



# **PUBLIC WORKS DEPARTMENT IRRIGATION**

**Demand No. 40**

**POLICY NOTE**

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Minister for Public Works,  
Highways and Minor Ports

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# **PUBLIC WORKS DEPARTMENT**

## **WATER RESOURCES DEPARTMENT**

### **1.0. INTRODUCTION**

Water resources are vital for the economic development of the country. Agriculture is the main occupation in the country. Water is essential for various sectors such as Agriculture, Industries, Domestic, Aquaculture, Horticulture and various other uses. Therefore, equitable distribution of available water amongst all the sectors is an important task. Effective water resources management through harnessing and developing the surface and ground water potential will usher in all round development. Tamil Nadu, being in the tail end of the Indian peninsula, has limited water resources of its own. The predominant monsoon for the State is the North-East Monsoon. Some parts of the Western and South-Western Tamil Nadu receive rains during the South-West Monsoon.

The normal annual rainfall of the State is 911.60mm. Short duration high intensity monsoon rains create flood situation in some rivers, while certain other areas receiving lesser rainfall become drought prone. In this context, inter-basin transfer of a part of the flood water to the drought prone locations assumes importance. The Government is implementing various schemes and works to harness, impound and put to effective use all the available water resources through an Integrated Water Resources Management approach. The Government is also striving hard to increase the water use efficiency constantly. Participatory Irrigation Management is also given a special thrust to ensure the participation of water users in maintenance of systems and distribution of water at the grass root level.

The Water Resources Department of the Public Works Department is taking up construction, rehabilitation and

maintenance of the dams, anicuts, check dams, canals, channels, tanks, ponds, artificial ground water recharge structures and inter-linking of rivers within the State.

Some of the important schemes of the Department are as under:

- i. The World Bank assisted Irrigated Agriculture Modernisation and Water-bodies Restoration and Management (IAMWARM) Project.
- ii. Restoration of traditional water bodies and coastal protection works with the grants-in-aid of the 13<sup>th</sup> Finance Commission.
- iii. Master Plan Artificial Ground Water Recharge Scheme (MPARS)
- iv. The World Bank assisted Dam Rehabilitation and Improvement Project (DRIP)
- v. State funded Schemes.
- vi. Schemes / Works implemented with the loan assistance of the National Bank for Agriculture and Rural Development (NABARD).

vii. Centre-State shared Schemes such as:

- a) Jawaharlal Nehru National Urban Renewal Mission (JNNURM)
- b) Repair, Renovation and Restoration (RRR) of water bodies directly linked to agriculture.

viii. The Asian Development Bank assisted Climate Change Adaptation Programme in the Cauvery delta.

ix. Cauvery Modernisation Scheme under the Accelerated Irrigation Benefit Programme (AIBP).

x. Desilting of Dams.

xi. Schemes for inter-linking of rivers within the State.

### **1.1. SURFACE WATER POTENTIAL**

There are 34 rivers in the State. These have been grouped into 17 major river basins comprising of 127 sub-basins. The total surface water potential of the State has been estimated as

885 T.M.C ft. This includes 264 T.M.Cft. of water received from the neighbouring States as per the Inter-State Agreements. The Water Resources Department is controlling and maintaining 89 Dams. The total storage capacity of these dams is 238.58 T.M.C ft. There are 39,202 tanks in the State, out of which 14,098 major tanks are maintained by the Water Resources Department.

## **1.2. GROUND WATER POTENTIAL**

The Ground water potential of the State is being continuously replenished by the Water Resources Department, by constructing check dams across rivers, forming ponds, installing recharge shafts in the river beds and through various other rain water harvesting techniques. In addition, the quality of the ground water is continuously monitored all over the State and necessary measures for improving the quality of ground water are implemented at required locations.

It has been estimated that about 77% of the available ground water resources of the State are being utilized. Out of the total 1129 Firkas in the State, 374 Firkas have been classified as Over-exploited Firkas, 48 Firkas as Critical Firkas, 235 Firkas as Semi-critical Firkas, 35 Firkas as Saline and Poor quality Firkas and 437 Firkas as Safe Firkas.

## **1.3. ORGANISATIONAL ARRANGEMENT**

The Engineer-in-Chief, Water Resources Department and the Engineer-in-Chief, Buildings are functioning as the two Technical heads of the Public Works Department. The Chief Engineer (General) performs the establishment and administrative works of the Department. At present, the Engineer-in-Chief, Water Resources Department is holding the post of the Chief Engineer (General). The Water Resources Department of the Public Works Department is functioning on a river-basin framework. The functional

area of the Water Resources Department has been divided into four Regions viz., Chennai, Tiruchirappalli, Madurai and Coimbatore. Each Region is headed by a Chief Engineer who acts as the Basin Manager of the river basins in his jurisdiction.

In addition, 6 Chief Engineers are taking up specialised functions such as Plan Formulation, Design, Research and Construction Support, Collection and sharing of Ground and Surface Water Data, Operation and Maintenance, Water Studies and imparting training. Further, the Director of Boilers in the cadre of Superintending Engineer is functioning as the authority in the field of production, installation and proper upkeep of boilers and related ancillary equipments and accessories. They are:

- i. Plan Formulation (PF)
- ii. Design, Research and Construction Support (DR & CS)
- iii. Operation and Maintenance (O&M)

- iv. State Ground and Surface Water Resources Data Centre (SG&SWRDC)
- v. Institute for Water Studies (IWS)
- vi. Irrigation Management Training Institute (IMTI)
- vii. Directorate of Boilers.

### **1.3.1.PLAN FORMULATION WING**

All investigation works for schemes are being carried out by the Plan Formulation Wing. Schemes under Flood Management Programme, Artificial Recharge Scheme, Inter-linking of Rivers, etc., are being investigated for the preparation of Detailed Project Report (DPR) and are recommended for Administrative Sanction.

Investigation of a new scheme is taken up based on available water potential and the petitions received from the Hon'ble Chief Minister's Special Cell, Hon'ble Ministers, Members of Parliament, Members of Legislative

Assembly, Schemes recommended by the Assurance Committee and Estimate Committee of the Legislative Assembly and Petitions received from the general public.

All the above schemes are investigated for their Techno-Economic feasibility and viable schemes are identified for preparing detailed estimates.

Initially, a feasibility report will be prepared for the major schemes and on approval of the feasibility report, a preliminary report will be prepared. The preliminary report will be approved after considering the estimate cost, benefited ayacut, land acquisition area and benefit cost ratio of the scheme. Soil investigation works will be carried out by exploring suitable bore logs and accordingly appropriate design and detailed drawings for various components of the scheme will be prepared. Based on this, a Detailed Project Report will be prepared.

This wing also scrutinizes various estimates received from the Regional Chief Engineers and recommend for getting financial assistance under various categories. This wing is also involved in carrying out environmental activities.

The source of funds for these schemes are:

**Funds for innovative schemes:**

1. NABARD loan assistance.
2. State funds.
3. Accelerated Irrigation Benefit Programme (AIBP) with Central assistance.
4. Flood Management Programme (FMP) and Coastal Protection Works with Central assistance.
5. National Agriculture Development Programme (NADP)



## **Activities carried out by the Environmental Cell**

Conservation of water saved by various projects from pollution is vital. The Environmental Cell functioning under the Plan Formulation Wing is carrying out Environmental activities in the sub-basins of Tamil Nadu.

To test the quality of water, water / soil samples are being collected from important rivers and tanks of Sub-basins and tested by the Environment Division.

The Ground Water Level has depleted since the Seemai Karuvelam Trees rapidly absorb the ground water thereby causing ground water scarcity during summer season.

Further, the Seemai Karuvelam trees spread in the tanks rapidly absorb water causing water scarcity for irrigation.

Pilot studies have been formulated in selected tanks to control the growth of Seemai Karuvelam trees.

Also pilot studies have been formulated to rehabilitate the ecology of Kelavarapalli reservoir, Kowsika and Kullursandai dams and Kodaganar Reservoir to improve the water shed in Manjalar Sub-basin and to test the impact of effluents from Rice mill, Tanneries and Spinning Mills.

The important works are conducting awareness camps among the Public and students and preparation of investigation report on Environment and Social Impacts in Sub-basins.

## **Irrigation Design Wing**

Irrigation Design Wing, commonly known as "Design Circle", is responsible for evolving design and drawings for all irrigation structures of major and medium projects in the State.

The designs for the schemes under IAMWARM Project, new Reservoirs, Anicuts and rehabilitation works are being evolved by this Wing.

### **Activities of Soil Mechanics and Research Division**

Soil Mechanics and Research Division functioning under Plan Formulation Wing is carrying out researches regarding nature of the soil, quality of construction materials and water. Soil Testing Lab, Concrete Testing Lab and Chemical Testing Lab under this Division have been improved in quality and is functioning as a Central Quality Control Testing Laboratory.

Research works for Irrigation related works are also being carried out. This Division is installing stall for Public Works Department in the exhibitions conducted in the important cities to create awareness of the Schemes of the Government among the people.

### **1.3.2.DESIGN, RESEARCH AND CONSTRUCTION SUPPORT WING**

This Wing scrutinizes the estimates related to restoration of tanks under Repair, Renovation and Restoration (RRR) Scheme and Coastal Protection Works. Applied research in Hydraulics and Hydrology, Coastal Study, carrying out sedimentation and water management studies in selected dams and tanks are also taken up by this wing.

The Chief Engineer, Design, Research and Construction Support is the Nodal Officer for the following schemes:

- Repair, Renovation and Restoration (RRR) of water bodies directly related to agriculture.
- Desilting of Dams of the State.
- Implementing the Coastal Management Information System (CMIS) through signing of a tripartite Memorandum of Understanding (MoU) by Central Water Commission (CWC) with

Expert Agencies and respective State Governments.

- Implementing the Integrated Coastal Zone Management Project.

## **INSTITUTE OF HYDRAULICS AND HYDROLOGY**

The Institute of Hydraulics and Hydrology was established as an Irrigation Research Station in 1944 at Poondi. This Institute is headed by a Director. This Institute is carrying out both applied and basic research. There are two Divisions under this Institute headed by Deputy Directors. Since inception, the Institute is engaged in carrying out research in the field of Hydraulics, Hydrology, Coastal Engineering and monitoring of coast line observation and performance evaluation of coastal protection structures. In addition, this Institute carries out Sedimentation and Watershed Management Studies in selected Reservoirs / Tanks for arriving

at up-to-date reduction in capacity due to sedimentation, assess the useful life of reservoirs and to suggest the remedial watershed management measures to be taken up in order to arrest the entry of sediments into reservoirs from the watershed.

### **1.3.3. OPERATION AND MAINTENANCE WING**

#### **Monitoring of Reservoir Water level and Storage**

- **Daily Water Report**

The daily water level of 20 Major Reservoirs in the State, 4 Reservoirs of Karnataka in the Cauvery Basin and Daily flow data at Billigundulu Gauge and Discharge Station of Central Water Commission (CWC) are collected, compiled and sent to the offices of the Hon'ble Chief Minister, Hon'ble Minister for Public Works, Hon'ble Minister for Agriculture and other higher officials of the Government by 9.00 a.m. in the morning.

- **Monitoring of the Reservoirs during Monsoon**

During the North East Monsoon period (From 1<sup>st</sup> October to 31<sup>st</sup> December) round the clock turn duty is organized in the office of the Chief Engineer (O&M) to monitor the water levels of all the Reservoirs in the State.

- **Water level and Storage position of all reservoirs**

The daily water level and storage position of all the Reservoirs in the State are collected and recorded.

#### **Dam Safety Directorate**

The following are some of the important tasks carried out by the Dam Safety Directorate:-

- **Preparation of Health Status Report for Dams based on Monsoon inspection reports**

The periodical monsoon inspections of Dams are carried out by the field officers four times in a year and the reports are prepared in the proforma prescribed by the Central Water

Commission (CWC) and sent to the Dam Safety Directorate.

The consolidated Health Status Report for all the Dams (Annual Consolidated Report) based on the pre-monsoon and post monsoon inspections are prepared and sent to the CWC for review.

- **Preparation of Geological Mapping documents of Dams**

The Geological Mapping documents of Dams are being prepared through the Geological Survey of India (GSI). So far, Geological Mapping Documents have been prepared for 65 WRD Dams and 36 TANGEDCO Dams.

- **State Dam Safety Committee (SDSC)**

The State Dam Safety Committee meets once in six months. So far, 26 meetings have been conducted.

- **National Committee on Dam Safety (NCDS)**

The Chief Engineer, Operation and Maintenance (O&M) is the Member of

the National Committee on Dam Safety under the Chairmanship of the Chairman, CWC which reviews the activities of the State Dam Safety Organisations. The National Committee on Dam Safety meets twice in a year. So far, 36 meetings have been conducted.

### **Workshop and Stores Circle**

The Public Works Workshop and Stores was formed during the British period. Metal Seals, Emblems, Safe lock works to Treasuries, Court Seals, Ballot Boxes are manufactured and supplied by this workshop. Government vehicles and machineries are also procured and supplied.

### **State Project Management Unit (SPMU)**

The SPMU for DRIP functioning under this wing is the Nodal Agency for the World Bank aided Dam Rehabilitation and Improvement Project (DRIP) in the State.

### **1.3.4.STATE GROUND AND SURFACE WATER RESOURCES DATA CENTRE**

Ground water, being a dynamic replenishable resource, requires continuous exploration, monitoring and assessment involving multi-disciplinary studies. The State Ground & Surface Water Resources Data Centre envisages the following policy for the purpose of Planning, Development and Management of Ground Water Resources of the State during 2016-2017. The SG&SWRDC undertakes the following to achieve the above objectives.

- Scientific Ground Water Investigation and Periodic Assessment of Ground water potential for the State.
- Continuous monitoring of Hydrological, Hydro meteorological and Water quality for Ground water and Surface water.
- Collect, process, analyze and store the Ground water and surface water

data to evaluate the condition for development.

- Develop a suitable plan for judicious development and optimal utilization of Ground water.
- Protecting Ground Water Resources against over exploitation and quality deterioration, by proper management techniques.
- Improving the Ground Water storage through Artificial Recharge and Rain Water Harvesting wherever possible.
- Interact and coordinate with the other line departments of the State and water users to plan for better utilization of the Ground water resources in the State.
- Drilling of exploratory bore holes in order to study sub surface lithology.
- Consultancy services to Public, Agriculturists, Government Departments and Private Sector Undertakings for site selection for sinking of bore wells.

- Issuing Ground Water Clearance for Minor Irrigation Schemes, Industries and Infrastructure Projects.
- Special studies for monitoring sea water intrusion into fresh water aquifer (about 1076 km along the coast).
- Coordinate to implement the National and State Water Policies.

#### **GROUND WATER ASSESSMENT ON MICRO LEVEL BASIS:**

At present, based on the assessment on Micro level, taking a Firka as an Unit, out of the total 1129 Firkas, 374 Firkas have been classified as Over-exploited Firkas, 48 Firkas as Critical Firkas, 235 Firkas as Semi-critical Firkas, 35 Firkas as Saline and Poor quality Firkas and 437 Firkas as Safe Firkas

### **STRENGTHENING OF MONITORING NETWORK IN TAMIL NADU:**

Since Firka wise Assessment is based upon the water level fluctuation, a minimum of three numbers of Piezometer (Observation wells) are essential for each Firka. Hence drilling of new Piezometers are proposed to be taken up for a period of four years from 2016-2017.

### **SEAWATER INTRUSION MONITORING SYSTEM IN TAMILNADU:**

This project aims to install a "Seawater Intrusion Monitoring System in Tamil Nadu". A network of 284 observation wells along the 1076 km Coastal length of Tamil Nadu is being monitored and monthly water level and samples were collected biannually and analyzed in the existing and new chemical laboratories; the extent and rate of Sea water intrusion will be monitored on monthly basis; the outcome of the monitoring measures will be useful in

Groundwater schemes in the vulnerable areas. It will help to take mitigation and regulatory measures to contain the Seawater intrusion.

### **AQUIFER MAPPING AND MANAGEMENT OF AQUIFER IN TAMIL NADU :**

There are 13 Major Aquifer Systems in Tamil Nadu, of which 9 Aquifer Systems were selected for study. For this study, conducting Geological, Hydro geological and Geophysical surveys are being taken up by this department as a regular study for the identification of Aquifer boundaries and the management aspects.

### **MAINTENANCE OF FULL CLIMATIC STATIONS :**

To know the inter-relationship between the Rainfall, Run off and Infiltration, the various parameters such as Rainfall, Evaporation, Temperature, Wind velocity, Relative humidity etc.,

are being monitored by this department in 45 Full Climatic Stations representing all the river basins in different type of soil characteristics.

### **NATIONAL HYDROLOGY PROJECT**

Hydrology Projects-I and II were executed between 1995 - 2003 and 2006 - 2014 respectively. In continuation, National Hydrology Project at a cost of Rs.100 crore will be carried out for 8 years from 2016 to 2024. The following activities are proposed to be taken up:

- All the Manual Networking Stations are proposed to be upgraded to Real Time Telemetric.
- A Community based monitoring system will be in place involving all the stakeholders in Water Management.
- Decision Support Systems for Vaippar, Tamirabarani and Agniar are to be developed which in turn can give suggestions for better

water management under various rainfall conditions.

- Purpose Driven Studies on Ground Water Management, Climate Change and Water quality are being taken up. These studies will help to solve specific issues in the river basins.
- The Department will be modernized using latest networking and IT equipments.
- New Methodologies and Technologies will be used in the water management. The skills of the staff will be enhanced through training and workshops.
- Knowledge based products such as Ground Water Atlas, River Basin Planning Reports and updating of Zonation Map of Tamil Nadu will be produced.

### **1.3.5.INSTITUTE FOR WATER STUDIES**

The Institute for Water Studies was established in 1974 to plan, assess and manage the water resources in each



River Basin of the State in a scientific manner.

This is a multi-disciplinary organisation with a team of Engineers, Hydro-geologists, Geo-chemists, Geo-physicists, Environmental Engineers, Photo-geologists, Remote Sensing Scientists and Agro-Economists.

Micro level studies are conducted to assess water demands for various sectors like Agriculture, Domestic, Livestock, Industries, Power Generation and Environmental needs in each Basin. After assessing the demands for various sectors, surface water potential, ground water potential and the water balance for each sub basin are worked out. In this micro level river basin study, Remote Sensing Techniques and Geographic Information System (GIS) are being adopted.

Out of 17 River Basins, micro level studies for 16 river basins except

Cauvery Basin have been completed. To update the above reports with present data, micro level reappraisal studies were initiated and completed for Kodaiyar, Vaippar, Vaigai, Vellar, Palar, Tamiraparani and Pennaiyar river basins. The findings of the studies are being disseminated to the Water Resources Departmental Engineers and other line Departments for planning and finalising schemes related to agriculture and management of available water resources. The micro level reappraisal study for Paravananar River Basin is in progress.

### **REMOTE SENSING UNIT**

The Remote Sensing Unit was established in the year 1968 under the erstwhile Ground Water Wing of PWD and the same was later attached to the Institute for Water Studies.

This Unit caters to the need of Remote Sensing and GIS Techniques in WRD for its activities. Interpretation of

Satellite Imageries and analysis using Geographic Information System is being done for effective management of water resources of the State. Its activities are as follows:

- 17 river basins and 127 sub basins of the State which were delineated during 1990 in 2,50,000 scale is now delineated and redefined in 50,000 scale.
- Interpreting corresponding satellite imageries and applying GIS techniques in the River Basin studies.
- Season - wise crop area assessment using temporal Satellite Data for the Cauvery Basin is being prepared for Cauvery Technical Cell-cum-Inter State Waters Wing, as and when required.
- Creation of GIS based Database on WRD Irrigation structures and assigning Unique code for effective management. So far, database for 14098 Tanks under the control of Public Works Department has been

created and the validation is under progress. Currently, Data on Anicuts and Check Dams are being collected.

- Preparation of various Thematic Maps for Detailed Project Reports (DPR) under IAMWARM-II and catering to other needs of Remote Sensing and GIS techniques in External Aided Projects.
- Co-ordination with line departments where Remote Sensing and GIS are widely used. In the GEO TAGGING Software proposed to be developed under the IAMWARM-II Project, this institute would implement the WRD components in an integrated manner.
- Special works involving Remote Sensing and GIS is being taken up.
- Imparting Remote sensing and GIS technology knowledge to the student community.

## **STATE WATER POLICY**

Draft State Water Policy prepared by the Institute for Water Studies in tune with the National Water Policy 2012 is under consideration.

### **1.3.6. IRRIGATION MANAGEMENT TRAINING INSTITUTE (IMTI)**

The Irrigation Management Training Institute (IMTI) established at Tiruchirappalli is functioning as a premier State Training Institute. This Institute is conducting various Training Programmes related to irrigated agriculture in topics, such as Participatory Irrigation Management (PIM), Irrigation Water Budgeting, Volumetric Supply of Irrigation Water and Flow Measurement, Water Saving Techniques and Maintenance of irrigation structures, to the in-service officers.

Further, unique courses like, Coastal Management and Prevention of Sea Water Intrusion, Dam Safety-Dam

Instrumentation, Operation and Maintenance of Irrigation Systems and formulation, investigation and preparation of Detailed Estimate for irrigation system, design of check dam, Environmental Conservation, challenges in Tank Management, Total Station, Stress Management, Right to Information Act, are also being organised.

Computer related trainings such as basic and advanced courses on Geographic Information System (GIS) using Quantum GIS and Arc GIS, 2D Animation, Photoshop, Auto CAD with Auto LISP are also conducted.

Trainings are imparted to the field staff of the WRD on effective Water Management and Maintenance of the Irrigation System, Capacity Building, Flood Management and Disaster Management at the Action Research Programme Unit of this Institute at Tiruvarur.

During the last financial year (2015-2016) this Institute organised three training programmes for officials and farmers under NABARD and Climate Adapt Programmes. A field training programme on using Q liner to measure the discharge of running water in canals was also organised to the field Engineers of Plan Formulation wing of WRD.

This Institute has organised various Study Tour Programmes for exposure on Operation and Maintenance of Irrigation Systems within the State, such as Periyar, Vaigai, Cauvery, Lower Bhavani, Tamiraparani and Parambikulam Aliyar Project systems to the officers of Water Resources Department.

Similarly, study tour programmes to other States like Gujarat, Odisha, Haryana, Uttarakhand and Maharashtra have also been conducted to the Senior, Middle and Junior level officers of WRD and IMTI faculties, for

exposure on Water Management, Modern Techniques, Modern Methods in Canal Control and Operations, Concrete Technology and Quality Control and Participatory Irrigation Management being followed and adapted in those States. This Institute has also organised specialised courses, such as, Concrete Technology and Quality Control in Construction at National Council for Cement and Building Material (NCCBM), Ballabgarh, Haryana and exposure visits to Indian Institute of Soil and Water Conservation (IISWC), Dehradun.

For the benefit of Officers implementing Dam Rehabilitation Improvement Project (DRIP), this Institute has organised two training programmes at the Central Board of Irrigation and Power, New Delhi and One training programme on "Preparation of Emergency Action Plan for Dams" at IMTI.

IMTI faculties have participated in various Training of Trainers (ToT) Programmes, Symposium and Faculty Development Programmes organized by CWPRS, Pune, Central Board of Irrigation and Power, New Delhi and Water and Land Management Institute (WALMI), Aurangabad.

Various Training Programmes have been organised at IMTI campus and field Training Programmes to the farmers and office bearers of Water Users' Associations across the State under Government Grants and NABARD assistance. The trainings to the farmers are focused on Capacity Building, Water Management & Participatory Irrigation Management, Micro Irrigation, Organic Farming & Integrated Farming, Irrigated Nutrient Management and System of Rice Intensification (SRI) techniques.

Under Clima Adapt Project with the Norway Embassy fund, various on field training programmes and exposure

visits within the State on awareness about climate change and adaptation techniques and alternate livelihood were given to the farmers of Kalingarayan Basin in Erode District and Ponnaniyar Basin in Trichy District.

85 training programmes during 2015-2016 were organised by this Institute to benefit 1783 officials from Water Resources Department of Public Works Department, Agricultural Engineering, Agriculture and Horticulture Departments and 121 farmers were also benefited.

In addition, "Post Project Performance Evaluation Study of Krishnagiri Reservoir Project" was taken up under Central Water Commission guidance.

Further, this Institute has taken up the information, education, communication activities of Disaster Management Programme under revenue administration funds. Literature like table top calendar, note pad, school

label and pamphlets with pictures and slogans depicting disaster management activities, two books on Disaster Management have also been published by this Institute.

Recently, an excellent documentation on the 'History of the New Barrage (2014) on Cauvery River', below Kattalai Bed Regulator (1933) has also been published by this Institute.

During the financial year 2016-2017, it is proposed to conduct 102 training programmes for the officials of Water Resources, Agricultural Engineering, Agriculture and Horticulture Departments and farmers from various parts of the State.

### **1.3.7.DIRECTORATE OF BOILERS**

The Directorate of Boilers, Tamil Nadu is the enforcing authority of the Boilers Act, 1923, a Central Act administered by the State for the safe operation of the boilers and to ensure the safety of public life and property. This

Directorate plays a crucial role in the development of boilers and boiler ancillary industries in the State, which is a pioneer in the field of boiler manufacturing, foundries, forge shops, tubes and pipes manufacturing units, etc.,

This Directorate is in charge of implementing the provisions of the Boiler Attendants' Rules and Boiler Operation Engineers' Rules 2011 to ensure that the boilers used in the user industries are operated by certified boiler attendants or boiler operation engineers, as the case may be. This Directorate conducts examination for issue of I Class and II Class certificate of competency for boiler attendants for operating the boiler having heating surface not exceeding 1000m<sup>2</sup> and the Certificate of Proficiency for Boiler Operation Engineers for operating any type and size of boilers.

This Directorate conducts tests to high pressure Welders employed in boiler manufacturing units and boiler ancillary units, boiler erectors and repairers organizations and issues competency certificates to the successful candidates. This Directorate is responsible for detecting and curbing the operation of unregistered and uncertified boilers.

This Directorate also ensures that the boiler and boiler components, piping and its fittings, viz., valves, T's, reducers, elbows etc., are designed and manufactured as per the provisions of the Indian Boiler Regulations, 1950 by approving the design for the various components and by carrying out inspection at various stages of manufacturing from approving the basic raw materials to the final product. It is also responsible for manufacturing activities in boiler and its connected pipelines and equipments right from the manufacturing end to the user end.

By efficient functioning of this Directorate, Boiler manufacturing and using industries in the State are functioning safely.

## **2.0. HISTORIC ACHIEVEMENTS**

### **2.1. MULLAI PERIYAR DAM - HISTORIC JUDGEMENT**

As a result of the continuous and tireless efforts of **the Hon'ble Chief Minister**, the Supreme Court of India on 07.05.2014, ordered that the water level in the Mullai Periyar Dam can be raised to 142 ft., initially, and the balance strengthening works and maintenance works can be undertaken by the Government of Tamil Nadu. In accordance with the Order of the Supreme Court, the Government of India constituted a Supervisory Committee, which inspected the Dam on 17.07.2014 and decided to restore the water level to 142 ft. Following the decision of the Supervisory Committee, the shutters were lowered down on 17.07.2014 itself.

**The water level in the Mullai Periyar Dam reached 142 ft. on 21.11.2014 (at 2:00 A.M.) which is**

a historic event, after almost a span of 35 years. The rights of farmers and the people of Tamil Nadu to store water in the dam initially to 142 ft., have been achieved after a long legal battle due to the persistent and timely efforts taken and the constant guidance given by Hon'ble Chief Minister.

Further, for the second time on 07.12.2015, the water level reached +142 ft.

### **2.2. NOTIFICATION OF THE FINAL ORDER OF THE CAUVERY WATER DISPUTES TRIBUNAL IN THE GOVERNMENT OF INDIA GAZETTE**

The Cauvery Water Disputes Tribunal pronounced its Final Order under Section 5(2) of the Inter-State River Water Disputes Act, 1956, on 05.02.2007. In order to implement it, this Order should be notified by the



Central Government in its Official Gazette.

As a result of the strenuous efforts taken by **the Hon'ble Chief Minister** and the petitions filed in the Supreme Court, the Government of India notified the Final Order of the Cauvery Water Disputes Tribunal in its Official Gazette on 19.02.2013.

Because of this, the livelihood of the Cauvery Delta farmers and the rights of Tamil Nadu are established.

### **2.3. CLIMATE CHANGE ADAPTATION PROGRAMME IN CAUVERY DELTA WITH THE LOAN ASSISTANCE OF ASIAN DEVELOPMENT BANK (ADB)**

The possible adverse impacts due to climate change and the adaptation strategies to be evolved for abating its ill effects remain as one of the biggest challenges encountered all over the World. In our State, the Cauvery delta has been perennially facing difficulties in draining off excess flood waters

received over a short period of time during the North East Monsoon. The terrain for a length of over 25 km from the sea mouth is almost flat, which accentuates the problem of drainage. **The Hon'ble Chief Minister** ordered to take up the Climate Change Adaptation scheme in the Cauvery Delta with the loan assistance of the Asian Development Bank (ADB). The estimated project cost is Rs.1,560 crore out of which the loan assistance of Asian Development Bank will be Rs.1,092 crore and the State share will be Rs.468 crore.

