

MINOR IRRIGATION

Agriculture

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 through tube wells. Ground water development and management present 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 undiverted 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”.

During 2008-09, it is proposed 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.

Implementation of Hydrology Project Phase-II for creation of Water Resources Information: -

The Government of Puducherry is implementing a project titled “Hydrology Project Phase-II” with loan assistance of World Bank since the year 2006 with an outlay of Rs.13.18 crores and for a period of 6 years. The main objective of the project is to create water information comprising exhaustive information on surface water, ground water, hydrometeorology and water quality for better water resources planning in future. During the project period of 2006-07 and 2007-08, the technical officials involved in the development of water resources were trained in water related software and infrastructure facilities were provided for implementation of the project and preliminary works for strengthening of surface, ground water, climatology observation stations and water quality monitoring network were undertaken.

By implementing all the above programmes, the dependence on ground water will be reduced, resulting in ground water, recharge and water table rise facilitating efficient irrigation for agricultural production and generation of higher farm income.

Public Works

All the four regions of the UT of Puducherry have different sources of irrigation. Puducherry irrigation system mainly depends on Tank irrigation and ground water irrigation. In Puducherry region there are 84 tanks of which 59 are system tanks i.e. the tanks that are connected to river systems and 25 are non-system (rainfed) tanks. These 84 tanks irrigate about 8456 hectares. The system tanks receive water from the two major rivers namely the Gingee and Pennaiyar Rivers and three major tributaries namely the Pambai, Mallattar and Guduvayar rivers. Water from the rivers and tributaries are conveyed to the tanks through feeder channels. The tanks also recharge ground water in command areas. These tanks are rehabilitated in order to increase the utilizable surface water potential to some extent. Apart from the 25 non-system tanks there are nearly 50 ponds that can also hold rainwater. The tanks and ponds of the Puducherry region have to be protected and rehabilitated not only for irrigation but also for recharging the ground water. It is proposed for improvement of tanks by desilting and deepening of tanks and ponds, Ground water recharge schemes namely construction of bed dams, check dams, infiltration wells, construction of regulators and head works, protecting the bunds, stabilizing the existing Ayacut by way of improvements of various supply channels off taking from tanks, etc. The Karaikal region mainly depends on the surface water of Cauvery river distributaries. The total Ayacut covered in this region is 10,974 hectares. Canal irrigation is prominent in Karaikal as the Cauvery river flows through the region. Karaikal region is in the tail end of Cauvery delta and is fed by seven of the major distributaries of Cauvery river namely Nandalar, Nattar, Vanmjiar, Arasalar, Noolar, Thirumalairajanar and Pravadayathar. Due to availability of canal irrigation, almost all the land in the Cauvery delta is under Paddy cultivation. However, due to Cauvery water dispute coupled with failure of the monsoon, construction of tail end regulators across the rivers and the major drainage carries so as that the excess rain water flowing towards the sea are proposed to be stored for irrigation purpose and also for recharging the groundwater and also to arrest the sea water intrusion into the ground aquifer. Experimentally, the stored water at Thirumalairajanar tail end regulator was utilized for drinking water after going necessary treatment and found to be effective. In addition, it has been proposed to deepen various tanks, to form new tanks and mini-lakes at possible places namely Chethkottagam, Nallathur, Nallambal, Thirunallar, Sethur, Ambagarathur, Padutharkollai and Andoor. Removal of shoal at various places and construction of tail end dams are proposed to be undertaken.

The Mahe region and Yanam region are of small enclaves in Kerala State and Andhra Pradesh State respectively. The irrigation system is in micro levels only and the Ayacut coverage in Mahe is 1350 hectare and the Yanam region is 774 hectares.

