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PUBLIC WORKS DEPARTMENT
WATER RESOURCES DEPARTMENT

1.0. Introduction

1.1. Activities of the Water Resources Department

‘‘வான்நின்று உலகம் வழங்கி வருதலால்
தான்அமிழ்தம் என்றுணரற் பாற்று’’.

Sustenance of life on earth is due to rain which is the elixir blessed by the nature as stated by Thiruvalluvar.

Water resource management is the process of planning, developing, distributing and managing the optimum use of water resources in terms of both quantity and quality, to fulfil all water demands.

This department is taking all necessary efforts to harness and utilize the available water

resources by adopting effective management strategies.

1.2. Water Resources Potential

Surface Water Potential

There are 34 major rivers in the State. These have been grouped into 17 river basins and 127 sub-basins. The normal rainfall of the State is 911.60 mm. The total surface water potential of the State is 885 T.M.C ft. which includes 249 T.M.C ft. realised from the neighbouring States through Inter-State Agreements.

Ground Water Potential

Based on the Firka wise Ground Water Potential Assessment, out of the 1,166 Firkas in the State, 462 Firkas are categorised as Over-Exploited, 79 Firkas as Critical, 163 Firkas as Semi-Critical, 35 Firkas as Saline and 427 Firkas as Safe. The quantity and the quality of the ground water are being

continuously monitored and assessed by the Department. Construction of structures such as Check Dams, Bed dams, sub-surface dykes, Recharge shafts, Percolation ponds etc., are being carried out to protect, harness and improve the available ground water potential of the State.

1.3. Organisation Structure

Water Resources Department and Building Organisation are the two Technical wings of the Public Works Department, which are headed by the Engineer-in-Chief, Water Resources Department and the Engineer-in-Chief (Buildings) respectively. The Chief Engineer (General) performs the Establishment and Administrative works of Public Works 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 has been divided into four Regions, viz., Chennai, Tiruchirappalli, Madurai and Coimbatore based on the River-Basin frame work. Each Region is headed by a Chief Engineer, who acts as the Basin Manager of the river basins in their jurisdiction.

In addition, there are seven functional wings and four special wings as indicated below:-

Functional Wings

1. Plan Formulation
2. Design, Research and Construction Support
3. Operation and Maintenance
4. State Ground and Surface Water Resources Data Centre
5. Institute for Water Studies, Hydrology and Quality Control
6. Irrigation Management Training Institute

7. State Water Resources Management Agency

Special Wings

1. Cauvery Technical Cell cum Inter-State Waters Wing
2. Tamil Nadu Water Resources Development Cell
3. Directorate of Sand Quarrying Operations
4. Tamil Nadu Water Resources Conservation and Rivers Restoration Corporation

In addition, the Directorate of Boilers headed by a Superintending Engineer, is also functioning under the Water Resources Department.

The Engineer-in-Chief, Water Resources Department co-ordinates all the works of this Department and acts as the Technical Head of the Water Resources Department.

2.0. Activities of the Functional Wings

In the Water Resources Department, there are 7 Functional Wings for taking up specialised activities involved in the implementation of the schemes, collection and compilation of data pertaining to the Ground Water, managing the State Water Resources and imparting trainings of varied nature to the officials and staff of this Department and other allied Departments. Each wing is headed by a Chief Engineer and in addition, the Directorate of Boilers, headed by the Director in the rank of Superintending Engineer is functioning under this Department.

The functions of each wing are detailed below:

2.1. Plan Formulation

This wing undertakes detailed investigation and prepares Detailed Project Reports for formulation of new Major, Medium and Minor Irrigation Schemes and for inter-linking of

Rivers within the State. In addition, this wing acts as the Nodal Agency for the following schemes:-

- NABARD assistance schemes
- National Agriculture Development Programme

2.2. Design, Research and Construction Support

Design, Research and Construction Support wing acts as the Nodal Agency for the following schemes:-

- Kudimaramath scheme.
- Repair, Renovation and Restoration of water bodies.
- Desilting of Dams in the State.
- Integrated Coastal Zone Management Project for Coastal Protection.

The Design Circle functioning under this wing evolves design and drawings for irrigation structures such as reservoir, canal, pond, tank, anicut, regulator, checkdam etc. In addition, Design Circle recommends necessary remedial measures for the problems like cracks, seepage, leakage, distress etc., occurs in the irrigation structures.

The Soil Mechanics & Research Division functioning under this wing acts as a Central Quality Control Laboratory at Chennai conducting Field and Laboratory tests for soil, concrete and construction materials.

The Institute of Hydraulics and Hydrology functioning under this wing carries out research in the fields of Hydraulics, Hydrology and Coastal Engineering. In addition, monitoring of coastline along with observation and performance evaluation of coastal protection structures are also taken up by this Institute.

2.3. Operation and Maintenance

This wing collects and compiles water level data of 15 Major Reservoirs, 5 Drinking water Reservoirs for Chennai city in the State, and 4 Reservoirs of Karnataka in the Cauvery Basin and Daily flow data at Billigundulu Gauge and Discharge Station of Central Water Commission and furnishes report to the Government on daily basis.

Flood Control Room

In the office of the Chief Engineer, Operation and Maintenance, a control room functioning round the clock has been setup during the North East Monsoon period for monitoring the daily water level of all the Dams / Reservoirs of the State and coordinates with State Emergency Operation Centre.

Periodical monsoon inspection of Dams is carried out and reports are compiled by the Dam Safety Directorate under the control of this

wing. 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 Central Water Commission.

The State Project Management Unit under this Wing is the Nodal Agency for implementation of the World Bank assisted Dam Rehabilitation and Improvement Project.

2.4. State Ground and Surface Water Resources Data Centre

The State Ground and Surface Water Resources Data Centre undertakes the following works for the purpose of Planning, Development and Management of Ground water resources of the State of Tamil Nadu:-

- ❖ Groundwater investigation and Assessment of Ground water potential of the State by Scientific methods.

- ❖ Continuous monitoring of Hydrological, Hydro meteorological and Water quality of Groundwater and surface water.
- ❖ Improving the Ground water storage through artificial recharge and Rain water harvesting.
- ❖ Issuance of No Objection Certificate subject to conditions, for usage of groundwater for Minor Irrigation Schemes, Industries and Infrastructure Schemes.
- ❖ Special studies for monitoring sea water intrusion into fresh water aquifer along the 1076 km of the State coastline.
- ❖ Render assistance for formulation of National and State water policies.

2.5. Institute for Water Studies, Hydrology and Quality Control

The Institute for Water Studies, Hydrology and Quality Control carries out the works of scientific planning at micro level, in accessing

and management of the water resources of all the river basins in Tamil Nadu.

A well- developed Remote Sensing Centre of this Institute provides remote sensing and Geographic Information System based support to the department for effective management of water resources of the State.

The seven Quality Control Divisions are functioning at Chennai, Villupuram, Tiruchirappalli, Salem, Madurai, Tirunelveli and Coimbatore as Head Quarters under this Institute.

2.6. Irrigation Management Training Institute

Irrigation Management Training Institute, Tiruchirappalli is functioning under the Public Works Department.

The Institute is functioning under the guidance of the Governing Council with the Secretary, Public Works Department, Government of Tamil

Nadu as Chairman. 12 Senior Officers from the various departments including the Secretaries of Finance, Agriculture and Co-operation, Food and Consumer Protection Departments are the members in the Governing Council. This institute is headed by the Director General, who is the Chief Engineer of Water Resources Department. Faculty members are drawn from Public Works Department (Water Resources Department), Agriculture Department, Agricultural Engineering Department and Tamil Nadu Agricultural University on deputation.

The prime objective of this institute is to increase the Agricultural production with optimum utilization of water. This institute gives need based capacity building training to the officers involved in Irrigation and Agriculture and also to the Farmers to create awareness

about the new techniques and improvements in the field of Irrigation Water Management.

During the year 2019-2020, upto February 2020, 98 training programmes were conducted and 3,039 participants (Officials of Water Resources Department, Agriculture Department, Agriculture Engineering Department and Farmers) were benefitted.

2.7. State Water Resources Management Agency

The SWaRMA has developed the web enabled “Tamil Nadu Water Resources Information System”, to aid efficient integrated water resources management and regulation. This database is being made available to the Water Resources Department and other line Departments / Agencies.

2.8. Directorate of Boilers

The Directorate of Boilers enforces the Boilers Act, 1923, a Government of India Act, in the State for the safe operation of the Boilers to ensure the safety of public life and property and also plays a crucial role in the phenomenal development of Industries in the State.

The Directorate approves Boilers and Boiler components after inspecting them at various stages of design and manufacturing as per Indian Boiler Regulations, 1950.

This Directorate conducts examinations and issues certificates for qualified Boiler operation engineers and Boiler attendants as per Boiler Operation Engineer Rules, 2011 and Boiler Attendants Rules, 2011 for operation of Boilers in the State.

Competency certificates are issued to the successful candidates after conducting tests for high pressure welders employed in Boilers.

One of the responsibilities of the Directorate is to identify and cease the boilers that are unregistered and running without certificates. Registration, Approval and Renewal of Boilers and its Manufacturing units are carried out through Online.

3.0. Activities of Special Wings

3.1. Cauvery Technical Cell cum Inter – State Waters Wing

The Cauvery Technical Cell cum Inter – State Waters Wing is assisting the Government in dealing with all the Inter – State Water sharing disputes / issues. The Wing is formulated in 1990. This Wing provides all technical inputs / data / information required to file Petitions in the Water Disputes Tribunal / Supreme Court and participates in the periodic meeting of the River Water Management Authority, Regulation Committee of Inter-State river basin in which Tamil Nadu is a riparian State or stakeholder. In addition, this Wing is also dealing with the schemes for inter-linking of Inter-State Rivers, and participates in various Committees of the Government of India on this subject and with the scheme proposing agencies, viz., National Water Development Agency and Central Water

Commission, Ministry of Jal Shakti, draft Bills on water etc. This wing prepares reports on the water resource development of the State.