By executing this scheme, protection of the coastal areas in the Cauvery Delta will be ensured. The structures to be constructed would act as flood absorbers, facilitating effective use of flood water through recharging the ground water resources and preventing the saline water ingress into the fertile lands. This scheme will benefit an ayacut of about 4.50 lakh acre under Cauvery, Vennar, Grand Anicut Canal

System and Lower Coleroon Anicut System covering the Districts of Tiruvarur, Nagapattinam and a part of Thanjavur.

As a first stage of this project, works have been taken up in the following rivers and drains, forming part of Lower Vennar System of the Cauvery Delta, as a "Stand Alone Project":

1. Adappar
2. Harichandranadhi
3. Pandavayar
4. Vellaiyar
5. Valavanar Drain
6. Vedaraniyam Canal
7. Design, supply, installation, testing and commissioning of various pumping machinery including associated electrical, mechanical and civil works.

Administrative Sanction has been accorded at an estimated cost of Rs.960.66 crore for taking up these

works. The project agreement and loan agreement has been signed on 14.07.2016 with the Asian Development Bank. Further, works at an estimated cost of Rs.278.97 crore have commenced in two rivers viz., Vellaiyar and Pandavayar. Remaining 5 works will be taken up this year after due finalization of tender.

#### **2.4. CAUVERY MODERNISATION SCHEME UNDER THE ACCELERATED IRRIGATION BENEFITS PROGRAMME (AIBP)**

Modernisation works in the Cauvery basin, which is an age old system of the State, could not be taken up for so many years due to the dispute in sharing of Cauvery waters between Tamil Nadu and Karnataka.

Due to the persistent legal efforts taken by **the Hon'ble Chief Minister**, the Final Orders of the Cauvery Water Disputes Tribunal (CWDT) was published in the Gazette of the

Government of India on 19.02.2013. This paved the way for taking up modernisation works in the Cauvery basin, which will be a boon to the farming community and the people of the State.

As per the orders of **the Hon'ble Chief Minister**, a preliminary project proposal on the **"Improvements and Rehabilitation of irrigation systems in Cauvery basin for efficient water Management"** was prepared for an amount of Rs.11,420 crore and sent to the Government of India for clearance. The CWC, Government of India have accorded In-principle Clearance for the preparation of Detailed Project Report (DPR). This proposal aims at improving and rehabilitating the systems in the Cauvery Delta area such as Cauvery Sub-basin, Vennar Sub-basin, Lower Coleroon Sub-basin, Grand Anicut Canal Sub-basin and other systems of Kattalai High Level Canal Project, Lower Bhavani project, Noyyal Sub-

basin and certain other ground water recharge schemes.

In the first phase, it is proposed to take up the work of "Improvements and Rehabilitation of Grand Anicut Canal System". The Detailed Project Report for this work has been prepared utilising the services of M/s. WAPCOS Ltd., a Government of India undertaking. The Detailed Project Report of this scheme has been approved by the Central Water Commission at a cost of Rs.2298.75 crore on 05.07.2016. Action is being initiated to obtain the funding assistance from the Government of India.

Similarly, the Detailed Project Reports prepared by the Department for 'Improvements and Rehabilitation of Kattalai High Level Canal Irrigation system' at an estimated cost of Rs.270 crore and the 'Ground Water Recharge Schemes' (Grand Anicut canal and Vennar System tanks) at an

estimated cost of Rs.110.00 crore are under consideration.

## **2.5. IRRIGATED AGRICULTURE MODERNISATION AND WATER-BODIES RESTORATION AND MANAGEMENT (IAMWARM) Project**

The IAMWARM Project was conceived by **the Hon'ble Chief Minister** in the year **2005**. The objectives of the project are, modernizing and rehabilitating the tanks irrigation system by renovating the water-bodies, intensification of agriculture and improving the livelihood of the farming community.

In this project, 7 line Departments viz., Agriculture, Horticulture, Agricultural Engineering, Agri-Marketing Board, Animal Husbandry, Fisheries and Tamil Nadu Agricultural University are jointly participated under the leadership of the Water Resources Department, in an integrated manner. This project which commenced in the

year 2007 was successfully completed in June 2015.

Under this project, modernization, rehabilitation and water management works were taken up in 5009 tanks located in 61 sub-basins spread over 26 Districts at a cost of Rs.2820.93 crore, benefiting an ayacut of 6.69 lakh hectare and about 5 lakh farmers.

### **Rehabilitation of Anicuts**

- 370 Anicuts were rehabilitated in 61 sub basins, at a cost of Rs.122.71 crore.

### **Rehabilitation of canals and supply channels**

- 4,512 km. length of supply channel in 61 sub basins spread over 26 districts were rehabilitated at a cost of Rs.247.24 crore.

### **Renovation of Tanks**

- 2,831 tanks in 61 sub basins spread over 26 Districts were rehabilitated at a cost of Rs.699.19 crore.
- To facilitate free flow of water from the tank to the field channels and to measure the quantity of water released, the head reach of field channel were lined and flow measuring devices were installed in the rehabilitated Tanks in 25 sub basins at a cost of Rs.71.50 crore.

### **Participatory Irrigation Management (PIM)**

- 2815 Water Users Associations (WUA) have been delineated and 2775 WUA formed in the 61 Sub basins covering 26 Districts benefitting 6.70 lakh hectares command area in the recently completed IAMWARM Project-I.

### **IAMWARM PROJECT II**

As the follow on project for the successfully completed IAMWARM Project, the **Hon'ble Chief Minister** has ordered to take up the IAMWARM II Project in the remaining 66 sub basins of the State covering 29 Districts with an extent of 5.43 lakh hectare ayacut, over a period of 6 years starting from 2016 with an outlay of Rs.2,950 crore. The Project will be implemented by Water Resources Department and 7 line departments under the coordination of Water Resources Department.

In this project, it is proposed to take up rehabilitation of 4778 tanks, 477 anicuts, construction of check dams, artificial recharge wells in water spread area of tanks and improving drainage cum irrigation channels in Cauvery Delta and other sub-basins at an outlay of Rs.2197 crore, by the Water Resources Department.

Preparation of Detailed Project Reports (DPR) for this project is in progress.

## **2.6. LINKING OF TAMIRAPARANI, KARUMENIYAR AND NAMBIYAR RIVERS IN TIRUNELVELI AND THOOTHUKUDI DISTRICTS**

**The Hon'ble Chief Minister** has accorded a special importance for inter-linking the various rivers in the country. The National Water Development Agency (NWDA) of the Government of India has also identified some feasible river inter-linking schemes amongst the Peninsular rivers and has also taken up investigations in this direction. **The Hon'ble Chief Minister** has insisted upon the importance and need for inter-linking of rivers, to the Prime Minister at various instances.

In order to harness, impound and divert a part of the surplus flood water from flood prone rivers to the adjacent drought prone locations, the

Government of Tamil Nadu, under the able guidance and directions of **the Hon'ble Chief Minister**, has identified certain river links within the State. The Detailed Project Reports (DPR) for these schemes are prepared as per the norms of the Government of India seeking funding assistance under the Accelerated Irrigation Benefits Programme (AIBP). In the first phase, the DPR for the scheme of linking Tamiraparani - Karumeniyar - Nambiyar rivers, to divert excess flood waters of the Tamiraparani river to the drought prone areas such as Sathankulam and Thisayanvilai in Tirunelveli and Thoothukudi Districts, was sent to the Government of India seeking financial assistance. After meeting all the norms and requirements of AIBP and the stringent regulations of the Ministry of Environment, Forests and Climate Change, the scheme has been accorded investment clearance by the Government of India due to the

persistent efforts of **the Hon'ble Chief Minister.**

### **Scheme Details**

- For inter-linking of Tamiraparani – Karumeniyar - Nambiyar rivers, by excavating a new flood carrier canal with a carrying capacity of 3,200 cusecs, from LS 6.5 km of existing Kannadian canal near Vellankuzhi Village to M.L.Theri near Thisayanvilai for a length of 75.175 km as per the revised alignment schedule is in progress. It is proposed to divert 2,765 Mc.ft of surplus flood water of Tamiraparani river.

### **Benefits of the scheme**

- Water requirements of Sathankulam and Thisayanvilai Villages will be fulfilled.
- Ground water table in the vicinity of the project area will substantially be improved.

- Sea water intrusion will be prevented.
- An ayacut of 56,933.08 acre of land including 42,012.86 acre of new ayacut will be benefited.
- Palayamkottai, Nanguneri and Radhapuram Assembly Constituencies in Tirunelveli District and Srivaikundam Assembly Constituency in Thoothukudi District will be benefited.
- 32 Villages in Tirunelveli District and 18 Villages in Thoothukudi District will be benefited.
- 177 tanks in Tirunelveli District and 75 tanks in Thoothukudi District will be benefited.
- 2657 wells in Tirunelveli District and 2563 wells in Thoothukudi District will be benefited.

### **Status of the scheme**

The project was originally sanctioned at an estimated cost of Rs.369 crore for implementation in 4 stages in anticipation of funding assistance under

AIBP. In the Stage I and Stage II of this project, out of the total length of 57.06 km canal, 52.66 km length of canal has been excavated. Remaining 4.40 km length of canal will be excavated after completion of land acquisition.

Out of 168 cross drainage works in Stage I and II, 133 cross drainage works were completed upto 2016. The remaining 35 works are to be completed.

Due to the untiring efforts of **the Hon'ble Chief Minister**, the CWC has accorded revised cost appraisal for this scheme for Rs.872.45 crore (Price level 2014-15) on 07.05.2015. Further, the Ministry of Environment, Forests & Climate Change has accorded Environmental clearance (EC) to the project on 28.05.2015. Based on the above approvals, and the recommendation of the 126<sup>th</sup> meeting of the Advisory Committee held on 16.07.2015, for consideration of

Techno economic viability of Major & Medium Irrigation, Flood control and Multipurpose projects, the Ministry of Water Resources, River Development and Ganga Rejuvenation, Government of India has accorded investment clearance on 19.04.2016 for Rs.872.45 crore, which paved way for central assistance under AIBP.

#### **Land acquisition details**

The total extent of land required for stage I is 190.42 hectare, out of which, consent letters for 135.72 hectare have been obtained from the land owners. The total extent of land required for stage II is 281.56 hectare. Out of this, consent letters for 177.26 hectare have been obtained. The extent of land required for stage III and stage IV are 569.59 hectare and 340.92 hectare respectively. The process of obtaining consent letters from the land owners is in progress and about 82% of this work has been completed. So far, an expenditure of Rs.211.57 crore have



been incurred for this project from State Funds, in anticipation of assistance from the Government of India.

## **2.7. Desilting of Dams and Water Bodies**

Most of the dams in the State were constructed about 40 years or more ago. This has resulted in siltation in the dams. Periodically, capacity surveys of the dams are being conducted to assess the reduction in storage capacity and necessary remedial measures to be taken up for maintaining the effective service life of the dam and its appurtenant structures. Some of the measures taken up in this direction are, catchment treatment works to reduce the sediment inflow and regular maintenance and up keep of the dam surroundings. During surplus discharge and during the times when water is released from the dams for irrigation or drinking water purpose,

some percentage of the accumulated silt flows out of the dam. But, the remaining silt which normally collects near the body wall of the dam structure, results in a considerable reduction in the storage capacity of the dam in the order of about 15 to 20% of the total capacity.

The work of desilting of the Reservoirs have not been attempted by and large all over the country. **The Hon'ble Chief Minister** has accorded the highest priority for clearing the excess silt deposited in the dams and restore to their original capacity. For this purpose, funding assistance is proposed to be sought for from the Government of India under AIBP.

### **2.7.1.Desilting of Vaigai, Pechipparai, Mettur, Amaravathy Reservoirs and Srivaikundam Anicut**

As the first stage of this project, desilting in Vaigai, Pechipparai, Mettur, Amaravathy Reservoirs and Srivaikundam Anicut are proposed to

be taken up. M/s.WAPCOS Limited have been engaged as consultant for the preparation of Detailed Project Report, Rapid Environment Impact Assessment Study, preparation of tender documents, assisting in evaluation of tender, Project Management Consultancy Services and post project evaluation study for this project. Preparation of Detailed Project Reports for this project is in progress. Further, as per the directions of the National Green Tribunal, restoration of Srivaikundam Anicut to its original capacity by removal and disposal of the deposited sediments in the water spread area of the Srivaikundam Anicut in Srivaikundam Taluk at an estimated cost of Rs.5.93 crore is in progress. By this scheme, an extent of 25,560 acres will be benefited and ground water will be recharged in 18 villages.

### **2.7.2. Desilting of Parappalar Reservoir**

The Parappalar Reservoir was formed across Parappalar river, a tributary of

Amaravathy river, to augment the water for irrigation purposes. The reservoir was constructed during the year 1974. The original storage capacity of the reservoir is 197.95 Mcft. Apart from stabilizing an extent of 1,323 acres of old ayacut in Dindigul and Karur Districts, the reservoir benefits 1,000 acres of new ayacut in Dindigul District.

The Parappalar reservoir is the first reservoir formed across the Parappalar river. The catchment area of the reservoir comprises huge hills with soil mounds and less vegetation cover with steep slopes. Due to this, the reservoir is more susceptible to siltation and the rate of sedimentation is quite high resulting in reduction of storage capacity by about 11%.

**The Hon'ble Chief Minister** has ordered to restore the capacity of Parappalar reservoir by taking up desilting works at an estimated cost of Rs.19.5 crore. After getting the

permission from the Forest Department for approach road and transportation, the desilting works will be taken up.

### **2.7.3.Desilting of Veeranam tank**

The Veeranam tank is located near Lalpettai in Kattumannarkoil Taluk of Cuddalore District. This tank primarily fulfils the irrigation needs of the registered ayacut of 44,856 acres and in addition, it serves to augment the drinking water requirement of the Chennai city by supplying 78 cusecs of water depending upon the availability of water in the tank. Due to surplus flood inflows during monsoons, this tank silted up over a period of time resulting in considerable reduction in storage capacity. Based on the requests of the farming community and the public, **the Hon'ble Chief Minister** ordered to desilt this tank and restore its designated capacity of 1,465 Mcft. including rehabilitation and increasing the carrying capacity of the Vadavar channel which brings the

inflows into this tank at an estimated cost of Rs.40.00 crore.

So far, 40% of the work has been completed and further works are in progress.

### **2.7.4. DAM REHABILITATION AND IMPROVEMENT PROJECT (DRIP)**

Dams are vital to the drinking water requirements, agricultural, hydel power generation and overall development of the State. Proper upkeep and maintenance of dams and their appurtenant structures are necessary for ensuring the service life and effective performance of the dams. As most of the dams in the State are quite old, improvements and rehabilitation measures are needed to be taken up in the dams.

Keeping this in view, **the Hon'ble Chief Minister** ordered to take up the Dam Rehabilitation and Improvement Project (DRIP) with the loan assistance of the World Bank to be implemented

in the dams of the State under the control of the Water Resources Department and the Tamil Nadu Generation and Distribution Corporation Ltd (TANGEDCO). The funding pattern between the World Bank and the State is in the ratio of 80:20. This project is presently under implementation.

Under this project, 105 dams are proposed to be rehabilitated in the State. This includes 69 Water Resources Department dams and 36 TANGEDCO dams. In addition, catchment area treatment works are taken up by the Agricultural Engineering Department in 2 reservoirs, viz., Krishnagiri and Kundah.

Administrative Sanction for this project was accorded for an estimated cost of Rs.745.49 crore.

<b>Sl. No.</b>	<b>Department</b>	<b>US\$ in Million</b>	<b>Rs in crore</b>
1	Water Resources	97.91	469.94
2	Agricultural Engineering	3.21	15.41
3	TANGEDCO	54.19	260.14
	<b>TOTAL</b>	<b>155.31</b>	<b>745.49</b>

### **Sequential Achievements**

- Project agreement signed with the World Bank on 21.12.2011.
- State Project Management Unit (SPMU) formed on 22.8.2012.
- Empowered Committee constituted on 12.12.2012.
- Two Dam Safety Review Panels formed on 10.06.2013.
- Before commencing the rehabilitation works in the dams, Hydrological Review Study and Flood Routing are taken up. Then the dams are inspected by the Dam Safety Review Panel after which the

detailed estimate and the Project Screening Template are prepared and got approved from the World Bank. After according Administrative Sanction, work will be implemented.

### **Present status**

#### **WRD Dams**

Out of the 69 dams, Administrative Sanction for 67 Dams have been accorded and Administrative Sanction for the remaining 2 dams (Uppar (Tiruppur), Pechiparai) is under consideration.

Rehabilitation and improvement works have been completed in 16 dams and works are in progress in the remaining 47 dams. Rehabilitation and improvement works in the remaining 4 dams will be taken up after finalisation of tender process.

#### **TANGEDCO Dams**

Out of 36 dams, Project Screening Template for 32 Dams have been

approved by World Bank, based on which Administrative Sanction has been accorded for 23 dams. Rehabilitation and improvement works are in progress in 14 dams. Works will commence early in 9 Dams after finalisation of tender process.

#### **Status of Agricultural Engineering Department works**

Catchment area treatment works in Krishnagiri and Kundah Reservoirs are in progress.

### **3.0. ACHIEVEMENTS ON IRRIGATION INFRASTRUCTURE DURING PAST FIVE YEARS – AN OVERVIEW**

The Government is implementing various schemes for developing and effectively utilizing the water resources of the State. The rains received during the North–East Monsoon period is the major source of water resources of the State. The spatial and temporal variations of the rainfall received create flood conditions in some rivers and dry conditions in certain other areas. Intra basin and Inter basin transfer of part of excess flood waters from the flooding rivers, to the drought prone area assume great significance in this scenario. In this context, inter-linking of rivers within the State is being accorded utmost importance.

There are 39,202 tanks in the State, out of which, 14,098 tanks are under the management and maintenance of the Water Resources Department. These tanks are continuously restored,

renovated and rehabilitated on priority basis through various schemes. 684 traditional water bodies, which are primarily the tanks, were restored with the grants-in-aid of the 13<sup>th</sup> Finance Commission. Tank restoration works are being taken up under RRR scheme, which is a Centre-State shared scheme.

Adaptation to the climate change and its consequential effects on human lives and available resources has been attracting global attention for quite some time. In particular, the possibility of sea level increase upto 1.0m is also being predicted due to climate change. The Government have taken immediate measures to mitigate and control the effects of climate change to the water resources, which directly affect the food production. In this direction, the Government have taken up the climate change adaptation programme in the Cauvery delta, which is the rice bowl of the State with the loan assistance of the Asian Development Bank.

The World Bank assisted IAMWARM project has been successfully completed in 61 sub-basins of the State, out of the total 127 sub-basins during June 2015. The successful implementation of the project and its phenomenal contribution to the over all development of the irrigated agriculture sector has been appreciated by the World Bank. As a follow on project, the World Bank has now come forward to assist the IAMWARM-II project proposed to be taken up in the remaining 66 sub-basins of the State.

The dams are vital to the over all growth of all the sectors. To ensure the effective performance of the dams during their service life and to make them operationally fit and healthy, the Dam Rehabilitation and Improvement Project (DRIP) is being taken up by the Government with the loan assistance of the World Bank. This project is under implementation in 105 dams (69 WRD dams and 36 TANGEDCO dams).

Many irrigation infrastructure schemes are also taken up with the State funds and loan assistance of NABARD. During the past five years, various irrigation schemes / works have been completed.

The District-wise details of these completed works are enumerated as below:

### **3.1. CREATION OF NEW IRRIGATION INFRASTRUCTURE**

#### **3.1.1. Formation of New Reservoirs**

- Upgradation of Peikulam, Pottaikulam and Korampallam tanks into Reservoirs in Thoothukudi District was completed at an estimated cost of Rs.20.07 crore benefiting an ayacut of 5,927 acres.

#### **3.1.2. Construction of New Barrage**

- A new barrage was constructed across Cauvery River at 250 metre downstream of existing Kattalai bed regulator with a discharging capacity of 4,63,000 cusecs through

86 vents and 12 scour vents at Mayanur Village in Krishnarayapuram Taluk of Karur District at an estimated cost of Rs.254.45 crore.

- An ayacut of 1,01,312 acres have been benefited by impounding 1.05 TMC ft., of water. Besides, the two lane bridge reduces the travel distance by about 45 km.
- This barrage is the proposed starting point for the link canal to divert about 5.40 TMC ft., of the excess flood water of Cauvery River to Agniyar, South Vellar, Manimuthar, Vaigai and Gundar.

**This Barrage was inaugurated by the Hon'ble Chief Minister on 25.06.2014.**

### **3.1.3. New Anicuts and Regulators**

- 3 new anicuts and 1 regulator were constructed for providing irrigation facilities to an extent of 2,086 acres of ayacut in Pudukottai, Tiruvannamalai and Thiruvarur

Districts at an estimated cost of Rs.8.50 crore.

- These Anicuts were constructed across Vellar Mudiyanar and Kamandalanaganathi Rivers and Kandaparisinar drain.

### **3.1.4. FORMATION OF NEW CHECK DAMS/ BED DAMS / GRADE WALLS**

#### **Check dams**

- 109 check dams at an estimated cost of Rs.303.78 crore were constructed in 23 districts, viz. Ariyalur, Coimbatore, Cuddalore, Dharmapuri, Dindigul, Erode, Kancheepuram, Karur, Krishnagiri, Namakkal, Salem, The Nilgiris, Sivagangai, Theni, Thanjavur, Tiruppur, Tiruvannamalai, Tiruvallur, Thoothukudi, Ramanathapuram, Tiruchirapalli, Tirunelveli and Virudhunagar benefiting an ayacut of 22,134 acres.
- These Check dams were constructed across Sullipallam Odai, Varamoongilpallam Odai,



Anaimaduvupallam, Kumuttipattynadhi, Vannathangarai Odai, Periyapallam, Sanganurpallam, Varattar, Gadilam River, Kambainallur River, Kovilar, Kodaganar, Santhanavarthini River, Nanganjiyar River, Kiliyar, Amaravathy River, Pambar, Mavaru Odai, Kattu Odai, Milithane, Vaigai River, Koothankal Channel, Navakurichi Odai, Thirumanimuthar Odai, Sampadi Odai, Kallar Odai, Thamarai Odai, Manjini Odai, Sudhagangai Odai, Swetha River, Palar River, Nasuviniyar Drain, Ayyanapuram Vari, Nandavanapatti Drain, Vallam Vari Drain, Pattuvanachi Drain, Muthalaimuthu Vari, Cholakampatti Drain, Jambugapuram Vari, Konavari Drain, Sudukattu Vari, Kottagudi River, Pambanar, Kosasthalaiyar, Lava River, Vaippar River, Uppodai, Cauvery River, Ayyar River, Nandiyar River, Uppar River, Ponnaniyar, Shanmuganadhi Odai, Kothamangalam vari, Koraiyar,

Vikraman River, Puthar, Ariyar River, Karaipottanar River, Thombatchi River, Thalugai River, Kannuthu River, Maanodai, Koraiyar River and Hanumanadhi.

### **Bed Dams**

- 9 bed dams at an estimated cost of Rs.113.96 crore were constructed in 4 Districts, viz. Cuddalore, Ramanathapuram, Sivagangai and Thanjavur benefiting an ayacut of 56,264 acres.
- These Bed dams were constructed across Periya Odai, Vaigai and Cauvery Rivers.

### **Grade walls**

- 19 grade walls at an estimated cost of Rs.62.91 crore were constructed in 3 Districts, viz. Nagapattinam, Thanjavur and Thiruvarur, benefiting an ayacut of 43,786 acres.
- These grade walls were constructed across Veeracholan River, Cauvery

River, Kudamurutty River, Vennar River, Pamaniyar River, Palavar River, Manniyar River, Koraiyar, Maraikkoraiyar and Sola-sudamaniyar River.

### **3.1.5. Formation of New Canals / Supply Channels**

- 6 new canals and supply channels were formed in the districts of Dharmapuri, Krishnagiri, Tiruppur and Vellore at an estimated cost of Rs.26.35 crore assuring irrigation to an ayacut of 8,422 acres.
- These canals benefit Totlampatti tank, Papparapatti tank, Baleguli tank, Balethottam tank, Kagankarai tank, Viruppampatti tank and 47 other tanks and 1 pond and Kesarigulihalla Reservoir and Uppar system.

### **3.1.6. Formation of New Tanks / Ponds**

- 2 new tanks have been formed in Dharmapuri and Perambalur Districts at an estimated cost of

Rs.47.22 crore to benefit an ayacut of 1,960 acres.

- These tanks were formed across Mathalapallam River and Kallar Odai.

### **3.1.7. Artificial Recharge Structures**

- 213 Check dams, 29 Percolation ponds, 266 Recharge shafts, 2 Diaphragm walls, 5 Grade walls, a bed dam and 6 Sub-surface dykes were constructed at an estimated cost of Rs.164.03 crore under Master Plan Artificial Recharge Scheme (MPARS).
- 3 artificial recharge structures were constructed with NABARD loan assistance at an estimated cost of Rs.14.74 crore benefiting an ayacut of 96.89 acres.
- 56 artificial recharge wells were constructed under IAMWARM project, at an estimated cost of Rs.24.82 crore.

- 1,335 artificial recharge shafts and 2 subsurface dykes were constructed at an estimated cost of Rs.37.05 crore with the State fund.
- The above Artificial Recharge Structures were constructed in the following 29 districts:

Ariyalur, Coimbatore, Cuddalore, Dharmapuri, Dindigul, Erode, Kancheepuram, Karur, Krishnagiri, Madurai, Nagapattinam, Namakkal, The Nilgiris, Perambalur, Pudukkottai, Salem, Sivagangai, Thanjavur, Theni, Thoothukudi, Tirunelveli, Tiruppur, Tiruvallur, Tiruvannamalai, Thiruvarur, Tiruchirapalli, Vellore, Villupuram and Virudhunagar.

### **3.2. REHABILITATION OF EXISTING IRRIGATION INFRASTRUCTURE AND SYSTEMS**

#### **3.2.1. Rehabilitation of Dams**

- Rehabilitation and Improvement works in 16 dams, viz. Siddhamalli dam, Vaniyar dam, Kesarigullihalla

dam, Thoppaiyar dam, Nagavathy dam, Thumbalahalli dam, Kuthiraiyar dam, Poigaiyar dam, Shoolagiri Chinnar dam, Kelavarapalli dam, Adavinainarkoil dam, Vadakkupachaiyar dam, Kodumudiyar dam, Nambiyar dam, Mordhana dam and Pambar dam, under the Dam Rehabilitation and Improvement Project (DRIP) in the Districts of Ariyalur, Dharmapuri, Dindigul, Kanniyakumari, Krishnagiri, Tirunelveli and Vellore at an estimated cost of Rs.39.25 crore have been completed.

#### **3.2.2. Rehabilitation of Anicuts**

- 67 Anicuts have been rehabilitated in 14 districts, viz. Coimbatore, Cuddalore, Dharmapuri, Karur, Kancheepuram, Madurai, Salem, Thanjavur, Theni, Tiruchirapalli, Tirunelveli, Tiruppur, Tiruvannamalai and Villupuram at an estimated cost of Rs.90.64 crore benefiting an ayacut of 41,401 acres.

- The rehabilitated anicuts are located across Kuniyamuthur channel, Coonoor River, Manimuktha River, Kallar River, Palar River, Amaravathy River, Oothampari Aru, Ariyar River, Kothamangalam Drain, Kottankulam tank surplus course, Varahanadhi channel and Nambiyar River.

### **3.2.3. Rehabilitation of Regulators**

- 12 Regulators were rehabilitated in 7 districts, viz., Cuddalore, Dindigul, Erode, Karur, Madurai, Thiruvarur and Tiruchirappalli at an estimated cost of Rs.78.06 crore benefiting an ayacut of 4,64,341 acres.
- The rehabilitated Regulators are located across Vellar River, Vaigai River, Nattar River, Cauvery River, Uyyakondan Channel, Kondamvari Drain, Bhavani River and Coleroon River.

### **3.2.4. Rehabilitation of canals and supply channels**

- 39 Canals and Supply Channels were rehabilitated in 21 districts and Idukky District in Kerala, viz. Coimbatore, Cuddalore, Dindigul, Erode, Kanniyakumari, Madurai, Nagapattinam, Namakkal, The Nilgiris, Salem, Thanjavur, Theni, Thiruvarur, Thoothukudi, Tiruvallur, Tiruchirappalli, Tirunelveli, Tiruppur, Tiruvannamalai, Vellore and Villupuram at an estimated cost of Rs.577.91 crore benefiting an ayacut of 6,74,738 acres.
- Krishnaiyengar channel, PAP Contour Canal, Distributaries upto 150 cusecs capacity in Wellington Reservoir Project, Gundar - Chittar - Karuppanadhi Project and Thirukoilur Anicut Project, Athoor anicut Channel, Kalingarayan Channel, Arakkankottai and Thadapalli Channels, Thovalai Channel, Radhapuram Channel, Kottayadi Channel, Puthanar

Channel, Nilaiyur Channel, 10<sup>th</sup> Branch Canal of Periyar Irrigation System, Thirumangalam Main Canal, Periyar Main Canal, Tirunagari Channel, Raja Channel, Puthurvayal Channel, Neikkarapatti Tank Supply Channel, Nagarvalli channel, Koothanachiyar channel, Palavar Head Sluice and channel, Palayamparavoo Channel and P.T.Rajan Channel, Melmangalam Supply Channel, Jeyamangalam Supply Channel, Right Main Canal of Manjalar Dam, Supply Channels of Sakkilichikulam and Nallidaicheri Tanks, Thamaraikulam Supply Channel, South Main Channel of Srivaikundam Anicut, Vadavar Extension Canal, Thirumeni Eri and its feeder Channel, Kandaleru - Poondi Canal, Panangudi and Kuyavan Channels, Nandhan Channel and Mordhana Right Main Canal were rehabilitated.