OUTLAY AT A GLANCE

Sector : MINOR IRRIGATION

No. of Schemes : 5

 Department : 1. AGRICULTURE
 2. PUBLIC WORKS

(Rs. in lakh)

Tenth Plan 2002-07 Actual Expenditure	:	7707.18
Annual Plan 2006-07 Actual Expenditure	:	1440.93
Eleventh Plan 2007-12 Approved Outlay	:	17474.94
Annual Plan 2007-08 Approved Outlay	:	1616.93
Annual Plan 2007-08 Revised Outlay	:	1638.93
Annual Plan 2008-09 Proposed Outlay	:	2253.00

(Rs. in lakh)

Sl. No.	Name of the Scheme	Annual Plan 2006-07	Annual Plan 2007-08		Annual Plan 2008-09
		Actual Expdr.	Approved Outlay	Revised Outlay	Proposed Outlay
(1)	(2)	(3)	(4)	(5)	(6)
AGRICULTURE					
1.	Integrated Scheme for Development, Harvesting, Recharging and Conservation of Ground Water (BNP)	163.00	174.50	196.50	407.11
2.	Hydrology Project – II with World Bank Loan Assistance (EAP)	137.00	237.50	237.50	327.30
	Sub-Total	300.00	412.00	434.00	734.41

Sl. No.	Name of the Scheme	Annual Plan 2006-07	Annual Plan 2007-08		Annual Plan 2008-09
		Actual Expdr.	Approved Outlay	Revised Outlay	Proposed Outlay
(1)	(2)	(3)	(4)	(5)	(6)

PUBLIC WORKS

3	Augmentation of Surface Water and Strengthening of Infrastructure (BNP)	808.44	330.00	330.00	595.59
4	Ground water recharge scheme (BNP)	300.52	820.61	820.61	923.00
5	Creation of infrastructure facilities in Tsunami affected areas	31.97	54.32	54.32	--
	Sub - Total	1140.93	1204.93	1204.93	1518.59

Total	1440.93	1616.93	1638.93 #	2253.00 #
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Rs.424.00 lakhs will be allocated in the Draft Annual Plan 2008-09 for the development of SCs. The programme will be finalised in co-ordination with Adi-Dravidar Welfare Department which has been declared as the Nodal Department for Monitoring the implementation of SCSP. Rs.265.00 lakhs have been allocated for the development of SCs in the Revised Annual Plan 2007-08.

		RE 2007-08	BE 2008-09
Agriculture	-	20.00	32.00
Public Works	-	245.00	392.00
Total		265.00	424.00

Scheme No. 1

Sector : MINOR IRRIGATION

Implementing : AGRICULTURE
Department

1. Name of the Scheme : Integrated Scheme for Development, Harvesting, Recharging and Conservation of Ground Water (BNP)

2. Objective of the Scheme :

In order to meet the relentless increase in the demand for water for various purposes and to achieve the goal of optimal use and sustainability and to derive the maximum benefits through development, storage, conservation, distribution and reuse, it has become necessary to make water resources development more imperative by implementing a comprehensive integrated scheme with the following objectives: -

- i. Rainwater harvesting and recharging ground water.
- ii. Water Conservation and Management
- iii. Construction of rain harvesting structures like mini lakes and ponds in Karaikal region
- iv. Assessment of ground water potential and monitoring of ground water quality
- v. Stabilization of irrigation command.

To regulate the exploitation of groundwater in the Union Territory of Pondicherry, the "Pondicherry Ground Water Authority" will be created during 2004 under the Pondicherry Ground Water (Control and Regulation) Act 2002.

3.(a) Actual physical Achievement 2006-07 :

- i. Construction of 4 Farm Ponds in Karaikal
- ii. Desilting/reconstruction of percolation 3 ponds/ channels/ water bodies in Govt. prompoko for rainwater harvesting and recharging ground water
- iii. Construction of recharge 5 tube wells for recharging ground water in nos.
- iv. Construction of roof top rain water harvesting structure in the Govt. buildings in nos.
- v. Renovation of dug wells/dug-cum- bore wells in 20 nos.
- vi. Construction of roof top/rainwater harvesting structures in private buildings through PASIC
- vii. Laying of underground pipelines at subsidized cost
- viii. Installation of sprinkler/drip irrigation sets at subsidized cost in 34 nos.
- ix. Construction of New/Replacement community tube wells in 9 nos.
- x. Distribution of PVC pipes to farmers for construction of tube wells departmentally at subsidized cost in meters.

