

## **2.9. Irrigation, Command Area Development and Flood Control**

Water is a serious limiting factor affecting production and productivity in Tamil Nadu. The available surface water potential has been almost fully exploited. Tamil Nadu covers 4% of the geographical area (13.01 Mha) and caters to 7% of the population of the country (62 million people living in 17 river basins). There are about 76 Major reservoirs, 39 thousand tanks, and 3.7 million wells, which irrigate about 2.6 million hectares out of 5.5 million hectares of crop land. More than 95% of the surface water potential and 80% of groundwater potential have been put into use.

The total water potential of the state including ground water is 47230 MCM (1668 TMC). The total surface water potential of the state is 24,160 MCM (853 TMC) including the contribution (7391 MCM or 261 TMC) from the neighbouring states, viz., Kerala, Karnataka and Andhra. The river basin planning for optimum utilization of water resources is particularly important for water starved Tamil Nadu State. Since a large percentage of consumptive use is through irrigation, irrigation water management is to be given the top priority. This task requires a strong institutional arrangement for effective implementation of the policies for better water management and participatory approach, which is being strongly advocated by the water experts.

Out of the total geographical area of 130 lakh hectares in the State, the net area sown is about 52.43 lakh hectares of which about 29.19 lakh hectares (55.67%) gets irrigation facilities out of which surface water through canals accounts for 8.0 lakh hectares, tanks accounts for 5.75 lakh hectares, and ground water through wells, tube wells accounts for 11.63 lakh hectares.

### **Performance of Annual Plan 2007-08**

The agreed outlay of Rs.432.11 crore for major and medium irrigation and flood control is expected to be spent during 2007-08.

## **Major Projects**

### **Malattar Anicut Scheme in Sengapadi Village of Ramnad District**

The construction of an anicut across Malattar river below the existing Kamudhi regulator and just below the confluence point of Gridhamal and Paralayar rivers with Malattar near Sengapadi village in Kamudhi taluk of Ramanathapuram District at a revised estimate of Rs.42.00 crore has been taken up. This scheme will benefit stabilisation of an extent of 1758 hectares besides bridging a gap of 156 hectares under the existing 54 tanks in Kamudhi and Kadaladi taluks. An amount of Rs. 2.41 crore is proposed for 2008-09.

### **Vaigai Reservoir - Irrigation facilities to 58 villages in Usilampatti Taluk in Madurai district**

Under this scheme, excavation of a high level canal of 27.26 Kilo metre from the proposed head works on the right flank of the Vaigai Dam by formation of 3 new tanks to provide irrigation facilities to 58 villages in Usilampatti taluk by utilizing the surplus flood water from Vaigai Reservoir with the revised estimate cost of Rs.74.60 crore is being undertaken.

By implementing this scheme, 570 hectares of wet lands will be stabilized besides bridging a gap of 128 hectares of wet lands under 29 existing tanks and 3 existing ponds in Usilampatti Taluk. Further new dry ayacut of 227 hectares will be brought under irrigation through 3 new tanks. An amount of Rs.10.28 crore is proposed for 2008-09.

### **Kuppanatham Reservoir (Thiruvannamalai District)**

Under this scheme, formation of a reservoir across Cheyyar near Kuppanatham village in Chengam Taluk of Thiruvannamalai District, will be taken up with the revised estimate cost of Rs.43.50 crore with NABARD assistance. An extent of 2528 hectares ayacut will get stabilized besides bridging the gap of 580 hectares. Acquisition of patta land has been completed and transfer of poromboke lands is in progress. An amount of Rs 5.00 crore is proposed for 2008-09.

### **Malattar-Bathalapalli Reservoir**

Formation of a reservoir across Malattar River near Bathalapalli village in Gudiyatham Taluk, Vellore District at an estimated cost of Rs.29.55 crore has been proposed. An extent of 1,064 hectares of ayacut will get stabilized besides bridging the gap of 61 hectares. This scheme will improve the water quality of the wells in the area now affected by pollution from tanneries. For 2008-09 an amount of Rs.10.00 crore is proposed for this scheme.