Some of the important issues handled by this Wing are Sharing of Cauvery waters, establishing the rights of the State in the Mullai Periyar Dam, obtaining the rightful share of waters from the Parambikulam Aliyar Project, defending the rights of the State in Neyyar River water sharing, Pennaiyar River water and Palar River water issues. Further, issues relating to the Schemes such as Godavari – Cauvery Link, Pamba – Achankoil – Vaippar link and Pandiyar – Punnampuzha Scheme are also dealt by this wing.

3.2. Tamil Nadu Water Resources Development Cell

Under the chairmanship of a retired Chief Engineer of Water Resources Department and retired Engineers as members the Tamil Nadu

Water Resources Development Cell has been constituted to formulate the new project with intend to develop the water resources of the State by identifying new available water resources, water conservation and augmentation and to seek financial assistance for implementation of the project, by co-ordinating with Government of India and other funding Agencies.

The Cell has been working on the preparation of proposals to store the monsoon river flow, control the sea water intrusions / pollution and improving Ground Water potential. In addition, the cell has been preparing various Detailed Project Reports which are scrutinized by Chief Engineer, Plan Formulation and recommended by the Engineer-in-Chief, Water Resources Department to Government for approval.

3.3. Directorate of Sand Quarrying Operations

The Project Director has been appointed in the cadre of an Indian Administrative Service officer to monitor and coordinate the Sand Quarrying Operations in Tamil Nadu. The sand quarrying operations are carried out by the Mining and Monitoring Divisions functioning with Headquarters at Chennai, Madurai, Thanjavur, Tiruchirappalli and Villupuram.

The Project Director coordinates with the District Collectors and the concerned Officials of various Departments such as Geology & Mining, Tamil Nadu Pollution Control Board, Department of Environment and Forests etc., to facilitate and expedite the opening of new quarries. Various Court Cases pertaining to sand quarries before the Hon'ble Courts are being followed up closely by this Directorate.

The Directorate is monitoring the quarries and depots through the CCTV Cameras installed at these places by the Control Room established at Chennai. A robust Customer Care system is also in operation in the Control Room to redress the grievances of the public.

3.4. Tamil Nadu Water Resources Conservation and Rivers Restoration Corporation

The Tamil Nadu Water Resources Conservation and Rivers Restoration Corporation has been registered with the Registrar of Companies, Chennai and incorporated with effect from 25.12.2019. The main objective of the Corporation is to promote water conservation, reclamation of lake, rivers and modernize the existing irrigation infrastructures. The Corporation will also focus on interconnecting flood surplus canals and interlinking of rivers and river basins. Promotion of climate resilient infrastructure with special

emphasis on prevention of sea water intrusion, wet land conservation and flood mitigation will be the other priority areas for the Corporation. The Corporation will also promote convergence of different activities to fulfill the objectives of the water mission launched by the Government. The Corporation will function under the administrative control of the Public Works Department. The Chairman cum Managing Director for the Corporation has been appointed. An amount of Rs.5.00 Crore as Share Capital and Rs.5.00 Crore as Grants-in-Aid to the corporation have been provided.

4.0. Sustainable Development Goals

The 17 Sustainable Development Goals and 169 targets are part of the Sustainable Development Goals-2030 Agenda adopted by 193 Member States at the UN General Assembly Summit.

This Department deals with a fundamental and essential element of nature on which life depends — Water. The sustainable management of water is vital and is covered under Goal 6 in Sustainable Development Goals. The targets under this Goal pertaining to Water Resources Department are as follows:-

Target 6.4 **-** By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.

Target 6.5 **-** By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate.

Target 6.6 - By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.

Target 6.a **-** By 2030, expand international cooperation and capacity-building support to developing countries in water and sanitation related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies.

Target 6.b **-** Support and strengthen the participation of local communities in improving water and sanitation management.

In G.O.(Ms) No. 36, Public Works (I.Spl.1) Department, dated: 25.01.2020, a unit has been

formed in Public Works Department for achieving the Sustainable Development Goals.

With the effective implementation of various schemes of the department and taking a new path towards more international cooperation, the water bodies, wetlands, aquifers, lakes and rivers, which are precious resource of water for future generation are being protected and the State is stepping forward to achieve the status of “Water surplus State” in the country. The department is also well on the path to accomplish the 2030 agenda of Sustainable Development Goals.

5.0. Inter – State Water Issues

5.1. Cauvery Water Dispute

Under Section 5(2) of the Inter-State River Water Disputes Act, 1956, the Cauvery Water Disputes Tribunal delivered its Final Order on 05.02.2007. The allocation made amongst the party States at 50% dependability is as follows:-

(in TMC ft.)

Karnataka	270
Tamil Nadu	419
Kerala	30
Pondicherry	7
Environmental Protection	10
Inevitable escapages into sea	4
Total	**740**

Due to untiring and continuous legal battle made by Government of Tamil Nadu and with the

intervention of Supreme Court, the Government of India Notified the Final Order of the Tribunal on 19.2.2013 in its Gazette. The Government of Tamil Nadu had consistently urged the Government of India to immediately constitute the Cauvery Water Management Board and Cauvery Water Regulation Committee to implement the Final Order of the Tribunal.

After hearing the Appeals filed by States of Karnataka, Kerala and Tamil Nadu against the Final Order of the Tribunal, the Supreme Court delivered its Judgement on 16.2.2018 with the allocation of water as detailed below:-

(In T.M.C. ft.)

Karnataka	284.75
Tamil Nadu	404.25
Kerala	30
Pondicherry	7
Environmental Protection	10

Inevitable escapages into sea	4
Total	**740**

As a consequence of the aforesaid allocation, the Government of Karnataka would be required to make available 177.25 T.M.C. ft. of water to Tamil Nadu at the Inter-State boarder at Billigundulu for the basin. Apart from the modifications effected hereinabove, no interference has been made with the determination recorded by the Tribunal.

In its Judgement dated 16.02.2018, it was directed to Government of India to frame a Scheme within six weeks from that date for implementing the Judgement. Pursuant to the above, the Government of Tamil Nadu through letters and Memoranda urged the Government of India to constitute a Scheme. Since, the Government of India did not constitute a scheme

as per the Judgement of the Supreme Court and following this Government of Tamil Nadu filed a Contempt Petition in the Supreme Court. The Government of India filed a draft scheme. The Supreme Court accepted the draft scheme by its Judgement dated 18.05.2018. The Government of India notified the “Cauvery Water Management Scheme, 2018” consisting of Cauvery Water Management Authority and Cauvery Water Regulation Committee in its Gazette on 01.06.2018.

The Government of Tamil Nadu has nominated the Principal Secretary, Public Works Department as the Member of Tamil Nadu in the Cauvery Water Management Authority and the Chief Engineer, Water Resources Department, Tiruchirappalli Region as Member of Tamil Nadu in the Cauvery Water Regulation Committee. The Cauvery Water Management Authority held 5 meetings and the Cauvery Water Regulation

Committee held 26 meetings so far. In these meetings, the views of Government of Tamil Nadu were strongly urged.

5.1.1. Action taken by Tamil Nadu to prevent Government of Karnataka on its proposal to construct a Dam at Mekedatu

The Government of Tamil Nadu has continuously been conveying its strong objections to the Government of Karnataka and the Government of India on the proposed new reservoir at Mekedatu across the river Cauvery.

Karnataka prepared Feasibility Report for Mekedatu Balancing Reservoir-cum-Drinking Water Project with a capacity of 67.16 T.M.C. ft. and unilaterally submitted to Project Appraisal Directorate, Central Water Commission, New Delhi, on 04.08.2018. The Project Appraisal Directorate, Central Water Commission on 24.08.2018, forwarded the Feasibility Report of the Mekedatu Balancing Reservoir-cum-Drinking

Water Project of Karnataka to Tamil Nadu. Though the Government of Tamil Nadu conveyed its strong objections to the above project report, the Central Water Commission on 22.11.2018 granted permission to the Cauvery Neeravari Nigama Ltd., Karnataka for preparation of Detailed Project Report on Mekedatu project.

The Government of Tamil Nadu on 30.11.2018 filed a Miscellaneous Application in the Supreme Court to pass orders on the following prayer:-

(i) Stay the operation of the permission given by the Central Water Commission on 22.11.2018 to Karnataka Cauvery Neeravari Nigama Ltd., Bangalore, to go ahead with preparation of Detailed Project Report for Mekedatu project;

(ii) Direct the Central Water Commission, Ministry of Water Resources, to withdraw the letter dated 22.11.2018;

(iii) Restrain the Cauvery Neervari Nigama Ltd., from preparation of the Detailed Project Report of Mekadatu Dam;

(iv) Direct the State of Karnataka and its instrumentalities to maintain *status quo* from construction of any projects like Anicuts in the Cauvery Basin of Karnataka.

The Government of Tamil Nadu on 05.12.2018 filed a Contempt Petition against Director, Project Appraisal Directorate, Central Water Commission, Secretary to Government of Karnataka, Water Resources Department and others.

The above cases are pending before the Supreme Court.

On an information received that the Cauvery Neeravari Nigama Ltd, Karnataka on 20.06.2019 approached the Ministry of Environment, Forest

and Climate Change for grant of Environmental Clearance for its proposed construction of Mekedatu Project, the Hon'ble Chief Minister wrote to the Hon'ble Prime Minister on 24.06.2019 requesting to direct the Ministry of Environment, Forest and Climate Change to issue instructions to the Authorities concerned not to consider the proposal of Cauvery Neeravari Nigama Ltd for grant of Terms of Reference to obtain Environmental Clearance for Mekedatu Project. Further, it was urged that the Ministry of Jal Shakti be directed to advise the Central Water Commission to reject outright and return the Detailed Project Report of Mekedatu Project and also not to accord any clearance to any project of Karnataka without obtaining the prior concurrence of the Government of Tamil Nadu and of other co-basin States.