(b) Anticipated Physical Achievement 2007 - 08 :

- i. Construction of 10 Farm Ponds in Karaikal in nos.
- ii. Desilting/reconstruction of 5 percolation ponds/ channels/ water bodies in Govt. prompoko for rainwater harvesting and recharging ground water in nos.
- iii. Construction of 12 recharge tube wells for recharging ground water in nos.
- iv. Construction of 6 roof top rain water harvesting structure in the Govt. buildings through PASIC in nos.
- v. Renovation of 30 dug wells/dug-cum- bore wells in nos.
- vi. Construction of 4 roof top/rainwater harvesting structures in private / industrial buildings through PASIC in nos.
- vii. Laying of underground pipelines at subsidized cost in 20000 mtrs.
- viii. Installation of 40 sprinkler/drip irrigation sets at subsidized cost in nos.
- ix. Construction of 5 New/Replacement community tube wells in nos.
- x. Subsidy assistance to water users associations in 100 hect.

(c) Programme envisaged for Annual Plan 2008-09 :

- i. Construction of 10 Farm Ponds in Karaikal in nos.
- ii. Desilting/reconstruction of 5 percolation ponds/ channels/ water bodies in Govt. prompoko for rainwater harvesting and recharging ground water
- iii. Construction of 12 recharge tube wells for recharging ground water
- iv. Construction of 6 roof top rain water harvesting structure in the Govt. buildings through PASIC
- v. Renovation of 30 dug wells/dug-cum- bore wells in
- vi. Construction of 4 roof top/rainwater harvesting structures in private / industrial buildings through PASIC
- vii. Laying of underground pipelines at subsidized cost in 20000 mtrs.
- viii. Installation of 40 sprinkler/drip irrigation sets at subsidized cost
- ix. Construction of 5 New/Replacement community tube wells .
- x. Subsidy assistance to water users associations in 100 hect.

4. Remarks : Continuing scheme

Scheme No. 2

Sector : MINOR IRRIGATION

Implementing : AGRICULTURE
Department

1. Name of the Scheme : Hydrology Project – II with World Bank Loan Assistance (EAP)

2. Objective of the Scheme :

The Government of Pondicherry is implementing a project titled “Hydrology Project Phase-II” with loan assistance of World Bank since the year 2005-06 with an outlay of Rs.13.18 crores and for a period of 6 years. The main objective of the project is to create

water information system comprising exhaustive information on surface water, groundwater, and hydrometeorology and water quality for better water resources planning in future. State of the art data center and a Level-II plus laboratory for water quality analysis are to be established under the project. Besides, full climatic stations and network of observation tube wells and current metres across the rivers for measurement of surface water flow are to be established at strategic locations and data to be generated from this observation points are to be computerized in a standardized format. The project is under inception stage and funds for the project are being provided from the Minor Irrigation sector. For the sake of sustainability of the project, funds will have to be provided as grant-in-aid after completion of the project during the year 2011.

By implementing all the above programmes, the dependence on groundwater will be reduced, resulting in groundwater, recharge and water taken rise facilitating efficient irrigation for sustained agricultural production and generation of higher farm income.

3.(a) Actual physical Achievement 2006-07 :

Implementation of Hydrology Project Phase-II for creation of water resources information.

(b) Anticipated Physical Achievement 2007 - 08 :

Implementation of Hydrology Project Phase-II for creation of water resources information.

(c) Programme envisaged for Annual Plan 2008-09 :

Strengthening of Hydrology Project Phase-II for creation of water resources information.

4. Remarks : Continuing scheme

Scheme No. 3

Sector : MINOR IRRIGATION

Implementing : PUBLIC WORKS
Department

1. Name of the Scheme : Augmentation of Surface Water and Strengthening of Infrastructure

2. Objective of the Scheme :

Augmentation of surface water by desilting and deepening of tanks, lakes, ponds and rivers and strengthening of infrastructure by construction of Bed Dams, Check Dams, etc., infiltration wells, construction of regulators and head works, protecting bunds, stabilizing the existing Ayacut by way of improvements of various supply channels off taking from tanks, etc.

