subsidized cost in nos.	-	25
➢ Construction of New/Replacement community tube wells in nos.	-	1
➢ Construction of medium / deep tube wells in nos.	-	24
➢ Construction of filter points / shallow tube wells in nos.	-	15
➢ Area to be stabilized in Hects.	-	120

PERFORMANCE AND PROGRESS ON HYDROLOGY PROJECT – II WITH WORLD BANK ASSISTANCE

The World Bank Loan assisted project titled "Hydrology Project, Phase-II", is meant for bringing all water related data viz. Surface Water, Groundwater, Water Quality, and Climatological data under one roof. Under this project, required infrastructure like establishment of observation stations for surface water and groundwater, water quality lab, hydrometeorology observation stations, and a data center will be established. The data collected will be computerized in a standardized format and the data will be utilized for creation of a Decision support system for better water resources planning and management of Puducherry in future.

Programs of the Project:

The important programs of the project are as follows:

i. Construction of 27 numbers of observation tube wells to strengthen the existing ground water level data collection network.
ii. Establishment of a Full Climatic Station and 3 numbers of Automatic rain gauge stations for strengthening the Weather Monitoring and hydro-meterological data collection.
iii. Establishment of a Level II + Water testing Laboratory.
iv. Construction of one state of the art Data Centre for housing in the data.
v. Establishment of flow monitors for monitoring flow of water in the rivers and canals to quantify the run off.
vi. Training of technical staff in handling of latest equipments and data collection.

vii. Conduct of two purpose driven studies for monitoring seawater intrusion in coastal areas and identification of possible points of ground water recharge in an effective manner.

Progress of the Project:

Physical Progress:

The project became effective on 5th April 2006. But, the required approval of Ministry of Water Resources for the Annual Work Plan 2006-07 and the procurement plan were communicated only during the months of September 2006 and February 2007 respectively. Thereafter alone, the implementation could be undertaken. As per norms of the project, the approval of the Central Agencies Viz. Central Water Commission, Central Ground Water Board, Indian Meteorology Department and Central Pollution Control Board has to be obtained before taking up any component.

The important physical achievements of the project are as follows.

i. The sites for construction of 27 numbers of observations tube wells have been identified and the approval of the Central Ground Water Board, Ministry of Water Resources has been obtained. In the first phase, 5 numbers of observation tube wells are proposed to be constructed and the work will be awarded before December 2008.
ii. 3 numbers of river gauging sites have been identified and the approval of the Central Water Commission is awaited. The river gauging stations will be established before January 2009.
iii. One Full Climatic Station has been identified and will be established before December 2008.
iv. With a view to taken up the project in a perfect manner, the technical officials attached to State Ground Water Unit of Department of Agriculture and Irrigation Division of PWD are being trained in different subject matters and so far, training has been imparted to 52 numbers of technical officials and staff under Hydrology Project – II.
v. 9 numbers of staff exclusively for the project have been appointed and also 2 numbers of ministerial staff, for maintenance of accounts, have been placed on deputation.

vi. The required infrastructure facilities including vehicles for transportation have been created for the project.

vii. An extent of land around 00.24.13 ha of PWD land has been transferred to Hydrology Project – II exclusively for the construction of Data Centre and Lab of Level II + Category. The Ministry of Water Resources and the World Bank have approved the plan, design and cost estimate for Rs.2.39 crores. The Construction will be undertaken before January 2009.

Financial Progress:

Under the project, so far an amount of Rs.39,87,209 has been spent and claims for an amount of Rs.28,919,896 have been made.

MINOR IRRIGATION (SURFACE WATER)

In Puducherry region, there are 84 tanks and the total Ayacut covered by the 84 tanks is 6456 Hectares.The Karaikal region mainly depends on the surface water of Cauvery river distributaries and the total Ayacut covered is 10,974 Hectares. The Yanam and Mahe regions are of small enclaves in Andhra Pradesh and Kerala States respectively, the irrigation system is in micro level only and the Ayacut overage in Yanam is 1350 Hectares and in Mahe region is 774 Hectares. Under this Sector, it is proposed for construction of Bed Dams/Check Dams in order to save more surface water in order to recharge the depleted ground water to avoid the adverse situation arising out of continuous drawl of ground water resulting intrusion of salinity in the coastal region, improvement of storage capacity of ground water, development of surface water by storing water by storing rain water during monsoon season in the irrigations through feeder canals, desilting and deepening of tanks, ponds and kulams, removal of shoals in the river banks, improvements to the inspection paths in the banks of rivers and providing common banks of channels, formation of mini lakes and acquisition of lands for formation of mini lakes at various places.