### **3.2.5. Renovation of Tanks**

731 tanks were renovated in 27 Districts, viz. Ariyalur, Coimbatore, Cuddalore, Dharmapuri, Dindigul, Erode, Kancheepuram, Krishnagiri, Madurai, Nagapattinam, Namakkal, The Nilgiris, Perambalur, Pudukottai, Ramanathapuram, Salem, Sivagangai, Thanjavur, Theni, Thiruvarur, Thoothukudi, Tiruvallur, Vellore, Tiruvannamalai, Tiruchirappalli, Villupuram and Virudhunagar at an estimated cost of Rs.244.94 crore.

The details are as below:

- Restoration works in 684 traditional water bodies were carried out at an estimated cost of Rs.197.93 crore under 13th Finance Commission Grant-in-Aid programme.
- Rehabilitation works in 44 Tanks were completed at an estimated cost of Rs.46.30 crore.

- Under Repair, Renovation and Restoration (RRR) Scheme, 2 tanks were renovated at an estimated cost of Rs.0.71 crore.

### **3.3. Flood Protection Works**

43 Flood Protection works in 11 Districts, viz. Ariyalur, Chennai, Cuddalore, Kancheepuram, Karur, Madurai, Nagapattinam, Thanjavur, Tiruvallur, Tiruchirappalli and Villupuram were completed at an estimated cost of Rs.1,478.30 crore.

The details of these works are as below:

- 29 Flood protection works at vulnerable reaches of the Cauvery, Kollidam, Vellar, Kudamurutti River banks, Anaipappankulam Tank Surplus Course, Kondamvari Odai and dilapidated Anicuts and damaged Tanks, Weirs, Srirangam Nattu Vaikkal and construction of an aqueduct at Puthur Weir were

completed at an estimated cost of Rs.255.14 crore.

- Improvements to Macro Drainages viz. Arumbakkam - Virugambakkam Drain, Central Buckingham Canal, North Buckingham Canal, South Buckingham Canal, Porur Tank Surplus, Diversion Channel from Maduravoyal to Coom, Kodungaiyur Drain, Otteri Nullah, Kolathur-Madhavaram Diversion Channel, Korattur Tank Surplus Course and Ambattur Tank were completed at an estimated cost of Rs.587.62 crore under Jawaharlal Nehru National Urban Renewal Mission Scheme.
- 5 Flood protection works in vulnerable reaches of Pennaiyar, Gadilam, Uppanar, Paravanar, South Malattar, Kollidam, Vellar, Kosasthalaiyar and Araniar rivers were completed at an estimated cost of Rs.635.54 crore under Flood Management Programme.

### **3.4. COASTAL PROTECTION WORKS**

37 coastal protection works in 7 Districts, viz. Cuddalore, Kanniyakumari, Nagapattinam, Thoothukudi, Tirunelveli, Tiruvallur and Villupuram at an estimated cost of Rs.124.34 crore were completed.

The details of these works are as below:

- Construction of Groyne at Kanniyakumari District was completed at an estimated cost of Rs.3.5 crore under State Fund.
- Construction, Reformation and Extension of RMS Walls at 36 places in Kanniyakumari, Nagapattinam, Tiruvallur, Thoothukudi, Tirunelveli, Cuddalore and Villupuram Districts, including collecting field bed levels along the coast were completed at an estimated cost of Rs.120.85 crore under 13th Finance Commission Grants-in-Aid programme and NABARD Loan Assistance.

### **3.5. FORMATION OF ROADS AND BRIDGES**

- Construction of 18 New bridges / causeways and formation of roads were completed in 7 districts viz. Ariyalur, Dindigul, Erode, Ramanathapuram, Thanjavur, Tiruchirapalli and Tiruvallur at an estimated cost of Rs.83.65 crore.
- Bridges were constructed across Kollidam River, Kuranganpallam Odai, Kudamurutty River, Uppodai, Nandiyar Main Canal, Pullambadi Main Channel, Unjalur Distributory, Lower Bhavani Project Main Canal, Kosasthalaiyar River, Kuthiraiyar River, Panchanthangi Supply Channel and Cooum river.
- Formation of Roads were completed on the right side bund of Vaigai River, Late Thiyagi Immanuel Sekaran Memorial, left bank of Uyyakondan Channel, right bank of Kudamurutty River and Walking path and landscaping arrangements in both banks of Grand Anicut Canal

from Irwin bridge to Nagapattinam road bridge and improvements to approach road of Sathyamoorthy Sagar dam, Poondi.

### **3.6. MEMORIALS, BUILDINGS AND OTHER INFRASTRUCTURAL FACILITIES**

- 113 works comprising construction and renovation of office buildings, quarters, project houses, etc. and construction of 3 Memorials viz. Mettur dam - Platinum Jubilee Memorial, Colonel John Pennycuick Memorial and King Karikala Cholan Memorial, were completed in 17 districts viz. Chennai, Cuddalore, Erode, Kanniyakumari, Madurai, Namakkal, Salem, Sivagangai, Thanjavur, Theni, Thiruvarur, Tiruchirappalli, Tirunelveli, Tiruppur, Tiruvallur, Tiruvannamalai and Vellore at an estimated cost of Rs.14.82 crore.

- 25 vehicles were purchased and infrastructural facilities viz. generator, computers and office equipments were provided to various offices of WRD and improvements to the WRD Offices were completed at an estimated cost of Rs. 2.20 crore.

### **3.7. Development of Parks**

Park development works at Jedarpalayam Anicut, Kallanai and Mukkombu were completed in Namakkal, Thanjavur and Tiruchirappalli Districts at an estimated cost of Rs.11.74 crore.



#### 4.0. ROAD MAP FOR VISION 2023

The Water Resources Department has been taking continuous efforts to ensure “**Assurance of timely Irrigation**”, which is the core principle of the Vision 2023 of the **Hon’ble Chief Minister**.

For implementing new schemes, improving the existing irrigation structures, fulfilling the increasing demand of water for irrigation, drinking and industrial needs, investigations are being taken up to achieve the goal.

Under the guidance of **Hon’ble Chief Minister**, the Government have constituted the following two Committees for Improvement and Development of Irrigation infrastructure with an aim to save and store flood water.

1) Task Force Effective Committee - Vision 2023

2) Committee on Effective Utilization of the North - East Monsoon generated flood water.

#### 4.1. Task Force Effective Committee - Vision 2023

The Committee has recommended certain main proposals to accomplish the goals of Vision 2023. The projects which have been proposed to be taken up in the next ten years for an amount of Rs.57,000 crore are new water reservoir in Thiruvallur District, strengthening and augmenting existing storage capacity of water bodies, creation and restoration of water bodies and Chennai City Waterways, rehabilitation of tanks and wells, lining of major canals, interlinking of rivers, effective utilization of North East Monsoon generated flood water, Cauvery Delta Irrigation Development Project and the Dam Rehabilitation and Improvement Project.

#### **4.2. Committee on Effective Utilization of the North - East Monsoon generated flood water**

This Committee has recommended to effectively utilise the surplus water generated due to rain during the North East Monsoon period near the Coastal areas.

The Committee has recommended the schemes which are proposed to be implemented over a period of 10 years for an amount of Rs.13,56,000 lakh for restoring and improving the capacity of existing storage structures / tanks and its supply channels, construction of bed dam across rivers to divert the flood flows to the tanks, construction of check dams to augment ground water, utilise the tanks and defunct wells, providing recharge shafts in tanks, construction of new reservoirs, implementing pumping / lift irrigation schemes, interlinking of rivers within the State, improving the observation of the flows in the tail end of the rivers

and conducting studies for evolving appropriate viable methodologies for removing and effectively utilising the silt from reservoir / lakes and disposing it.

#### **4.3. Forward planning for the future - Road map for achievement**

With the recommendations of the above Committees as a reference and guidance, the Water Resources Department has now identified the certain initiatives, which will aim to achieve the goals set in the Vision 2023, for implementation in a phased manner.

Various proposals which have been prepared based on the Vision 2023 of the **Hon'ble Chief Minister**, have been administratively sanctioned and are under implementation. Further, as per the recommendation of the Committees of Vision 2023 and for effective utilization of North East Monsoon generated flood waters,

various schemes are being prepared to effectively utilize the flood water in the upcoming years.

#### **4.3.1. Rehabilitation of Cauvery Basin System**

Based on the instructions of the **Hon'ble Chief Minister**, a Preliminary Feasibility Report for Improvement and Rehabilitation of Irrigation Infrastructure in Cauvery Basin for effective irrigation water management had been prepared for an amount of Rs.11,420 crore and in-Principle clearance from the Central Water Commission has been obtained.

This proposal aims at improving and rehabilitating the systems in the Cauvery Delta area such as Cauvery Sub-basin, Vennar Sub-basin, Lower Coleroon Sub-basin, Grand Anicut canal Sub-basin and other systems like Kattalai High Level Canal Project, Lower Bhavani project, Noyyal

Sub-basin and certain other Ground Water Recharge Schemes.

Based on the Clearance of the Central Water Commission, Administrative Sanction for an amount of Rs.10.00 Crore was accorded for the preparation of Detailed Project Report for Systems of Grand Anicut Canal by M/s.WAPCOS Limited (A Government of India Undertaking).

M/s. WAPCOS Limited have prepared the Detailed Project Report. This Detailed Project Report has been approved by the Central Water Commission at a cost of Rs.2298.75 crore.

Further, to benefit the irrigation systems in Karur and Trichy District areas, a Detailed Project Report for the improvement of Kattalai High Level Canal System has been prepared for an amount of Rs.270.00 Crore for forwarding to the Central Water Commission of Government of India.

Further, a Detailed Project Report for recharging the Ground water in Thanjavur and Thiruvarur Districts, prepared for an amount of Rs.110.00 Crore under Ground water recharge scheme, is under consideration.

Similarly, preparation of Detailed Project Report for improvements of Raja, Kumarapalayam, Poyyeri and Mohanur Channels under the Rajavoikkal systems and Rehabilitation and improvements to Lower Coleroon basin Irrigation Systems are under preparation.

Similarly, Detailed Project Report for Rehabilitation and Improvements of Noyyal Sub-basin Irrigation System is under preparation.

#### **4.3.2. Construction of Barrage**

##### **Construction of Barrage across River Coleroon between Adhanur - Kumaramangalam Villages**

The **Hon'ble Chief Minister** during the 2014-2015 Budget Session announced under Rule 110 of Legislative Assembly that a Barrage with Head sluice will be constructed across River Coleroon in the downstream of lower anicut between Adhanur and Kumaramangalam Villages of Cuddalore and Nagapattinam Districts, to save a portion of flood water during flood receding periods. Administrative Sanction for Rs.24.00 lakh was accorded to carry out detailed investigation and soil exploration for this scheme.

Accordingly, detailed investigations have been carried out and a Detailed Project Report prepared for Rs.430 Crore is under consideration.

By implementing this scheme, an extent of 26,800 acres will get stabilized besides benefiting 4,425 acres of land through recharge of ground water.

The TWAD Board wells that are existing in Kollidam river will get benefited by this barrage. Also, the people of Cuddalore and Nagapattinam Districts will get transportation facility by the bridge to be constructed above the barrage.

#### **4.3.3. Schemes for formation of new channels:**

##### **1) Scheme of extension of Barur East Main Canal**

This proposal aims to form a new channel at LS 15.95 Km of Barur East Main Canal to provide irrigation facilities to 33 tanks in Uthangarai and Pochampalli Taluks in Krishnagiri District.

By implementing this scheme, 724 acres of land under the 33 tanks

will get benefited besides benefiting 256 acres of lands through recharge of ground water.

For implementing this scheme, 103 acres of patta land have to be acquired.

Administrative Sanction has been accorded for land acquisition process and carrying out detailed investigation works for an amount of Rs.14.00 Crore and the works are in progress.

##### **2) Ramanadhi - Jambunadhi Link Scheme**

This proposal envisages to divert surplus flood water of Ramanadhi to the ayacut areas of Jambunadhi in Kadayam Village of Ambasamudram Taluk in Tirunelveli District.

By implementing this scheme, 189 Hectares of land will get stabilized besides bridging a gap of 81.14 Hectares.

Administrative Sanction has been accorded for land acquisition process and carrying out detailed investigation work for an amount of Rs.5.40 Crore and the works are in progress.

### **3) Formation of new channel Scheme in Thottamanthurai**

This scheme has been taken up based on the request of the public to form a new channel from Suruliyar which receives water from Periyar dam, to the areas which are already fed by a channel of Shanmuganadhi reservoir in Thottamanthurai of Uthamapalayam Taluk in Theni District.

Administrative Sanction has been accorded for carrying out detailed investigation and levelling works for an amount of Rs.10.00 lakh and feasibility study is under progress.

### **4) Scheme for Excavation of new supply channel from Right and Left sides of the Ennekol Anicut**

This scheme proposes to divert the flood surplus water of Thenpennaiyar river to the drought prone areas of Krishnagiri and Dharmapuri Districts by excavating a new supply channel from right and left sides of Ennekol Anicut in Krishnagiri Taluk and District.

By implementing this scheme, 3,408 acres of land will get benefited by 33 tanks and 21 check dams.

Administrative Sanction has been accorded for carrying out detailed investigation and levelling works for an amount of Rs.33.00 lakh and the works are in progress.

### **5) Scheme for Extension of Left side channel of Vaniyar Reservoir**

This scheme aims to form a new channel from the left side channel of Vaniyar Reservoir Project to benefit 16 tanks in Pappireddipatti and Harur Taluks of Dharmapuri District.

By implementing this scheme, 242 acres of land will get benefited.

For implementation of this scheme, 61 acres of patta land and 27 acres of forest land are to be acquired.

Administrative Sanction has been accorded for Rs. 7.00 lakh for carrying out detailed investigation and levelling works and the works are in progress.

#### **6) Scheme for formation of a reservoir across Sulagiri Chinnar**

In this scheme it is proposed to form a Reservoir near Vaanioddu at the confluence point of Sulagiri Chinnar river with Pennaiyar in Krishnagiri District.

By implementing this scheme, 1,765 acres of land will get benefited.

For implementation of this scheme, 401 acres of patta land and 266 acres of forest land have to be acquired.

Administrative sanction has been accorded for Rs.10.00 lakh for detailed

investigation and conducting Levelling works and the works are in progress.

#### **7) Athikadavu - Avinashi Flood Canal Scheme**

Athikadavu - Avinashi Flood Canal Scheme envisages diversion of flood surplus water of Bhavani river to the drought prone areas of Coimbatore, Tiruppur and Erode Districts.

By filling 31 Public Works Department tanks, 40 Panchayat Union tanks and other 538 ponds in Coimbatore, Tiruppur and Erode Districts, the ground water recharge is also augmented besides improving the irrigation facilities.

This scheme consists of a main canal for a length of about 35.20 Km and two branch canals namely Avinashi Branch Canal for a length of about 21.65 Km and Perundurai Branch Canal for a length of 72.915 Km.

The Detailed Project Report for Athikadavu - Avinashi Flood Canal Scheme was prepared for an amount of Rs. 1,862.00 Crore based on schedule of rates for the year 2011-2012 as per the Flood Management Programme guidelines of Government of India and sent to Central Water Commission, Coimbatore for getting financial assistance under Flood Management Programme of Government of India. The Central Water Commission has informed that it can be considered as an irrigation project.

Following this, based on the **Hon'ble Chief Minister's** instructions, it was announced during interim Budget Session for the year 2016-17, that Athikadavu - Avinashi Scheme will be implemented as an Irrigation, Ground Water Recharge and Drinking Water Scheme. Accordingly a revised proposal for this scheme will be sent to Government of India.

For implementation of this scheme, an extent of 1,694 acres of patta land and 28 acres of forest land have to be acquired. To carry out preliminary works by engaging consultancy service for obtaining Clearance from the Ministry of Environment and Forest, Government of India, documentation for preparation of land plan schedule for land acquisition, Administrative Sanction has been accorded for an amount of Rs.3.27 Crore.

The project report for the Athikadavu - Avinashi scheme for Irrigation, Ground Water Recharge and Drinking Water supply has been prepared at an estimated cost of Rs.3,523 Crore for getting loan assistance from the Government of India.

The process of getting environmental clearance from the Ministry of Environment and Forest and concurrence of Forest Department is under progress.



#### **4.3.4. Inter-linking of Rivers within the State**

To fulfill the increasing demand of irrigation and drinking water, conserving the flood water is essential. To achieve this, inter-linking of rivers within the State is necessary. Based on the guidance of the **Hon'ble Chief Minister**, funds are allocated for investigation works for various inter-linking schemes and preparation of detailed project report is under progress.

Now, inter-linking of Tamirabarani (Kannadian anicut) - Karumeniyar - Nambiyar scheme is being implemented.

The schemes to be implemented in future are as follows:

#### **1. Inter-linking of Cauvery - Agniyar - South Vellar - Manimuthar - Vaigai - Gundar canal scheme**

The Cauvery - Gundar link canal scheme is one of the major schemes in the inter-linking proposals.

It has been conceptualized based on the fact that it is one of the links envisaged in the Feasibility Report prepared for "Peninsular River link surplus" by the National Water Development Agency (NWDA) of Government of India.

**The Hon'ble Chief Minister** inaugurated the head works of the project as the 1<sup>st</sup> phase of the scheme namely, the Construction of a Barrage across River Cauvery near Mayanur on 25.06.2014.

In the 2<sup>nd</sup> phase, a new canal taking off from the upstream of this barrage will connect the rivers of Agniyar, South Vellar, Manimuthar, Vaigai and Gundar to divert the flood water of River Cauvery.

**The Hon'ble Chief Minister** after assumption of office in 2011 met the Prime Minister of India and handed over a list of schemes for which the Central Assistance has to be given. This scheme finds place in the above list and based on that a Project Report for the Cauvery-Gundar Link Canal Scheme was prepared at a cost of Rs.5,16,600 lakh (as per 2011-2012 schedule of rates) and sent to the Government of India for getting Central Assistance under Flood Management Programme (FMP). But, the CWC has informed that this scheme has not fulfill the necessity of FMP.

At present, this scheme is being considered as an irrigation project and is proposed to be implemented in a phased manner and in the Phase-I, a detailed estimate is being prepared for "Excavation of link canal from Cauvery (Kattalai Barrage) to South Vellar".

A Detailed Project Report for the work of "Excavation of link canal from South Vellar to Gundar river" will be prepared.

## **2. Pennaiyar (Sathanur dam)- Cheyyar link Scheme**

This scheme envisages diversion of surplus flood water of Pennaiyar by excavation of a new canal from Sathanur dam to the river Cheyyar, a tributary of Palar.

In this scheme, a new canal to a length of 23.55 Km will off take from the Sathanur dam at FRL and will connect with the upstream of Alathur anicut across Cheyyar river.

Further, a branch canal to a length of 28.72 Km will off take from the above main canal to link with the Thurinjalar river and thereby benefit the ayacut of Nandan channel.

Under this scheme, diverting a portion of flood water of Pennaiyar will benefit

an ayacut of 46,069 acres in the Taluks of Thiruvannamalai, Thandarampattu, Chengam, Polur and Vandavasi in Thiruvannamalai District and Gingee Taluk in Villupuram District.

Further, the diverted flood water will also recharge the ground water in Palar river bed.

In the year 2008, a Detailed Project Report for Rs.174.00 Crore was sent to Central Water Commission, Government of India for consideration under AIBP assistance. The Central Water Commission has requested to resubmit the DPR after attending all its remarks and also obtaining the environmental clearance.

Now, the investigation process for preparation of Detailed Project Report based on New Land Acquisition Act of Government of India is under progress.

### **3. Pennaiyar (Nedungal anicut) – Palar link**

This scheme envisages the diversion of 3.50 TMC ft. surplus water of Pennaiyar river from the Nedungal anicut (situated at the downstream of Krishnagiri reservoir) to the River Kallar, a minor tributary of River Palar.

The National Water Development Agency (NWDA) has investigated the feasibility of the above scheme and recommended to conduct detailed investigation for the above scheme. This Government has conveyed its In-Principle acceptance for preparation of Detailed Project report. Based on this, Detailed Project report is under scrutiny of the Chief Engineer, NWDA.

### **4. Cauvery (Mettur dam) – Sarabanga - Thirumanimuthar - Ayyar link**

This scheme envisages excavation of a new canal for diversion of a portion of surplus water of Cauvery river to the Districts of Salem, Namakkal, Perambalur and Tiruchirappalli.

The proposed canal to a length of 182 Km will off take from the foreshore area of Mettur dam at FRL level to link with the Sarabanga, Thirumanimuthar and Ayyar Rivers, tributaries of River Cauvery.

Administrative Sanction has been accorded for an amount of Rs.50.00 lakh to take up the work of detailed investigation for preparation of Detailed Project Report.

In Phase-I, investigation works were taken from LS 0 to 132.305 Km from Mettur dam to Pavithram tank through Sarabanga, Thirumanimuthar and Karaipottanar Rivers. Accordingly, preliminary Detailed Project Report has been prepared for an estimated amount of Rs.6,800.00 Crore as per the schedule of rates 2015-16 for the above work.

For Phase-I of this scheme, an extent of 2,342 acres of patta land and 195 acres of forest land have to be acquired. The estimate amount for

land acquisition works out to Rs.498.00 Crore.

Investigation is under progress for the work of Excavation of link canal from Pavithram tank to Ayyar river proposed as Phase-II.

#### **4.3.5. Other Important Schemes under Investigation**

##### **1) Vazhamalaiyar Reservoir Scheme**

It is proposed to construct a reservoir across Vazhamalaiyar which originates in the eastern slopes of Western Ghats in Sivagiri Taluk of Tirunelveli District and joins the Nichabanadhi, a tributary of Vaippar river.

By implementation of this scheme, 288 acres of irrigation gap will be filled and also 1984 acres of land will be stabilized. For implementing this scheme, 112.04 acres of patta wet land and 65.05 acres of poramboke land have to be acquired. A Detailed Project Report has been prepared for this scheme.

## **2) Elumichaiyar Reservoir Scheme**

Elumichaiyar originates from Western Ghats, joins the Koraiyaru and confluences with Tamirabarani river at Koraiyaru Vellankuzhi. It is proposed to construct a reservoir across Elumichaiyar in South Kallidaikurichi village in Ambasumuthiram Taluk in Tirunelveli District. In this scheme, it is proposed to supply water from Elumichaiyar river to irrigation lands of Manimuthar main canal, when there is shortage of water.

By this scheme, 1635.05 Hectares of land will be stabilized and an irrigation gap of 10.43 Hectares of land will be filled. The Detailed Project Report has been prepared for this scheme.

## **3) Excavation of New Channel from Nangunerian Channel**

This proposal aims to widen the Nangunerian Channel and excavation of a New Channel from this channel to feed 46 Tanks in Nanguneri Taluk of Tirunelveli District.

In this scheme, it is proposed to excavate a new Bye-Pass Channel for a length of 20.55 Km originating from Nangunerian Channel, before the Nangunerian Tank to feed 46 tanks with the surplus water of Pachaiyar during flood seasons.

By implementing this scheme, an extent of 1,786.48 acres of ayacut under Nangunerian Tank, 1,756.93 acres of ayacut under 46 tanks will be benefitted and also 5,574.58 acres of land will be benefitted through artificial recharge of Ground Water through 459 number of wells. By this scheme 16 villages will be benefitted.

For implementation of this Scheme 9.24 acres of Patta wet land, 469.94 acres of patta dry land and 60.40 acres of poramboke land have to be acquired. The investigation works are in progress.

## 5.0. INTER STATE WATER ISSUES

### 5.1. Cauvery Water Dispute

#### 5.1.1. Final Award of the Tribunal

The Cauvery Water Disputes Tribunal (CWDT) after examining all the documents and statistics of the case, the affidavits of the Expert Witnesses and their cross-examination and hearing the arguments put forth by the party States, pronounced its Final Decision on 05.02.2007, under section 5(2) of the Inter State River Water Disputes Act, 1956.

As a result of the strenuous efforts taken by the **Hon'ble Chief Minister** and the petitions filed in the Supreme Court, the Government of India notified the Final Order of the Cauvery Water Disputes Tribunal in its Official Gazette on 19.02.2013, which stabilised the fair rights of Tamil Nadu and safeguarded the livelihood of farmers in Cauvery Delta.

#### 5.1.2. The salient features of the Final Award are:

- The yield of the Cauvery at the Lower Coleroon Anicut site on the basis of 50% dependability is 740 TMC.ft. as per the report of the Cauvery Fact Finding Committee.
- The allocation made among the party States at 50% dependability is as below:

<b>Tamil Nadu</b>		<b>(in TMC.Ft.)</b>
At Billigundulu or any other point at the common border between Karnataka and Tamil Nadu	182	<b>419</b>
Flow available in Tamil Nadu between Billigundulu and Mettur	25	
<b>Total flow at Mettur</b>	207	
Flow available in Tamil Nadu below Mettur	212	
<b>Total allocation for Tamil Nadu</b>	419	

<b>Tamil Nadu</b>		<b>(in TMC.Ft.)</b>
<b>Karnataka</b>		<b>270</b>
<b>Kerala</b>		
Kabini sub-basin	21	<b>30</b>
Bhavani sub-basin	6	
Amaravathi sub-basin	3	
<b>Total allocation for Kerala</b>	<b>30</b>	
<b>Puducherry</b>		<b>7</b>
Inevitable surplus		<b>4</b>
Environment Protection (At Billigundulu or any other agreed point at the common border between Karnataka and Tamil Nadu)		<b>10</b>
<b>Grand Total</b>		<b>740</b>

- As per the Final Order, the flow that will be made available at Mettur will be (182 + 25 + 10 TMC ft. for Environmental Protection) - 217 TMC ft.
- The use of Ground Water by any State shall not be reckoned as use of water of the River Cauvery.
- Until the Government of Kerala takes up projects to utilize its

allocated share of water in full, the unutilized flows will be permitted to be used by Tamil Nadu.

- The Tribunal has also recommended for constitution of the Cauvery Management Board and the Cauvery Water Regulation Committee to effectively implement the Final Order.

### **5.1.3. SLPs (Civil Appeals) in the Supreme Court**

The States of Karnataka and Kerala filed Special Leave Petitions in the Supreme Court in April, 2007, against the Final Order of the Tribunal. A Special Leave Petition was also filed by Tamil Nadu in the Supreme Court in May, 2007, against certain aspects of the Final Order of the Tribunal. These SLPs have been admitted by the Supreme Court and now termed as Civil Appeals. In the Civil Appeal, Tamil Nadu has prayed for restoring the age old Kuruvai crop area in the Cauvery Delta which has not been

considered by the Tribunal and the second crop area in other age old systems, and to reduce the overall irrigation efficiency from 65% to 60% and consequently allocate additional quantity of water. Karnataka has filed its Written Submissions in the Civil Appeal on 02.01.2014. Tamil Nadu has also filed its Written Submissions on 06.01.2014, reiterating the points already mentioned in the Civil Appeal. Kerala filed its Written Submission on 06.01.2016.

All these Civil Appeals came up before the Special Bench of the Supreme Court on 28.03.2016. Now the Court directed to list the matter on 18th October, 2016.

#### **5.1.4. Petitions filed before the Cauvery Water Disputes Tribunal under Sec. 5(3)**

All the Party States and the Government of India have filed petitions in the Tribunal under section 5(3) of the Inter State River

Water Disputes (ISRWD) Act, 1956 seeking explanation / guidance on the Final Order. The Tribunal in its Order dated 10.07.2007 ordered that only after the Special Leave Petitions (now Civil Appeals) are heard and disposed of by the Supreme Court, the petitions filed under section 5(3) of the Act will be heard by the Tribunal.

The Government of Tamil Nadu filed an Interlocutory Application (I.A.) in the Supreme Court on 1.9.2011 with a request to clarify that there would be no impediment for the Cauvery Water Disputes Tribunal in proceeding with the applications filed by the party States notwithstanding the pendency of the Civil Appeals and direct the Tribunal to dispose of the pending applications filed by the party States and the Government of India. On 18.10.2011, this I.A. was ordered to be taken up along with the Civil Appeals.

The Government of Tamil Nadu on 16.3.2012, filed a Civil Miscellaneous Petition (CMP) in the Tribunal praying



to take up early hearing of the petitions under section 5(3) filed by the party States and the Government of India. When the Tribunal listed this CMP for hearing in April 2012, the Chairman of the Tribunal resigned on health grounds. Hence, this CMP could not be heard by the CWDT. **The Hon'ble Chief Minister** on 19.04.2012 addressed the then Prime Minister for filling up the post of Chairman of the Tribunal. The Ministry of Water Resources, Government of India, on 13.05.2014 notified the appointment of Dr. Justice Balbir Singh Chauhan, Judge of Supreme Court as Chairman of the Tribunal. After assumed charge as Chairman of the Tribunal on 21.05.2014 the CWDT in its Order dated 15.07.2014, ordered that it is desirable that the State of Tamil Nadu may file a fresh application or press I.A. No.11 of 2011 in Civil Appeal No. 2453 of 2007 filed by it in the Supreme Court and get an appropriate direction that the Tribunal may proceed

with the application under section 5(3) and inform the Tribunal.