### **Nallathangal Odai Reservoir Scheme**

Under this scheme, formation of a reservoir across Nallathangal Odai near Eswarankoil in Ponnivadi village of Dharapuram Taluk has been sanctioned with a revised estimate cost of Rs.42.70 crore. The scheme will irrigate an area of 1,919.87 hectares. An amount of Rs.0.50 crore is proposed for 2008-09.

### **Sirumalayar Reservoir**

Formation of a new tank across Sirumalayar near Rajadhani Kottai village in Nilakottai Taluk with the revised estimate cost of Rs. 8.87 crore was sanctioned to benefit 128 ha. of dry lands in Dindugul District. An amount of Rs. 3.43 crore is proposed for 2008-09.

### **Formation of a new tank across Mathalapallam in Dharmapuri District**

A scheme was sanctioned by the Government at an estimated cost of Rs.14.15 crore for formation of a tank across the river Mathalapallam in Ramakondahalli Village of Pennagaram Taluk in 2001. An ayacut of 445 hectare will be benefitted by this scheme. Land acquisition work is in progress. An amount of Rs. 2.25 crore is proposed for 2008-09.

### **Formation of a new tank across Virumanuthu Odai near Konavaipatti (Ganesapuram) village in Andipatti Taluk of Theni District**

Formation of a tank across Virumanuthu Odai near Konavaipatti (Ganesapuram) village in Andipatti taluk at an estimated

cost of Rs.205.00 lakh has been proposed to benefit 35 hectare of wetland. An amount of Rs. 0.50 crore is allocated for this scheme for 2008-09.

**Construction of new tanks, Canals and Renovation of existing system with loan assistance from NABARD under RIDF-X**

The Government have sanctioned the following schemes with loan assistance from NABARD under RIDF X.

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|---|--|
| 1) Extension of right Main canal of Krishnagiri Reservoir for supplying of water to Bommasamudram, Kariyamangalan and Thindal Tank in Palacode Taluk. | 8) Restoration of O.A.C.M. Pallirilangal Anicut and channel in PAP scheme in Pollachi Taluk.     |
| 2) Construction of checkdam across Markandanadhi in Cigarapalli Village of Krishnagiri Taluk.   | 9) Restoration of O.A.C.M Ariyapuram Anicut and channel.   |
| 3) Modernisation of Barur Branch canal in Sorahalli Village of Pochampalli Taluk.   | 10) Restoration of O.A.C.M Periyar Anicut and channel.   |
| 4) Modernisation of Penugondapuram Branch canal in Sonahalli Village of Pochampalli Taluk.  | 11) Restoration of O.A.C.M Kariapatti Anicut and channel.  |
| 5) Construction of Reservoir across Koilmalayar river at Melarasampatti Village in Vellore District.  | 12) Restoration of O.A.C.M Vadakkalur Anicut and channel   |
| 6) Construction of anicut across Pambiar river in Matthur Village of Viluppuram District.   | 13) Modernisation of shutters in Kallanai Village and  |
| 7) Modernisation of Dhali Channel and Valayapalam System in Udumalpet Taluk.  | 14) Formation of New Tank across Viswakudi Kallar odai in Thirdamanthurai Village in Perambalur. |

All works are in progress. An amount of Rs. 9.00 crore is proposed for the year 2008-09.

## **Implementation of the World Bank Aided Hydrology Project II**

The World Bank Aided Hydrology project I has established a Hydrological information system with facilities to collect, store and disseminate Hydrological, Hydro metrological and Hydro geological data. To transform the available data into technical information for the use of policy and planners, the Hydrology project II with a cost Rs. 25.27 crore has been taken up. The World Bank loan amount is Rs. 20.65 crore and the balance is funded by the State government.

The project has commenced and will be implemented in six years from April 2006. The project will be of immense use for long-term water planning of the state. During 2008-09 an amount of Rs. 2.68 crore is proposed.