3.(a) Actual physical Achievement 2006-07 :

- i. Desilting Oussudu Tank & Forming Flood bank in San.Pani river.
- ii. Desilting the Maltar river from Nettapakkam tank off take to PS Nallur Authuvoikal in fall pt.(Near Pakkam tank off take bed dam)
- iii. Desilting of various tanks in Pondicherry.S/w.Desilting of Olandai tank&strengthening bund
- iv. Desilting of Oussudu tank & filling the low lying near Muthirapalayam pump house fencing flood bank in Sankaraparani river
- v. Desilting of various tanks S/w Desilting of olandai tank and strengthening the bunds of olandai tank
- vi. Relaying & metalling the insp.track of Bahour tank from Vazhipattai to Bahour tank surplus
- vii. Desilting the Maltar river from Nettapakkam tank off take to PS Nallur Authuvoikal in fall pt.
- viii. Desilting of Bahour tank and formation of flood bank on the LB of Penniyar
- ix. Desilting of Oussudu tank & filling the low lying area near Muthirapalayam pumping station forming flood bank in Sankaraparani river & forming in land in oussudu tank
- x. Reconst.of cross regulator across Sellangal odai at Madagadipet
- xi. Desilting of Bahour tank and formation of flood bank on the left bank of Penniyar in Bahour
- xii. Desilting the Vadhanur tank (II Phase) in Pondicherry
- xiii. Sankaraparani river and forming island in Oussudu tank
- xiv. Impts. To Bangaru chl. Ch.12.275 - 13.160m from Kumurakoil odai to Bahour tank
- xv. Reactivating the main F.C. at Karikalampakkam tank from Moorthikuppam anicut
- xvi. Impts. To Thirukanji FC from inlet to Uruvaiyar culvert
- xvii. Reactivating the main FC of Karikalampakkam tank from Moorthikuppam anicut including const,of culvert
- xviii. Desilting of Suthukeny chl. From head regulator to tail end
- xix. Impts.to FC of Authuvoikal of Archivak tank
- xx. Impts.to Bangaru chl.from 12,295m to 13160m (from Kumarakoil odai to Bahour tank
- xxi. Const of box culvert on LB of sankaraparani river at infall point of Vazhaduvur surplus course
- xxii. Const of culvert across Bangaru chl near bus stop of Chinna karaiyambathur village
- xxiii. Impts. To the oulgaret Mettuvoikal from ch.4430 to 5330
- xxiv. Const of retaining wall on the outer toe of PS Nallur tank in Nettapakkam
- xxv. Constn. Of culvert across Suthukeny channel at chainage 6570m in Mannadipet commune.
- xxvi. Formation of Mini Lake at Chettikottagam at Thennangudy village in Thirunallar Commune.
- xxvii. Formation of Mini Lake at Kurumbagaram in Nedungadu Commune.
- xxviii. Removal of shoal and formation of Banks on the RB of Vanjiar below Agaramangudy regulator.

- xxix. Formation of Mini Lake at Nallambal in Thirunallar Commune.
- xxx. Standardization of both banks of Athiadi channel from Head Sluice to Grand Canal.
- xxxii. Diversion of Vannan Vadigal confluence point in the downstream side of tailend regulator in Thirumalairajanar.
- xxxiii. Improvements and diversion of Sanniyasi Vadigal in T.R. Pattinam.
- xxxiiii. Improvements to Karuvaladi Voikal below ONGC Godown.
- xxxv. Construction of Retaining wall on right side of Isukakalava from Dommetipeta to Blossom oils factory in Dariyalathippa village in Yanam
- xxxvi. Construction of RCC wall to drainage channel from water works to 8/000 Kms. stone in Dariylathippa village, Yanam
- xxxvii. Supplying and fixing of screw Gauge shuttering to drainage outlets and Bed dams at various places in Yanam
- xxxviii. Construction of RCC retaining wall on the right side of drainage channel from Dommetipeta to Blossom oil Factory in Yanam