Following this Order, the Government of Tamil Nadu filed an Interlocutory Application in the Supreme Court on 21.07.2014 (I.A No. 19 of 2014 in C.A.No. 2453 of 2007). When this I.A came up for hearing on 08.08.2014, the Court ordered to "list the matter before a bench of which Hon'ble Justice Mr. Kurian Joseph and Hon'ble Justice Mr.Rohinton Falli Nariman are not the members."

In the meanwhile, Dr. Justice. B.S. Chauhan, the Chairman of the Tribunal has been appointed as the Chairman of the Law Commission of India. After a new Chairman is appointed, the Government of Tamil Nadu, in consultation with Advocates, will press for a direction from the Hon'ble Supreme Court to direct the Tribunal to dispose of the pending applications under section 5(3).

#### **5.1.5. Efforts taken to constitute the Cauvery Management Board (CMB) and the Cauvery Water Regulation Committee (CWRC)**

Following the notification of the Final Order of the Tribunal in the Gazette of India on 19.02.2013, **the Hon'ble Chief Minister** addressed the then Prime Minister on 22.02.2013 and 11.03.2013 to place in position the Cauvery Management Board and the Cauvery Water Regulation Committee as recommended by the Tribunal in its Final Order.

Since the Government of India did not constitute the Cauvery Management Board and the Cauvery Water Regulation Committee, as per the orders of **the Hon'ble Chief Minister**, an I.A. (No.5 of 2013) was filed in the Supreme Court on 18.03.2013 to direct the Government of India to constitute the above machinery before the end of April, 2013. Pending constitution of the Cauvery Management Board, the Supreme Court on 10.05.2013 ordered

that a pro-tem Supervisory Committee be constituted as a **pro-tem measure** for implementation of the Final Order dated February 5, 2007 as notified on February 19, 2013, consisting of the Secretary, Union Ministry of Water Resources as Chairman and the Chief Secretaries of the party States as Members.

The Government of India, based on the Order of the Supreme Court, notified the constitution of the pro tem Supervisory Committee on Cauvery in its Gazette on 22.05.2013. The pro tem Supervisory Committee held so far 5 meetings and the last one was held on 28.09.2015. It was found that the Supervisory Committee in these meetings did not take any concrete steps to effectively implement the Final Order of the Tribunal.

**The Hon'ble Chief Minister** on 17.05.2013 urged the then Prime Minister to instruct the Ministry of Water Resources to constitute the Cauvery Management Board and the

Cauvery Water Regulation Committee, immediately. Again on 02.09.2013 and 03.09.2013, the above requests were reiterated.

As ordered by **the Hon'ble Chief Minister**, an Interlocutory Application (I.A. No.7/2013 in C.A.No.2456 of 2007) was filed in the Supreme Court on 11.11.2013, for the same cause. When this Application came up for hearing on 03.12.2013, the Supreme Court posted this Application for hearing along with the Civil Appeals.

In the Memoranda presented to the Hon'ble Prime Minister on 03.06.2014, 07.08.2015 and 14.6.2016, **the Hon'ble Chief Minister** urged the same.

Soon after the Chief Minister of Karnataka presented a Memorandum on 10.06.2014 to the Prime Minister, requesting him not to constitute the Cauvery Management Board and the Cauvery Water Regulation Committee, **the Hon'ble Chief Minister** on

13.06.2014 had urged the Prime Minister to constitute the Cauvery Management Board and the Cauvery Water Regulation Committee immediately, as the views expressed by Karnataka have no relevance and they should be overruled.

Further, the Tamil Nadu Legislative Assembly passed a unanimous resolution on 05.12.2014 to the effect that "...to ensure the release of water as per the monthly schedule stipulated by the CWDT in the Final Order, this House resolves that the Cauvery Management Board and the Cauvery Water Regulation Committee should be constituted by the Government of India immediately....." Following this, the Chief Minister addressed the Prime Minister on 12.12.2014 in this regard, enclosing the Resolution of the Legislative Assembly. The Chief Minister on 21.03.2015, among others, had urged the Prime Minister to instruct the Ministry of Water Resources, for the constitution of

Cauvery Management Board (CMB) and the Cauvery Water Regulation Committee (CWRC) without any further delay so as to ensure that the Final Order of the Cauvery Water Disputes Tribunal is implemented in letter and spirit.

In the Resolution passed unanimously by the Tamil Nadu Legislative Assembly on 27.03.2015, it was stressed inter alia to forthwith constitute the CMB and CWRC. This was also stressed in the letter of the Chief Minister dated 27.03.2015 addressed to the Prime Minister, which was handed over in person to the Prime Minister on 28.03.2015 by the team of 55 MPs from Tamil Nadu. The Chief Minister also met the Prime Minister in person on 25.04.2015 and handed over the letter, inter alia urging him to direct the Ministry of Water Resources to accede to the long pending request of Tamil Nadu to constitute the CMB and CWRC without any further delay.

The Union Minister for Water Resources, River Development & Ganga Rejuvenation, in reply letter dated 8.1.2016, has referred to the formation of the pro tem Supervisory Committee and informed that the Ministry is in consultation with Ministry of Law and Justice regarding setting up of the CMB and CWRC.

In the meanwhile, the Supreme Court has listed long pending cases to be heard by Special Benches. When Cauvery related cases are taken up for hearing, the formation of Cauvery Management Board and the Cauvery Water Regulation Committee will be pressed.

#### **5.1.6. Irrigation Season-2015-16**

During the year 2015, the South-West Monsoon has set in on the 5th June at Kerala. But it has moved in to the catchment of Cauvery only by the fourth week of June 2015.

Karnataka was not ensuring the flows at Billigundulu as per the Final Order. Hence an I.A. was filed in the Supreme Court on 17.10.2015 to direct the State of Karnataka to forthwith release water from its reservoirs so as to make good the shortfall of 45.327 TMC ft. at Billigundulu as on 30.09.2015.

The Mettur Dam was opened for irrigation on 9th August, 2015 when the storage was 60.411 TMC ft. Adequate supplies were allowed to the Delta irrigation. During the North East Monsoon period, the Delta received heavy rainfall from the last week of October, 2015, due to low pressure in the Bay of Bengal. The Mettur Dam was closed for irrigation from 25<sup>th</sup> October, 2015 to 23<sup>rd</sup> December, 2015. The supply has been continued beyond January, 2016 to save the standing crops and the Mettur dam was closed for irrigation on 25.02.2016, and the supply is given for Drinking water needs and environmental protection in the river Cauvery.

The flows recorded at Billigundulu, which is the reference point for measurement of flow due to Tamil Nadu, is 156.249 TMC ft up to end of May, 2016 as against 192.000 TMC ft. due as per the Final Order of the Tribunal. The deficit is 35.751 TMC ft.

In the meanwhile, the 5th meeting of the Supervisory Committee on Cauvery held on 28.09.2015, it constituted a Sub-Committee on 21.10.2015 to analyse the distress situation in the Cauvery Basin of Karnataka and suggest procedure for determining distress in an on-going year in accordance with provisions of CWDT's final order. This Sub-Committee held three meetings - on 06.11.2015, 24.11.2015 and 21.12.2015 but could not arrive at any consensus in determining the distress.

#### **5.1.7. Irrigation Season-2016-2017**

The normal date of opening of Mettur Dam for Cauvery Delta Irrigation is 12<sup>th</sup> June. The date of opening of

Mettur Dam depends upon the cumulative storage in 4 major reservoirs of Karnataka, the available storage in Mettur Dam in the 1<sup>st</sup> week of June, and the South-West monsoon prediction as given by India Meteorological Department and the incidence of rainfall in the catchment area of Cauvery basin of Karnataka.

As per the India Meteorological Department, the South-West Monsoon has set in 8<sup>th</sup> June this year. The storage of the 4 major reservoirs of Karnataka (Harangi, Hemavathy, Krishnarajasagar and Kabini) as on 30.07.2016 is 61.284 TMC ft. against its total storage capacity of 114.571 TMC ft. The storage in Mettur Dam is 22.996 TMC ft. as on 30.07.2016 (Total storage capacity 93.47 TMC ft.). The situation will be closely monitored and action will be taken to get Tamil Nadu's due share of water as per the Final Order from Karnataka. Mettur Dam will be opened as soon as sufficient storage is built up.

#### **5.1.8. Other Petitions filed in the Supreme Court**

##### **a) I.A. filed in 2008-2009 on Hydel Schemes above Mettur Dam**

Tamil Nadu has filed an I.A. (I.A. No. 10 of 2008 in C.A.No.2453 of 2007) in the Supreme Court against the unilateral action contemplated by Karnataka in proceeding with the execution of the Sivasamudram Seasonal Power Scheme and the Mekedatu Hydro Electric Scheme and praying for directions to the Government of India to take up all the Hydel Schemes in Cauvery between Krishnaraja Sagar and Mettur by the National Hydro Power Corporation Ltd as a package as already contemplated by them.

**b) I.A. (I.A. No. 16 of 2012 in C.A.No.2453 of 2007) filed in 2012 to forbear the Summer Irrigation in Karnataka**

In order to forbear the Government of Karnataka from drawing water for summer irrigation and to carry over the storage to the next irrigation season so as to help release of water to Tamil Nadu, as per the Interim Order, an I.A. was filed on 21.3.2012 in the Supreme Court of India. This is pending in the Supreme Court.

**c) I.A. (I.A. No. 1 of 2012 in C.A.No.2454 of 2007) filed in 2012 on Banasurasagar Irrigation Project in Kerala**

The Government of Kerala was proceeding with the Banasurasagar Irrigation project in the Kabini Basin which is not as contemplated in the Final Order of the Tribunal, as per the directions of **the Hon'ble Chief Minister**, an I.A. has been filed in the Supreme Court on 24.04.2012 to

restrain the Government of Kerala from proceeding with works in any manner with regard to this project. This I.A. is pending in Supreme Court.

**(d) I.A. filed by Tamil Nadu to restrain Karnataka from taking up new schemes:-**

When the media reported that Karnataka has planned to execute lift irrigation and modernisation schemes through Cauvery Neeravari Nigama Ltd., the Government of India was requested to advise the Government of Karnataka, to furnish full information of the schemes and also not to proceed with the Tender Notice issued, till the Cauvery Management Board and the Cauvery Water Regulation Committee are formed. As no reply was received, as ordered by **Hon'ble Chief Minister**, an I.A. was filed in the Supreme Court on 11.04.2014 (I.A.No.8 of 2014 in C.A.No.2456 of 2007) to maintain the Status quo ante by the Government of Karnataka till the formation of Cauvery

Management Board and the Cauvery Water Regulation Committee.

**(e) I.A. filed to restrain Karnataka from taking up two reservoirs at Mekedatu**

A news item appeared in Times of India on 12.11.2014, stating, inter-alia, that the Government of Karnataka has decided to proceed with the construction of two reservoirs at Mekedatu and that the State has invited Global Expression of Interest for the technical feasibility study. In this regard, the Hon'ble Chief Minister wrote to the Prime Minister on 12.11.2014 requesting to intervene and advise the Government of Karnataka to withhold the Expression of Interest called for by it for the technical feasibility study and advise it not to take any steps to execute any irrigation, hydro power, lift irrigation schemes or any other scheme in the guise of drinking water supply in the Cauvery Basin of Karnataka without

the consent of the Government of Tamil Nadu. The Prime Minister was also requested to instruct the Ministry of Environment and Forests and Ministry of Water Resources, Government of India, not to give clearance to any project proposed by Karnataka without consulting the Government of Tamil Nadu. The Government of Karnataka and the Government of India, Ministry of Water Resources were addressed in this regard on 12.11.2014 and on 13.11.2014 respectively. Since there was no response either from the Government of Karnataka or the Government of India, Tamil Nadu filed an I.A., in the Supreme Court on 18.11.2014 (I.A.NO.20 in C.A. No.2453 of 2007), praying to

"Direct the State of Karnataka to withdraw the notice inviting Global Expression of interest for Technical Study to construct the two reservoirs at Mekedatu across the river Cauvery; Restrain the State of Karnataka from



proceeding with the construction of two reservoirs at Mekedatu across river Cauvery as contemplated by the State of Karnataka or any other new projects across the river Cauvery in Karnataka which are not contemplated and/or permitted in the final decision of the Tribunal; and Direct State of Karnataka to maintain status quo and not to proceed with the construction of any project which is not in consonance with the final decision as notified in the Official Gazette on 19.02.2013 pending disposal of the Civil Appeals and the constitution of the Cauvery Management Board.”

This I.A. is yet to come up for hearing.

In the meantime, the Government of Karnataka on 18.11.2014 has informed the Government of Tamil Nadu that it has no plans to proceed with the construction of the project without informing the Supreme Court in the pending Interlocutory Application filed in the year 2008.

As the Government of Karnataka is unilaterally taking up the new schemes in the Cauvery Basin, in order to protest and to stop such schemes, the Tamil Nadu Legislative Assembly on 05.12.2014 passed a resolution urging that the Government of India should intervene and advise the Government of Karnataka to stop the 2 new Dams proposed at Mekedatu in violation of the Final Order, and the schemes proposed to be executed, in the guise of drinking water supply, and also that till the Cauvery Management Board is constituted and the concurrence of the Government of Tamil Nadu is obtained, the Government of Karnataka should not be allowed to execute Dam constructions at Mekedatu or any other schemes.

The Chief Minister while forwarding the resolution of the Legislative Assembly to the Prime Minister on 12.12.2014 has requested him to advise the Government of Karnataka not to take up any schemes till the Cauvery

Management Board comes into effect and without obtaining the concurrence of the Government of Tamil Nadu. The Hon'ble Chief Minister in the letter dated 21.03.2015 to the Prime Minister has brought to his notice about the funds allotted by the Government of Karnataka to prepare a Detailed Project Report to construct a reservoir at Mekadatu and urged him to advise the Government of Karnataka not to proceed with the construction of Reservoirs at Mekadatu and also not to take up any scheme without prior permission of the Government of Tamil Nadu. The Government of Tamil Nadu on 26.03.2015 has filed an Additional Affidavit in the Supreme Court in this regard.

On 27.03.2015, the Tamil Nadu Legislative Assembly urged the Government of India to take immediate appropriate measures to stop the Government of Karnataka from preparing a Detailed Project Report for the construction of a new dam at

Mekadatu and to advise the Government of Karnataka not to take any action for any scheme like the construction of the dam or reservoirs till the Cauvery Management Board is constituted and becomes functional and without the consent of the Government of Tamil Nadu. This resolution was sent to the Prime Minister with a request to take immediate action.

From the Media reports in April 2015, it was seen that the Water Resources Minister of Karnataka stated that the DPR regarding the Mekedatu project would be sent to Centre within 6 months. The Chief Minister of Tamil Nadu met the Prime Minister on 25.04.2015 and apprised him of the latest developments and requested him to intervene in the matter and not to permit Karnataka to take up the preparation of DPR till the CMB is constituted and is in position.

On 07.08.2015, **the Hon'ble Chief Minister** presented a Memorandum to the Prime Minister, reiterating the

request of Tamil Nadu to advise the Government of Karnataka not to proceed with the project without the concurrence of Tamil Nadu and also not to grant techno-economic clearance and environmental clearance to the project, till the CMB is formed and becomes functional.

The Union Minister for Water Resources, River Development & Ganga Rejuvenation, has informed in reply letter dated 8.1.2016 that the DPR on the Sivasamudram Run of the river project received from Karnataka was returned with instructions to obtain views and comments of the Co-basin States, and regarding Mekedatu, DPR as and when received, will be examined with reference to the Final Order of the Tribunal. The Minister has also stated that Karnataka has been addressed to share their plan for the said project with the co-basin States before taking up the DPR/construction.

The Government of Karnataka in its letter dated 08.03.2016, reiterated that

they have no plan to proceed with the construction of dam at Mekedatu without first informing the Supreme Court in the pending I.A. No. 10 of 2008.

The matter is pending before the Supreme Court. If the Government of Karnataka proceeds to take up any scheme in violation of the Final Order of the Tribunal without the concurrence of Tamil Nadu, this government will take all legal actions to protect the interests of Tamil Nadu.

**(f) Action taken to restrain Kerala from taking up the construction of Dam at Pattisserry across the river Pambar**

Based on a news item appeared in "The New Indian Express", on 06.11.2014 stating, inter-alia, that the Government of Kerala has commenced works for a new Dam across Pambar at Pattisserry, for which the Chief Minister of Kerala is reported to have laid foundation on 03.11.2014 through video

conferencing, the Chief Minister wrote to the Prime Minister on 08.11.2014 to advise the Government of Kerala to furnish full details of the schemes proposed by Kerala in the Pambar sub-basin and not to proceed with the proposed construction of the Dam or any other project in any manner in the Pambar sub-basin till the Cauvery Management Board is constituted and the consent of the Government of Tamil Nadu is obtained. The Prime Minister was also requested to immediately intervene in this matter and to constitute the Cauvery Management Board and the Cauvery Water Regulation Committee for the effective implementation of the Final Order of the Tribunal.

An I.A. has been filed in the Supreme Court on 28.11.2014 (I.A No. 2 of 2014 in C.A No.2454 of 2007), among others, to restrain the Government of Kerala from proceeding with the construction of Dam across the river

Pambar at Pattisserry and to maintain status quo.

Tamil Nadu Legislative Assembly on 5.12.2014 passed a resolution to the effect that the Government of India should advise the Government of Kerala not to take up any construction works for a new reservoir across the river Pambar at Pattisserry and till the Cauvery Management Board is constituted and comes into effect and also that without the concurrence of the Government of Tamil Nadu, no scheme should be taken up for execution by the Government of Kerala. The resolution of the Legislative Assembly was forwarded to the Prime Minister on 12.12.2014.

The Government of Kerala has informed the Government of India that the proposed construction is only a restoration of the existing check dam and storage is only 0.035 TMC ft. and not 2 TMC ft as reported in the media. The I.A. is pending in the Supreme Court.

### **5.1.9. Suit filed by Tamil Nadu in the Supreme Court against Karnataka for claiming compensation due to non-release of water due to Tamil Nadu in 2012-2013**

During the irrigation season 2012-2013, even though the South West Monsoon commenced on 05.06.2012, it was below normal and did not intensify in the catchment area of Cauvery. The Government of Karnataka as usual impounded all the flows in its Reservoirs. The supplies due to Tamil Nadu either as per the Interim Order or as per the Distress Sharing Formula evolved by the Central Water Commission (CWC) and accepted by the Cauvery Monitoring Committee were not released to Tamil Nadu.

Due to the untiring efforts of **the Hon'ble Chief Minister**, 69.7 TMC ft. of water was realized at Mettur Dam during the year 2012-2013.

As non-release of stipulated quantity of water by Karnataka during the year

2012-2013, as ordered by **Hon'ble Chief Minister**, a Suit (O.S.No. 4 / 2013) has been filed in the Supreme Court on 09.05.2013, seeking directions to pay Damages of a sum of about Rs.1045.70 crores towards loss of crops, loss of bio mass and loss of power generation, to pass appropriate order directing the State of Karnataka to release 53.18 TMC ft. being the shortfall at Mettur Dam for the water year 2012-2013 as computed on the pro rata formula and to pay punitive Damages of Rs.1434 crores for deliberate non-compliance of the decision passed by the Tribunal.

The Supreme Court ordered to list the matter on 16.08.2016 for framing issues.

### **5.1.10. Letting Sewage into Cauvery and Pennaiyar by Karnataka**

News item appeared in the "Bangalore Mirror" on 30.03.2015 that the Karnataka Minor Irrigation Minister has stated that Karnataka is

letting down 593 MLD of Sewage water in Arkavathy (which is a tributary of Cauvery) and 889 MLD in Pennaiyar.

The CWC is regularly testing the water quality of Cauvery at Billigundulu. The CWC was also addressed on 16.04.2015 to regularly test the quality of water of Pennaiyar at its entry point into Tamil Nadu as is being done in Cauvery. Even though the CWC replied that Tamil Nadu's request for establishing a new water quality site is being explored, the Ministry has been again requested on 07.07.2015 to take this up immediately.

The Central Pollution Control Board Zonal Office South had taken three samples from river Pennaiyar, 2 km upstream of the entry point of Tamil Nadu from September 2014 to February 2015 which were analysed in the Zonal laboratory at Bengaluru. The test results revealed that BOD varied from 19.7 to 32 mg per litre and fecal coliform varied from 38,400 to

7,80,000 MPN / 100ml (Most probable number per 100 ml) which is highly alarming.

Tamil Nadu also obtained samples on 25.4.2015 from two locations in the two rivers. The samples were collected by the State Pollution Control Board's Laboratory at Hosur and the report revealed alarming results and some of the elements namely the DO, BOD, fecal coliform and total coliform are far above the tolerance limits prescribed for inland surface water by Bureau of Indian Standards IS: 2296-1982.

In the mean while, one Thiru. K. Sudhan of Chennai has filed an application before the National Green Tribunal, (Southern Zone) Chennai, regarding the sewage let into the rivers of Pennaiyar and Cauvery. On 27.07.2015, the Central Pollution Control Board has filed its Counter, and Tamil Nadu filed its Reply Affidavit on 14.10.2015 in the

NGT. This will be heard in the Tribunal soon.

In view of the huge damage and suffering likely to occur to Tamil Nadu and its inhabitants due to letting in of sewage and industrial effluents in Cauvery and Pennaiyar by Karnataka, based on the orders of **the Hon'ble Chief Minister**, Tamil Nadu filed an Original Suit in the Hon'ble Supreme Court on 05.06.2015 to pass a judgement and decree of :-

- I. permanent injunction restraining Karnataka and its instrumentalities from letting the untreated sewage and industrial effluents into the river Cauvery and Pennaiyar and in their main stream and tributaries and all other streams contributing water directly or indirectly before the same enters Tamil Nadu without ensuring that the water let into the river Cauvery and Pennaiyar conforms to the standard prescribed for discharge of effluent water into rivers by the competent statutory authority;

- II. issue a mandatory injunction directing Karnataka to cleanse the waters of Cauvery river and Pennaiyar river before they enter the border of Tamil Nadu and make them pollution free and adopt effective cleansing and treatment technology methods to remove the sludge at the point where the effluents are discharged into the Cauvery and Pennaiyar rivers.

An I.A. has also been filed on the same date praying to

- (i) grant ad interim ex-parte order directing the Union of India to constitute a Monitoring Committee comprising of officials of the Ministry of Environment, Forests and Climate Change and representatives of both Tamil Nadu and Karnataka to monitor that the discharge of effluents into the Cauvery and Pennaiyar rivers before the same enter the Tamil Nadu border conforms to the standard

prescribed for discharge of effluent water into rivers by the competent statutory authority;

- (ii) grant ad interim ex-parte temporary injunction restraining Karnataka and its instrumentalities from letting untreated sewage and industrial effluents into the Cauvery and Pennaiyar rivers, directly or indirectly before the same enter Tamil Nadu without ensuring water let into the river conform to the standard prescribed for discharge of effluent water into rivers by the competent statutory authority.

Karnataka has filed Written Statement in the Supreme Court on 28.03.2016. When the matter came up for hearing on 29.04.2016, the Court has permitted Tamil Nadu to file its Replication, which will be filed soon.

## **5.2. Mullai Periyar Dam**

**5.2.1.**The Periyar Project was executed by virtue of the Lease Deed signed between the Maharaja of Travancore and Madras Presidency on 29.10.1886. This deed is for 999 years with effect from 01.01.1886. About 8000 acres has been demised on payment of lease rent. About 2.20 lakh acres are benefited by this Project in the Districts of Theni, Dindigul, Madurai, Ramanathapuram and Sivagangai and on an average 22 TMC.ft. of water is diverted and utilised in a year.

**5.2.2.**Thereafter, two supplemental agreements were entered into between Kerala and Tamil Nadu in the year 1970. One is for increasing the annual lease rent from Rs.5 to Rs.30 per acre subject to revision in every 30 years and surrendering fishing rights in the Periyar Lake to Kerala. By another supplemental Agreement, Tamil Nadu is to generate hydro electric power on payment of certain charges to Kerala.



These are executed as successors in interest to the Principal Deed of 1886. However, the basic character of the principal deed of 1886 was not changed.

**5.2.3.**In 1979, certain apprehensions were raised in the Malayalam dailies about the safety of the Mullai Periyar Dam. The Chairman, Central Water Commission inspected the Dam on 23.11.1979 and declared that there was no imminent danger to the Dam. On 25.11.1979, a meeting was held at Trivandrum by the Chairman, CWC, with the officers and Engineers of both the States. In that meeting, it was decided to execute certain strengthening works under three stages, viz., Emergency measures, medium term measures and long term measures to bring the Dam to the modern standards. To facilitate execution of the emergency and medium term works, it was decided to bring down the water level **temporarily** from the FRL of 152 ft. to

136 ft. During 1980-1994, the strengthening works were executed and completed. However, the Government of Kerala insisted that the water level in the Mullai Periyar Dam should continue to be maintained at 136 ft. even after the completion of strengthening works.

**5.2.4.**In the Writ Petition filed in the Supreme Court along with the connected matters, the Supreme Court pronounced its judgment on 27.02.2006, which permitted the Government of Tamil Nadu to raise the water level from the temporarily brought down level of 136 ft. to initially 142 ft. and also to carry out the remaining strengthening measures as suggested by the Central Water Commission, viz., to the Baby Dam and Earthen Dam. The Supreme Court also held that the State of Kerala and its officers are restrained from causing any obstructions for carrying out the balance strengthening works. The Supreme Court in the same Order

stated that after the strengthening works are completed to the satisfaction of the Central Water Commission and examination by the independent Experts, the water level is permitted to be raised to 152 ft. (FRL).

**5.2.5.** Soon after the Supreme Court pronounced its judgment, the Government of Kerala amended its Kerala Irrigation and Water Conservation Act, 2003 known as "Kerala Irrigation and Water Conservation (Amendment) Act, 2006" on 18.03.2006, to thwart the Supreme Court's Order and fixed the FRL of Mullai Periyar Dam as 136 ft. As ordered by **the Hon'ble Chief Minister**, the Government of Tamil Nadu filed a Suit (O.S.No.3 of 2006) in the Supreme Court on 31.03.2006 praying to declare "The Kerala Irrigation and Water Conservation (Amendment) Act, 2006" as unconstitutional in its application and effect on Mullai Periyar Dam. When the case came up for hearing on

10.11.2009, the Supreme Court ordered as below.

*"That the contesting parties shall maintain "Status quo" in respect of Mulla Periyar Dam as existing on that date and the order of "Status quo" will not be an impediment for Tamil Nadu to carry out maintenance and repairs for proper upkeep of the said Dam".*

**5.2.6.** The 5 Members Constitutional Bench which was later formed, heard the Suit from 20.01.2010 onwards. On 18.02.2010, the Supreme Court ordered the formation of an Empowered Committee, consisting of 5 Members, including the Chairman, Dr.A.S.Anand, Former Chief Justice of India. The Committee was requested to analyse all the issues except legal aspects and to submit a report as far as possible within six months.

**5.2.7.** In the meanwhile in order to convey consensus view on the Mullai Periyar Dam issue, the special session of Legislative Assembly was held on

15.12.2011 and the following unanimous Resolution was passed in the Legislative Assembly, and sent to the Government of India on 16.12.2011 for immediate action:-

*"The Tamil Nadu Legislative Assembly resolves that the Supreme Court, after hearing the arguments of the Governments of Tamil Nadu and Kerala, examining the reports of experts and based on the conclusion that the Mullai Periyar Dam is safe, ordered on 27.2.2006 that the water level in the Dam be raised from 136 ft to 142 ft. After completion of remaining work of strengthening of the Dam, the water level can be raised to 152 ft. With utter disregard to this order and the spirit of the Constitution of India, the Government of Kerala enacted the "Kerala Irrigation and Water Conservation (Amendment) Act, 2006" and when a Suit against this amended Act is pending in the Supreme Court, the Government of Kerala, contrary to truth, carries on propaganda to create*

*panic among its people about the safety of the Mullai Periyar Dam and while stressing the demand for the construction of a new Dam, a resolution was passed by the Government of Kerala in the Kerala Legislative Assembly on 09.12.2011 for lowering the water level to 120 ft. Though this has to be vehemently condemned, since it will not be right approach to condemn the Kerala Legislative Assembly, which is a Constitutional set up, it is proposed to convey the deep anguish of the people of Tamil Nadu on that Resolution;*

*"That due to the untruthful propaganda by the Government of Kerala regarding the safety of the Mullai Periyar Dam, the Central Government should immediately deploy the Central Industrial Security Force in that area";*

*"That in order to honour the decision of the Supreme Court for raising the water level to 142 ft., the Government of Kerala should make appropriate amendment to its "Kerala Irrigation*

*and Water Conservation (Amendment) Act, 2006”;*

*“That the Government of Kerala should not obstruct Tamil Nadu from carrying out the remaining long term strengthening works so as to raise the water level of the Dam to 152 ft.”;*

*“And that the rights of Tamil Nadu will not be given up under any circumstances.”*

**5.2.8.The Hon’ble Chief Minister** in the Memorandum presented to the then Prime Minister on 25.12.2011 in Chennai, among others, urged for advising Kerala to honour the orders by the Supreme Court dated 27.02.2006; making appropriate amendments to its Kerala Irrigation and Water conservation (Amendment) Act, 2006, and not to venture upon the construction of a new Dam as the retrofitted Mullai Periyar Dam is functioning well.