### **Construction of Bed Dam and Dividing wall across Palar near Kavasampattu Village and regrading the existing Goddar river in Vellore District**

The Government have accorded sanction for Rs. 6.50 crore for the above scheme. The above scheme was cleared by NABARD with loan assistance and the design is under finalization. During 2008-09, an amount of Rs. 1.00 crore is proposed for this scheme.

### ***Providing Dividing Wall and Construction of an anicut across Koundanyanadhi near Chithathur Village in Gudiyatham Taluk***

The Government have accorded sanction for Rs.4.50 crore for the above scheme with NABARD loan assistance. An amount of Rs.1.00 crore is proposed for 2008-09.

### ***Investigation of projects on Surveying and leveling operations etc.***

In order to meet the establishment charges of the Staff working in the scheme an amount of Rs.0.43 crore is proposed for 2008-09.

### ***Renovation of existing Irrigation channel, tanks and strengthening of Dams with loan assistance from NABARD under RIDF-XI***

The Government have sanctioned an amount of Rs. 53.29 crore with loan assistance from NABARD under RIDF-XI (Batch-1) for Renovation of lower Bhavani Dam, Sholayar Dam, Ayyangudi Channel, Sirumarudhur Channel, Kalakkamangalam Channel, Manimuthar Main Canal and Kanadian Channel. The Government have also sanctioned an amount of Rs. 18.98 crore for 11 Minor irrigation works under RIDF-XI (Batch-3). An amount of Rs. 6.84 crore is proposed for 2008-09 for these works.

***Excavation of supply channel from Jerthalav canal to feed tanks in Palacode and Pennagaram Taluk with loan assistance from NABARD under RIDF Scheme***

The Government have accorded sanction for Rs. 629 lakh for this scheme, with NABARD loan assistance. An amount of Rs. 1.00 crore is proposed for 2007-08.

**Formation of 18<sup>th</sup> Canal across Vairavanar River**

The formation of 18<sup>th</sup> Canal in Uthamapalayam Taluk with the revised estimate cost of Rs.28.60 crore was proposed to stabilize 511.16 hectares and it will be bridging a gap of 73.90 hectares and would irrigate 22.81 hectares of new areas. An amount of Rs. 4.73 crore is proposed for 2008-09.

**Formation of a Reservoir across Mambazhathuraiyar**

Under this scheme the formation of a reservoir across Mambazhathuraiyar near Villukuri village in Kalkulam Taluk with the revised estimate cost of Rs.14.80 crore has been sanctioned to stabilize 3.57 hectares to bridge a gap of 25.82 hectares in first crop and 18.14 hectares in second crop and to provide irrigation facilities to an extent of 308.98 hectares. The work will be commencing shortly. During 2008-09 an amount of Rs. 10.13 crore is proposed for this scheme.

**Irrigated Agriculture Modernisation and Water Bodies Restoration and Management (IAMWARM)**

Water Resources Consolidation Project II for Rs.2900 crore (Base cost of Rs.2900 crore, Ultimate Cost Rs.3900 crore) covering all the river basins except Cauvery were sent to the World Bank for

financial assistance. The Preparatory Mission of World bank, which visited the State, suggested that this project could adopt an integrated approach renaming it as Irrigated Agriculture Modernisation and Water Bodies Restoration and Management (IAMWARM) with the participation of all Line Departments using water with an ultimate cost for Rs.2548 crore. This project period may extend upto 6 years. The preparation and appraisal of this project were completed in December 2006. A Multi-Disciplinary Project Unit consisting of Specialists from various disciplines has been constituted to facilitate quick and effective preparation and implementation of the project. Based on the agro climatic conditions and after detailed discussions, 12 sub-basins of various river basins have been selected for implementation in the first year. Necessary, data collection and preparation of detailed estimates for the 12 sub-basins were completed by all line Departments. The project development objective is to improve irrigation service delivery and productivity of irrigated agriculture with effective integrated water resources management in a river basin / sub-basin framework.

The work under various components has commenced in 2007-08. An amount of Rs. 338.75 crore is proposed for 2008-09.