(b) Anticipated Physical Achievement 2007 - 08 :

- i. Beautification of Ayeekulam at Muthirapalayam in Puducherry (New Work)
- ii. Forming gravel road on the Suthukeny tank bund
- iii. Construction of protection wall for inspection track on Left bank of Mettupalayam drain from RC 4 Vazhudavour road upto Anna street at Shanmugapuram (New Work)
- iv. Improvements to the drain in M.G.R Street of Rajiv Gandhi Nagar at 26th Ward, Ilango Nagar Puducherry
- v. Const. of culvert across Suthukeny channel below Katterikuppam bridge at Ch.4200m in Mannadipet Commune, Puducherry (New Work)
- vi. Reconst. of Ramanathapuram culvert across Suthukeny channel in Villianur Commune, Puducherry (New Work)
- vii. Formation of Minilake at Nallambal in Nallazhundhur Revenue village in Karaikal. S/W:- Forming the bund around the lake (Spill)
- viii. Providing inlet and outlet arrangements for Nallambal lake. Removal of shoal and augmentation of storage capacity of Arasalar tail end regulator near JPCOSPIN at Meladouthurai in Karaikal (Spill).
- ix. Augmentation of storage capacity at Nandalar tailend regulator – Phase-II.
- x. Improvements to Thalatheru channel from Keezhatheru to offtake
- xi. Improvements to the LB of Nattar near Parithikudy.
- xii. Construction of culvert across Poovam channel.
- xiii. Construction of culvert across Sadayan channel at Usupoorpet.
- xiv. Providing BT to the existing Inspection Path at Sellurpet.
- xv. Laying of Cement concrete road adjacent to French channel from Draksharama road junction to Muduthumulu in Mettacuru Village
- xvi. Forming a Metal road from French Channel road to Sividumanyam drainage channel road in Mettacur village in Yanam

(c) Programme envisaged for Annual Plan 2008-09 :

- i. Improvements to pond near the Iyyanar Koil street school at Vambupet

- ii. Reconsturction of culvert across the Authuvoikal in agaram village with shuttering arrangement and protection work
- iii. Improvements to the inspection path connecting Pillaiyarkuppam Village
- iv. Forming inspection track with Protection wall on RB of Shanmugapuram Vellavari near Mettupalayam Industrial Estate in Puducherry
- v. Strengthening the banks of Nallambal Lake.
- vi. Land Acquisition for Mini Lake at Thenoor, Padutharkollai.
- vii. Improvements to Neravy channel in Alathur Iron Bridge to Manampet
- viii. Re-construction of Pettai Head Sluice, Mathur Bed dam, Senthilery Head Sluice and Subrayapuram Head Sluice.
- ix. Providing lift irrigation Facilities from Godavari River at Farampeta.
- x. Improvements to the French Channel from Bheem Nagar to water works inlet including Reconstruction of damaged retaining wall in Yanam.

4. Remarks : Continuing scheme

Scheme No. 4

Sector : MINOR IRRIGATION

Implementing : PUBLIC WORKS
Department

1. Name of the Scheme : Ground water recharge scheme (BNP)

2. Objective of the Scheme :

Artificial recharge of ground water to store water to a maximum extent.

3.(a) Actual physical Achievement 2006-07 :

- i. Standardisation of Kanaganeri tank for recharging ground water in Oulgaret Municipality
- ii. Const. Of check dam across the south pambiiyar river at Sanyasikupam
- iii. Desilting the Guduvaiyar river chainage
- iv. Const. Of bed dam with foot bridge across the river Guduvayur at Ch.9390m at Korkadu
- v. Const. Of diversion anicut across river peniyar (sitheri)
- vi. Standardisation of Kanaganeri tank for recharging ground water in Oulgaret
- vii. Desilting & Providing recharging borewell in surplus course of Bahour tank from Mkurutupattai regulator to Panithittu regulator
- viii. Artifical recharging of ground water in Bahour tank surplus course from surplus weir to Moratupattai regulator
- ix. Const. Of bed dam in chunumbar on the bed of old bridge to prevent entry of salt water in Noonankuppam
- x. Desilting the river Guduvayir from ch.8440 to 13050m (thirukanji Anicut in Villianur commune
- xi. Const. Of bed dam across Guduvaiyur US side of Uruvaiyur road bridge.