**5.2.9.**In the meantime the Empowered Committee carried out the Investigations, Tests and Studies (ITS) on Mullai Periyar Dam and submitted its Report to the Supreme Court on 25.04.2012. The Empowered Committee concluded that the Dam is hydrologically, structurally and seismically safe for raising the water level to 142 ft and that the proposal to build a new Dam requires reconsideration by Kerala.

**5.2.10.**The final arguments of the Suit commenced on 23.07.2013 and continued for 10 days in various stages and concluded on 21.08.2013. The five Member Constitution Bench of the Supreme Court delivered the judgement in the Suit (O.S No.3 of 2006), on 07.05.2014, which is a historic judgement.

**Salient aspects of the Judgment:**

1. The Lease Deed executed between the Government of Travancore and the Secretary of State for India in

Council on 29.10.1886 is valid and binding on the State of Kerala and it is enforceable by Tamil Nadu against the State of Kerala.

2. The State of Kerala is estopped from raising the plea that the lease deed dated 29.10.1886 has lapsed, in view of the Supplemental Agreements dated 29.05.1970.
3. The impugned "Kerala Irrigation & Water Conversation (Amendment) Act, 2006" enacted by the State of Kerala interferes with the judicial process and functions. The amended Act of Kerala is unconstitutional in so far as Mullai Periyar Dam is concerned.
4. Kerala cannot say that the 2006 judgment of Supreme Court is without jurisdiction and not binding.
5. The finding recorded by it in the earlier Writ Petition (W.P. (Civil) No. 386 of 2001) under Article 32 on 27.02.2006 and in the O.S. No. 3/2006 under Article 131 on 07.05.2014 is binding on the two States.

6. The River Periyar is an Inter-State River.
7. The Mullai Periyar Dam has been consistently found to be safe, first, by the Expert Committee (2001) and then by the Supreme Court (2006). The hydrological, structural and seismic safety of the Mullaperiyar Dam has also been confirmed by the Empowered Committee (2012).
8. The offer made by Kerala for the new Dam cannot be thrust upon Tamil Nadu.
9. The State of Kerala is restrained by a decree of permanent injunction in any manner interfering or obstructing the State of Tamil Nadu from increasing the water level to 142 ft. and for carrying out the repair works as per the judgment dated 27.02.2006.
10. To allay the apprehensions of Kerala, though none exists, a 3 Member Supervisory Committee is constituted with a representative of Central Water Commission as

Chairman and one representative from each State. The Committee shall supervise the raising of the water level to 142 ft. in the Mullai Periyar Dam.

**5.2.11.**The State of Kerala filed a Review Petition on 30.06.2014 in the Supreme Court to Review the judgment dated 07.05.2014 passed by the Supreme Court in O.S.No.3 of 2006. On 02.12.2014, the Supreme Court rejected the Review Petition for hearing in open Court and ordered that, on going through the Review Petition and the connected papers, held that there is no reason to interfere with the order and dismissed it.

**5.2.12.**The State of Kerala also filed an Application in the Supreme Court on 15.11.2014 seeking Clarifications and or guidance on the Judgement dated 07.05.2014 of the Supreme Court in O.S.No. 3 of 2006 relating to storage level in the reservoir and operation of

the gates. This I.A was disposed of as withdrawn on 20.02.2015.

### **5.2.13. Supervisory Committee**

In the Memorandum presented by **the Hon'ble Chief Minister** to the Prime Minister on 03.06.2014, the need to immediately constitute the Supervisory Committee, as ordered by the Supreme Court on 07.05.2014 was emphasized. Accepting the request of **the Hon'ble Chief Minister**, the Government of India on 18.06.2014 decided to form the Supervisory Committee. The Government of India, Ministry of Water Resources on 01.07.2014 constituted the Supervisory Committee. The Committee had met so far 9 times since its constitution and lastly it met on 07.07.2016.

### **5.2.14. Sub - Committee**

As decided in the 2<sup>nd</sup> meeting of the Supervisory Committee on 17.07.2014, a Sub-Committee was constituted on 13.08.2014 to assist the Supervisory

Committee with the Executive Engineer, South Western Rivers Division, CWC as Chairman and two Members each from both the States. The function of the Sub-Committee is to scrutinize all data for close monitoring of the Dam. However, it has no powers to issue any direction to any party. So far, eighteen meetings have been held and the last one was held on 01.07.2016.

**5.2.15. The water level in the dam reached 142 ft on 21.11.2014 which is a historic event, after almost a span of 35 years, since the shutters were raised in the year 1979 to facilitate carrying out the strengthening works. The rights of farmers and of the people of Tamil Nadu to store water in the Dam initially to 142 ft., have been restored because of long legal battle and the timely efforts taken.**

**Further, for the second time on 07.12.2015, the water level reached +142 ft.**

**5.2.16.** The Legislative Assembly on 04.12.2014 lauding the strenuous and tireless efforts of **the Hon'ble Chief Minister** in attaining the historic achievement of storing water initially to +142 ft. at Mullai Periyar Dam, unanimously passed a resolution to the effect that the Government of India shall appropriately advise the Government of Kerala to co-operate with the Government of Tamil Nadu in carrying out the remaining strengthening works as directed by Supreme Court.

**5.2.17. Balance Strengthening works to be carried out to restore the water level to + 152 ft (FRL)**

The balance works suggested by Central Water Commission, recommended by Expert Committee (2000) and ordered by the Supreme Court in its Order dated 27.02.2006

which has been reiterated by the Empowered Committee (2010) and by the Supreme Court in its Order dated 07.05.2014 for raising the water storage level in the Dam up to +152 ft. are -

- i) Strengthening the Baby Dam including instrumentation
- ii) Strengthening the earthen bund
- iii) Protecting the earth mound (the upstream side of island between Main Dam and Baby Dam)
- iv) Protecting the upstream side of the Island between Main Dam and spillway and reservoir. The pitching work up to RL +165.00 ft. shall be extended to the downstream side of the Dam up to the abutments and
- v) Raising the upstream parapet wall from + 158 ft. to +160 ft. of the Main Dam in the remaining length of 20 metres.

**5.2.18.**For carrying out the strengthening works of Baby Dam and allied works, the Government have accorded Administrative Sanction for an amount of Rs.7.85 crores. Further, to facilitate carrying out the works early, orders were issued on 17.07.2015 to split into 8 works. Further to this, tenders have been finalised in respect of 4 works and Agreements drawn. To form an approach road to the Baby Dam, 23 trees have to be felled down. Necessary proposals were uploaded through online for Wildlife clearance & Environmental Clearance and they are under consideration in the respective Departments. **The Hon'ble Chief Minister** in the Memorandum presented to Prime Minister on 14.06.2016 has requested to issue instructions to the concerned authorities to expedite the necessary clearances. In this regard, continuous efforts are being undertaken to obtain the necessary clearances from the Government of India.



### **5.2.19. Repair & Maintenance works**

The Supreme Court, in its Order dated 23.07.2012, permitted Tamil Nadu to carry out repairs in the Vallakadavu – Mullai Periyar Dam site forest road subject to clearance from Ministry of Environment and Forest and other statutory authorities. The Government of Tamil Nadu is taking efforts to obtain forest clearance.

**5.2.20.** Regarding the resumption of power supply to the Dam site, to enable to lay underground cable, diversion of forest land of about 0.25 ha. in Periyar Wildlife Sanctuary / Tiger Reserve of Kerala is required. For that, the Green Bench of the Supreme Court in August 2014, gave its clearance. For restoration of power supply, the Government of Tamil Nadu has so far paid a sum of Rs.1.65 crore to the Kerala State Electricity Board. The Government of Tamil Nadu is pursuing the matter continuously with the Government of Kerala in this regard.

### **5.2.21. EIA study by Kerala for the proposal of Kerala for the construction of new dam, opposed by Tamil Nadu**

The Supreme Court held that the offer made by Government of Kerala for construction of new dam can not be thrust upon Tamil Nadu. Irrespective of that, the Government of Kerala had obtained clearance suo moto from the Standing Committee of National Board for Wildlife (NBWL) of Ministry of Environment and Forest (MoEF) for conducting an Environmental Impact Assessment (EIA) study for new Mullai Periyar Dam in a 10 km radius of the proposed dam site.

**5.2.22.** The Hon'ble Chief Minister on 13.12.2014 had urged the Prime Minister to direct the MoEF to withdraw the clearance given by the Standing Committee of NBWL for the EIA study and requested not to act upon any such request made by the Government

of Kerala. In this regard, on 07.05.2015, the Government of Tamil Nadu filed an I.A (No. 27 of 2015) praying to restrain the State of Kerala and its officials from conducting any drilling operation, investigation or survey work or any other work in connection with the New Dam proposal pursuant to the clearance dated 03.12.2014 and also direct the Ministry of Environment and Forests to withdraw the clearance given by the Standing Committee of the NBWL for the EIA study for construction of a new Mullai Periyar Dam by the Government of Kerala.

**5.2.23.**Contempt Notice was also issued to the Chief Secretary, Government of Kerala and Member Secretary, Standing Committee for NBWL of MoEF, GoI on 16.05.2015 on this issue.

**5.2.24.****The Hon'ble Chief Minister** in letter dated 10.06.2015 addressed to the Prime Minister of India, pointed out that the very fact of entertaining the

Government of Kerala's request and considering the same by the Government of India for approving the terms of reference to conduct and EIA Study for the construction of a new dam is itself a gross violation of the Decree and Order of the Hon'ble Supreme Court dated 07.05.2014 and requested to seek personal intervention and instruct the Ministry of Environment, Forests and Climate Change and its Agencies, to desist from entertaining and considering the proposal of the Government of Kerala in future and also to negative the proposal and return it to the Government of Kerala. In the meanwhile, the Ministry of Environment, Forests and Climate Change, in its letter dated 4.8.2015, has informed the Chief Engineer, Government of Kerala that the proposal for construction of new dam would be examined only as per the Decree and Order of the Supreme Court of India dated 7.5.2014 and it has decided to

close the file and delete the proposal from the Ministry's website.

**5.2.25.**In the above circumstances, when the case came up for hearing on 13.04.2016, it was ordered that I.A. No. 27 of 2015 is dismissed as infructuous. Thus, the unilateral action of the State of Kerala to proceed with the proposal of the construction of a New Dam or to conduct any study or investigation for that has been stopped, due to the persistent action taken by **the Hon'ble Chief Minister**.

**5.2.26. Construction of a Mega Car Park in the water spread area of Mullai Periyar Dam by the Government of Kerala**

The Government of Kerala has proposed a Mega car park in the water spread area of Mullai Periyar Dam. In this connection, two Applications were already filed before the National Green Tribunal (Southern Zone) by residents of Kerala, opposing the construction of Mega Car Park by the Government of

Kerala. The Government of Tamil Nadu prayed before the National Green Tribunal on 04.09.2014 to implead as a Party Respondent and also prayed to pass an order of injunction restraining the authorities concerned from proceeding with any construction, earth filling or any related developmental activity in the area leased and in possession of the State of Tamil Nadu. This was accepted by the Tribunal and on 05.09.2014, the National Green Tribunal (Southern Zone) ordered a direction to the Deputy Director, Project Tiger, Thekkady of Kerala to maintain *status quo* by not making any further developmental or constructional activities in the Periyar Tiger Reserve in Idukki District till 26.09.2014 which included Periyar lake area also. On 29.09.2014, when the matter came up for hearing, the National Green Tribunal (Southern Zone) ordered that the *status quo* granted shall continue until further orders.

**5.2.27.** On 20.11.2014, when the case came up for hearing, the NGT observed that since there is a controversy as regards the factual aspect of the construction site, it constituted a 2 Member Committee, one member to be nominated by the Surveyor General of India, and the other by the Inspector General of Forests, Government of India to inspect the site and file a report. The two Member Committee inspected the area on 30.03.2015. On 02.07.2015, the Expert Committee filed its Report before the National Green Tribunal.

**5.2.28.** The Deputy Director, Periyar Tiger Reserve filed Affidavits before the National Green Tribunal (SZ), seeking to dismiss the original applications and to vacate the interim injunction and maintain status quo dated 05.09.2014 and further to dismiss the Application as the same cannot be sustained before this Hon'ble Tribunal either on legal grounds or on fact. The Government of Tamil Nadu filed a

Common Reply Affidavit and also an Affidavit conveying the objections / comments / remarks on the Inspection and Survey Report of the Expert Committee. When the matter came up for hearing on 26.07.2016 the Tribunal ordered to file an Affidavit by the Secretary, Ministry of Environment, Forest and Climate Change and posed the matter to 29.08.2016

**5.2.29. Suit filed in the Supreme Court:**

As ordered by the Hon'ble Chief Minister, the Government of Tamil Nadu has also filed a Civil Suit (O.S. No. 4 of 2014) on 26.09.2014 in the Hon'ble Supreme Court on the Mega Car park issue with the following prayer:-

“decree of permanent injunction restraining the Defendant State (Kerala) from trespassing/ encroaching upon the area leased to the Plaintiff State (Tamil Nadu) under the Agreement of 1886 and affirmed by the Supplemental

Agreements of 1970 and from taking up any further construction of the Mega Car Park in the leased area and to restore the land trespassed / encroached upon to its original state”,

An Interlocutory Application was also filed along with the Suit with the prayer:

“to grant ad- interim injunction restraining the respondent State of Kerala from taking up any further construction of the Mega Car Parking Project in the leased area under the Agreement of 1886, pending disposal of the Suit.

**5.2.30.**The State of Kerala on 01.10.2015 filed its Written Statement for the Civil Suit and I.A filed by the State of Tamil Nadu. The Government of Tamil Nadu filed an Application on 1.3.2016 in the Hon’ble Supreme Court for Amendment of Plaint praying to direct the State of Kerala to remove the encroachment as

referred to in the Map filed by the Survey of India, before the NGT, Chennai. The Replication of the State of Tamil Nadu to the written statement of Kerala was filed in the Hon’ble Supreme Court on 02.03.2016. This case is pending in the Supreme Court.

### **5.3. Palar River Water Issue**

**5.3.1.**The Inter – State River Palar which originates in Kolar District in Karnataka traverses through Chittoor District in Andhra Pradesh and runs through Vellore, Thiruvannamalai and Kancheepuram Districts in Tamil Nadu, before draining into the Bay of Bengal.

**5.3.2.**As per the Schedule – A of Madras – Mysore Agreement of 1892, Palar falls under the list of 15 important Inter - State rivers. As per the Agreement, the upstream State cannot construct any Dam structure or structures to impound the flow across the river and also divert the water without getting the concurrence of the downstream States.

**5.3.3.**When the media, on 04.01.2006, reported that the Government of Andhra Pradesh has proposed to construct a reservoir with a capacity of 0.6 TMC ft. across Palar at Ganesapuram in Kuppam Taluk in Chittoor District and works were to commence, **the Hon'ble Chief Minister** on 05.01.2006 pointed out the Agreement conditions of 1892 to the Chief Minister of Andhra Pradesh and urged him to drop the proposal. Following this, the Government of Tamil Nadu on 01.02.2006 requested the Government of India to take immediate action in advising the Government of Andhra Pradesh from executing any irrigation projects in violation of 1892 Agreement across the River Palar and also to stop such works. Since no reply was received and in order to protect the interests of people of Tamil Nadu, on the orders of **the Hon'ble Chief Minister**, the Government of Tamil Nadu filed a Suit on 10.02.2006 in the Supreme Court to restrain the Government of Andhra

Pradesh from undertaking any project across the River Palar or in its tributaries.

**5.3.4.**The Supreme Court in its Order dated 07.01.2008, ordered that the Government of India could consider the representation of Tamil Nadu and dispose it. The Government of Andhra Pradesh was also requested to be heard. The Government of India was given liberty to settle the dispute between the two States.

**5.3.5.**Following this, the Chairman, Central Water Commission held a meeting in New Delhi on 11.03.2008. After discussion, the Chairman, Central Water Commission requested the Government of Andhra Pradesh not to go ahead with the construction of the project before the issue is settled. It has been established that the Palar Basin is a deficit Basin by the study made by a joint study group constituted by Central Water Commission.

**5.3.6.**As ordered by the Supreme Court on 28.03.2011, the Secretary to Government of India, Ministry of Water Resources, convened a meeting on 26.05.2011 with the officials of the Government of Tamil Nadu and Andhra Pradesh. At the end of the discussion, he concluded that there was no possibility of any negotiated settlement and informed the Supreme Court accordingly.

**5.3.7.****The Hon'ble Chief Minister** in the Memorandum presented to the then Prime Minister on 14.06.2011 urged to advise the Government of Andhra Pradesh not to go ahead with any work relating to the construction of the proposed Reservoir by the Government of Andhra Pradesh across the River Palar.

**5.3.8.**In the meantime, the Supreme Court framed 7 issues to decide the Suit. When the Suit came up for hearing on 4.07.2011, the Court requested the parties to list the witnesses. The

Government of Tamil Nadu and Government of Andhra Pradesh have nominated their witness and their Affidavits were filed in the Supreme Court.

**5.3.9.**When media projected that the Government of Andhra Pradesh has decided to construct a reservoir across the River Palar, on 20.06.2014, the Government of India was informed that since the Suit is pending before the Supreme Court and the matter is sub judice, the Government of Andhra Pradesh may be advised not to execute any project across the River Palar or in its tributaries till the Suit is disposed of by the Supreme Court.

**5.3.10.**The cross-examination of Tamil Nadu witness was held on 12<sup>th</sup> and 13<sup>th</sup> November, 2013, 30<sup>th</sup> January, 2015, 28<sup>th</sup> and 29<sup>th</sup> January 2016, 31<sup>st</sup> March and 1<sup>st</sup> April 2016. Further, cross-examination of Tamil Nadu witness is scheduled to be continued. After the conclusion of cross-examination of the

witnesses and the arguments and counter arguments of both the States, the Supreme Court is expected to deliver the judgement.

**5.3.11.**In the meantime, there were news paper reports that the Government of Andhra Pradesh has increased the height of the Check dam across Palar river at Perumpallam Village, in Chittoor District near the Andhra Pradesh-Tamil Nadu border, from the existing height of 5 ft. to 12 ft. **The Hon'ble Chief Minister** immediately on 1.7.2016 addressed the Chief Minister of Andhra Pradesh stating that this has caused a great anguish among the people of Tamil Nadu, and lodged a strong protest against the action of the Government of Andhra Pradesh in having unilaterally increased the height of the existing check dam and requested to intervene immediately and issue instructions to the officials concerned to take urgent steps to reduce the height of the Check dam to its original height.

**5.3.12.**Meanwhile, there were reports that the Government of Andhra Pradesh, has increased the height of 3 more check dams across the river Palar situated within the limits of the State of Andhra Pradesh. The Government of Tamil Nadu lodged its strong protest against the action of the Government of Andhra Pradesh, on 11.07.2016 and requested to immediately reduce the height of the check dams to the original level, not to store water additionally, and not to carry out any construction activities in violation of the Madras-Mysore Agreement, 1892.

**5.3.13.**Government of Tamil Nadu, in the letter dated 11.7.2016 has also requested the Ministry of Water Resources, River Development and Ganga Rejuvenation, Government of India to immediately intervene in the matter and issue immediate instruction to the Government of Andhra Pradesh.

**5.3.14.**Since no reply has been received either from the Government of Andhra



Pradesh or from Ministry of Water Resources, on the orders of **the Hon'ble Chief Minister**, a suit along with an I.A. has been filed in the Supreme Court on 18.07.2016. In the suit, it was prayed to restrain the unilateral action of Government of Andhra Pradesh in having raised the height of the check dams and in having constructed new check dams across the river Palar and its tributaries without obtaining prior consent of Tamil Nadu which are illegal and also infringe the fundamental rights of the inhabitants of this State.

#### **5.4. Parambikulam Aliyar Project - Review of Agreement**

**5.4.1.**The Parambikulam Aliyar Project, a multi-valley, multi purpose, mammoth project, was planned, designed and executed by the Government of Tamil Nadu as one of the Second Five Year Plan Projects (1955 - 1960), with the consent and co-operation of the Government of Kerala for sharing

mutual benefits through the utilization of flows in the rivers of Anamalayar, Nirar, Sholayar, Parambikulam, Peruvuripallam, Thunakadavu, Palar and Aliyar and the streams flowing into them, for generation of Hydro Electric Power, irrigation, drinking water supply and industrial use in both the States. An agreement between the Government of Tamil Nadu and Kerala was entered into on 29.05.1970 with retrospective effect from 09.11.1958. The Taluks of Pollachi, Palladam, Udumalpettai and Dharapuram in the Districts of Coimbatore, Tiruppur and Erode are benefited. The Palakkad and Trichur Districts of Kerala State are also benefited. This Agreement was due for review on 09.11.1988 and thereafter once in 30 years. Accordingly, both the Governments exchanged the documents for review on 21.09.1989 and since then held several Inter-State discussions for completing the first review of the Agreement.

**5.4.2.**In the Minister level meeting held between Governments of Kerala and Tamil Nadu on 10.06.2002 at Chennai, a decision was taken to constitute a Technical Committee comprising of Engineers from both the States to first identify the areas where amendments may be required in the Agreement and to facilitate the review at the Government level. The Technical Committee which was constituted, submitted its Report in May, 2003. The Report was discussed in the subsequent Inter-State meetings.

**5.4.3.**In the Chief Secretary level meeting held on 21.01.2011 at Thiruvananthapuram, the following decisions were taken for further follow up action:-

**5.4.3.1. A)Anamalayar - Diversion of 2.5 TMC ft. of water from Anamalayar to Tamil Nadu**

There is a provision to divert 2.5 TMC ft of water from Anamalayar, as per the Agreement.A Supplementary

Agreement is to be executed for this project. Since Kerala contends that the Idamalayar Project has not been completed, the above diversion is yet to be implemented. Kerala proposed to execute the project by itself and sent the combined feasibility report for the "construction of Dam across Anamalayar below the confluence point of Italiar for diversion of 2.5 TMC ft. to Lower Nirar Dam and to divert the balance water to Manali Ar for Hydro Power Generation (2x50 MW)", to Tamil Nadu on 18.06.2013. On receipt of some necessary further details from the Government of Kerala, suitable action will be taken.

**5.4.3.2. B)Balancing reservoir above Manacadavu Weir (0.50 TMC. ft. Capacity)**

Kerala is not agreeable to the proposal of Tamil Nadu for constructing a reservoir of capacity 0.50 TMC ft. above the existing Manacadavu Weir to regulate the flows to Kerala. It was

explained that its requirement for additional quantity of water at Manacadavu weir over 7.25 TMC ft., can be examined by Tamil Nadu only if Kerala gives concurrence for the Balancing Reservoir.

#### **5.4.3.3. C) Nirar - Nallar Straight Cut**

The scheme envisages formation of a reservoir (7 TMC ft. capacity) across Nallar for diversion of water from Upper Nirar weir directly to Nallar by means of a tunnel and also generation of (35 MW + 230 MW) Hydro power. By this scheme, an alternative to the present circuitous route i.e., from Upper Nirar to Sholayar reservoir, then to Parambikulam reservoir and Thirumurthy reservoir is proposed, to directly feed the water into the Nallar stream and thereafter to Thirumurthy reservoir for irrigation. The conveyance length will, therefore, get reduced from about 85 km to 20 km. Tamil Nadu continues to reiterate that the scheme has to be implemented. But, Kerala

informed that this issue is outside the scope of the review of Agreement. However, efforts are being taken to obtain the consent of Kerala through negotiation.

**5.4.4.**A bilateral Minister level meeting was held on 28.04.2013 at Thiruvananthapuram to review the Agreement and it has been decided to review the above issues further.

The Government is also taking all possible steps to complete the first review of this Agreement quickly.

#### **5.5. Neyyar**

**5.5.1.**The Neyyar Irrigation Project, first and second stages were planned and executed by the Travancore – Cochin Government during the 1<sup>st</sup> and 2<sup>nd</sup> Five year plan periods (1950-1955 & 1955-1960). Due to the State Reorganisation in 1956, a portion of the ayacut localized to be served by this project to an extent of 9200 acres lying in the Vilavancode taluk got

transferred to Madras State (Tamil Nadu) and forms part of Kanniyakumari District. The canal works required to feed this ayacut, were executed by the State of Tamil Nadu with the approval of the Government of India and the Government of Kerala, under the Second Five Year Plan. The project is in operation from the year 1965.

**5.5.2.**Through the Left Bank Canal of the project, the Government of Kerala was supplying water to the area of Tamil Nadu, through the Madras Regulator. The supply of water was very much below the designed discharge of 150 cusecs. The supply was made up to February, 2004 and thereafter, the Government of Kerala abruptly stopped the supply of water.

**5.5.3.**After the Re-organisation of State in 1956, the Government of Kerala sought the concurrence of the Madras Government for sharing the cost of the project as proposed by it in 1957. The

amount to be shared by Tamil Nadu was also agreed by the Government of Kerala on 01.02.1965. Accepting Kerala's claim, the Government of Tamil Nadu suggested in 1971 that an agreement is to be entered into with the Government of Kerala regarding the sharing of capital and maintenance cost and supply of water to Tamil Nadu ayacut and this has been in correspondence since then. Even though the Government of Kerala agreed on the sharing of cost etc., it did not concede to the request of Tamil Nadu for entering into an agreement on the lines suggested by Tamil Nadu. In 1999, Kerala took the stand that since Neyyar is not an inter-State river, it would not be necessary to conclude an agreement. This was the first occasion when the Government of Kerala raised the issue that Neyyar is not an inter-State river.

**5.5.4.**In the meanwhile, when the Government of Tamil Nadu sought the intervention of the Government of

India and corresponded continuously, the Government of India in 2003, requested the Government of Tamil Nadu to continue the bilateral discussion held on 13.2.2003 for amicably resolving the issue with the help of Central Water Commission whenever required. After prolonged correspondence, in 2007, the Government of Kerala stated that as per the Resolution passed in the Kerala Legislative Assembly on 18.10.2006, water will be supplied to Tamil Nadu from the Neyyar Dam after realizing the value of the water so given. Tamil Nadu took the stand that since Neyyar is an Inter-State river, as per Section 7 of the Inter State River Water Disputes Act 1956, the question of paying any seigniorage or additional rate or fee (by whatever name called) in respect of the use of such water by any other State or the inhabitants thereof will not arise.

**5.5.5.**In the meantime, the Government of India was again requested to intervene

in this matter, for resolving this issue. As there was no positive response from the Government of India and also since no agreement could be reached with the Government of Kerala, as ordered by **the Hon'ble Chief Minister**, a Suit was filed in the Supreme Court on 30.05.2012 praying to direct Kerala to release water from Neyyar Dam for irrigation in Tamil Nadu. An Interlocutory application was also filed praying to direct the State of Kerala to supply water forthwith to the State of Tamil Nadu. When the case came up for hearing on 07.02.2014, the Bench permitted Tamil Nadu to file the response to Kerala's application and the Government of India to file its Written Statement. Accordingly, additional documents and the reply of State of Tamil Nadu to the application filed by Kerala were filed on 09.05.2014 and 15.09.2014 respectively. The suit is pending before the Supreme Court.

**5.5.6.**In the memorandum presented by **the Hon'ble Chief Minister** to the Prime Minister on 03.06.2014, it was requested to direct the Government of Kerala to restore water supply to Tamil Nadu from Neyyar Dam to irrigate 9,200 Acres of land in Vilavancode Taluk of Kanniyakumari District. **The Hon'ble Chief Minister** in the Memorandum presented to Prime Minister on 07.08.2015 once again urged to instruct the Government of Kerala to restore water supply to Tamil Nadu from Neyyar dam.

**5.5.7.**The Government of Tamil Nadu on 07.01.2016 addressed the Government of India reiterating that Neyyar is an Inter – State river and Kerala is bound to supply water from Neyyar dam to the ayacut in Tamil Nadu and requested Government of India to advise the Government of Kerala to restore water supply from Neyyar dam to the ayacut in Vilavancode Taluk of Kanniyakumari District, Tamil Nadu without further delay.

**5.5.8.**Tamil Nadu Government is taking all efforts to get water from Neyyar Dam and to safeguard the interest of the farmers of Vilavancode Taluk, and to protect the rights of Tamil Nadu.

## **5.6. Shenbagavalli Anicut**

**5.6.1.**Shenbagavalli Anicut is a small diversion Anicut built at the junction of two streams viz., Puliampattithodu and Chokkampattithodu in Periyar Basin lying in Kerala State limits just to the west of Tamil Nadu border. This anicut is reported to be in existence since 1773 AD and it diverts flows to mainly two tanks namely Kulashekhara Periya Kulam and Raisinge Periya Kulam in Sivagiri Taluk of Tirunelveli District through a channel, namely, Kanyamadagu channel which is 4400 ft (1341m) long. About 10,924 acres in Tirunelveli and Virudhunagar Districts are being irrigated.