### **World Bank Assisted Water Resources Consolidation Project-II**

Sanction order of the Government for implementing the residual schemes under WRCP-II is awaited. However an amount of Rs. 5.00 crore is proposed during the year 2007-08.

### **State Dam Safety Directorate**

A revised proposal for rehabilitating tentatively 22 dams under the Dam Rehabilitation and Improvement Project at a cost of Rs.70.90 crore was sent to GOI and the same is under consideration of the GOI and World Bank. In this project, the World Bank has contemplated a new concept called Dam Rehabilitation and Improvement Fund (DRIF) which is similar to Rural Infrastructure Development Fund (RIDF) in which the it is proposed to include

contributions by NABARD, IL&FS, IFC etc and other financial institutions. The modalities of the establishment and operation of this fund is being finalised by the World Bank. As soon as the setting up of Dam Rehabilitation & Improvement Fund is finalised, the project is likely to take off. Meanwhile, the World Bank experts have visited some of the proposed dams and given guidelines for preparation of the proposals and fixing up the priority of the dams. Accordingly, estimates are being prepared.

**Desilting, Widening and Strengthening works under Emergency Tsunami Reconstruction Project (ETRP) with the assistance from World Bank -PWD (WRO)**

The Government in October 2005 have accorded administrative sanction for Rs.19.271 crore for desilting and strengthening various canal banks in Nagapattinam District, with World Bank assistance. During 2007-08, an amount of Rs.14.36 crore is expected to be spent.

**Chennai Flood Relief with HUDCO Assistance Works Chennai City Water Ways**

The ten waterways to Chennai city to a total length of 87.80 km. are polluted by discharges of untreated sewerage and disposal of solid waste thereby causing environmental and health hazard to the public. The formation of sand bars in the river mouths, silting of water ways and encroachment severely reduce the carrying capacity of the waterways leading to inundation of low lying areas during heavy rains.

To alleviate the problems faced by the Chennai City Waterways, the Ministry of Environment and Forest, Government of India proposed Chennai City River Conservation Project. It also proposed a comprehensive scheme for improving the waterways and drainage system in Chennai Metropolitan Area (CMA) at a total cost of Rs.300.00 crore in 1998. The Chennai Metropolitan Development Authority was appointed as the Nodal Agency for the purpose of obtaining loan assistance from HUDCO and implementation of the

works through Public Works Department, Tamil Nadu Slum Clearance Board and Corporation of Chennai. The works have been grouped into packages as detailed below:

### **HUDCO assisted works**

<b>Package No.</b>	<b>Name of Work</b>	<b>(Rs. in crore)</b> <b>Revised Cost</b>
I	Cooum, Virugambakkam, Arumbakkam drain, Otteri Nullah	0.90
II	North, Central and South Buckingham canal	30.81
III	Adayar Improvements	46.06
IV	Flood defences and resectioning of other major drainage in Chennai Metropolitan Authority (Ambattur, Korattur, Madhavaram, Redhills and Chembarambakkam tank, Surplus courses and land acquisition charges)	56.21
V	Improvement to Virugambakkam- Arumbakkam drain, Otteri Nullah and Drainage relief to Velachery area	10.46
VI	Improvements to Cooum River.	
	a) From Periyar Bridge to sea mouth.	2.20
	b) Periyar Bridge to Koyambedu.	17.45
<b>Total</b>		<b>164.09</b>

An amount of Rs. 12.00 crore is proposed for the year 2008-09.

### **Flood Control and Anti Sea Erosion**

#### **Expenditure met from Grants-in-aid recommended towards implementation of Anti Sea Erosion and Coastal Protection Works**

The High-level committee has selected the following 30 works and prioritized the Anti Sea Erosion works based on the report of the Indian Institute of Technology, Madras.