Hon'ble Chief Minister wrote to Hon'ble Minister of Environment, Forest and Climate Change and

Information and Broadcasting and Hon'ble Minister for Jal Shakti on 10.07.2019, requesting him to instruct the Ministry of Environment, Forest and Climate Change to issue instruction to the Expert Appraisal Committee to withdraw the subject of grant of fresh Terms of Reference to Karnataka for the above project from the Agenda.

The Expert Appraisal Committee for River Valley and Hydroelectric Projects discussed the proposal of the Karnataka in the meeting held on 19.07.2019 and decided to seek further details from the project proponent.

When Cauvery Neeravari Nigama Limited, Government of Karnataka again approached the Director and Member Secretary, River Valley and Hydroelectric Projects, Ministry of Environment, Forest and Climate Change, in letter dated 04.10.2019 for grant of Terms of Reference for the project, Hon'ble Chief Minister of Tamil Nadu

on 09.10.2019 wrote to Hon'ble Minister for Jal Shakti and Hon'ble Minister for Environment, Forest and Climate Change and Information and Broadcasting requesting to issue instruction to the Expert Appraisal Committee not to entertain the proposal of Karnataka and to reject the Detailed Project Report of Karnataka seeking grant of Terms of Reference to conduct Environmental Impact Assessment / Environment Management Plan Report for this project.

The Government of Tamil Nadu in the letter to the Government of India, Ministry of Environment, Forest and Climate Change dated 24.01.2020, conveyed the strong objections and urged that the Expert Appraisal Committee shall not grant environmental clearance to Mekadatu Project of Karnataka.

The Government of Tamil Nadu is taking all necessary action to prevent Karnataka from

constructing a Dam at Mekedatu or any other place, in the Cauvery basin of Karnataka in violation of the Final Order of the Tribunal and the judgement of the Supreme Court and to safeguard the rights of Tamil Nadu.

5.1.2. Sewage let into Cauvery and Pennaiyar by Karnataka

In view of the huge damage and suffering likely to cause to Tamil Nadu and its inhabitants because of letting in of sewage and industrial effluents in Cauvery and Pennaiyar rivers by Karnataka, and in order to prevent them, Tamil Nadu filed a Suit in the Supreme Court in the year 2015. According to the data available in the Final Report submitted by the Central Pollution Control Board to the Supreme Court, it is confirmed that due to letting in of sewage by Karnataka in the Cauvery and Pennaiyar, these two rivers are polluted. The case is pending in the Supreme Court.

5.2. Mullai Periyar Dam

The Periyar Project was executed by virtue of the Lease Deed signed between the Maharaja of Travancore and the Madras Presidency on 29.10.1886. This deed is for 999 years with effect from 01.01.1886. About 8,000 acres has been leased for this project. About 2.20 lakh acres are benefitted by this Project in the Districts of Theni, Dindigul, Madurai, Sivagangai and Ramanathapuram and in a year on an average 22 T.M.C. ft. of water is diverted.

Apprehensions were raised about the safety of this Dam in the year 1979. In order to bring the Dam to modern standards, the Central Water Commission suggested certain remedial measures after which the water level could initially be raised to 145 ft. which was not

accepted by Kerala. The Government of Kerala held the view that the water level in the Dam should be kept at 136 ft. at all times.

In the Writ Petitions filed, the Supreme Court pronounced its Judgement on 27.02.2006, which permitted the Government of Tamil Nadu to raise the water level to 142 ft. The Government of Kerala amended its Kerala Irrigation and Water Conservation Act, 2003, to thwart the Supreme Court's Order and fixed the FRL of Mullai Periyar Dam as 136 ft.

In the Suit filed by the Government of Tamil Nadu against the amended Act of Kerala, the Supreme Court delivered its Judgement on 07.05.2014 and affirmed the Judgement of 2006. Further, the Supreme Court held that the amended Act of Kerala is unconstitutional in so far as Mullai Periyar Dam is concerned. The Court also permitted Tamil Nadu to raise the

Water level of the Mullai Periyar Dam upto 142 ft. and also ordered to constitute a Supervisory Committee to periodically inspect the dam and make recommendations.

As decided by the Supervisory Committee on 17.07.2014, the shutters of the spillway of the dam were lowered down. The water level in the Mullai Periyar Dam reached 142 ft. on 21.11.2014 which was a historic achievement after 35 years. Further, for the second and third time the water level in the dam reached 142 ft. on 07.12.2015 and 15.08.2018, respectively.

The Government of Kerala in September, 2019, has conveyed its concurrence for resumption of power supply to Mullai Periyar Dam which was disconnected in June, 2000. The Government of Tamil Nadu has paid Rs.13,47,035/- recently claimed by the Kerala State Electricity Board in

addition to Rs. 1.65 Crore already paid for the above work.

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

For the balance works recommended by Central Water Commission, by Expert Committee (constituted in the year 2000) and ordered by the Supreme Court in its Order dated 27.02.2006 which has been reiterated by the Empowered Committee (constituted in the year 2010) and by the Supreme Court in its Order dated 07.05.2014, the Government have accorded Administrative Sanction for an amount of Rs.7.85 crore to carry out the above works. In order to strengthen the Baby Dam, 23 trees have to be felled down. The Government is pursuing action to obtain the Forest clearance from the Government of India. Works that do not require clearance have been completed.

The I.A filed in the Supreme Court for giving directions to the Government of Kerala to cooperate for quick completion of works for felling 23 trees and Repair to the Ghat road to Dam site is pending.

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

The National Green Tribunal (Southern Zone) on the proposal of the State of Kerala to construct a Mega car Park in the water spread area of Mullai Periyar Dam in its Judgement dated 15.11.2017, ordered that since the National Tiger Conservation Authority has granted permission, approval under the Forest Conservation Act is not necessary. Against this Judgement, the Government of Tamil Nadu has filed Civil Appeals in the Supreme Court.

The Supreme Court on 04.12.2017, has ordered that no permanent construction should be carried

out by the Government of Kerala. As the Government of Kerala has undertaken construction works of permanent nature, the Government of Tamil Nadu on 08.05.2019 filed a Contempt Petition against the concerned officers of Kerala in the Supreme Court. The matters are pending before the Supreme Court.

Apart from this, the Government of Tamil Nadu in 2014 has filed a Civil Suit in the Supreme Court against the proposal of Government of Kerala to construct the Mega Car Park and to remove the encroachments in the leased area. This case is pending in the Supreme Court.

5.3. Palar River Water Issue

The River Palar which is one of the Inter-State rivers, originates in Kolar District in Karnataka, traverses through Andhra Pradesh via Chittoor District and runs through Vellore, Thiruvannamalai and Kanchipuram Districts in

Tamil Nadu, before confluencing into the Bay of Bengal.

When the Government of Andhra Pradesh proposed to construct a reservoir with a capacity of 0.6 T.M.C. ft. across Palar at Ganesapuram in Kuppam Taluk in Chittoor District, in violation of the Madras-Mysore Agreement of the year 1892, the Government of Tamil Nadu in the year 2006, filed a Suit in the Supreme Court praying to stop the execution of the said project by Andhra Pradesh. The cross-examination of the witnesses of Tamil Nadu and Andhra Pradesh are completed. The case is pending in the Supreme Court. In the meanwhile, no consensus could be reached in the meeting convened by the Government of India with the Government of Tamil Nadu and Andhra Pradesh on 07.05.2018.

When the Government of Andhra Pradesh started to increase the height of check dams, to repair the existing check dams and to construct

new check dams across Palar River at several places in Chittoor District, the Government of Tamil Nadu filed another Suit in the year 2016 in the Supreme Court. The Government of Tamil Nadu has also filed Interlocutory Applications (I.A) in the Supreme Court in the years 2017, 2018 and 2019, to bring back the increased height to its original level and to allow the natural flow due to Tamil Nadu. This case is also pending in the Supreme Court.

5.4. Parambikulam Aliyar Project - Review of Agreement

The Parambikulam Aliyar Project, was planned, designed and executed by the Government of Tamil Nadu as one of the Second Five Year Plan Projects (1956 - 1961), with the consent and co-operation of the Government of Kerala for sharing mutual benefits through the utilization of flows in the west flowing rivers of Anamalayar, Nirar, Sholayar, Parambikulam and its tributaries

Peruvaripallam, Thunakadavu and the Palar and Aliyar flowing in the plains and the streams flowing into them, for generation of Hydro Electric Power, irrigation, drinking water supply, industrial use and other purposes in both the States. An agreement between the Governments of Kerala and Tamil Nadu was entered into on 29.5.1970 with retrospective effect from 09.11.1958. The Taluks of Pollachi, Palladam, Udumalaipettai and Dharapuram in the Districts of Coimbatore and Tiruppur are benefitted. The Palakkad and Trichur Districts of Kerala State are also benefitted. 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 several Inter-State discussions were held at the level of Ministers and Officials for completing the review of the Agreement.

An Inter-State Meeting of the Hon'ble Chief Ministers of Tamil Nadu and Kerala was held at Thiruvananthapuram, on 25.09.2019 to Review PAP Agreement and discuss about other River Water Issues between Tamil Nadu and Kerala.

As decided in the above meeting, both Tamil Nadu and Kerala Governments have constituted a Committee consisting of five members from each State at the Secretary level to review of the Parambikulam – Aliyar Project Agreement, construction of reservoir to divert water to Tamil Nadu from Anamalaiyar river, etc.

The first meeting of the Principal Secretary level Committee was held on 12.12.2019 at Chennai and deliberated the issues related with PAP.

The Government of Tamil Nadu is making all efforts to complete the first review of the PAP Agreement.

5.4.1. Diversion of 2.5 T.M.C. ft. of water from Anamalayar to Tamil Nadu.

There is a provision to divert 2.5 T.M.C. ft. of water from Anamalayar, in the Agreement. A Supplementary Agreement is to be executed for this purpose. Contending that its Idamalayar Project has not been completed, Kerala has not yet given consent for the above diversion. Further, Kerala proposes to execute the project by itself viz., 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 Manaliar for (2x50) 100 MW Hydro Power Generation and sent the combined feasibility report to Tamil Nadu on 18.06.2013. This was discussed in the meeting held on 12.12.2019 at Chennai and Kerala agreed to furnish further details to Government of Tamil Nadu early.