**5.6.2.**Due to remote location in forest, the channel was in dilapidated condition.

The repairs were done by the Government of Tamil Nadu in 1959-1962 at an estimated cost of Rs.3.25 Lakhs. Again when the channel breached in 1971, as per the estimates of the Government of Kerala for Rs.10.20 lakhs, a sum of Rs.5.15 lakhs which is 50% of the estimated cost was deposited to the Government of Kerala, during 1986 to enter in to a contract and complete the repair works.

**5.6.3.** However, the deposit amount was refunded by the Government of Kerala, in December, 2005 stating that Kerala could not undertake the repair works of the Shenbagavalli Anicut due to the objections raised by the Forest Department, as it is situated in the core zone of the Periyar Tiger Reserve.

**5.6.4.** The Sivagiri Vivasayigal Sangam filed a Writ Petition in the High Court of Madras, (WP No.1274 / 2006) seeking issuance of writ of mandamus directing the Governments of Tamil Nadu and Kerala to grant necessary sanctions

and consequently carry out repair works to the Kanyamadugu channel and Shenbagavalli anicut. The High Court passed an ex-parte order on 20.07.2006 directing the Government of Kerala to reconsider its decision. However, the Government of Kerala reiterated its earlier decision.

**5.6.5.** The intervention of the Government of India, has been sought on 01.08.2011 with a request to advise the Government of Kerala to carry out the repair works either by Kerala or by Tamil Nadu and that if the Government of Kerala agrees to carry out the repair works, the cost will be reimbursed. But, the Government of India, Ministry of Water Resources on 19.02.2014, has requested Tamil Nadu to continue the bilateral discussion for amicably resolving all the bilateral inter-State issues including Shenbagavalli with the help of Central Water Commission wherever required. In the meanwhile, the Government of Kerala stated that the repairs to the Shenbagavalli anicut

could not be carried out till a decision is taken up in the Suit on Mullai Periyar Dam. Since the Suit was disposed of 07.05.2014, the Government of Kerala was addressed on 31.07.2014 to convey its concurrence to execute the repair works. Further the Central Water Commission, Government of India, in the letter dated 26.09.2014 also, addressed the State of Kerala requesting for a favourable response in the matter. The Government of Tamil Nadu is again persuading the Government of Kerala to give its concurrence.

**5.6.6.**The Government of Tamil Nadu is taking consistent efforts to repair the Shenbagavalli anicut and to protect the interest of the farmers fed by the Shenbagavalli anicut.

## **5.7. Pennaiyar River**

**5.7.1.**The River Pennaiyar originates at Nandidurg in Karnataka and flows through the States of Karnataka,

Andhra Pradesh, Tamil Nadu and Union Territory of Puducherry before confluencing into the Bay of Bengal.

**5.7.2.**The Pennaiyar River is an Inter State River and is also one of the rivers mentioned in Schedule-A annexed to the Madras-Mysore Agreement of 1892. As per Clause-II of this Agreement, the upstream State should not, without the previous consent of the downstream State, build any new Anicut or any structure to obstruct, divert or store the waters of the river across any part of the river.

**5.7.3.**The Pennaiyar River flows through the Districts of Krishnagiri, Dharmapuri, Tiruvannamalai, Villupuram and Cuddalore in Tamil Nadu and is the lifeline of the people living in these districts. The river irrigates nearly 4 lakh acres in Tamil Nadu.

**5.7.4.**When the Government of Karnataka had proposed to construct Check Dams and diversion structures across the



river Pennaiyar, **the Hon'ble Chief Minister** on 19.05.2012 had pointed out to the then Prime Minister that the attempt of the Government of Karnataka to construct the check Dams and diversion structures will withhold the flows of the river Pennaiyar and be a serious breach of Inter-State Agreement on this issue and that it will be a body blow to the farmers of Tamil Nadu, besides affecting the basic drinking water supply position. The Prime Minister was, therefore, requested to advise the Government of Karnataka to stop forthwith the execution of any check Dams or diversion structures etc., across the river Pennaiyar.

**5.7.5.**In the meanwhile, when the media reported that Karnataka has constructed a diversion structure at Mugalur in Karnataka limits for diversion of water through a canal to feed Lakkur tank for irrigation, **the Hon'ble Chief Minister** again on 27.03.2013 urged the then Prime

Minister to advise Karnataka not to venture upon any scheme in the Pennaiyar river without the prior consent of Tamil Nadu.

**5.7.6.**When the Government of Karnataka had decided to execute the check Dam across Markendaya Nadhi, a tributary of Pennaiyar river in Earkole Village to feed water to the villages of Earkole, Balamanda and Kamachandara and started preliminary works, in September 2013, the Government of Karnataka was requested to stop the all works till the Government of Tamil Nadu gives its consent to the schemes. Again when Karnataka has proposed to create infrastructure for obstruction / diversion of waters from the Pennaiyar river and also the check Dams, the Government of India, Ministry of Water Resources was requested in November, 2013, October, 2014, January, 2015 and February, 2015, to issue instructions to advise the Government of Karnataka not to take up any work or divert water without prior

concurrence of Tamil Nadu and if any projects are in progress, Karnataka may be advised to stop forthwith until such time the Government of Karnataka furnishes full details of schemes and the consent of Tamil Nadu is obtained.

**5.7.7.**The Government of India, Ministry of Water Resources, in March, 2015 has informed that the Central Water Commission visited the upstream basin areas in the inter-State border as well as Mugalur and Lakkur tank in Karnataka and it appears that there is no apparent breach of Madras-Mysore Agreement of 1892. Further, the Central Water Commission has not received any Detailed Project Report / proposal from the Government of Karnataka for the construction of check Dam across the Markendaya nadhi, a tributary of River Pennaiyar.

**5.7.8.**The media reported in March 2015 that Government of Karnataka is letting down untreated sewage and industrial

effluents into Cauvery and Pennaiyar rivers and its streams. A private litigant has filed an application (No. 103 of 2015) before the National Green Tribunal, Chennai, regarding the untreated sewage and industrial effluents letting into canals, channels or river courses that eventually join with river Cauvery and Pennaiyar rivers directly or indirectly, impleading Karnataka, Union Government and Government of Tamil Nadu. Among the respondents, the Central Pollution Control Board filed its reply on 27.07.2015 and the Government of Tamil Nadu has filed its reply on 14.10.2015. The Tamil Nadu Pollution Control Board has been instructed to monitor the quality of water flowing into Tamil Nadu at the border.

**5.7.9.**Tamil Nadu, filed an Original Suit O.S. No.2 of 2015, in the Hon'ble Supreme Court on 05.06.2015 and an I.A to pass a judgment and decree i.e., permanent injunction restraining Karnataka from letting the untreated

effluents into the river Cauvery and Pennaiyar, its main stream, tributaries and all other streams before the same enters Tamil Nadu. The suit is pending in the Hon'ble Supreme Court and it is likely to be taken up for hearing shortly.

**5.7.10.**The Government of Tamil Nadu is taking all efforts to protect the interest of the farmers fed by the river Pennaiyar and the people as a whole dependent on river Pennaiyar.

## **5.8. Inter Linking of Rivers**

### **5.8.1. Mahanadhi - Godavari - Krishna - Pennar - Palar - Cauvery - Vaigai - Gundar link**

**The Hon'ble Chief Minister** in the Memorandum presented to the Prime Minister of India on 03.06.2014 urged the Government of India to implement the inter linking of rivers, namely, Mahanadhi - Godavari - Krishna -

Pennar - Palar - Cauvery - Vaigai - Gundar and Pamba - Achankoil - Vaippar and pressed that the Special Committee, formed by the Government of India on 6.5.2013 as per the orders of the Supreme Court dated 27.02.2012, should be activated and all inter State rivers should be nationalised so that water resources of the country are optimally utilised.

**5.8.2.**The National Water Development Agency (NWDA) has prepared the feasibility report for interlinking of Mahanadhi - Godavari - Krishna - Pennar - Palar - Cauvery - Vaigai - Gundar. Under this scheme, Tamil Nadu is expected to get about 214 TMC ft. at the border and the additional area that could benefit by irrigation is estimated as 7.74 lakh hectares (19.13 lakh acres). DPR for this link is yet to be taken by NWDA and it is now conducting water balance study of Mahanadhi basin considering the recent developments.

**5.8.3.**Tamil Nadu has requested NWDA for enhancing the quantum of water proposed to be transferred to Tamil Nadu by atleast another 100 TMC.ft. Tamil Nadu also suggested an alternative alignment for the Pennar - Palar - Cauvery link, at a higher contour, so as to spread the benefits within the State equitably to the most needed areas. This is under the consideration of NWDA.

**5.8.4.**The Ministry of Water Resources, Rivers Development and Ganga Rejuvenation, Government of India, has constituted a Special Committee for Inter linking of Rivers and notified it in its Gazette dated 23.09.2014. The Government of Tamil Nadu's nominees in the Committee are:

- (1) Hon'ble Minister (Public Works), Government of Tamil Nadu.
- (2) The Secretary to Government, Public Works Department, Government of Tamil Nadu as a nominee of the Chief Secretary to Government of Tamil Nadu.

**5.8.5.**During the 10 meetings held on 17.10.2014, 06.01.2015, 19.03.2015, 14.05.2015, 13.07.2015, 15.09.2015, 18.11.2015, 08.02.2016, 29.04.2016 and 26.07.2016 Tamil Nadu had emphasised that the Inter Linking of Rivers Project should be taken up immediately as per the orders of the Supreme Court. In addition, the stand of the Government of Tamil Nadu on the following points was also presented to the Committee:-

- a) The Interlinking of Rivers Project should be implemented under National Perspective Plan as is being done in the case of Ganga Rejuvenation. Otherwise, the Interlinking of Rivers Project will be a non-starter.
- b) There is no need for consensus building in the implementation of Project, as it would only delay the Project implementation. The preparation of Detailed Project Report (DPR) for linking the Rivers of Mahanadhi – Godavari – Krishna

- Pennar - Palar - Cauvery - Vaigai  
- Gundar should be taken up  
without further delay.

- c) National Water Development Agency (NWDA) should be instructed to prepare the Detailed Project Report (DPR) for Pamba-Achankoil-Vaippar link immediately as feasibility report has already been prepared by NWDA.
- d) It was suggested that the Government of India through the Parliament can enact a law for implementing the interlinking of rivers project.
- e) It was also urged in the meetings that specific time bound action plan should be drawn by the Special Committee, so that this project of utmost National importance is implemented speedily and effectively without further loss of time.

**5.8.6.**In the meanwhile, **the Hon'ble Chief Minister** during the 1st meeting of the Governing Council of NITI AAYOG held

on 08.02.2015, urged the Prime Minister to bring the Ganga to the Cauvery and to implement the interlinking of the rivers Mahanadhi - Godavari - Krishna - Pennar - Palar - Cauvery - Vaigai and then on to Gundar.

**5.8.7.****The Hon'ble Chief Minister** in the Memorandum presented to the Prime Minister of India on 07.08.2015 urged the Government of India to implement the inter linking of rivers, Mahanadhi - Godavari - Krishna - Pennar - Palar - Cauvery - Vaigai - Gundar and Pamba - Achankoil - Vaippar, and pointed out that the request of nationalisation of all the inter - State rivers must be looked into seriously and implemented in a timebound manner.

**5.8.8.**The Minister of Water Resources, Rivers Development and Ganga Rejuvenation, on 08.01.2016, informed that, Government of Odisha is not agreeable to Mahanadhi - Godavari link, due to considerable submergence

involved. Alternate proposals with reduced submergence have been discussed with the Chief Minister of Odisha and the response of Government of Odisha is awaited.

**5.8.9.The Hon'ble Chief Minister** in the Memorandum presented to the Prime Minister on 14.06.2016 has pointed out that though the Special Committee has held 9 meetings so far, not much headway has been made in the matter of inter-linking of rivers and also urged to nationalize all the Inter- State Rivers so that water resources of the Country can be optimally utilised.

The Government of Tamil Nadu is taking all efforts to bring interlinking of Rivers Programme to a reality.

## **5.9. Pamba - Achankoil - Vaippar Link**

**5.9.1.**The NWDA has formulated the Pamba - Achankoil - Vaippar Link Project, which envisages diversion of 22 TMC.ft. which is only 20% of the surplus waters of Pamba and Achankoil rivers

of Kerala to Tamil Nadu to irrigate an ayacut of 91,400 hectares in the dry Taluks of Sankarankoil, Kovilpatti, Sivagiri, Srivilliputhur, Rajapalayam, Sattur and Tenkasi in Tamil Nadu. This project will also help to generate peak power of 500 MW for Kerala.

**5.9.2.**The Government of Tamil Nadu has given its acceptance during 1995 to the proposal. The Government of Kerala has not yet given its concurrence for this project.

**5.9.3.The Hon'ble Chief Minister** in the Memorandum presented to the Prime Minister of India on 03.06.2014 urged the Government of India to implement the inter linking of rivers and also Pamba – Achankoil – Vaippar link.

**5.9.4.**In the meetings of the Special Committee for Interlinking of Rivers, the Government of Tamil Nadu had emphasised that National Water Development Agency (NWDA) should be instructed to prepare the Detailed

Project Report (DPR) for Pamba-Achankoil-Vaippar link immediately.

**5.9.5.**The Hon'ble Chief Minister during the 1<sup>st</sup> meeting of the Governing Council of NITI AAYOG held on 08.02.2015 requested the Prime Minister to implement the diversion of waters of the west flowing rivers of Pamba and Achankoil to Vaippar.

**5.9.6.**The Hon'ble Chief Minister in the Memoranda presented to the Prime Minister of India on 07.08.2015 and 14.06.2016, has urged the Government of India, among others, to implement the Pamba - Achankoil - Vaippar link.

**5.9.7.**In the meanwhile, a Writ Petition (W.P. (MD) No. 5153 of 2014) has been filed in the Madurai Bench of the Madras High Court, praying to implement this project. The Government of Tamil Nadu filed the Counter Affidavit on 19.03.2015. It is to be taken up for

hearing in the Madurai Bench of the Madras High Court.

The Government of Tamil Nadu is taking all efforts through NWDA and Government of India to implement this Project.

## **6.0. SCHEMES UNDER IMPLEMENTATION**

### **6.1. CREATION OF NEW IRRIGATION INFRASTRUCTURE**

#### **6.1.1. Formation of New Reservoirs**

3 New reservoirs in Perambalur, Tiruvallur and Vellore Districts are under construction at an estimated cost of Rs.483.75 crore. In addition, investigation works at an estimated cost of Rs.0.10 crore are in progress for formation of a new reservoir in Krishnagiri District. By implementing these schemes an ayacut of 10,898 acres will be benefited.

The details of these works are as below:-

#### **Krishnagiri District**

- Surveying and levelling operations for detailed investigation at an estimated cost of Rs.0.10 crore for the proposed formation of a new Reservoir across Pennaiyar river at the confluence point of Chinnar river

at Vanioddu near Sikalapalli village in Hosur Taluk is in progress. By implementing this scheme an ayacut of 1,765 acres will be benefited.

#### **Perambalur District**

- Formation of New Reservoir across Marudaiyar River near Kottarai Village in Alathur Taluk at an estimated cost of Rs.124.20 crore is in progress. So far 23% of work has been completed.
- The storage capacity will be 211.58 Mcft. with an annual storage of 423.16 Mcft. in two fillings.

#### **Salient Features of this project**

- An extent of 4,194 acres of dry lands will be brought under cultivation in the 10 Villages of Kottarai, Adanur, Koothur, Nochikkulam, Thondapadi, Bhujangarayanallur, Alagiripalayam, Ariyalur, Gudalur and Sathanur.
- The total requirement of lands for this scheme is 1,116.33 acres which includes 893.39 acres of patta dry



lands and 222.94 acres of poromboke lands. Land Acquisition is in progress.

### **Tiruvallur District**

- **As ordered by the Hon'ble Chief Minister** a new reservoir at Kannankottai Village, is being formed at an estimated cost of Rs.330 crore by merging the existing two tanks viz., Kannankottai Hissa Rajaneri tank and Thervaikandigai tank. This is the first reservoir since independence to cater to the drinking Water Supply need of Chennai City. This reservoir would facilitate storing of about 1 TMC ft. of water in 2 fillings.

### **Salient Features of this project:**

- Forming a new Reservoir by combining Kannankottai and Thervaikandigai big tanks, by an earthen bund to a length of 7.15 km.

- Forming off-take canal from Kandaleru - Poondi canal at LS 2,200m to a length of 8,300m to convey Krishna water and store it in the new Reservoir.
- Providing assured irrigation facilities to the existing ayacut of 696 acres.
- The total requirement of lands for this scheme is 1,485.16 acres, which includes 800.65 acres Patta lands, 629.92 acres Poramboke lands and 54.59 acres Reserve Forest lands.
- Works are in progress in the acquired Patta lands, Poromboke lands and Forest lands for this project.
- Out of the total length of 8.3 km, excavation of canal, for a length of 6.15 km is in progress. Formation of new bund for a length of 5.25 km, out of total length of 7.15 km is in progress. Other cross masonry works such as Inlet, Drop cum regulator, Bridges etc., are in

progress. So far 57% of work has been completed.

### **Vellore District**

- Formation of Earth Dam and construction of Spillway and River Sluices across Malattar River at Bathallapalli Village in Gudiyatham Taluk at an estimated cost of Rs.29.55 crore is under implementation. So far 28% of work has been completed. An ayacut of 4,243 acres will be benefited on completion of this scheme.

### **6.1.2. Construction of New Barrage**

#### **Cuddalore and Nagapattinam Districts**

- Administrative Sanction was accorded for Rs.24.00 lakh for detailed survey and soil investigation for the scheme of construction of a New Barrage across Kollidam near Adhanur and Kumaramangalam Villages. Based on the detailed investigations,

Detailed Project Report prepared at a cost of Rs.430.00 crore, is under consideration.

### **6.1.3. New Anicuts and Regulators**

To divert the water flowing in the small streams and odais for a short period of time, into the tanks in the vicinity, construction of new Anicuts and Regulators are taken up.

Formation of 9 New Anicuts/Regulators in Dindigul, Nagapattinam, Perambalur, Pudukottai, Sivagangai, Thanjavur, Thiruvarur and Tiruvannamalai Districts at an estimated cost of Rs.44.50 crore are in progress. An extent of 11,491 acres will be benefited on completion of these works.

The details of these works are as below:-

#### **Dindigul District**

- Reconstruction of Anjanakarankulam Anicut across Thirumanimuthar River in Natham Village of Natham Taluk at an estimated cost of

Rs.1.65 crore is in progress. So far, 30% work has been completed. An extent of 36 acres will be benefited by this scheme.

### **Nagapattinam District**

- Construction of New Tail end Regulator across Nallur Uppanar Drain in Kodakkaramoolai Village of Sirkali Taluk at an estimated cost of Rs.1.78 crore is in progress. So far, 20% work has been completed. An extent of 600 acres will be benefited by this scheme.
- Construction of New Tail end Regulator across Nallur Chinnar Drain in Puliyandurai village, Sirkali Taluk, at an estimated cost of Rs.1.33 crore is in progress. So far, 25% work has been completed. An extent of 400 acres will be benefited by this scheme.

### **Perambalur District**

- Construction of Anicut across Vellar River near Athiyur village in Kunnam Taluk at an estimated cost of

Rs.8.11 crore is in progress. So far, 75% work has been completed. By implementing this scheme, an extent of 1,205 acres will be benefited.

### **Pudukkottai District**

- Construction of Anicut across South Vellar to feed Alapirandan Tank in Aranthangi Taluk at an estimated cost of Rs. 7.09 crore is in progress. So far, 30% work has been completed. By implementing this scheme, an extent of 861 acres will be benefited.

### **Sivagangai District**

- Construction of Anicut across Manimuthar River near Uthayachi Village to feed Kaikudi and its group of tanks in Devakottai Taluk at an estimated cost of Rs.10.60 crore is under implementation. By implementing this scheme, an extent of 1,501 acres will be benefited.

### **Thanjavur District**

- Construction of an Anicut across Nariyar to feed Mudathani tank, Kothamangalam tank and Seethambalpuram tank and improvements to supply channels in Alivalam Village of Pattukottai Taluk at an estimated cost of Rs.3.73 crore is in progress. So far, 60% works have been completed. By implementing this scheme, an extent of 420 acres will be benefited.

### **Thiruvarur District**

- Construction of new Regulator across Koraiyar at LS 130.00 in Paingattur Village of Mannargudi Taluk at an estimated cost of Rs.3.00 crore is in progress. So far, 85% work has been completed. By implementing this scheme, an extent of 6,042 acres will be benefited.

### **Tiruvannamalai District**

- Construction of an Anicut across Cheyyar river near Arumbalur village to feed Odalavadi Tank in Polur Taluk at an estimated cost of Rs.7.21 crore is in progress. So far, 85% work has been completed. By implementing this scheme, an extent of 426 acres will be benefited.

#### **6.1.4. Formation of New Check dams / Bed dams / Grade walls**

Check dams are normally constructed across rivers, primarily to ensure the designated supply of irrigation water to the ayacut under the command area of canals and channels off taking from the river course. Due to natural reasons, the river bed levels keep changing continuously, which impedes free flow of water into the canals. The check dams, bed dams and grade walls constructed across the rivers serve the

purpose of diverting the flows to the canals for irrigation purposes.

44 check dams at an estimated cost of Rs.163.87 crore, 1 bed dam at an estimated cost of Rs.1.47 crore and 11 grade walls at an estimated cost of Rs.19.07 crore are under construction in 24 districts viz. Coimbatore, Cuddalore, Dharmapuri, Dindigul, Erode, Karur, Kancheepuram, Kanniyakumari, Krishnagiri, Pudukottai, Nagapattinam, The Nilgiris, Salem, Sivagangai, Thanjavur, Theni, Thoothukudi, Thiruvavarur, Tiruchirapalli, Tiruppur, Tiruvallur, Tiruvannamalai, Vellore and Virudhunagar to benefit an ayacut of 22,445 acres.

The details of these works are as below:-

#### **Coimbatore District**

- Construction of Check Dam across Nallar river in Arthanaripalayam Village in Pollachi Taluk at an estimated cost of Rs.1.67 crore is in progress.

- Construction of Check dam across Senjerikarai Odai in Senjeriputhur Village of Sulur Taluk at an estimated cost of Rs.1.25 crore is in progress. By implementing this scheme, an extent of 220 acres will be benefited.

#### **Cuddalore District**

- Construction of Check Dam across Gadilam river near Maligampattu village in Panruti Taluk at an estimated cost of Rs.5.00 crore is in progress. By implementing this scheme, an extent of 466 acres will be benefited through recharge of the existing 62 open wells and bore wells in the recharge zone.

#### **Dharmapuri District**

- Construction of a Check Dam across Vaniyar river in Paraiyapatty Pudur Village in Pappireddipatty Taluk at an estimated cost of Rs.1.26 crore is in progress. By implementing this scheme, an

extent of 62 acres will be benefited through ground water recharge of 122 wells of Paraiyapatty Pudur, Kokkarapatty, Erumiyampatty and Pulithiyur villages.

- Construction of a Check Dam across Yemathirtha Odai in Pudinatham village near Mambadi in Harur Taluk at an estimated cost of Rs.0.56 crore is in progress. By implementing this scheme, an extent of 19 acres will be benefited through ground water recharge of 66 wells of Pudinatham, Ettiyampatti, Veerapanaikanpatty and Gudalur villages.

#### **Dindigul District**

- Construction of Check dam across Kodaganar River in Ayyampalayam Village of Dindigul Taluk at an estimated cost of Rs.5.65 crore is in progress. By implementing this scheme, an extent of 450 acres will be benefited.

#### **Erode District**

- Construction of Check dam across Odai in Perumugai Village in Gobi Taluk at an estimated cost of Rs.1.94 crore is in progress. By implementing this scheme, an extent of 120 acres will be benefited.
- Construction of Check dam across Odai in Avalpundurai Village in Erode Taluk at an estimated cost of Rs.1.17 crore is in progress. By implementing this scheme, an extent of 21 acres will be benefited.

#### **Kancheepuram District**

- Construction of Check Dam across Nelvoy Madavu near Nelvoy at Puduchery village in Maduranthagam Taluk at an estimated cost of Rs.1.00 crore is in progress. By implementing this scheme, the nearby wells in Thandarai and Puduchery villages will be recharged.

- Construction of Check Dam across Madavu in Angampakkam Village in S.F.No.133 near Walajabad in Kancheepuram Taluk at an estimated cost of Rs.0.52 crore is in progress. By implementing this scheme, an extent of 47 acres will be benefited through ground water recharge of nearby wells.

#### **Kanniyakumari District**

- Construction of Check Dam across Pannivoikkal at the Upstream of Pannaiyoor Bridge near Rajakamangalam Village in Agasteeswaram Taluk, at an estimated cost of Rs.1.55 crore is in progress. By implementing this scheme, ground water will be recharged in and around area of 1.50 km radius.

#### **Karur District**

- Construction of Check dam across Amaravathi River near Periyar Nagar in Andankoil Village of Manmangalam Taluk at an

estimated cost of Rs.15.16 crore is in progress.

- Construction of Check Dam across Pungar River near Pudupatti Village in Krishnarayapuram Taluk at an estimated cost of Rs. 2.83 crore is in progress. So far, 75% work has been completed. By implementing this scheme, an extent of 396 acres will be benefited.
- Construction of Check dam across Nanganjiyar River at Sellivalasu Village in Aravakurichi Taluk at an estimated cost of Rs.1.71 crore is in progress.

#### **Krishnagiri District**

- Construction of Check Dam across Kovaiaru (Gundumada halla) at Anchetty Village in Denkanikottai Taluk at an estimated cost of Rs.1.26 crore is in progress. By implementing this scheme, an extent of 20 acres will be benefited through ground water recharge of 28 wells in Anchetty village.

### **Nagapattinam District**

- Construction of Grade wall across Cauvery River near Mathirimangalam Village in Kuthalam Taluk at an estimated cost of Rs.1.49 crore is in progress. So far, 85% work has been completed. By implementing this scheme, an extent of 1,183 acres will be benefited.
- Construction of Grade Wall across Kaduvaiyar near Kakkalani Village of Keevalur Taluk at an estimated cost of Rs.1.46 crore is in progress. So far, 45% work has been completed. By implementing this scheme, an extent of 808 acres will be benefited.
- Construction of Grade wall across Nattar river at mile 70/3 to feed Kanchivoi Channel, Nagambady Channel and Nallavur Channel in Kodimangalam village of Kuthalam Taluk at an estimated cost of Rs.1.33 crore is in progress. So far, 50% work has been completed. By

implementing this scheme, an extent of 1,537 acres will be benefited.

- Construction of Grade wall across Veeracholan River in Kothangudy Village of Tharangambadi Taluk at an estimated cost of Rs.0.93 crore is in progress. So far, 80% work has been completed. By implementing this scheme, an extent of 577 acres will be benefited.
- Construction of Grade wall across Mahimalaiyar River near Muruganthottam Village of Kuthalam Taluk at an estimated cost of Rs.0.52 crore is in progress. So far, 10% work has been completed. By implementing this scheme, an extent of 351 acres will be benefited.

### **Pudukkottai District**

- Construction of Check dam across Koraiyar River near Suriyur (Villarodai) Village in Kolathur Taluk at an estimated cost of Rs.3.09 crore is in progress. So far, 15%



work has been completed. By implementing this scheme, an extent of 284 acres will be benefited.

### **Salem District**

- Construction of Check Dam across Sarabanganathi in Muthunaickenpatti Village of Omalur Taluk at an estimated cost of Rs.1.20 crore is in progress.

### **Sivagangai District**

- Construction of Check dam across Virusuliyar river in Kavanur Village in Tirupathur Taluk at an estimated cost of Rs.1.71 crore is in progress. By implementing this scheme, an extent of 295 acres will be benefited.

### **The Nilgiris District**

- Construction of Check dam near Kookalthurai Village in Kothagiri Taluk at an estimated cost of Rs.0.90 crore is in progress. By implementing this scheme, an

extent of 900 acres will be benefited.

### **Thanjavur District**

- Construction of Check Dam across Agniar river near Neivelivadapathy village in Orathanadu Taluk at an estimated cost of Rs.7.45 crore is in progress. So far, 80% work has been completed. By implementing this scheme, an extent of 883 acres will be benefited.
- Re-Construction of Bed dam across Cauvery river at Manajeri Village of Kumbakonam Taluk at an estimated cost of Rs.1.47 crore is in progress. By implementing this scheme, an extent of 984 acres will be benefited.
- Construction of Grade wall across Cauvery river at mile 37/6 to feed Thiruvaiyaru, Kalyanapuram and Oomai channels in Thiruvaiyaru Village and Taluk at an estimated cost of Rs.7.00 crore is in progress. So far, 90% work has been

completed. By implementing this scheme, an extent of 1,246 acres will be benefited.

### **Theni District**

- Construction of 2 Check dams across Vaigai river at Valipparai and Govindanagaram Villages in Andipatti Taluk at an estimated cost of Rs.4.95 crore is in progress. So far, 80% work has been completed. By implementing this scheme, ayacut of 1150 acres will be benefited through ground water recharge in 145 wells.
- Construction of Check Dam across Vaigai River in Myladumparai Village in Andipatti Taluk at an estimated cost of Rs.2.40 crore is in progress. So far, 10% work has been completed. By implementing this scheme, an extent of 457 acres will be benefited.
- Construction of Check Dam across Vaigai River near Ambasamudram Village of Theni Taluk at an estimated cost of Rs.2.34 crore is in

progress. So far, 80% work has been completed. By implementing this scheme, an extent of 434 acres will be benefited.