### **Anti Sea Erosion works**

<b>Sl. No.</b>	<b>Details of Works</b>	<b>(Rs. in. crore)</b> <b>Cost</b>
1	Construction of Groynes at Ratchager Street in Kanyakumari District (Rs.4.80 crores), Thanthiriyankuppam (2.62 crores), Periyacadu (4.75 crores) Manakudi(6.00 crores) Innayamputhanthurai (3.50 crores)	21.67
2	Construction of RMS Wall at Neerodithurai(Rs.1.50 crores) Morthandam thurai (0.80 crores) Vallavilai (0.80 crores) Chinnathurai(0.30 crores) Iraviputhanthurai (0.30 crores) Poothurai(0.33 crores) Thoothur(0.23crores) Irayumanthurai (0.22 crores)Thengaipattinam and Mullurthurai(0.60 crores) Kodimunai(0.33crores) Periyavilaithurai (0.27 crores) Periyacadu(0.27crores) Kovalam (0.20 crores) in Kanayakumari District	6.55
3	Construction of RMS Wall at Thazhankuppam to Nettukuppam	2.30

4	Construction of curved path structure at L.S. 126 to L.S. 946 in Kottakuppam Village in Vanur Taluk of Villupuram District	0.99
5	RMS Wall to prevent Sea water intrusion at Annai Sivakami Nagar Kuppam to Indira Nagar Kuppam in North Chennai	0.99
6	RMS Wall to protect Sea Coast at Thazhankuda to Devanampattinam in Cuddalore District	3.00
7	Construction of RMS Wall at Ariyanattur, Vellankani, Poompukar, Tharangampadi.	6.80
8	Construction of Retaining Wall at Kaduvaiyaru and Kallaru rivers	3.20
9	Construction of Groynes on the northern side of the existing sand jelly for sustained opening of the River Coovum mouth unto (+) 4.200m	1.32
10	Raising the South Groynes from (+) 2.500m to (+) 4.200m for preventing sand by passing into river mouth of Coovum river	0.90
11	Removing sand shoals in River Coovum mouth and at Bridge points unto Munroe bridge for easy passage of flood flow and tidal exchange of seawater.	0.60
<b>Total</b>		<b>47.97</b>

Out of the above works few prioritized projects will be taken up with an outlay of Rs. 7.61 crore for the year 2008-09.

### **Minor Irrigation**

The important sources of Minor Irrigation, i.e., tanks, wells and tube wells, contribute significantly to irrigated agriculture in Tamil Nadu. Tanks and wells extend irrigation support to an extent of 20 lakh ha. which accounts for 67 percent of total irrigated area. The State Government has been taking concerted efforts to augment and manage these resources to make them sustainable in the long run through several schemes.

### **Command Area Development and Water Management Programme**

Command Area Development and Water Management Programme has been implemented in the State with an aim to improve water use efficiency in canal irrigated areas. At present, this programme is being implemented in Cauvery command, Tambirabarani river basin, Manimuthar command, Gadana-Ramanadhi command, Nambiyar river basin and Pachaiyar river basin. Under this scheme, the major components such as

Construction of Field Channels, Rotational Water Supply, and Construction of Field drain works are being implemented. During 2007-08, Government have sanctioned Rs.51.31 crore for implementing the scheme in the above commands. During 2008-09, it is proposed to include six new commands viz. Wellington Reservoir Project, Thirukoilur Anicut Project, Kodiveri Anicut Project, Gundar – Chittar – Karuppanadhi Reservoir Project, Vaniyar Reservoir Project and Ichambadi Anicut Project under this programme based on the approval of the Government of India. It is proposed to continue the scheme during 2008-09 at an outlay of Rs.43.38 crore out of which the State share is Rs.21.69 crore.

### **Annual Plan Outlay**

An outlay of Rs. 726.86 crore has been approved for the year 2008-09 for the programmes under this sector as detailed below:

<b>Programmes for Annual Plan 2008-09</b>	
<b>Head of Development/Sub Group</b>	(Rs. in crore)
	<b>Outlay for 2008-09</b>
<b>Major and Medium Irrigation and Flood Control</b>	
Major and Medium Irrigation Projects	647.96
Minor irrigation	57.21
Command Area Development	21.69
<b>Total</b>	<b>726.86</b>