- xii. Stand.of Kanaganeri tank for recharging ground water. S/w Const.of link chl. fromSh.puram vellavari
- xiii. Const.of check dam across South pambiyar at Sanyasikuppam village
- xiv. Standar.of Kanaganeri tank for recharging GW in Oulgaret Municipality
- xv. Artificial recharging of ground water in Bahour tank surplus weir to Morattupattarai
- xvi. Desilting & Strengthening of bunds in Murungapakkam tank
- xvii. Formation of mini lake at Chettikottagam in Thennankudy village at Thirunallar commune, Karaikal.
- xviii. Deepening the Periya Kulam near Govt. Higher Secondary School at T.R. Pattinam.
- xix. Desilting of various Tanks In Thirunallar commune.
- xx. Removal of shoal in the Left Bank and widening the Vanjiar below Agaramangudy regulator in Agaramangudy village in Nedungadu.
- xxi. Improvements to the inspection path in the Left Bank of Arasalar from Neivachery Road culvert to Oozhiapathu foot bridge in Karaikal.

(b) Anticipated Physical Achievement 2007 - 08 :

- i. Construction of check dam with food bridge across river Pambaiyar at Sorapet
- ii. Construction of check dam across south Pambaiyar at Sagadapet Village MCP
- iii. Construction of bed dam cum bridge across Pambaiyar at confluence point at Sellipet village, Puducherry.
- iv. Construction of dam with foot bridge across the river Malatar at Vadukupam near P.S.Nallur Village in N.C, Puducherry
- v. Construction of tailend bed dam across Mullaiyar river below Nagore Road Bridge.
- vi. Construction of tail end bed dam across Pravadayanan river below Nagore road bridge in Karaikal
- vii. Construction of tail end bed dam across Vanjiar river at melavelly in Karaikal.
- viii. Augmentation of storage capacity of Nandalar tailend regulator – Phase-I in Karaikal region (Formation of a Tank at Kazhugumedu).
- ix. Providing common banks of Sadayan channel and Kuthiraikutty channel above Kottagam road culvert in Nedungadu commune - V Reach.

(c) Programme envisaged for Annual Plan 2008-09 :

- i. Const. of check dam across various ravine in Kalapet (New Work)
- ii. Const. of masonry drain from Pitchaveeranpet to Kundusalai culvert at Moolakulam
- iii. Construction of bed dam with footbridge across the river Guduvaiyar @ Sathamangalam Village in Villianur commune, Puducherry
- iv. Construction of bed dam across Arasalar.
- v. Land Acquisition for Mini Lake at Sethur and Ambagarathur.

4. Remarks : Continuing scheme

Scheme No. 5

Sector : MINOR IRRIGATION

Implementing : PUBLIC WORKS
Department

1. **Name of the Scheme** : Creation of infrastructure facilities in
Tsunami affected areas
2. **Objective of the Scheme** :
To create the infrastructural facilities in the Tsunami affected areas.
- 3.(a) **Actual physical Achievement 2006-07** :
Const.of diversion anaicut across river Pennaiyar (sitheri) Pondicherry
- (b) **Anticipated Physical Achievement 2007 - 08** :
Const.of two bed dams across Bahour Tank surplus coarse near Aranganor Village in
Bahour commune in puducherry
- (c) **Programme envisaged for Annual Plan 2008-09** :
Const.of two bed dams across Bahour Tank surplus coarse near Aranganor Village in
Bahour commune in Puducherry
4. **Remarks** : Continuing scheme