5.4.2. Nirar - Nallar Multipurpose Straight Cut Scheme

The scheme envisages formation of a reservoir with 7 T.M.C. ft. capacity across Nallar for diversion of water from Upper Nirar weir directly to Nallar by means of a tunnel and also generation of Hydro power. Tamil Nadu is pressing for Nirar – Nallar Multipurpose Straight cut scheme, an alternative to the present circuitous route i.e., from Upper Nirar to Sholayar reservoir, then to Parambikulam reservoir and then through the contour canal to Thirumurthy reservoir to directly feed the water into the Nallar stream and thereafter to Thirumurthy reservoir for irrigation to avoid the water loss. The consent of Government of Kerala was sought for this project. But, Kerala informed that this project is a new project not within the purview of the review of the Agreement. This issue was discussed in the Secretary level Committee held on

12.12.2019 at Chennai and will be discussed further in the subsequent meetings.

5.5. Neyyar Irrigation Project

The first and second stages of Neyyar Irrigation Project, were planned and executed by the Travancore - Cochin Government during the 1st and 2nd Five Year Plan periods (1951-1956 & 1956- 1961). Due to the States Re-organisation in 1956, a portion of the ayacut localized to be served by this project to an extent of 9,200 acres lying in Vilavancode Taluk got transferred to Tamil Nadu and forms part of Kanniyakumari District. The canal works required to feed this ayacut were executed by the Government of Tamil Nadu with the concurrence of the Government of India and the Government of Kerala. The project is in operation from the year 1965. The Government of Kerala abruptly stopped the supply of water from March, 2004. Eventhough, bilateral discussions were held

several times to release water to Tamil Nadu, no solution could be found out. Hence, in the year 2012, the Government of Tamil Nadu filed a Suit in the Supreme Court and the case is pending.

In the meeting held between the Hon'ble Chief Ministers of Tamil Nadu and Kerala at Thiruvananthapuram on 25.09.2019, Tamil Nadu requested to release water from Neyyar dam to the ayacut areas in Vilavancode Taluk in Kanniyakumari District. This is actively pursued with the Government of Kerala.

5.6. Repairs to Shenbagavalli Anicut

Shenbagavalli Anicut is a 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 in existence more than 200 years and it diverts flows to mainly two tanks namely Kulashekharaperi and Rasingeperi in Sivagiri Taluk of Tenkasi District through a

channel, namely, Kanyamathagu channel which is 4,400 ft. (1341m) long. About 10,924 acres in Tenkasi and Virudhunagar Districts are being irrigated. In order to carry out the repairs to the Shenbagavalli Anicut, the Government of Tamil Nadu is continuously holding discussions with the Government of Kerala.

In the Madurai Bench of Madras High Court, 3 Writ Petitions have been filed praying to take steps to repair the Shenbagavalli Anicut and Kanyamathagu channel. The Government of Tamil Nadu, has filed Counter Affidavits for the above three Writ Petitions. These cases are pending.

5.7. Pennaiyar River

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. The

Pennaiyar River is an Inter-State River. The Government of Tamil Nadu, in 2018, has filed a Suit (O.S. No. 1 of 2018) and an Interlocutory Application before the Supreme Court against the Government of Karnataka which is undertaking the works of construction of Dam across the Markandeya River, a tributary of Pennaiyar, and diversion structures to divert water from River Pennaiyar in violation of the Madras-Mysore Agreement of 1892 .

The Supreme Court pronounced its Judgment in the Interlocutory Application (I.A.No.95384 of 2019) filed by Tamil Nadu, on 14.11.2019. As per the liberty given by the Supreme Court in the above Order, the Government of Tamil Nadu on 30.11.2019 has approached the Government of India, Ministry of Jal Shakti to constitute a Tribunal for adjudication of Pennaiyar River Water Dispute. Further, the Government of Tamil Nadu on 16.12.2019 filed an Interlocutory

Application (I.A.No. 193417 of 2019) in the Supreme Court for maintenance of status quo of the projects of Karnataka.

The Ministry of Jal Shakti, Government of India, has set up a Negotiation Committee in January, 2020 headed by the Chairman, Central Water Commission and with Engineer-in-Chief / Chief Engineers from the co-basin States as Members, apart from Members from the Ministry of Agriculture, Ministry of Environment, Forest and Climate Change, Ministry of Jal Shakti and Irrigation Management Organization. The first meeting of the Committee was held on 24.02.2020 at New Delhi.

5.8. Inter Linking of Rivers

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

The Government of Tamil Nadu is continuously urging the Government of India, and the Special Committee for Inter linking of Rivers that has

been formed by Government of India as per the Judgment of the Supreme Court, dated 27.02.2012 to implement the inter-linking of Peninsular rivers, namely, Mahanadhi - Godavari - Krishna - Pennar - Palar - Cauvery - Vaigai - Gundar and Pamba - Achankoil - Vaippar. Tamil Nadu has requested for enhancing the quantum of water proposed to be transferred to Tamil Nadu since it is a water deficit State and is continuously urging that the link from Andhra Pradesh – Tamil Nadu border to Cauvery has to be taken at a higher contour and terminate at Cauvery (Kattalai Barrage) instead of at Cauvery (Grand Anicut), as it will be helpful to supply water to the needy areas and to transfer water to Vaigai and Gundar Rivers.

Meanwhile, the Government of India, sent the draft Detailed Project Report of Godavari (Inchampalli / Janampet) – Cauvery (Grand

Anicut) Link Project to the Party States for comments during March, 2019.

The Government of Tamil Nadu has sent the comments on the draft Detailed Project Report of Godavari – Krishna – Pennar – Cauvery (Grand Anicut) Link to the Director General, NWDA on 04.09.2019, and requested to rework the alignment at a higher contour, so that the link can confluence with Cauvery at Kattalai Barrage instead of at Grand Anicut.

Hon'ble Chief Minister wrote to Hon'ble Minister for Jal Shakti on 03.06.2019 and 23.08.2019, requesting that atleast 200 T.M.C. ft. of water be diverted to Tamil Nadu from Godavari, and as and when Mahanadhi and Godavari rivers are linked, the diversion of water to Tamil Nadu should be stepped upto 300 T.M.C. ft, and also requesting to instruct the concerned authorities

to immediately prepare the Detailed Project Report expeditiously and to execute the scheme on priority basis. Hon'ble Chief Minister addressed the Hon'ble Prime Minister on 19.12.2019 and urged him again to instruct the authorities concerned to quickly complete the preparation of Detailed Project Report for the Godavari – Cauvery link.

The delegation of Hon'ble Ministers of Tamil Nadu, met the Hon'ble Chief Ministers of Andhra Pradhesh and Telangana and presented the letter from the Hon'ble Chief Minister dated 29.02.2020 to them and requested to extend their co-operation for the quick implementation of Godavari – Cauvery Link Project. A High Level Co-ordination Committee under the Chairmanship of Chief Secretary has been constituted on 09.03.2020 to discuss about this scheme.

5.8.2. Pamba - Achankoil - Vaippar Link

National Water Development Agency formulated a feasibility report for the Pamba - Achankoil - Vaippar Link Project, which envisages diversion of 22 T.M.C. 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 Sankarankoil, Kovilpatti, Sivagiri, Srivilliputhur, Rajapalayam, Sathur and Tenkasi Taluks of Tamil Nadu, which will also help to generate power of 500 MW by Kerala. Eventhough the Government of Tamil Nadu gave its acceptance for preparing the Detailed Project Report the Government of Kerala is not in favour of this project.

In the meeting held between Hon'ble Chief Ministers of Tamil Nadu and Kerala at Thiruvananthapuram on 25.09.2019, Tamil Nadu

requested Kerala to give consent for this Pamba – Achankoil – Vaippar link project.

The Government of Tamil Nadu is taking all efforts through National Water Development Agency, Special Committee for Inter linking of Rivers and Government of India for the implementation of this Project.

6.0. Krishna Water Supply Project

An Agreement was signed among the States of Maharashtra, Karnataka and Andhra Pradesh in the presence of the then Union Minister for Agriculture and Irrigation on 14.04.1976, in which each State agreed to spare 5 T.M.C. ft., out of its share of Krishna water for supply of water to Chennai city. As per the subsequent Agreement, dated 28.10.1977, signed among the States of Maharashtra, Karnataka, Andhra Pradesh and Tamil Nadu, the Government of Tamil Nadu was permitted to draw not more than 15 T.M.C. ft. of water in a water year from Srisailam Reservoir during the period from 1st July to 31st October.

Subsequently, in the Agreement signed between the States of Tamil Nadu and Andhra Pradesh on 18.04.1983, the mode of conveyance of the Krishna water from Srisailam Reservoir upto the Tamil Nadu border (as

provided in the Inter-State Agreement of 28.10.1977), the construction of various components, the schedule of delivery of 12 T.M.C. ft. of water (excluding evaporation loss) at the Tamil Nadu State Border and the mode of sharing of cost of the various components between Andhra Pradesh and Tamil Nadu had been agreed upon. The Agreement stipulates that 12 T.M.C. ft. of water will be realized at the Zero point by Tamil Nadu in two spells in a water year as detailed below:

July to October - 8 T.M.C. ft.

January to April - 4 T.M.C. ft.

As a result of this Agreement, water is being supplied to Chennai City since 1996 – 1997 from the State of Andhra Pradesh.

Due to the continuous efforts taken by the Government of Tamil Nadu, the Government of India in September, 2018 constituted a

Committee under the Chairmanship of the Chairman, Krishna River Management Board with the Engineers-in-Chief, Water Resources Department of the Government of Maharashtra, Karnataka, Tamil Nadu, Telangana, Andhra Pradesh, Chief Engineer, Irrigation Management Organisation – Central Water Commission as Members and the Member Secretary, Krishna River Management Board as Member Secretary to ensure supply of Krishna Water to augment drinking water supply to Chennai City. Three meetings have been conducted so far.