- Construction of Check Dam across Kottagudi River near Theerthathotti Murugan Temple at Kodangipatti Village of Bodinayakanur Taluk at an estimated cost of Rs.1.55 crore is in progress. By implementing this scheme, an extent of 72 acres will be benefited.
- Construction of Check Dam across Kottagudi River near Pattakkalam in Bodinayakanur Village and Taluk at an estimated cost of Rs.1.09 crore is in progress. So far, 10% work has been completed. By implementing this scheme, an extent of 150 acres will be benefited.
- Construction of Check Dam across Koothanatchiyar Odai near Kamayagoundanpatti and Narayanadevanpatti Villages in Uthamapalayam Taluk at an estimated cost of Rs.0.62 crore is in progress. So far, 10% work has

been completed. By implementing this scheme, an extent of 43 acres will be benefited.

### **Thoothukudi District**

- Construction of Check Dam across Thamirabarani river near Mukkani in Serndamangalam Village in Srivaikundam Taluk at an estimated cost of Rs.25.75 crore is in progress. By implementing this scheme, an extent of 990 acres will be benefited.
- Construction of Check dam across Vaippar river in S.F.No.205 of Keelnattukurichi village in Ettayapuram Taluk at an estimated cost of Rs.9.20 crore is in progress. So far, 80% work has been completed. By implementing this scheme, an extent of 959 acres will be benefited.
- Construction of Check dam across Karumeniyar River near Kombankulam Village in Sathankulam Taluk at an estimated

cost of Rs.1.23 crore is in progress. By implementing this scheme, ground water through 30 wells will be recharged.

### **Tiruchirappalli District**

- Construction of Check Dam across Nandiyar River in Iruthayapuram Village in Lalgudi Taluk at an estimated cost of Rs.3.00 crore is in progress. So far, 80% work has been completed. By implementing this scheme, an extent of 171 acres will be benefited.
- Construction of Check Dam across Ayyar River near Thandalaiputhur Village in Musiri Taluk at an estimated cost of Rs.2.59 crore is in progress. So far, 85% work has been completed. By implementing this scheme, an extent of 547 acres will be benefited.
- Construction of Check dam across Mamundiyar river in Samudram Village of Manapparai Taluk at an estimated cost of Rs.2.09 crore is in progress. So far, 50% work has

been completed. By implementing this scheme, an extent of 493 acres will be benefited.

- Construction of Check dam across Vellar River near Vembanur Village of Marungapuri Taluk at an estimated cost of Rs.1.15 crore is in progress. So far, 35% work has been completed. By implementing this scheme, an extent of 90 acres will be benefited.
- Construction of Check dam across Kannuthu Odai near Kumaravadi Village of Manapparai Taluk at an estimated cost of Rs.0.67 crore is nearing completion. By implementing this scheme, an extent of 198 acres will be benefited.

#### **Tiruppur District**

- Construction of Check dam across Palar River near Valayapalayam Village in Udumalpet Taluk at an estimated cost of Rs.2.21 crore is in progress. By implementing this

scheme, an extent of 126 acres will be benefited.

- Construction of Check dam across Nelalikai Odai in Nelali Village near Ellapalayampudur in Kangeyam Taluk at an estimated cost of Rs.2.19 crore is in progress. By implementing this scheme, an extent of 676 acres will be benefited.
- Construction of Check dam across Uppar Odai near Kondampatti Village in Udumalpet Taluk at an estimated cost of Rs.1.92 crore is in progress. By implementing this scheme, an extent of 60 acres will be benefited.

#### **Tiruvallur District**

- Construction of Check dam across Kosasthalaiyar River in Pattaraiperumpudur Village to channelise water to Arulmigu Veeraragavaperumal Temple Tank in Tiruvallur Taluk at an estimated cost of Rs.25.00 crore is in progress. So far, 30% work has been completed.

- Construction of Check Dam across Cooum river near Putlur Village in Thiruvallur Taluk at an estimated cost of Rs.6.22 crore is in progress. So far, 48% work has been completed. By implementing this scheme, an extent of 592 acres will be benefited through the existing 50 open wells and 40 bore wells in the recharge zone.

#### **Tiruvannamalai District**

- Construction of Check dam across Suganadhi near Mummuni Village in Vandavasi Taluk at an estimated cost of Rs.1.27 crore is in progress. So far, 44% work has been completed. By implementing this scheme, an extent of 114 acres will be benefited through ground water recharge in 30 wells of Mummuni Village.

#### **Thiruvarur District**

- Construction of Grade wall across Pamaniyar River in Palaiyur Village of Mannargudi Taluk at an estimated

cost of Rs.1.68 crore is nearing completion. By implementing this scheme, an extent of 253 acres will be benefited.

- Construction of Grade wall across Koraiyar at LS 128.540 km to maintain the theoretical bed level and to feed Kadaitheru Channel in Kadaitheru Village of Mannargudi Taluk at an estimated cost of Rs.1.04 crore is in progress. So far, 80% work has been completed. By implementing this scheme, an extent of 1,284 acres will be benefited.
- Construction of Grade wall across Arasalar River in Nallicheri Village of Kudavasal Taluk at an estimated cost of Rs.1.40 crore is in progress. So far, 50% work has been completed. By implementing this scheme, an extent of 774 acres will be benefited.
- Construction of Grade wall across Koraiyar river at mile 62/1 to maintain the theoretical bed level to feed A1 Hanumanthapuram Channel

in Needamangalam Village and Taluk at an estimated cost of Rs.1.36 crore is nearing completion. By implementing this scheme, an extent of 1,028 acres will be benefited.

- Construction of Grade wall across Kandaparichannar Branch Channel in Kumuttithidal Village of Mannargudi Taluk at an estimated cost of Rs.0.86 crore is in progress. So far, 90% work has been completed. By implementing this scheme, an extent of 410 acres will be benefited.

#### **Vellore District**

- Construction of Check Dam across Naganadhi river near Kathalampattu Village in Vellore Taluk at an estimated cost of Rs.2.60 crore is in progress. So far, 30% work has been completed. By implementing this scheme, ground water will be recharged in the adjacent areas.

- Construction of Check dam across Pambar river near old Aathikuppam Village in Thirupathur Taluk at an estimated cost of Rs.1.33 crore is in progress. By implementing this scheme, an extent of 215 acres will be benefited through ground water recharge in 37 wells of old Aathikuppam Village.

#### **Virudhunagar District**

- Construction of Check dam across Vaippar river near Achankulam Village in Sivakasi Taluk at an estimated cost of Rs.5.62 crore is nearing completion. By implementing this scheme, an extent of 290 acres will be benefited.

#### **6.1.5. Formation of New Canals / Supply Channels**

New canals and supply channels are excavated for the main purpose of providing connectivity among the tanks to ensure supply of water for irrigation from surplus tanks to the

downstream tanks. These canals normally originate from the anicuts constructed across streams and odais. These canals fulfill the needs of direct ayacut, besides ensuring inflow into the chain of tanks below.

Formation of 10 new canals / supply channels in 8 Districts viz. Dharmapuri, Karur, Krishnagiri, Ramanathapuram, Salem, Thanjavur, Theni and Tirunelveli at an estimated cost of Rs.116.43 crore are in progress. By implementing this scheme, an extent of 15,187 acres will be benefited.

The details of these works are as below:-

#### **Dharmapuri District**

- Excavation of Supply Channel from Senganbasuvanthalav tank to divert flood surplus water of Chinnar river to feed Endapatti tank, Kondasamanahallu tank and 8 other intermediate tanks in Palacode Taluk at an estimated cost of Rs.10.20 crore is nearing

completion. By implementing this scheme, an extent of 650 acres under 10 tanks of Jakkasamudram, Bikkanahalli, Jerthalav, Velalahalli, Karukkanahalli, Dandukaranahalli, and Anumanthapuram Villages will be benefited.

#### **Theni District**

- Extension of 18th canal upto Kovilangaaru which drains into Kottagudi River in Bodinayakanur Taluk at an estimated cost of Rs.52.80 crore is in progress. So far, 40% work has been completed. By implementing this scheme, an extent of 4,795 acres will be benefited.

#### **Karur District**

- Formation of a channel for diverting the water of Kumbakuzhi drain into Cauvery River at the downstream portion of new Kattalai Barrage at an estimated cost of Rs.9.00 crore is in progress. So far, 60% work has been completed. By implementing

this scheme, an extent of 300 acres will be benefited.

### **Krishnagiri District**

- Detailed investigation and land acquisition at an estimated cost of Rs.14.00 crore for the proposed excavation of supply channel from LS 15/95 km of Barur tank East main canal to feed 33 tanks in Pochampalli and Uthangarai Taluks is in progress. By implementing this scheme, an extent of 1,342 acres will be benefited.
- Excavation of a new supply channel to divert the flood surplus of Kelavarapalli reservoir through its left main canal to feed Marudandapalli Eri and Durai Eri in Hosur Taluk at an estimated cost of Rs.2.50 crore is in progress. So far, 75% work has been completed. By implementing this scheme, an extent of 222 acres will be benefited.

- Surveying and levelling works for detailed investigation at an estimated cost of Rs. 0.40 crore for the proposed excavation of new canal on the right side and left side of the existing Ennekol Anicut in Krishnagiri Taluk to benefit the drought prone areas and excavation of Canal from the Left Main Canal of Vaniyar Reservoir project to feed 16 tanks in Pappireddypatti and Harur Taluks are in progress. By implementing this scheme, an extent of 3,408 acres will be benefited.

### **Ramanathapuram District**

- Formation of a new flood carrier canal from Kanjampatti odai in Vilathikulam Taluk of Thoothukudi District to feed Sayalgudi and other tanks in Kamudhi and Kadaladi Taluks of Ramanathapuram District at an estimated cost of Rs.18.00 crore is in progress. So far, 18% work has been completed. By implementing this scheme, an



extent of 4,247 acres under 43 tanks will be benefited.

### **Salem District**

- Formation of a new canal from Belur anicut to divert the excess flood water of Anaimaduvu reservoir from Belur Kissan supply channel to feed ponds and construction of check dam in Kumarasamiyur, Thukkuyampalayam, Vazhapadi and Mannayakanpatti Villages in Vazhapadi Taluk at an estimated cost of Rs.3.68 crore is in progress. So far, 10% work has been completed. By implementing this scheme, an extent of 138 acres will be benefited.

### **Thanjavur District**

- Construction of Feeder Channel for Aduthurai Channel in Ullikadai Village of Papanasam Taluk at an estimated cost of Rs.0.45 crore is in progress. So far, 90% work has been completed. By implementing

this scheme, an extent of 85 acres will be benefited.

### **Tirunelveli District**

- The work of detailed investigation and land acquisition for diversion of surplus water of Ramanadhi to the Command area of Jambunadhi system in Kadayam Village of Ambasamudram Taluk at an estimated cost of Rs.5.40 crore is in progress.

### **6.1.6. Formation of New Tank**

New tanks and ponds are formed at various feasible locations to impound and supply irrigation water to the nearby ayacut in a more effective manner. These tanks and ponds also serve as flood bowls to collect excess flood flows and inturn recharge the ground water sufficiently, serving both irrigation and drinking water supply needs in the area.

### **Dindigul District**

- Formation of New Tank across Nallathangal Odai near Kothayam Village of Oddanchatram Taluk at an estimated cost of Rs.11.12 crore is in progress. By implementing this scheme, an extent of 804 acres will be benefited.

## **6.2. REHABILITATION OF EXISTING IRRIGATION INFRASTRUCTURE AND SYSTEMS**

### **6.2.1. Rehabilitation of Dams**

Under Dam Rehabilitation and Improvement Project, rehabilitation and improvement works are in progress in 47 dams in Coimbatore, Cuddalore, Dharmapuri, Dindigul, Erode, Kancheepuram, Kanniyakumari, Krishnagiri, Salem, Thanjavur, Theni, Tirunelveli, Tiruvallur, Tiruvannamalai, Tiruppur, Tiruchirapalli, Virudhunagar and Villupuram Districts and Palghat District in Kerala, at an estimated cost of Rs.289.69 crore. By implementing

this scheme, an extent of 28,71,189 acres will be benefited.

In addition, rehabilitation and improvement works in 4 dams in Coimbatore, Kanniyakumari, Karur and Theni Districts, at an estimated cost of Rs.23.20 crore will commence soon. By implementing this scheme, an extent of 22,375 acres will be benefited.

The details of these works are as below:-

### **Coimbatore District**

- Rehabilitation and Improvement works in Upper Nirar and Lower Nirar dams of Valparai Taluk and Aliyar dam of Pollachi Taluk, at an estimated cost of Rs.14.48 crore are in progress. By implementing this scheme, an extent of 50,744 acres will be benefited.
- Rehabilitation and Improvement works to be commenced in Sholaiyar dam of Valparai Taluk at an estimated cost of Rs.16.67 crore.

### **Cuddalore District**

- Rehabilitation and Improvement works in Wellington Reservoir of Thittakudi Taluk, Veeranam Tank of Kattumannarkoil & Chidambaram Taluks at an estimated cost of Rs.14.49 crore are in progress. By implementing this scheme, an extent of 72,531 acres will be benefited.

### **Dharmapuri District**

- Rehabilitation and Improvement works in Chinnar dam of Palacode Taluk at an estimated cost of Rs.2.86 crore is in progress. By implementing this scheme, an extent of 4,500 acres will be benefited.

### **Dindigul District**

- Civil work has been completed in Kodaganar dam of Vedasandur Taluk at an estimated cost of Rs.4.18 crore. Shutter work is in progress. By implementing this

scheme, an extent of 9,004 acres will be benefited.

- Rehabilitation and Improvement works in Marudhanadhi dam of Attur Taluk and Palar Porandalar dam of Palani Taluk at an estimated cost of Rs.4.74 crore is in progress. By implementing this scheme, an extent of 23,818 acres will be benefited.

### **Erode District**

- Rehabilitation and Improvement works in Varattupallam Dam of Anthiyur Taluk, Gunderipallam dam of Gobi Taluk and Bhavanisagar dam of Sathyamangalam Taluk at an estimated cost of Rs.24.71 crore are in progress. By implementing this scheme, an extent of 2,13,488 acres will be benefited.

### **Kancheepuram District**

- Rehabilitation and Improvement works in Chembarambakkam tank of Sriperumbudur Taluk at an estimated cost of Rs.3.85 crore is in

progress. By implementing this scheme, an extent of 2,145 acres will be benefited.

### **Kanniyakumari District**

- Rehabilitation and Improvement works in Chittar-I dam of Vilavancode Taluk and Perunchani dam of Kalkulam Taluk at an estimated cost of Rs. 9.91 crore are in progress. By implementing this scheme, an extent of 1,10,825 acres will be benefited.
- Rehabilitation and Improvement works to be commenced in Chittar-II dam of Vilavancode Taluk at an estimated cost of Rs.3.80 crore.

### **Karur District**

- Rehabilitation and Improvement works in Noyyal Athupalayam dam of Aravakkurichi Taluk, at an estimated cost of Rs.0.72 crore is in progress. By implementing this scheme, an extent of 19,509 acres will be benefited.

### **Krishnagiri District**

- Rehabilitation and Improvement works in Krishnagiri dam of Krishnagiri Taluk at an estimated cost of Rs.6.00 crore are in progress. By implementing this scheme, an extent of 9,012 acres will be benefited.

### **Palghat District (Kerala)**

- Rehabilitation and Improvement works in Parambikulam, Thunacadavu and Peruvuripallam dams of Chittur Taluk at an estimated cost of Rs.5.36 crore are in progress.

### **Salem District**

- Rehabilitation and Improvement works in Anaimaduvu dam of Vazhapadi Taluk, Kariakoil dam of Attur Taluk and Mettur dam of Mettur Taluk at an estimated cost of Rs.15.78 crore are in progress. By implementing this scheme, an extent of 16,58,612 acres will be benefited.

### **Thanjavur District**

- Rehabilitation and Improvement works in Lower Anicut of Thiruvaidaimaruthur Taluk at an estimated cost of Rs.16.47 crore are in progress.

### **Theni District**

- Rehabilitation and Improvement works in Vaigai dam of Andipatti Taluk, Manjalar dam of Periyakulam Taluk and Shanmughanadhi Reservoir of Uthamapalayam Taluk at an estimated cost of Rs.9.96 crore are in progress. By implementing this scheme, an extent of 1,43,063 acres will be benefited.
- Rehabilitation and Improvement works are to be commenced in Sothuparai dam of Periyakulam Taluk at an estimated cost of Rs.2.01 crore. By implementing this scheme, an extent of 2,866 acres will be benefited.

### **Tiruchirapalli District**

- Rehabilitation and Improvement works in Ponnaniar dam of Manapparai Taluk and Uppar (Tiruchirapalli) dam of Mannachanallur Taluk at an estimated cost of Rs.2.98 crore are in progress. By implementing this scheme, an extent of 3,887 acres will be benefited.

### **Tirunelveli District**

- Rehabilitation and Improvement works in Manimuthar dam of Ambasamudram Taluk at an estimated cost of Rs.17.96 crore are in progress. By implementing this scheme, an extent of 25,609 acres will be benefited.
- Rehabilitation and Improvement works in Gadana dam and Ramanadhi dam of Ambasamudram Taluk and Karuppanandhi dam of Tenkasi Taluk at an estimated cost of Rs.7.03 crore are in progress. By implementing this scheme, an

extent of 23,834 acres will be benefited.

#### **Tiruvallur District**

- Rehabilitation and Improvement works in Poondi Reservoir of Tiruvallur Taluk, Redhills tank of Madhavaram Taluk, Cholavaram tank of Ponneri Taluk at an estimated cost of Rs.10.45 crore are in progress.

#### **Tiruvannamalai District**

- Rehabilitation and Improvement works in Sathanur dam of Thandarampattu Taluk at an estimated cost of Rs.5.09 crore are in progress. By implementing this scheme, an extent of 44,972 acres will be benefited.

#### **Tiruppur District**

- Rehabilitation and Improvement works in Thirumurthy and Amaravathy dams of Udumalpet Taluk at an estimated cost of Rs.10.40 crore are in progress. By

implementing this scheme, an extent of 4,35,017 acres will be benefited.

#### **Villupuram District**

- Rehabilitation and Improvement works in Manimuktha Nadhi dam of Sankarapuram Taluk at an estimated cost of Rs.71.16 crore, have been commenced. By implementing this scheme, an extent of 4,252 acres will be benefited.
- Rehabilitation and Improvement works in Gomukhinadhi dam of Chinnasalem Taluk and Vidur dam of Tindivanam Taluk at an estimated cost of Rs.9.97 crore are in progress. By implementing this scheme, an extent of 8,202 acres will be benefited.

#### **Virudhunagar District**

- Rehabilitation and Improvement works in Pilavakkal Periyar and Pilavakkal Kovilar dams of Srivilliputhur Taluk, Kullursandhai

and Anaikuttam dams of Virudhunagar Taluk, Golwarpatti dam of Sattur Taluk and Vembakottai dam of Sivakasi Taluk at an estimated cost of Rs.21.86 crore are in progress. By implementing this scheme, an extent of 27,673 acres will be benefited.

### **6.2.2. Rehabilitation of Anicuts/Check Dams / Bed dams/ Grade walls**

Many anicuts constructed during the past several years have served the purpose of diverting irrigation water from the streams and odais efficiently. Further, these anicuts play a vital role in the tank irrigation systems of the State. The anicuts also serve as flood regulation structures and in mitigation of damages during flood times. The damaged anicuts have to be rehabilitated and brought back to their original strength for ensuring effective performance.

29 Rehabilitation works in Anicuts / Check dams / Bed dams / Grade walls are in progress, at an estimated cost of Rs.58.61 crore in Erode, Salem, Kanniyakumari, Thanjavur, Theni, Tiruchirappalli and Villupuram Districts. By implementing this scheme, an extent of 3,16,795 acres will be benefited.

The details of these works are as below:-

#### **Erode District**

- Rehabilitation of Kalingarayan Anicut in Erode Taluk at an estimated cost of Rs.7.80 crore is in progress. By implementing this scheme, an ayacut of 15,748 acres will be benefited.

#### **Kanniyakumari District**

- Rehabilitation of Check dam across Kuzhithuraiyar in Vilavancode Taluk at an estimated cost of Rs.6.35 crore is in progress. So far, 75% works have been completed.

### **Salem District**

- Rehabilitation and Improvement of 13 anicuts across Sarabanga river in Omalur Taluk at an estimated cost of Rs.5.23 crore is in progress. So far, 70% of works have been completed. By implementing this scheme, an ayacut of 2,280 acres will be benefited.

### **Thanjavur District**

- Improvements to Grade wall across Vennar to feed Regunatha Cauvery channel in Thiruvaiyar Taluk at an estimated cost of Rs.6.27 crore is in progress. So far, 90% works have been completed. By implementing this scheme, an ayacut of 4,997 acres will be benefited.
- Rehabilitation of downstream side protection arrangements at VVR Head Sluice in Thenperambur Village of Thanjavur Taluk at an estimated cost of Rs.1.95 crore is in progress. So far, 90% works have been completed. By implementing

this scheme, an ayacut of 2,88,516 acres will be benefited.

### **Tiruchirappalli District**

- Reconstruction of Athani Bed Dam and Koothur Bed dam in Panguni channel at Pachur and Kumarakudi Villages in Mannachanallur Taluk at an estimated cost of Rs.1.70 crore is in progress. So far, 80% works have been completed. By implementing this scheme, an ayacut of 511 acres will be benefited.

### **Theni District**

- Rehabilitation of Ernankulam anicut, Thambirankulam anicut, Ammakulam anicut, Eluppamarathu anicut, Chennaiyagoundan anicut and Posigoundan anicut in Sudhagangai odai in Pottipuram, Silamalai, Sillamatrathupatti and Dombucheri Villages of Bodinayakanur Taluk at an estimated cost of Rs.2.38 crore is in progress. So far, 95% works have



been completed. By implementing this scheme, an extent of 993 acres will be benefited.

- Rehabilitation of Chinnamanur Anicut and its Channel in Uthamapalayam Taluk at an estimated cost of Rs.10.50 crore is in progress. So far, 93% works have been completed. By implementing this scheme, an extent of 1,022 acres will be benefited.
- Rehabilitation of Markayankottai Anicut and its Channel in Uthamapalayam Taluk at an estimated cost of Rs.2.25 crore is in progress. So far, 85% works have been completed. By implementing this scheme, an extent of 409 acres will be benefited.

### **Villupuram District**

- Rehabilitation of Sevalapurai Anicut and channel in Gingee Taluk at an estimated cost of Rs.10.00 crore is in progress. So far, 30% works have been completed. By implementing this scheme, an extent of

2,064 acres under 15 tanks of the Sevalapurai supply channel will be benefited through assured supply.

- Reconstruction of Veeranam Anicut across Malattar River in Villupuram Taluk at an estimated cost of Rs.4.18 crore is in progress. So far, 71% works have been completed. By implementing this scheme, an extent of 255 acres will be benefited.

### **6.2.3. Rehabilitation of Regulators / Shutters**

Regulators constructed across rivers are essential irrigation structures, which serve the purpose of effective water regulation on both the flanks of the rivers through the canal system. Many regulators constructed long time ago have served the irrigation requirement commendably over the years. Some of them need rehabilitation measures for proper upkeep of their health status and to ensure their continued effective performance.

Rehabilitation of 3 Regulators in Cuddalore, Thanjavur and Tiruppur Districts at an estimated cost of Rs.27.00 crore is in progress.

The details of these works are given below:-

#### **Cuddalore District**

- Extension of Perampattu Anicut as a Regulator across old Coleroon River in Chidambaram Taluk at an estimated cost of Rs.10.00 crore is in progress. By implementation of this scheme, it is possible to discharge the Old Coleroon flood to main Coleroon without inundation and sea water (surface water) intrusion can be prevented, thereby recharging the ground water.

#### **Thanjavur District**

- Rehabilitation and repairs to Shuttering arrangements in North Branch from Vent No.1 to 30 across Kollidam River at Lower Anicut at an estimated cost of Rs 10.00 crore are in progress.

#### **Tiruppur District**

- Rehabilitation and Renovation of Muthur Barrage Shutters, hoisting arrangements and the Head sluices shutters of Feeder canal leading to Athupalayam Reservoir in Kangeyam Taluk at an estimated cost of Rs.7.00 crore are in progress.

#### **6.2.4. Rehabilitation of canals, supply channels and rivers**

In the tank irrigation system, predominantly in practice in many parts of the State, the canals and supply channels play an important role. These canals and supply channels ensure connectivity of the chain of tanks for equitable distribution of the available water resources. They also ensure flow of surplus flood water safely during the flood times.

Continuous efforts are being taken to rehabilitate the channels and to evict the encroachments, wherever necessary, on priority basis.

Rehabilitation of 27 canals and supply channels in 14 Districts viz. Coimbatore, Dindigul, Kanniyakumari, Madurai, Namakkal, Nagapattinam, Salem, Theni, Thiruvarur, Tiruchirapalli, Tirunelveli, Tiruppur, Tiruvannamalai and Virudhunagar at an estimated cost of Rs.221.69 crore is in progress. By implementing this scheme, an extent of 2,62,742 acres will be benefited.

The details of these works are as below:-

#### **Coimbatore District**

- Rehabilitation of Aliyar feeder canal from LS 0.000 Km to 6.000 Km in Pollachi Taluk at an estimated cost of Rs.20.00 crore is in progress. By implementing this scheme, an extent of 50,798 acres will be benefited.

#### **Coimbatore and Tiruppur Districts**

- Rehabilitation of J.Krishnapuram Branch canal from L.S. 0.000 km to 3.470 km and Valasupalayam

distributary from L.S.0.000 km to 3.800 km at an estimated cost of Rs.5.00 crore is in progress. By implementing this scheme, an extent of 220 acres will be benefited.

#### **Dindigul District**

- Modernisation of Narasingapuram Rajavaikkal Supply Channel in Narasingapuram village of Attur Taluk at an estimated cost of Rs.10.20 crore is in progress. So far, 35% works have been completed. By implementing this scheme, an extent of 2,037 acres will be benefited.
- Modernisation of Rajaneri Supply Channel in Samudrapatti village of Natham taluk at an estimated cost of Rs.7.42 crore is in progress. So far, 35% works have been completed. By implementing this scheme, an extent of 1,178 acres will be benefited.

### **Kanniyakumari District**

- Protecting the side banks of Chunkan Odai and improvements to Erappaiyar to feed Poigai dam in Thovalai Taluk at an estimated cost of Rs.3.25 crore is in progress. So far, 20% works have been completed. By implementing this scheme, an extent of 945 acres will be benefited.

### **Madurai District**

- Rehabilitation of 1st to 4th Branch channels, 12th Branch channel and Periyar Extension canal and its distributaries of Periyar Main Canal at an estimated cost of Rs.40.00 crore is in progress. So far, 32% works have been completed. By implementing this scheme, an extent of 75,380 acres will be benefited.
- Rehabilitation of 5, 6, 8, 9 and 11th Branch channels of Periyar Main Canal in Vadipatti, Madurai North, Madurai East and Melur

Taluks at an estimated cost of Rs.15.00 crore are in progress. So far, 42% works have been completed. By implementing this scheme, an extent of 33,829 acres will be benefited.

### **Namakkal District**

- Rehabilitation of Kumarapalayam Vaikkal Reach I to VI from LS 0m – 17400m in Paramathivelur Taluk at an estimated cost of Rs.8.38 crore is in progress. So far, 90% works have been completed. By implementing this scheme, an extent of 7,017 acres will be benefited.

### **Nagapattinam District**

- Reconstruction of Arabi surplus regulator in right bank of Mahimalaiyar river at LS 147.860 Km in Thillaiyadi Village in Tharangambadi Taluk at an estimated cost of Rs.2.00 crore is in progress. So far, 25% works have been completed. By implementing

this scheme, an extent of 1,948 acres will be benefited.

- Standardisation and Improvements to Devanadhi river (Uppanar Drain) at an estimated cost of Rs.5.50 crore is in progress. So far, 70% works have been completed. By implementing this scheme, an extent of 9,482 acres will be benefited.

#### **Salem and Namakkal Districts**

- Rehabilitation of Mettur East Bank Canal in Mettur, Edapadi and Thiruchengode Taluks at an estimated cost of Rs.30.00 crore is in progress. So far, 95% works have been completed. By implementing this scheme, an extent of 27,000 acres will be benefited.

#### **Theni District**

- Modernisation of Kunnur anicut supply channel near Kunnur Village of Andipatti Taluk at an estimated cost of Rs.8.30 crore is in progress. So far, 40% works have been

completed. By implementing this scheme, an extent of 720 acres will be benefited.