ACHIEVEMENTS DURING 2007-08

- Formation of Mini Lake at Chettikottagam at Thennangudy village in Thirunallar Commune.
- Formation of Mini Lake at Kurumbagaram in Nedungadu Commune.
- Formation of Mini Lake at Nallambal in Thirunallar Commune.
- Formation of mini lake at Chettikottagam in Thennankudy village at Thirunallar commune, Karaikal.
- Deepening the Periya Kulam near Govt. Higher Secondary School at T.R. Pattinam.
- Desilting of various Tanks In Thirunallar commune.
- Providing common banks of Sadayan channel and Kuthiraikutty channel above Kottagam road culvert in Nedungadu commune (Ch. 3585m to 5110m.) - V Reach.

LIKELY ACHIEVEMENT DURING 2008-09

- Providing revetment to the Bahour tank bund inside from surplus weir to Aranganur sluice in Bahour Commune, Puducherry..
- Construction of bridge across Bangaru channel near Nandhini bar at Karaiyambuthur village in Bahour Commune, Puducherry.
- Formation of Mini lake at Ponbethy in Nedungadu Commune.
- Improvements to the feeder channel of Chavady kulam from Mettumadhagu of Kuruvinatham Chinna eri to Chavadu kulam inlet point (Ch.0m to 200m) at Kirumampakkam in B.C, Puducherry.
- Improvements to Chavady kulam @ Kirumampakkam in Bahour Commune, Puducherry.
- Protection work to the Right Bank of Poranthotti Thangal surplus course in Irulansandai in Bahour Commune, Puducherry.
- Widening the surplus weir of Kirumampakkam Chinna eri and Periya eri in Bahour Commune, Puducherry.
- Construction of tailend bed dam across Mullaiyar river below Nagore Road Bridge and Pravadayanar river below Nagore road bridge in Karaikal.
- Construction of tail end bed dam across Vanjiar river at melavely in Karaikal.

PROPOSED TARGET FOR 2009-10

- Land Acquisition for Mini Lake at Padutharkollai.
- Protection of right bank of Vanjiar in between Padugai Canni infall to Leimare bridge in Puduthurai.
- Improvements to Neravy channel from Manampet to Alathur Iron bridge - II reach (0m to 1300m).
- Improvements to the down stream of Nallathur regulator in Nedungadu commune, Karaikal.
- Reconstruction of regulator across river Thirumalairajanar at Manampet village, Karaikal.
- Construction of check dam across Sankaraparani river at Chellipet Puducherry.
- Construction of 3nos of minor check dam all along the Authuvoikal from Pilliarkuppam anicut to Villianur in Puducherry..
- Construction of recharge borewells from Sellipet Uruvaiyar barrage in Sankaraparani river in Puducherry.
- Improvement to drainage channel from Oulgret Hr.Sec.school Pallavoikal in Oulgret Puducherry.
- Formation of Mini Lake at Thenoor in Thirunallar commune.
- Standardizing of existing Isakakalava drainage channel from 0/0 Kms to 6/0 Kms under Adivipolam ayacut of capacity 30 cusecs in Yanam.

OUTLAY AT A GLANCE

Sector : MINOR IRRIGATION No. of Schemes : 4

Department : 1. AGRICULTURE
2. PUBLIC WORKS

(Rs. in lakh)

Eleventh Five Year Plan 2007-12 Approved Outlay	:	17474.94
Annual Plan 2007-08 Actual Expenditure	:	1304.90
Annual Plan 2008-09 Approved Outlay	:	1552.61
Annual Plan 2008-09 Revised Outlay	:	1637.04
Annual Plan 2009-10 Proposed Outlay	:	2200.00

(Rs. in lakh)

Sl. No.	Name of the Scheme	Eleventh Five Year Plan 2007-12	Annual Plan 2007-08	Annual Plan 2008-09		Annual Plan 2009-10
		Approved Outlay	Actual Expdr.	Approved Outlay	Revised Outlay	Proposed Outlay
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	AGRICULTURE					
1.	Integrated Scheme for Development, Harvesting, Recharging and Conservation of Ground Water (BNP)	1986.00	203.84	204.00	229.00	210.00
2.	Hydrology Project – II with World Bank Loan Assistance (EAP)	1034.36	--	225.00	--	390.00
	Sub-Total	**3020.36**	**203.84**	**429.00**	**229.00**	**600.00**

Sl. No.	Name of the Scheme	Eleventh Five Year Plan 2007-12	Annual Plan 2007-08	Annual Plan 2008-09		Annual Plan 2009-10
		Approved Outlay	Actual Expdr.	Approved Outlay	Revised Outlay	Proposed Outlay
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	PUBLIC WORKS					
3	Augmentation of Surface Water and Strengthening of Infrastructure (BNP)	7500.00	586.06	559.45	566.04	1050.00
4	Augmentation of Ground water recharge scheme (BNP)	6850.00	465.00	564.16	842.00	550.00
5	Creation of infrastructure facilities in Tsunami affected areas	104.58	50.00	--	--	--
	Sub - Total	**14454.58**	**1101.06**	**1123.61**	**1408.04**	**1600.00**
	Total	**17474.94**	**1304.90**	**1552.61**	**1637.04**	**2200.00**