7.0. Tamil Nadu Water Resources Conservation and Augmentation Mission

Under Rule 110 of the Tamil Nadu Legislative Assembly Rules, the Hon'ble Chief Minister on 20.07.2019 announced in the Legislative Assembly that the Tamil Nadu Water Resources Conservation and Augmentation Mission would be implemented immediately as people's movement, with a vision to protect Water Resources, to improve water management and harness rain water.

The following objectives are identified in this mission:-

a. Rainwater harvesting, conserving the water bodies for increasing the storage capacity.

b. Stabilise the drinking water supply by recharge of ground water.

c. Improve the efficiency in water usage in agriculture and its allied sectors with rainwater harvesting in rain fed agriculture.

d. Recycle the used water in order to reduce the demand for fresh water.

e. Eco-restoration of rivers, important coastal areas, estuarine water bodies, streams and marshlands.

For implementation of this mission, new schemes are being formulated and implemented through **Tamil Nadu Water Resources Conservation and River Restoration Corporation**.

Schemes such as Hon'ble Chief Minister's Kudimaramath, Nadanthai Vaazhi Cauvery and Formation of new reservoirs are being implemented under this mission.

7.1. Nadanthai Vaazhi Cauvery Project

Under Rule 110 the Hon'ble Chief Minister announced a flagship programme "Nadanthai Vaazhi Cauvery Project" on 20.07.2019.

The prime objective of the project is to conserve, rejuvenate and augment the water resources and to effectively curb sewerage pollutant in Cauvery and its tributaries.

The following works have been proposed under this project:-

1. Sewage Management – Sewage Treatment Plant / management of liquid waste generated from domestic and commercial sources.
2. Solid Waste Management - Management of solid waste generated from domestic and commercial sources.

3. River Front Development- Upgradation and Modernization of Public Amenities of Bathing Ghats, Electric Crematoria, Toileteries, Parks etc.,
4. River Surface Cleaning
5. Bio-Diversity Conservation & Afforestation
6. Cauvery Gram – People Participation and creating Awareness
7. Ground water Recharge Structures / construction of Barrages and artificial recharge
8. Online sewage Monitoring System
9. Rehabilitation and Resettlement for High Risk Prone Area, Flood Prone zone and Intervention required area
10. Eviction of Encroachment and Resettlement.

The Preliminary Project Report for Rejuvenation of Cauvery and its tributaries within Tamil Nadu - Nadanthai Vaazhi Cauvery project for an amount of Rs.11,250 crore prepared and submitted to Ministry of Jal Shakti, Department of Water Resources, River Development and Ganga Rejuvenation, Government of India for “In-principle” approval. In compliance to the remarks of the Government of India, Detailed Project Report is under preparation.

8.0. Important ongoing Schemes

8.1. Kudimaramath Works

In order to manage water resources, the Government of Tamil Nadu has been restoring the water bodies with the help of the user communities by reviving the Kudimaramath Works since 2016-2017, paving way towards revitalization of Kudimaramath. Maintenance of supply channels, canals, tanks, shutters, strengthening and reconstruction of surplus weirs, sluices etc., are included in Kudimaramath works. Through implementation of this scheme, the irrigation capacity of water bodies would improve by 20 to 30 percent along with increase of 10 percent in cultivable land extent. Thereby involvement of the society in maintenance of the water resources will also be revitalized.

Kudimaramath works are entrusted to Farmers' Organisations / Irrigation Council / Ayacutdars / Group of Ayacutdars on nomination basis for execution; 10% of the estimate cost is borne by the Farmers' Organizations / Irrigation Council / Ayacutdars / Group of Ayacutdars in the form of labour or material or cash.

The Government accorded approval to make an advance payment of 15% of the contract value to the Farmers' Organisations / Irrigation Council / Ayacutdars / Group of Ayacutdars, who have been nominated to carry out the works under Kudimaramath to overcome the difficulties in mobilising funds required to commence the works and make some significant initial progress. The advance will be recovered from the bills.

Hand book containing Guidelines for the execution of Kudimaramath works have been issued to Farmers. The Chairman cum

Managing Director, Tamil Nadu Water Resources Conservation and Rivers Restoration Corporation is supervising the Kudimaramath works.

In the year 2016-2017, 1,513 Kudimaramath works have been carried out at a cost of Rs.92.85 crore. In the year 2017-2018, 1,463 Kudimaramath works at a cost of Rs.276.52 crore have been completed. Administrative sanction has been accorded for 1,829 Kudimaramath works at an estimated cost of Rs.499.688 crore for the year 2019-2020, out of which 1,329 works have been completed and remaining works are in various stages of implementation.

1,364 Kudimaramath works at an estimated cost of Rs.500.00 crore are to be taken up in the year 2020-2021.

8.2. Desilting Works in Cauvery Delta

Desilting of the rivers, channels and drains in Cauvery delta in the year 2019-2020 at an estimated cost of Rs.60.954 crore for 281 works for a length of 2,585.85 Km in Namakkal, Erode, Karur, Tiruchirappalli, Ariyalur, Thanjavur, Thiruvarur, Nagapattinam and Pudukkottai Districts are under implementation.

Desilting works in Tiruchirappalli, Karur, Ariyalur, Thanjavur, Thiruvarur, Nagapattinam and Pudukkottai Districts for an amount of Rs.67.25 crore will be taken up in the year 2020-2021.

8.3. Construction of a Barrage with Head Sluices across the Kollidam River at Adhanur and Kumaramangalam Villages in Cuddalore and Nagapattinam Districts

Construction of a Barrage with head sluices across the Kollidam River at RD 74/3 mile in

Adhanur and Kumaramangalam Villages in Cuddalore and Nagappattinam Districts at an estimated cost of Rs.494.60 crore is under implementation, in which revised estimate of Rs.463.25 crore for civil works and Rs.31.35 crore for land acquisition have been allotted.

This barrage is being constructed with a capacity of 0.334 T.M.C. ft. and the annual storage works out to 1.336 T.M.C. ft. adopting 4 fillings. The total ayacut benefitted would be 31,221 acres, out of which 26,810 acres through stabilisation and 4,411 acres by recharging of existing nearby wells in Cuddalore and Nagappattinam Districts. Water stored by this scheme will also be utilized for Chennai drinking Water supply through Veeranam Tank.

Foundation works, construction of Abutment on the Northern and Southern banks, construction of concrete wall between South Rajan canal

and Narimudukku canal, construction of two lane bridge across South Rajan canal and Narimudukku canal, construction of head sluice in North Rajan canal, strengthening of left bank in Kollidam river, fabrication of 84 steel shutters and other works are in progress.

8.4. Construction of a new Regulator and Strengthening of existing regulator in Kollidam River in the downstream of Upper Anicut (Mukkombu) in Tiruchirappalli District

The piers along with shutters of the vents from 6 to 14 in the Upper Anicut across the South Kollidam got damaged in the year 2018 due to heavy floods occurred during the South-West monsoon.

Temporary restoration works were carried out on war foot basis to restore the supply to irrigation in Cauvery delta Districts by formation of coffer dam using the sand bags and stone boulders. Approval has been accorded for

strengthening the existing South Kollidam Barrage by providing additional downstream cut off wall and coffer dam at an estimated cost of Rs.38.85 crore and the work has been completed.

New Regulator

The Government have accorded sanction for Rs.23.50 lakhs for conducting surveying and levelling operations and preparation of Detailed Project Report based on the Hon'ble Chief Minister's announcement for construction of a New Regulator to replace the existing partially damaged old Regulator.

Based on the Detailed Project Report, the Government have accorded Administrative Sanction for construction of a new regulator across Southern and Northern arms of the Kollidam River on the downstream side of the existing regulator at Mukkombu (Upper Anicut)

in Tiruchirappalli District at an estimated cost of Rs.387.60 crore under NABARD assistance. The scheme envisages construction of new regulator with single lane bridge, guide walls, standardization of flood banks and allied works, etc. At present, works are in progress in fast pace.

8.5. Artificial Recharge Structures

The artificial recharge to ground water aims at augmentation and replenishment of ground water by modifying the natural movement of surface water, utilizing suitable civil construction techniques. Artificial recharge techniques normally address the issues viz., enhancing the sustainable yield in areas where over-development has depleted the aquifer, conservation and storage of excess surface water for future requirements, improve the quality of existing ground water through infiltration, removal of impurities from sewage

and waste water so that water is suitable for re-use. The prime objective of artificial recharge is to enrich the ground water aquifer.

Considering the advantages and importance of Ground Water Recharging, the Hon'ble Chief Minister made an announcement for construction of Check Dams, Bed dams, Gradewalls and Sub-surface dykes for an amount of Rs.1,000 crore in a span of 3 years. Accordingly, works are in progress in various Districts.

In addition, administrative sanction has been accorded for construction of Artificial Recharge Structures and Artificial Recharge Shafts in Thanjavur and Thiruvarur Districts for an amount of Rs.60.19 crore. Works will commence early.

8.6. Check Dams / Barrages across River Cauvery and Kollidam

In Tamil Nadu, to fulfill the need of water for drinking and irrigation purposes and to store the flood water of Cauvery and Kollidam which otherwise flows to sea as waste during monsoon period, sanctions have been accorded for carrying out investigation for construction of barrages at the following places across Cauvery and Kollidam River and project formulation works are in progress:-

1. Construction of Barrage across River Cauvery in Nanjaipugalur Village in Pugalur Taluk of Karur District.

2. Construction of Tail end wall across River Kollidam between Alakkudi Village of Sirkazhi Taluk in Nagapattinam District and Thirukazhipalai Village of

Chidambaram Taluk in Cuddalore District.

3. Construction of Barrage across River Kollidam between Karuppur and Mathirivelur Villages of Nagapattinam and Cuddalore Districts.

