

2.9. Irrigation and Flood Control

Sustainable development and efficient management of water is an increasingly complex challenge in Tamil Nadu. Increasing population, growing urbanisation and rapid industrialisation combined with the need for raising agricultural production generates competing claims for water. There is growing perception of sense of an impending water crisis in the country.

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 34 basin grouped into 17 major river basins). There are about 34 large dams, 11 small dams, 39202 tanks (PWD Tanks 10540 and Panchayat tanks 28662) 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 85% of the 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 24160 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 51.26 lakh hectares of which about 28.89 lakh hectares (56.35%) gets irrigation facilities out of which surface water through canals accounts for 7.82 lakh hectares, tanks accounts for 5.31 lakh hectares and ground water through wells, tube wells and others accounts for 38.13 lakh hectares.

Performance of Annual Plan 2008-09

The approved outlay of Rs.340.21 crore for major and medium irrigation and flood control is expected to be spent during 2008-09.

To augment the water potential of the State and to bring additional areas under irrigation and to prevent excess water draining wastefully into the sea, the following strategies are proposed.

Surface Irrigation

- To augment the surface water potential by way of **inter-basin transfer**.
- To simultaneously take up interlinking of rivers within the State after due investigation.
- To ensure reliable, equitable supply of water to all water users.
- To have a Multi Disciplinary approach to work in an integrated manner in modernizing irrigated agriculture.
- To take up on priority the drainage works in the major rivers, canals and tanks.
- To give priority for restoration and maintenance of the existing water bodies besides restoring the flood affected water courses & water bodies permanently.
- To utilize surface waters flowing into the sea wherever possible, by putting up small structures to divert the water to needy areas.

Ground water, Rainwater Harvesting

- To implement the Ground water (Development & Management) Act, 2003 and to assess the ground water potential on mini watershed basis for planning the ground water development.
- To carry out water conservation measures such as Artificial Recharge and Rain Water Harvesting wherever found feasible.

Others

- To encourage stakeholder's involvement in planning, development, utilization and management of water resources and development of four tier level Farmers Organization for efficient irrigation management.

Major Projects

Restoration of Channels (Systems-Canals)

The growth of Ipomoea in the irrigation sources is creating major problems in water management and flood control. Therefore silt and Ipomea are being removed by using heavy machinery. An amount of Rs. 272 lakh is proposed

for the year 2009-10 for Modernisation of Tank, Regulators and Supply Channel etc. with loan assistance from NABARD.

Improvements to Veeranam Lake for Water supply

This project is being implemented from 1996 in Chidambaram Taluk of Cuddalore District. Raising the tank bunds of Veeranam tank, increasing the capacity and improvements to the main source works in Canals are proposed. An ayacut of 44588 acres are stabilized by this scheme. 98% of work completed. Revised estimate is under preparation. An amount of Rs. 500.00 lakh is proposed for 2009-10.

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. The second revised estimate proposal is under preparation. Overall 82% of work is completed. An amount of Rs.603 lakh is proposed for 2009-10.

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 2009-10, an amount of Rs.14.33 crore is proposed for this scheme.

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.1.22 crore is proposed for the year 2009-10, 75% of the work is completed, balance work is in progress.

For the construction of new tanks, canals and renovation of existing system with loan assistance from NABARD under Rural Infrastructure Development Fund (RIDF), an amount of Rs.212.71 lakh is proposed for the year 2009-10.

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 of 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 development objective is to extend and promote the sustainable and effective use of the Hydrological Information System by all potential users concerned with water resources planning and management.

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.

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.1.34 crore is proposed for 2009-10 for these works.

For 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 with NABARD loan assistance. An amount of Rs. 2.50 crore is proposed for 2009-10.

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 of Rs.14.80 crore has been sanctioned to stabilise 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. Nearly 35% of work is completed. During 2009-10 an amount of Rs.1.11 crore is proposed for this scheme.

Rehabilitation and strengthening of Wellington Reservoir at Cuddalore District

Rehabilitation work is being carried out to strengthen the embankment of the Wellington Reservoir in the Thittakudi Taluk of Cuddalore District at an estimated cost of Rs.20 crore. As a result of this work, it would be possible to store water upto the reservoir original capacity of 258 tmc. Ayacut benefited is 24050 acres. For the year 2009-10, an amount of Rs.14 crore is proposed.