- Modernisation of Vairavan Anicut supply channel in Genguvarpatti Village of Periyakulam Taluk at an estimated cost of Rs.6.50 crore is in progress. So far, 70% works have been completed. By implementing this scheme, an extent of 315 acres will be benefited.
- Rehabilitation and Improvements to the Thanthai Periyar Channel from LS 0 m to 12000 m at an estimated cost of Rs.5.24 crore is nearing completion. By implementing this scheme, an extent of 3,420 acres will be benefited.
- Modernisation of Thamaraikulam Supply Channel in Thamaraikulam Village in Periyakulam Taluk at an estimated cost of Rs.4.86 crore is in progress. So far, 30% works have been completed. By implementing this scheme, an extent of 490 acres will be benefited.

- Modernisation of Gullapuram Anicut Supply Channel in Gullapuram Village in Periyakulam Taluk at an estimated cost of Rs.2.88 crore is in progress. So far, 35% works have been completed. By implementing this scheme, an extent of 592 acres will be benefited.
- Modernisation of Moongil Anicut Channel in Genguvarpatti Village in Periyakulam Taluk at an estimated cost of Rs.2.50 crore is in progress. So far, 90% works have been completed. By implementing this scheme, an extent of 256 acres will be benefited.

#### **Thiruvarur District**

- Reconstruction of Alathur Regulator across Vanjiyar at mile 77/0 in Alathur Village of Nannilam Taluk at an estimated cost of Rs.0.65 crore is in progress. By implementing this scheme, an extent of 359 acres will be benefited.

#### **Tiruchirappalli District**

- Rehabilitation and Modernization of Uyyakondan Channel in Palakkarai area at an estimated cost of Rs.11.50 crore is in progress. So far, 70% works have been completed. By implementing this scheme, an extent of 32,742 acres will be benefited.

#### **Tirunelveli District**

- Lining the Tirunelveli channel and Improvement to sluices of the Tirunelveli channel at an estimated cost of Rs.15.00 crore are in progress. So far, 17% works have been completed. By implementing this scheme, an extent of 2,000 acres will be benefited.
- Rehabilitation and Improvements to Vadamalayan Channel and tanks in Kodumudiyar system in Nanguneri and Radhapuram Taluks at an estimated cost of Rs.5.90 crore are in progress. So far, 75% works have been completed. By implementing

this scheme, an extent of 3,232 acres will be benefited.

- Improvement to Manur Supply Channel in Veerakeralampudur, Alangulam and Tirunelveli Taluks at an estimated cost of Rs.2.29 crore is nearing completion. By implementing this scheme, an extent of 3,766 acres will be benefited.
- Construction of Storm Water and drainage channel parallel to the right side retaining wall along the road side from Thidiyur Village to downstream of Pachaiyar weir in Palayamkottai Taluk at an estimated cost of Rs.2.20 crore is in progress. So far, 21% works have been completed.
- Improvement to Pallamadai tank, Pallikottai Supply channel in Tirunelveli Taluk at an estimated cost of Rs.1.70 crore is in progress. So far, 60% works have been completed. By implementing this

scheme, an extent of 1,533 acres will be benefited.

- Construction of Weir at LS 2046 m across Kannadian Channel to divert the drainage water of Kallidaikuruchi town in Ambasamudram Taluk at an estimated cost of Rs.1.60 crore is in progress.

#### **Tiruvannamalai District**

- Rehabilitation and Improvements to Thanipadi Anicut Supply Channel in Thandarampattu Taluk at an estimated cost of Rs.0.82 crore is in progress. By implementing this scheme, an extent of 592 acres will be benefited.

#### **Virudhunagar District**

- Re-grading of Gowsiganadhi from Vadamanaikurichi Tank surplus to Kullursandhai Reservoir in Virudhunagar Taluk at an estimated cost of Rs.3.00 crore is in progress. So far, 93% works have been completed. By implementing this scheme, the carrying capacity of the

river will be increased and an extent of 2,891 acres will be benefited.

#### **6.2.5. Renovation of Tanks**

Out of the 39,202 tanks in the State, 14,098 tanks are under the management control and maintenance of Water Resources Department. Tank irrigation benefits the indirect ayacut under system, non-system and rain-fed tanks. Renovation, modernisation and rehabilitation of the tanks assume greater importance for improving the functional efficiency of the tanks, effectively storing and distributing water for irrigation.

147 tanks are being renovated in 8 Districts viz., Dindigul, Kancheepuram, The Nilgris, Ramanathapuram, Sivagangai, Theni, Tiruvallur and Vellore at an estimated cost of Rs.200.55 crore. By implementing this scheme, an extent of 24,366 acres will be benefited.

The details of these works are as below:

#### **Dindigul District**

- Modernisation of Tholikkampatti Tank in Kilavarai Village of Kodaikanal Taluk at an estimated cost of Rs.1.10 crore is in progress. By implementing this scheme, an extent of 204 acres will be benefited.

#### **Kancheepuram and Tiruvallur Districts**

- The four drinking water supply tanks of Chennai viz., Cholavaram, Nemam, Porur and Ayanambakkam are being standardized and rejuvenated at an estimated cost of Rs.130.00 crore. The combined storage of these 4 tanks is 1,474 Mcft. It is proposed to create an additional storage of 568 Mcft in these tanks by strengthening and standardizing. The civil works have been completed in all tanks. Other works are in progress in Porur and Nemam tanks. In addition, the



surplus course from Nemam tank to the Chembarambakkam tank is also being rehabilitated and standardized in this scheme.

### **The Nilgiris District**

- Conservation of Ooty Lake with submersible Micro Bubble Diffuser Aeration system at an estimated cost of Rs.5.49 crore would be commenced based on the decision of the Committee to be formed for procurement of the special kind of work.

### **Ramanathapuram District**

- Repair, Renovation and Restoration works in Ariyanendal tank, Nenmeni tank, Urappuli tank, Soodiyur tank, Enathikottai tank, Kamankottai tank, Kallikottai tank, Kollanur tank, Poovilathur tank, Pottithatti tank, Muthuvayal tank, Sevoor tank, Mennanthi tank, Valasai tank, Meyyanendal tank, Vairvanendal tank, Thennavanur tank, Mudalur tank, Karuthanendal tank,

Kumukkottai tank, Veeravanur tank, Manjur tank, Seyyalur tank, K.Karunkulam tank, Kalari tank, Ettivayal tank, Bogalur tank, Ilandhai tank, Achankudi tank, Uthirakosamangai tank, Nallankudi tank, Panaikulam tank and Melaseethai tank in Paramakudi and Ramanathapuram Taluks at an estimated cost of Rs.25.99 crore are in progress. So far, 53% works have been completed. By implementing this scheme, an extent of 8,851 acres under 33 tanks will be benefited.

- Rehabilitation and Restoration of 37 Ex-Zamin tanks at an estimated cost of Rs.9.26 crore will be implemented. On implementing this scheme, an extent of 2,383 acres will be benefited.

### **Theni District**

- Modernisation of Sirukulam Tank in Seelayampatti Village and Narayanasamudram tank in Kottur Village of Theni Taluk at an

estimated cost of Rs.0.75 crore is in progress. So far, 92% works have been completed. By implementing this scheme, an extent of 347 acres will be benefited.

### **Sivagangai District**

- Repair, Renovation and Restoration works in Vetrialangulam tank, Veerai Big tank, Mummudichanpatti tank, Muthupatti tank, Malaikandan tank, Keelamelamarungur tank, Perumudi tank, Paikudi tank, Nariyankudi tank, Sadayaneri tank, Jeithunganeri tank, Perungudi tank, Keelamellavellanji tank, Senkulam tank, Olaikudipatti tank, Kandanneri tank, Nerpugapatti tank and Satharasanpatti tank in Devakottai, Karaikudi and Sivagangai Taluks at an estimated cost of Rs.7.00 crore are in progress. So far, 56% works have been completed. By implementing this scheme, an extent of 2,527 acres under these 18 tanks will be benefited.

- Repair, Renovation and Restoration works in Siruvila tank in Sivagangai Taluk at an estimated cost of Rs.0.59 crore are to be commenced. By implementing this scheme an extent of 133 acres will be benefited.

### **Vellore District**

- Repair, Renovation and Restoration (RRR) works in Mambakkam tank, Soraiyur tank, Mazhaiyur tank, Melnethapakkam tank, Vazhapandal tank, Arur tank, Vilapakkam tank, Palayanur tank, Kakkankarai tank, Kurumberi tank, Rachamangalam tank, Saduperi tank, Thorapadi tank, Veppampattu tank, Varagur tank, Kilpadi tank, Ayiramangalam tank, Melpudupakkam Big tank, Melpudupakkam Otteri tank, Melmanavoor Kadaperi tank, Marimanikuppam tank, Kudapattu tank, Chinnasamudiram tank, Melpulam tank, Nagaleri tank, Sennaleri Tank, Nemili tank, Sengulam tank, Pennagar Tank,

Donimedu tank, Vembi tank, Nallur Tank, Kodali tank, Pali tank, Melnelli big tank & Chitteri tank, Vadugapattu tank, Kalavaiputhur tank, Melapandal tank, Kuttiyam tank, Varatharajapuram tank, Vettithangal tank, Senganavaram tank, Vellambi Chitteri tank, Pinnanthangal tank, Nambari tank, Kathalampattu tank, Athiyanam Chitteri tank, Vilari tank, Athiyanam Big tank in Arcot, Thirupathur, Vellore and Vaniyambadi Taluks at an estimated cost of Rs.20.01 crore are in progress. By implementing this scheme, an extent of 9,818 acres under these 50 tanks will be benefited.

- Repair, Renovation and Restoration works in Dalavanaickan tank of Vellore Taluk at an estimated cost of Rs.0.36 crore are to be commenced. By implementing this scheme an extent of 103 acres will be benefited.

### **6.3. Flood Protection Work**

Heavy rain fall occurring over a short period of time creates flood situation in many rivers of the State. Most of the tanks, ponds and other storage structures also receive heavy inflows during such periods from their own catchments, due to which they are also filled to the brim during the monsoon period. To protect the lives and livelihoods of the public and the fertile farm lands during floods, flood protection schemes are taken up periodically in the most vulnerable reaches of the river banks and their systems.

#### **Kancheepuram District**

- Improvements to Veerangal Odai and Short cut Diversion Drainage for Velachery Tank at an estimated cost of Rs.112.24 crore, under JNNURM Scheme is nearing completion.

### **6.4. Coastal Protection Works**

The State has a coastal length of 1076 km, covering 13 Districts viz., Kancheepuram, Chennai, Thiruvallur,

Villupuram, Cuddalore, Nagapattinam, Thiruvarur, Thanjavur, Pudukottai, Ramanathapuram, Tirunelveli, Thoothukudi and Kanniyakumari. The shore line changes are continuously being monitored by the Water Resources Department. During the South-West monsoon, the coastal hamlets of the southern districts of Kanniyakumari, Thoothukudi and Tirunelveli coasts are facing difficulties due to sea erosion. The coast line in most other districts are vulnerable to damages due to the cyclonic storms during the North-East monsoon. Damages are also occurring due to normal tidal activities all along the coast continuously all over the year. To mitigate such damages and to protect the lives and properties of the fishing community, coastal protection works such as Rubble Mound Sea (RMS) walls along the coast and Groynes angularly placed into the coast are being constructed.

16 coastal protection works in Kanniyakumari, Thoothukudi and Tiruvallur Districts at an estimated cost of Rs.109.13 crore will commence early.

The details of these works are as below:

### **Kanniyakumari District**

- The process of obtaining Environmental Clearance for the construction of Groyne at Mandaikaduputhoor in Kalkulam Taluk at an estimated cost of Rs.7.82 crore is in progress.

### **Thoothukudi District**

- The Process of obtaining Environmental Clearance for the construction of Rubble Mound Sea (RMS) walls in Vembaar, Veerapandipattinam, Periyathazhai, Kallamozhi, Keelavaippar at an estimated cost of Rs.69.49 crore is in progress.

### **Tiruvallur District**

- The process of obtaining Environmental Clearance for construction of series of 10 numbers of Groynes from Ernavoorkuppam to Ennore from LS 15/200 km to 19/000 km along the coastal area in

Madhavaram Taluk at an estimated cost of Rs.31.82 crore is in progress.

### **6.5. Formation of Roads and Construction of Bridges**

The villages located on either side of canals and channels need effective connectivity at many locations. In addition, the connecting roads are to be laid for facilitating easy and comfortable transportation of agricultural inputs and its products across the canals and channels. While constructing bridges across these water bodies, the bunds of the canals and channels are also suitably strengthened as per the standards.

Formation of 2 roads and construction of 8 Bridges / Causeways in Chennai, Dharmapuri, Madurai, Pudukkottai, Kancheepuram, Kanniyakumari, Ramanathapuram and Theni Districts at an estimated cost of Rs.30.58 crore are in progress.

The details of these works are as below:

#### **Chennai District**

- Construction of 2 lane bridge across North Buckingham Canal connecting the residential areas in Dr.Radhakrishnan Nagar in Tondiarpet Taluk at an estimated cost of Rs.5.00 crore is in progress. So far, 40% works have been completed. Connectivity between the residential areas lying adjacent to both sides of the canal will be provided.

#### **Dharmapuri District**

- Providing black topping to the existing jeep track in the left and right main canal of Vaniyar reservoir project in Pappireddipatti Taluk at an estimated cost of Rs.1.40 crore is in progress. So far, 30% works have been completed.

### **Kancheepuram District**

- Reconstruction of Single lane Bridge across the Buckingham Canal in Paramankeni Village of Cheyyur Taluk at an estimated cost of Rs.9.97 crore is in progress. So far, 50% works have been completed. Proper connectivity will be provided between Paramankeni village and the ECR Road benefiting fishermen community.

### **Kanniyakumari District**

- Construction of bridge, retaining wall and road with Black Topping surface from Kalimar Bridge to Symon Colony Bridge at Colachel at an estimated cost of Rs.2.94 crore is in progress.
- Reconstruction of Bridge across Pamboorivaikal near Patharai in Colachel village, Kalkulam Taluk, at an estimated cost of Rs.0.64 crore is in progress. So far, 65% works have been completed.

### **Madurai District**

- Construction of Causeway across Therkar river below Vadakarai Anicut in Thirumangalam Taluk at an estimated cost of Rs.0.95 crore is in progress. So far, 25% works have been completed.
- Construction of Causeway across Therkar river near Venkatasamudram Village in Thirumangalam Taluk at an estimated cost of Rs.0.90 crore is in progress. So far, 25% works have been completed.

### **Pudukkottai District**

- Construction of causeway across surplus vari of Perumanadu Tank in Perumanadu Village of Illupur Taluk at an estimated cost of Rs.1.00 crore is in progress. So far, 10% works have been completed.

### **Ramanathapuram District**

- Formation of Service Road on the Left side of Vaigai River in Paramakudi Taluk at an estimated cost of Rs.4.03 crore is in progress. So far, 80% works have been completed.

### **Theni District**

- Construction of Bridge across Varaganadhi river near Aadupalam in Thenkarai village of Periyakulam Taluk at an estimated cost of Rs.3.75 crore is in progress. So far, 10% works have been completed.

## **6.6. Buildings and other infrastructural facilities**

Construction and Renovation of Staff Quarters and Office buildings in Coimbatore, Namakkal, Pudukkottai Districts and Idukky District in Kerala at an estimated cost of Rs.1.43 crore are in progress.

The details of these works are as below:

### **Coimbatore District**

- Conversion of AC sheet roofing into RCC Roofing for Assistant Executive Engineer and Assistant Engineer Quarters at Parambikulam at an estimated cost of Rs.0.30 crore is in progress.

### **Idukky District (Kerala State)**

- Renovation of Dormitory Block - II at Thekkady will be commenced at an estimated cost of Rs.0.50 crore after obtaining clearance from the Forest Department.

### **Namakkal District**

- Construction of Sub-Division office building with Section offices for Sarabanga Basin Division, Namakkal in Namakkal Collectorate Complex in Thummankurichi Village in Namakkal Taluk at an estimated cost of Rs.0.28 crore is in progress.

So far, 40% works have been completed.

- Construction of section office building for Mettur Canal Section at Komarapalayam in Tiruchengode Taluk at an estimated cost of Rs.0.07 crore is in progress. So far, 90% works have been completed.

#### **Pudukkottai District**

- Construction of Sub-Division Office building with section offices for the Planning and Designs sub division in PWD Campus in Pudukottai Taluk at an estimated cost of Rs.0.28 crore is in progress.

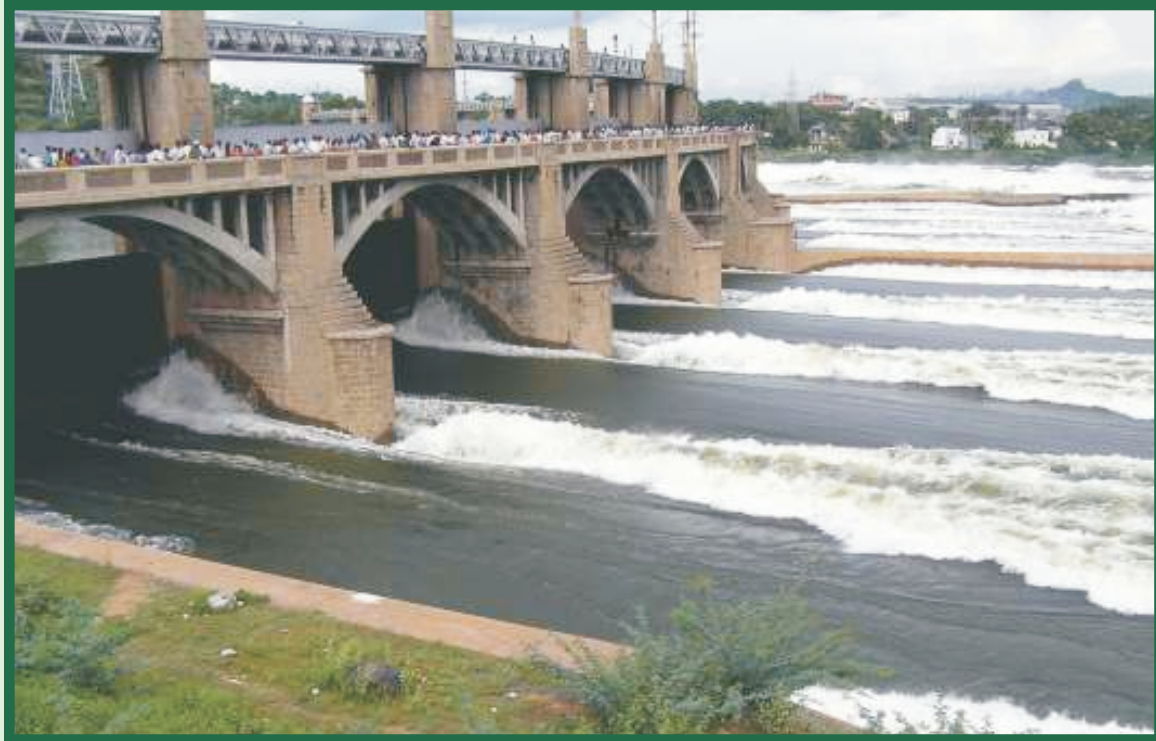
#### **6.7. Development of Parks**

The beautiful parks created during dam construction in all the dam sites in the State are being maintained by the department. In many major dams, the parks have become a huge tourist attraction. Periodically, these parks are being developed with special features and facilities. Rehabilitation and

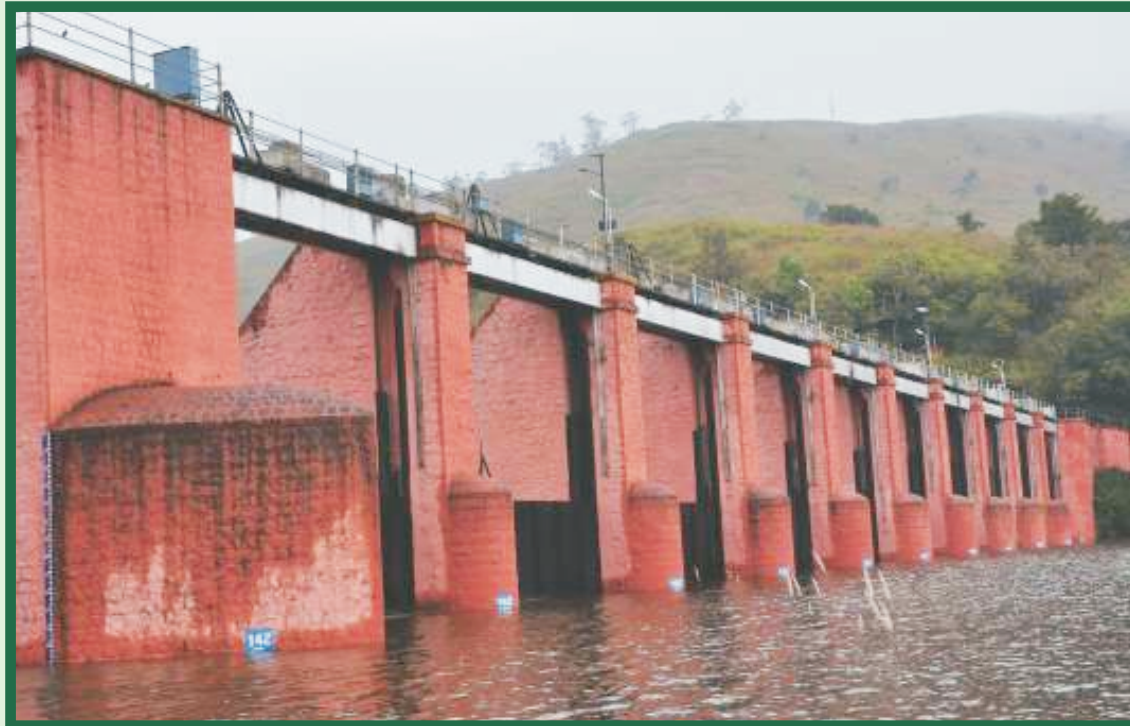
improvements to the main entrance of the Left Bank Side Park at downstream of Mettur Dam at an estimated cost of Rs.1.00 crore is in progress. So far, 15% works have been completed.

**Edappadi K. Palaniswami**  
**Minister for Public Works,**  
**Highways and Minor Ports**





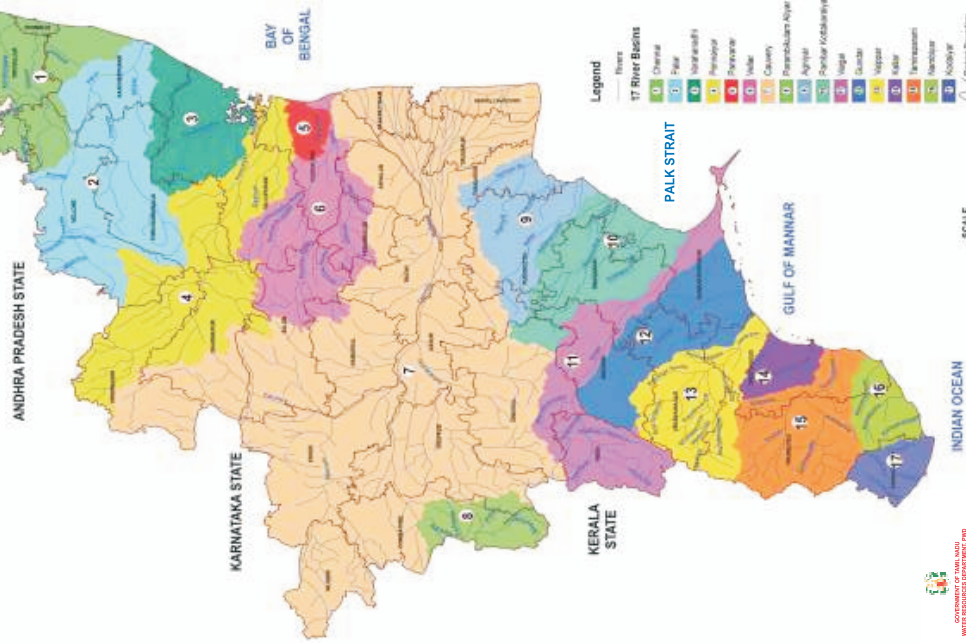
**View of Mettur Dam during surplus discharge**



**Mullai Periyar Dam water level reached  
142 Feet on 21.11.2014**



# 17 RIVER BASINS OF TAMIL NADU

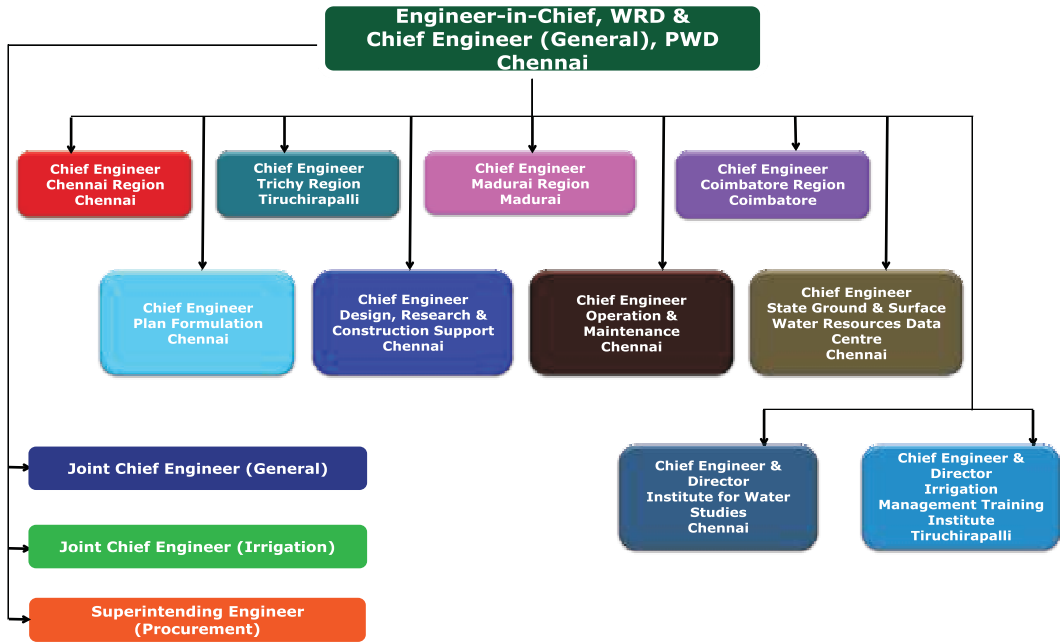



**GOVERNMENT OF TAMIL NADU**  
 DEPARTMENT OF WATER RESOURCES  
 WATER RESOURCES DEVELOPMENT AND  
 REGULATORY CONTROL DIVISION  
 TAMIL NADU GOVT. ENGINEERING COLLEGE  
 FOR WOMEN, CHENNAI-600 075

**SCALE**  
 0 50 100 125  
 Kilometers

- Legend**
- River
  - 17 River Basins
  - 1 Cauvery
  - 2 Pennar
  - 3 Narmada
  - 4 Krishna
  - 5 Godavari
  - 6 Tungabhadra
  - 7 Kaveri
  - 8 Gomathi
  - 9 Cauvery
  - 10 Pennar
  - 11 Narmada
  - 12 Krishna
  - 13 Godavari
  - 14 Tungabhadra
  - 15 Kaveri
  - 16 Gomathi
  - 17 Cauvery
  - District Boundary
  - District Name

**WATER RESOURCES DEPARTMENT - ORGANISATION CHART**





**Hon'ble Chief Minister inaugurated the Reservoir across Kallar odai near Viswakudi Village of Veppanthattai Taluk in Perambalur District on 27.02.2016**



**Hon'ble Chief Minister inaugurated the Bed Dam constructed across Vaigai River in Thelichathanallur Village of Paramakudi Taluk in Ramanathapuram District on 27.02.2016**



**Hon'ble Chief Minister inaugurated the High Level Bridge across river Kollidam at mile 45/5+50m in Azhagiyamanavalam Village in Ariyalur Taluk and District on 27.02.2016**





**Rehabilitated Pelandurai Regulator across Vellar River in Thittagudi Taluk of Cuddalore District under NABARD Scheme**



**Rehabilitated and Improved Sidhamalli Dam in  
Karkudi Village of Udayarpalayam Taluk in Ariyalur District  
under Dam Rehabilitation and Improvement Project**



**Rehabilitated Sethiathope (Regulator) Anicut across  
Vellar River in Chidambaram Taluk of Cuddalore District  
under NABARD Scheme**



**Rehabilitation of Aliyar Dam in Pollachi Taluk of Coimbatore District under Dam Rehabilitation and Improvement Project**



**Tailend Regulator constructed across Kandaparichanar Drain at LS 26.400 km in Jambuvanodai Village of Thiruthuraipoondi Taluk in Thiruvarur District under NABARD Scheme**



**Rehabilitated Punganur Anicut across Ariyar River in Srirangam Taluk of Trichy District under NABARD Scheme**



**Check dam constructed near Millidane in Nedugula (kappatty) Village in Kothagiri Taluk of Nilgiris District under NABARD assistance**



**Check Dam Constructed across Karaipottanar River in Nagayanallur Village of Thottiyam Taluk in Trichy District under NABARD Scheme**





**Strengthened slipped portion of Kandaleru Poondi canal  
at L.S.13.000 km to 25.275 km in Uthukottai Taluk of  
Tiruvallur District under NABARD Scheme**



**New Canal constructed for Linking of Parambikulam Aliyar Project system to Uppar Canals in Dharapuram Taluk of Tiruppur District under NABARD assistance**