4. Construction of Barrage across River Kollidam between Thuthur and Vazhkkai Villages of Ariyalur and Papanasam Taluks in Ariyalur and Thanjavur Districts.

5. Construction of Barrage across River Cauvery between Nerur Village of Manmangalam Taluk in Karur District and Oruvanthur Village of Mohanur Taluk in Namakkal District.

6. Construction of Barrage across River Cauvery at LS 161.54 Km between Kulithalai Village and Taluk of Karur

District and Musiri Village and Taluk of Tiruchirappalli District.

7. Construction of New Regulator across the Northern and Southern arms of the Kollidam River on the downstream side of the existing regulator at Anaikarai (Lower Anicut) in Ariyalur and Thanjavur Districts.

8.7. Inter - linking of Tambiraparani - Karumeniyar - Nambiyar Rivers

The scheme is being implemented for interlinking of Tambiraparani, Karumeniyar and Nambiyar rivers by excavating a new flood carrier canal to utilize 2,765 Mc.ft. of surplus water, in 4 stages under State fund in anticipation of central assistance. By this scheme, 56,908.80 acre of lands will be benefitted in Tirunelveli and Thoothukudi Districts.

Revised administrative sanction for Rs.543.32 crore was accorded in 2017 for excavation of flood carrier canal works in Stage I and II and for land acquisition works in Stage I to IV.

Revised administrative sanction was accorded in 2018 for Stage III flood carrier canal works at an estimated cost of Rs.216.37 crore. After according revised administrative sanction early, the stage IV flood carrier canal works will be commenced.

So far, 717.469 Acres of land (290.356 Hectare) have been acquired. Remaining Land acquisition is in progress.

Enter upon permission / consent of land owners have been obtained for 551 Hectare of land in Tirunelveli District and 81.54 Hectare of land in Thoothukudi District.

Present stage of the scheme:-

	Stage - I	Stage - II	Stage - III
Total Packages	18	18	18
Works Completed	15	13	-
Works in progress	03	05	18

Government of India Funding Assistance and Approval

The Investment clearance was accorded by the Ministry of Water Resources, River Development and Ganga Rejuvenation, Government of India.

The Hon'ble Chief Minister in his letter dated 26.09.2019 has requested the Hon'ble Union Minister of Jal Shakti to sanction this project and release Central Assistance to Tamil Nadu under the Pradhan Mantri Krishi Sinchayee Yojana – Accelerated Irrigation Benefits Programme.

8.8. Supplying Clay, Silt, Savudu and Gravel available in Tanks, Reservoirs and other water bodies to the Public, Farmers and Potters

The Amendments were made by the Government in Industries Department to Rule 12(2) and 12 (2-A)(a) of the Tamil Nadu Minor Minerals Concession Rules, 1959 on 27.04.2017. This allows any person engaged in making of pots, public for bonafide domestic purpose and the farmers for agriculture purpose in the same Village or in the adjoining Villages of the tanks, channels and reservoirs (except Chennai, Kancheepuram, Chengalpattu and Tiruvallur Districts) to take the clay, silt, savudu and gravel from the beds of tanks, channels and reservoirs at free of cost in the notified water bodies after obtaining prior permission from the concerned District Administration. The restoration of the lost capacities of the water bodies can be achieved.

The quantity of silt and clay proposed to be removed for agricultural purpose shall not exceed 75 cubic metre per acre (185 cubic metre per hectare) for wet lands and 90 cubic metre per acre (222 cubic metre per hectare) for dry lands, once in two years. The quantity of earth, savudu and gravel for domestic purposes shall not exceed 30 cubic metre. The quantity of clay proposed to be removed for pottery shall not exceed 60 cubic meter.

Under the scheme inaugurated by the Hon'ble Chief Minister on 28.05.2017 in Mettur Dam, So far, 75.26 M.Cum of vandal earth has been issued to 6,69,900 beneficiaries. Out of this, 17.63 M.Cum of vandal earth has been issued to 1,23,130 beneficiaries by Water Resources Department.

9.0. Extension, Renovation and Modernisation of Irrigation Infrastructures in Cauvery Basin

The Central Water Commission, have issued "In–Principle consent" on 14.05.2013 for taking up the works of Improvements and Rehabilitation of Irrigation Systems in Cauvery Basin viz., Grand Anicut Canal system, Cauvery Sub Basin, Vennar Sub Basin, Lower Bhavani Project, Lower Kollidam Sub Basin, Kattalai High Level Canal project, Noyyal Sub Basin and Rajavoikkal project and Ground Water Recharge scheme.

Under this scheme, administrative sanction has been accorded for an amount of Rs.749.50 crore for the following 3 works under State fund:-

1 Kattalai High level canal irrigation system in Cauvery Basin (Rs. 335.50 crore)

2. Rajavoikkal irrigation system in Cauvery Basin (Rs. 184.00 crore)

3. Noyyal River system in Cauvery Basin (Rs. 230.00 crore)

The Hon'ble Chief Minister laid foundation stone on 06.03.2020 for the scheme of Extension, Renovation and Modernisation of Kattalai High level canal irrigation system in Cauvery Basin for efficient irrigation management for an amount of Rs.335.50 crore. Preliminary works are in progress.

Grand Anicut Canal

The Grand Anicut Canal, a part of Mettur project was constructed during the period 1925-1934. An ayacut of 2.27 Lakh acres in Thanjavur and Pudukottai Districts are benefitted. In Grand Anicut Canal system, there is 148 Km of main canal, 327 nos. of Branch Canals totalling to about 1,232 Km which includes laterals. Further, Grand Anicut Canal is feeding 694 Nos. of system tanks.

The Central Water Commission have accorded Investment clearance for the Detailed Project Report for “Extension, Renovation and Modernisation of Grand Anicut Canal System in Cauvery Basin” at an estimated cost of Rs.2,298.75 crore.

The Government of India has accorded approval for obtaining financial assistance from Asian Infrastructure Investment Bank for this scheme. Accordingly, this scheme will be implemented in the current financial year.

Improvements and Rehabilitation of Irrigation Systems in Cauvery Sub-basin, Vennar Sub-basin, Lower Bhavani Project and Lower Kollidam Sub-basin of Cauvery Basin will also be implemented in the current financial year.

10.0. Lift Irrigation

10.1. Athikadavu-Avinashi scheme

Athikadavu – Avinashi Project is an Irrigation, Ground Water Recharge and Drinking Water Supply Scheme to benefit the drought prone areas of Coimbatore, Tiruppur and Erode Districts.

It is proposed to feed tanks and ponds through pipelines by constructing a Checkdam across Bhavani River at 230m downstream of Kalingarayan Anicut, from the inlet of Checkdam by lift irrigation.

This scheme envisages to feed and fill 32 Nos. of Public Works Department tanks, 42 Nos. of Panchayat union tanks and 971 Nos. of percolation ponds in Coimbatore, Tiruppur and Erode Districts to benefit an irrigable area of 24,468 acres.

Administrative Sanction was accorded for an estimated cost of Rs.1,652 crore under State fund through Design, Build, Operate and Transfer basis.

Present Stage of Work :-

1. Survey works for 1,044 Nos. of Tanks and Ponds and for laying Main Line (105.33 Km), Branch Line (913.90 Km) have been completed.

2. Alignment and location of 6 pump houses have been finalized. Geotechnical investigation works at locations for proposed pump houses and check dam have been completed.

3. The main works such as construction of diversion dam across Bhavani river and construction of pumping stations in Bhavani, Nallagoundanpalayam, Thiruvachi, Polanaykkanpalayam, Emmampoondi and

Annur are in full swing. Further, manufacturing of iron pipes, high density polyethylene pipes and electric pumps are in full swing.

4. Planning and Estimation charges for laying the pipes across the railway lines have been paid to Southern Railways.

5. Environmental Clearance has been accorded by the State Level Environment Impact Assessment Authority.

10.2. Diversion of Flood surplus water from Mettur Dam to the dry tanks in Sarabanga Basin in Salem District by Lift Irrigation

The Hon'ble Chief Minister has announced under Rule 110 on the Floor of Assembly on 15.07.2019 that the work "Diversion of flood surplus water from Mettur Dam to the dry tanks in Sarabanga Basin in Salem District by Lift Irrigation" will be implemented.

Accordingly, sanction was accorded for an estimate amount of Rs.565.00 crore. This includes cost for Land Acquisition for Rs.35.03 crore for 241 acres of Patta land. Land Acquisition is under progress.

This scheme envisages to divert 555 Mc.ft. of flood surplus water of Mettur Reservoir by lift irrigation.The main off take for this scheme is proposed on the Left flank of the Mettur Reservoir water spread area.

By implementing this scheme, about 33 Tanks in the Edappadi Tank Group and 67 Tanks in the M.Kalipatti Tank Group i.e., a total of 100 Tanks with a total ayacut of 4,238 acres will be benefitted.

The Hon’ble Chief Minister of Tamil Nadu laid foundation stone for the scheme on 04.03.2020 and the preliminary works are in progress.

11.0. Other Ongoing Schemes

11.1. Creation of New Irrigation Infrastructures

Construction of new irrigation related infrastructures such as Reservoirs, Anicuts, Regulators, Tanks, Check Dams, Grade Walls, Bed Dams, Dividing Dams, Bridges, Barrels, Canals and Office Buildings are in progress in various Districts.

11.2. Construction of Check Dams, Sub Surface Dykes and Anicuts at a cost of Rs.1000 Crore in 3 Years

Hon'ble Chief Minister made an announcement in 2017-2018 that construction of Check Dams, Bed dams, Gradewalls and Sub-surface dykes for an amount of Rs.1,000 crore in a span of 3 years will be implemented to recharge groundwater and to divert water from rivers to tanks. Accordingly, 133 works at an estimated cost of Rs.692.55 crore are taken up so far.

Estimates for the remaining works are under consideration of the Government at various stages.