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

The World Bank assisted Tamil Nadu Irrigated Agriculture Modernisation and Water Bodies Restoration and Management Project (IAMWARM) was approved by the Government with an outlay of Rs.2547 crore over a period of six years from 2007 to 2013. 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 in Tamil Nadu. The project seeks to improve bulk water delivery through modernization of irrigation systems. Activities involve tank system modernization

by restoring and repairing water bodies and improving canal irrigation system through repair and rehabilitation and to increase the productivity of agriculture-related activities through improved agricultural intensification and diversification of crops, micro irrigation, Animal Husbandry and Fisheries. The project covers an area of 6.17 lakh ha. spread over 63 basins out of the 127 sub basins in the State. The work under various components has commenced in 2007-08. An amount of Rs.222.44 crore is proposed for 2009-10.

Chennai Flood Relief with Housing and Urban Development Corporation (HUDCO) Assistance Works for Chennai City Waterways

The waterways leading 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 approved Chennai City River Conservation Project. It also approved 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. An amount of Rs. 3.00 crore is proposed for the year 2009-10.

Linking of Rivers within the State

The Government of Tamil Nadu has taken the initiative to link the rivers within the State to primarily serve as flood carriers and as a measure of flood mitigation and to prevent water wastage and for the flood flow to reach the

Drought Prone Areas. In this direction the following three links have been identified.

- Cauvery-Agniar-South Vellar- Manimuthar- Vaigai-Gundar
- Tambiraparani-Karumeniar-Nambiar
- Pennaiyar- Cheyyar

The DPR for the above projects have been prepared. Tambiraparani-Karumeniyar- Nambiyar link project and construction of Kattalai Barrage across Cauvery have been taken up during 2008-09. For the year 2009-10, an amount of Rs.400 crore is proposed for linking rivers within the State.

Intra State Linking of Rivers – Kattalai Barrage

The Government of Tamil Nadu has taken the initiative for intra linking of rivers and an amount of Rs.100 crore is proposed for connection of Kattalai Barrage for the year 2009-10.

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 21 lakh ha., which accounts for more than 70 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.

Under Special Minor Irrigation programme, formation of new tanks, construction of anicuts, excavation of link channels, restoration of abandoned tanks, formation of ponds and standardization of tanks etc., leading to assured irrigation and creating additional irrigation potential are being taken up. A sum of Rs.1.69 crore is proposed for Special Minor Irrigation Programme for the year 2009-10.

Under modernisation of minor irrigation tanks with loan assistance of NABARD, NABARD has extended loan assistance for various minor irrigation schemes in different stages. The Government have sanctioned modernization of

various tanks in Tamil Nadu. For 2009-10, an amount of Rs.4.58 crore is proposed.

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. The scheme is implemented as a shared scheme with the funding pattern of 50:50 shared between Centre and State. At present, the programme is implemented in Cauvery Command in Thanjavur, Thiruvarur, Nagappattinam, Trichy and Cuddalore districts at an outlay of Rs.3901.56 lakh, which includes a State's share of Rs.1950.78 lakh. In addition to this, Government have sanctioned a sum of Rs.1468.62 lakh which includes a State's share of Rs.734.31 lakh towards implementation of Command Area Development programme in six new commands viz., Wellington Reservoir Project, Thirukoilur Anicut Project, Kodiveri Anicut Project, Vaniyar Reservoir Project, Ichambadi Anicut Project, Gundar Chittar Karuppanadhi Project from the year 2008-09. Under this scheme, the major components such as Construction of Field Channels, Rotational Water Supply and Construction of Field drain works are being implemented. The programme will be completed in Cauvery command by March 2009. It is proposed to continue the scheme in Six new commands as mentioned above during 2009-10 at an outlay of Rs.2788 lakh out of which the State share is Rs.1394 lakh.

Plan Outlay for 2009-10

An outlay of Rs.789.13 crore has been approved for the year 2009-10 for the programmes under this sector as detailed below:

Programmes for Annual Plan 2009-10	
	(Rs.in lakh)
Head of Development/Sub Group	Outlay for 2009-10
Major and Medium Irrigation and Flood Control	716.30
Minor Irrigation	58.89
Command Area Development	13.94
Total – Irrigation and Flood Control	789.13