11.3. Kannankottai - Thervoy Kandigai Reservoir Scheme

Formation of new reservoir by combining Kannankottai Hissa Rajaneri and Thervoy Kandigai lakes near Kannankottai and Thervoy Kandigai Villages of Thiruvallur District at a revised estimated cost of Rs.380 crore is nearing completion.

In this reservoir, 1 T.M.C. ft. of Krishna water will be stored in two fillings and utilised for Chennai City drinking water supply in the current year.

11.4. Rehabilitation of Irrigation Infrastructures

Rehabilitation of irrigation infrastructures such as Reservoirs, Anicuts, Regulators, Tanks, Check Dams, Grade Walls, Bed Dams, Dividing

Dams, Bridges, Barrels, Canals and Office Buildings are in progress in various Districts.

11.5. Augmentation of Capacity of Chennai City Drinking Water Reservoirs by Desilting

Administrative sanction has been accorded for an estimated amount of Rs.5.43 crore for Cholavaram Tank, Rs.9.90 crore for Puzhal Tank, Rs.10.98 crore for Poondi Reservoir and Rs.4.03 crore for Chembarambakkam Tank to augment the storage capacity of above said Chennai city drinking water reservoirs by desilting. The works are in progress. By this, 1.90 T.M.C.ft. capacity of the above 4 reservoirs can be restored.

11.6. Coastal Protection works

Construction of a series of 9 Groynes from Ernavoor Kuppam to Ennore in Madhavaram

Taluk of Thiruvallur District at an estimated cost of Rs.38.39 crore were completed.

Construction of Rubble Mound Sea Wall at an estimated cost of Rs.69.00 lakh in Marthandam Thurai and an estimated cost of 73.00 lakh in Keelmidalam Village in Vilavancode Taluk of Kanniyakumari District are in progress. Construction of Groynes at Poothurai in Vilavancode Taluk at an estimated cost of Rs.14.69 crore will be implemented soon.

Study on coastal erosion problems and related anti sea erosion works in Kanniyakumari District at an estimated cost of Rs.11.50 lakh taken up in coordination with Indian Institute of Technology, Madras was completed.

In the current year, construction of Groynes at an estimated cost of Rs.52.46 crore at Alanthalai Village in Thiruchendur Taluk of Thoothukudi District will be implemented.

11.7. Eco-Restoration of Water bodies

Environmental preservation would encompass conservation of ground water, rivers, other water bodies, conservation of the zoological and botanical diversity, protection of soil and other natural formation etc. Eco-restoration activities are carried out by Water Resources Department from the year 2014-2015. Projects are sanctioned by Environmental Management Agency of Tamil Nadu under Environmental Protection and Renewable Energy Development Fund.

Eco - Restoration of Sarkarperiapalayam Eri in Avinashi Taluk of Tiruppur District, Korattur, Ambattur and Madhavaram Tank in Thiruvallur District and Paruthipattu Lake in Avadi near Greater Chennai at an estimated cost of Rs.93.75 crore were completed.

Administrative Sanction has been accorded for Revival of Chitlapakkam Tank in Tambaram Taluk of Chengalpattu District for an amount of Rs.25.00 crore, Eco-Restoration of Odathurai Tank in Bhavani Taluk of Erode District for an amount of Rs.3.20 crore and Eco-Restoration of Adambakkam, Perumbakkam and Vengaivasal tanks in Chengalpattu District for an amount of Rs.12.00 crore. Works will commence early.

12.0. Comprehensive Flood Mitigation works at an estimated cost of Rs.3000 crore

Comprehensive Flood Mitigation Projects for Greater Chennai and its Peri – Urban Areas in Kancheepuram and Thiruvallur Districts and vulnerable pockets in other coastal Districts at an estimated cost of Rs.3000 crore have been taken up for implementation.

Phase I

In first phase, 16 works have been sanctioned at an estimated cost of Rs.100.10 crore in Araniyar, Kosasthalaiyar, Cooum, Adyar and Kovalam sub basins. Out of 16 works sanctioned, 14 works at an estimated cost of Rs. 89.10 crore have been completed and 2 works at an estimated cost of Rs. 11.00 crore are in progress.

Phase II

In Second phase, 12 works in Araniyar, Cooum, Adyar, Kovalam, Paravanar and Kollidam sub basins have been sanctioned at an estimated cost of Rs.238.13 crore. Out of 12 works sanctioned, 11 works at an estimated cost of Rs.183.63 crore are in progress and the remaining 1 work will commence shortly.

Phase III

In Third phase, 17 works at an estimated cost of Rs.285.06 crore are proposed to be taken up.

12.1. Chennai Rivers Restoration Works

Adyar River

Administrative sanction has been accorded for an amount of Rs.555.46 crore under Chennai Rivers Restoration Trust for implementation of 56 short-term sub projects through

7 Departments for Restoration of Adyar River from its origin to mouth. Water Resources Department is one of the implementing agencies in this project and Rs.104.31 crore have been allocated to Water Resources Department for implementation of works in 7 reaches from Thiruneermalai to Adyar mouth (including cut opening the Adyar mouth) during December 2018. Out of this, 5 works are in progress and Coastal Regulation Zone Authority clearance is awaited for 2 works.

Cooum River

Administrative sanction has been accorded for implementation of 60 short term sub-projects under Integrated Cooum River Eco-Restoration Project for an amount of Rs.604.77 crore under Chennai Rivers Restoration Trust. In this project, Water Resources Department is also

an implementing agency. For implementation of 9 works from Paruthipattu Anicut to Cooum River Mouth for a length of about 27 km, a fund of Rs.93.57 crore is allocated to Water Resources Department and the works are nearing completion.

13.0. Externally Aided Projects

13.1. World Bank Assisted Tamil Nadu Irrigated Agriculture Modernization Project

Tamil Nadu Irrigated Agriculture Modernisation Project was planned for implementation in 66 sub basins to benefit an extent of 5.43 lakh hectare over a period of 7 years starting from 2017 with an outlay of Rs.2,962 crore. This is the follow on project of the successfully completed Irrigated Agriculture Modernisation and Water Bodies Restoration and Management Project.

The Project is implemented by Water Resources Department and 6 line Departments in coordination with Tamil Nadu Agriculture University, Tamil Nadu Veterinary and Animal Sciences University and Tamil Nadu Fisheries University. In this Project, it is proposed to take up rehabilitation of 4,778 tanks, 477 anicuts,

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.2,131.34 crore earmarked for Water Resources Department in four phases.

Rehabilitation of Flood Affected Tanks and Irrigation Channels

Administrative sanction was accorded for the rehabilitation of flood affected 59 tank Systems consisting of 57 tanks and 2 Main Irrigation Channels grouped into 16 packages for Rs.43.63 crore and works have been completed.

Phase I Works

Administrative sanction was accorded for the rehabilitation of 1,325 tanks, 107 anicuts and construction of 45 artificial recharge wells in 18 sub basins grouped into 204 packages at an

estimated cost of Rs.743.57 Crore. This includes 186 packages for rehabilitation works and construction of artificial recharge wells; and 18 packages of Environment component at an estimated cost of Rs.1.89 crore.

In the 204 packages, works have been completed in 119 packages and works are in progress in 85 packages.

Phase -II Works

Administrative sanction has been accorded for the Rehabilitation of 906 tanks and 183 anicuts and construction of 37 Artificial Recharge wells, grouped into 57 packages in 16 sub-basins at an estimated cost of Rs.649.55 crore. Tenders would be floated early.

Phase–III Works

Preparation of Detailed Project Reports for selected 10 Sub basins have been initiated.

13.2. World Bank Assisted Dam Rehabilitation and Improvement Project

In this project, rehabilitation of 69 Water Resources Department dams and 20 TANGEDCO dams and catchment area treatment works in Krishnagiri and Kundah Palam reservoirs by Agricultural Engineering Department is under implementation.

The Department-wise cost distribution of Dam Rehabilitation and Improvement Project are shown below:-

(Rs.in crore)

Sl. No.	Department	Original estimate	Revised estimate
a.	Water Resources Department	469.94	527.59
b.	TANGEDCO	260.14	260.00
c.	Agricultural Engineering Department	15.41	15.41
	Total	**745.49**	**803.00**

Water Resources Department Dams

Administrative Sanction has been accorded for Rehabilitation and Improvements of 69 dams for an amount of Rs.421.37 crore in which, Rehabilitation work in 67 dams have been completed so far. Works in 2 dams (Pechiparai and Manimuthar) are in progress. In addition, replacement of spillway shutters (Nos. 2 to 8) in Krishnagiri Dam in Krishnagiri Taluk and District for an amount of Rs.20.43 crore is in progress.

Administrative sanction has been accorded for the work of Supply, Installation, Testing, Commissioning, Training and Maintenance of Real Time Structural Health Monitoring Instrument System in 17 Water Resources Department Dams at an estimated cost of Rs.21.50 crore.

TANGEDCO Dams

Administrative sanction has been accorded for Rehabilitation and Improvement of 20 TANGEDCO dams. Works have been completed in 15 dams. Works in 4 dams are in progress and work in 1 dam has been dropped.

Agricultural Engineering Department

Catchment Area Treatment Works in Krishnagiri and Kundah Palam Reservoirs have been completed in three phases for an amount of Rs.14.97 crore. Administrative sanction has been accorded for an amount of Rs.40.295 lakh for implementation of additional catchment area treatment works in Kundha Reservoir Project.

Dam Rehabilitation and Improvement Project-II

In line with ongoing Dam Rehabilitation and Improvement Project, it is proposed to rehabilitate and improve 37 dams and

associated appurtenances under DRIP -II with the financial assistance from World Bank. Government have accorded approval for the DRIP-II proposal at a project cost of Rs.610.26 crore to implement within the period of 5 years from the Year 2020 - 2021. Under this, it is also proposed for Real time flood forecasting system to reservoir for an amount of Rs.25 crore.

Central Government Award

The Government of India have conferred the Central Board of Irrigation and Power Award-2020, to Public Works Department, Water Resources Department for the excellence and successful implementation of Dam Rehabilitation and Improvement Project in 69 Water Resources Department Dams of Tamil Nadu to ensure strength, safety and to

improve the operational performance in a sustainable manner.

13.3. Asian Development Bank Assisted Climate Change Adaptation Programme in Cauvery Delta

Climate Change Adaptation Programme in Cauvery Delta aims to protect coastal Districts namely Tiruvarur and Nagapattinam from cyclone and flood that occurs due to the climate change.

The Climate Change Adaptation Programme in Cauvery Delta is under implementation at a cost of Rs.1,560 crore, out of which the assistance of Asian Development Bank will be Rs.1,092 crore (70%) and the State share will be Rs.468 crore (30%).

In Phase-I of the project, the works at an estimated cost of Rs.960.66 crore is being implemented for upgrading infrastructure, resectioning and strengthening the

embankments of Harichandranathi, Adappar River, Pandavaiyar River, Vellaiyar River, Valavanar Drain, Vedharanyam Canal and Uppanar Drain in Vennar sub basin of Cauvery Delta. By this scheme, an ayacut of 78,000 Hectare will be benefitted.

Phase-II

The Project technical advisory committee team is preparing Feasibility study for follow on project for remaining 14 rivers in Vennar sub basin and 23 rivers in Cauvery sub basin. Presently, Hydraulic & Hydrology and ground water model studies for Vennar and Cauvery sub basins are in progress.

13.4. World Bank Assisted National Hydrology Project

National Hydrology Project is a Central Sector Scheme implemented with World Bank assistance, as 100% grants. The objective of NHP is to improve the extent, quality and

accessibility of Water Resources, to create decision support Systems for floods and basin level resources assessment / planning and to strengthen the capacity of target water resources institutional.

The duration of the project is 8 years from 2016 – 2017 to 2023–2024. A sum of Rs.100.00 crore has been allotted to Tamil Nadu.

Present status

During the year 2019-2020, Water Quality laboratory equipments to 3 laboratories at Chennai, Thanjavur and Madurai have been procured.

Installation of Ground Water Real Time Data Acquisition System and Renovation of Divisional data processing centre at Chennai and Sub-divisional Data Processing Centres of 10 sub divisions are nearing completion.

Further improvements to Sub-divisional Data Processing Centres and procurement of Geophysical equipment are in progress.

Installation of Surface Water Real Time Data Acquisition System and conducting Topographic survey and Development of Basin Information system for Agniyar and Tamirabarani basin will commence early. Further, Village level water budgeting in Varahanadhi basin is proposed to be taken up.

14.0. Centrally Sponsored Schemes

14.1. National Agriculture Development Programme

National Agriculture Development Programme is under implementation with the Government of India assistance, at an estimated cost of Rs.21.945 crore for construction of Checkdams, Anicuts, Bed Dams and Reconstruction of Regulators in Nagapattinam, Tirunelveli, Tiruppur, Thanjavur, Vellore, Sivagangai, Villupuram and Pudukottai Districts benefitting an ayacut to an extent of 2,541 acres and Reformation of Rubble Mound Sea Wall in Kanniyakumari District.

So far, 7 works at a cost of Rs.17.00 crore have been completed and remaining 3 works are in progress.

14.2. Repair, Renovation and Restoration of Water Bodies Scheme

Repair, Renovation and Restoration of water bodies under Pradhan Mantri Krishi Sinchayee Yojana, a Centre-State shared scheme is under implementation.

This scheme involves the following components:-

- Reconstruction / Improvements to sluices and surplus arrangements.
- Standardisation of tank bund.
- Desilting of tank to restore the storage capacity.
- Desilting and strengthening of feeder channel to ensure supply to tanks.

104 tanks pertaining to Ramanathapuram, Vellore and Sivagangai Districts were completed at an estimated cost of

Rs.54.32 crore under Phase I and II of the scheme.

49 tanks pertaining to Dharmapuri, Tiruvannamalai, Vellore and Virudhunagar Districts are under implementation at an estimated cost of Rs.23.43 crore under Phase-III of the scheme. So far, works in 48 tanks have been completed.

Administrative Sanction has been accorded for 89 tanks in Coimbatore, Dharmapuri, Krishnagiri, Ramanathapuram, Sivagangai, Tiruppur and Virudhunagar Districts at an estimated cost of Rs.49.312 crore under Phase-IV of the scheme. Works will commence soon.

Under Phase-V, works in 10 tanks in Dindigul and Vellore Districts at an estimated cost of Rs.35.86 crore are to be taken up to benefit an ayacut of 1,678.91 acres.

15.0. Interlinking of Rivers within the State

15.1. Cauvery (Kattalai) - Vellar – Manimuthar – Vaigai - Gundar Flood Diversion Canal Scheme

As a part of Mahanadhi-Gundar link, a new canal taking off from the upstream side of Kattalai barrage across cauvery will be proposed to connect the rivers of Agniyar, South Vellar, Manimuthar, Vaigai and Gundar to divert the flood water of River Cauvery.

Based on 50% dependability, it is proposed to divert 6,360 cusecs of water for 16 days, out of the available 8,588 Mc.ft. of surplus of Mettur dam calculated for 83 years from 1936 to 2018.

At present, this scheme is proposed to be implemented in three phases as below:-

Phase	Linking of rivers	Length (km)	Benefitted Districts	Ayacut to be benefitted (in acres)
I	Cauvery – South Vellar	118.45	Karur, Trichirappalli and Pudukottai	45877.57
II	South Vellar – Vaigai	107.25	Sivagangai, Ramanatha -puram	136203.37
III	Vaigai – Gundar	34.30	Virudhunagar	37584.53
	Total	**260.00**		**219665.47**

Concept Note for an estimated amount of Rs.7,677 crore for formation of linking canal from Cauvery to South Vellar has been submitted to Government of India for obtaining in-principle clearance for the first phase of the scheme, under National Perspective Plan.

Meanwhile, an estimate seeking administrative sanction for an amount of Rs.7,677 crore for formation of link canal is under consideration.

For implementation of phase-I from Kattalai barrage to South Vellar, an extent of

1,321.68 acres of patta land and 346.69 acres of poramboke land have to be acquired. The land acquisition cost as per the New Land Acquisition Act works out to Rs.1,486.89 crore. An amount of Rs.700 crore has been allocated for this work in the current financial year budget.

15.2. Pennaiyar (Sathanur dam) – Cheyyar link

This scheme aims to divert 5.87 T.M.C. ft. of water from Pennaiyar River for 20 days at the rate of 3,400 Cusecs to Cheyyar River.

A new canal to a length of 23.55 Km will take off from Sathanur dam at FRL and will connect Cheyyar river at upstream of Alathur anicut.

Further, a branch canal of 28.72 Km length taking off from the above main canal will link the Thurinjalar River and thereby benefit the ayacuts of Nandan channel.

By this scheme, a portion of flood water of Pennaiyar River when diverted 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.

Administrative Sanction for an amount of Rs.35.00 lakh has been accorded for carrying out detailed Surveying and Levelling operations. Surveying and Levelling work is nearing completion for the preparation of Detailed Project Report.

15.3. Pennaiyar (Nedungal anicut) – Palar link

This scheme aims to divert 3.0 T.M.C. ft. of flood water of Pennaiyar River to Palar River.

By implementing this scheme, 24,329 acres of land will be benefitted through direct irrigation and open wells and bore wells will be stabilized in Krishnagiri and Thiruppatur Districts.

The State Level Environmental Impact Assessment Authority has given clearance for the Terms of Reference of this project for preparing Environmental Impact Assessment Report. The Terms of Reference for the study being ended on 09.10.2019, steps are being taken for the extension of the same.

For preparation of Environmental Impact Assessment Report by engaging a consultant, administrative sanction has been accorded for an amount of Rs.66.82 lakh.

Entrusting the work of preparing the Comprehensive Environmental Impact Assessment Report, to the M/s. WAPCOS Limited is under consideration.

16.0. Sand Quarry

Since 2003, Public Works Department is vested with the authority to quarry and sell river sand to the Public in the State of Tamil Nadu. A Project Director has been appointed to streamline, monitor and coordinate Sand Quarrying Operations. Five divisions at Chennai, Villupuram, Madurai, Tiruchirappalli and Thanjavur are functioning under the control of Engineer-in-Chief, Water Resources Department with the guidance from the Project Director, Sand Quarrying Operations.

Since July 2017, several reformatory measures has been introduced in sand quarrying operations in compliance with the “Sustainable Sand Mining Management Guidelines, 2016”. Online system of booking of sand through web portal (www.tnsand.in) and Mobile Application (TNsand app) has been introduced from July 2017 and online payment since October 2017.

Verification camps are conducted at regular intervals for Sand Transporting Vehicles Registration across the State to weed out the vehicles with false registration numbers.

The boundaries of the quarries are demarcated by using boundary pillars and levels are marked. The approach road to the quarries are laid with bio degradable materials.

All the shunting vehicles transporting sand from quarry to depot should be registered with Public Works Department. That vehicles are monitored by fixing GPS instrument. Entry and exit points of quarries and depots, loading points are monitored by fixing CCTVs cameras to prevent illegalities and are being monitored in the centralized control room in Sand Quarry Directorate. A robust customer care centre is also in operation in the control room to redress the grievance of the public.

Imported Sand

The Government have accorded permission for Public Works Department to import approximately 5.00 lakh Metric Tonnes per month of Natural River Sand for a period of 2 years for construction purposes in the State through the three Ports in Tamil Nadu viz. Kamarajar Port Limited, Ennore, Kattupalli Port, Kattupalli and V.O.Chidambaranar Port, Tuticorin.

At present, natural river sand imported from Malaysia is being sold to the consumers by the Public Works Department from Kamarajar Port Limited, Ennore and Kattupalli Port, Kattupalli through online booking. Sand imported through 8 vessels have been sold to the public and the 9th shipment sale is under progress.

Edappadi K. Palaniswami
Chief Minister