



PUBLIC WORKS DEPARTMENT

IRRIGATION

**POLICY NOTE
2017 – 2018**

DEMAND No. 40

**Edappadi K. Palaniswami
Chief Minister**

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**Government of Tamil Nadu
2017**

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PUBLIC WORKS DEPARTMENT WATER RESOURCES DEPARTMENT

1.0. INTRODUCTION

The development of agriculture, which primarily contributes to the economic development of the nation, is dependent on water resources. The uncertainty of the monsoons triggered with climate change issues has given a thrust to irrigation water management. The efficient irrigation water management practices not only increase the irrigation intensity, but also ensure availability of water resources to fulfil other sectoral requirements including drinking purposes.

Water Resources Department in co-ordination with the other Line Departments, wherever necessary and with the involvement of farmers has been implementing best water management practices to benefit every stakeholder.

The primary activities of the Water Resources Department are:

- Impounding of water and its regulation
- Flood control and management
- Creation of water resources
- Rehabilitation and proper upkeep of irrigation infrastructure
- Coastal protection works
- Artificial ground water recharge
- Inter-linking of rivers within the State

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

- The World Bank assisted Dam Rehabilitation and Improvement Project (DRIP)
- Climate Adaptation in Vennar sub basin in Cauvery Delta Project (CAVSCDP) with loan assistance from Asian Development Bank (ADB)
- Kudimaramath Works by involving farmers
- State funded Schemes

- Schemes / Works implemented with loan assistance from the National Bank for Agriculture and Rural Development (NABARD)
- Centre-State shared Schemes under Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) such as:
 - I. Repair, Renovation and Restoration (RRR) of water bodies directly linked to agriculture
 - II. National Agriculture Development Programme (NADP)
 - III. Improvements and Rehabilitation of Irrigation systems in Cauvery Basin for Efficient Water Management under the Accelerated Irrigation Benefits Programme (AIBP)
- Desilting of Dams
- 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. including 264 T.M.C. ft. of water received from the neighbouring States as per the Inter-State Agreements.
- The total storage capacity of 89 dams under the Water Resources Department is 238.58 T.M.C. ft. Also 14,098 tanks are maintained by the Water Resources Department, out of 39,202 tanks in the State.

1.2. GROUND WATER POTENTIAL

- Micro level Ground Water Potential Assessment, taking Revenue Firka as a Unit, as on March 2011, for the entire State was approved in 2016.
- Out of 1,129 Firkas in the State, 374 Firkas have been categorised as Over-Exploited, 48 Firkas as Critical,

235 Firkas as Semi-Critical, 35 Firkas as Saline and 437 Firkas as Safe.

- Schemes should not be formulated in the Over-Exploited and Critical Firkas, notified as 'A' category Firkas. Schemes may be formulated in Safe and Semi-Critical Firkas, notified as 'B' category Firkas.
- Collection and analysis of data for Firka wise Ground water Assessment as on March 2013 has been completed and the validation is in progress.

1.3. ORGANISATIONAL ARRANGEMENT

- Water Resources Department and Buildings 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 (Buildings) and Chief Engineer (Buildings), Chennai Region is holding the post of the Chief Engineer (General).

- The Engineer-in-Chief, Water Resources Department monitors and co-ordinates the functions of all the Chief Engineers and acts as the technical head of the Water Resources Department.
- The Water Resources Department has been decentralized on the basis of River Basins.
- The entire 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.
- Specialized functions for overall planning of the irrigation projects are handled by the following Wings headed by the Chief Engineers:
 - 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)

- 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 equipment and accessories.

1.3.1. PLAN FORMULATION

- Formulation of Major, Medium & Minor Irrigation Schemes.
- Investigation of Schemes and preparation of Detailed Project Reports under Flood Management Programme, Artificial Recharge Scheme, Inter-linking of Rivers, etc.,
- Scrutiny of various estimates received from the Regional Chief Engineers and recommending for getting financial assistance under various categories.

- Soil Mechanics and Research Division is carrying out researches regarding nature of the soil and quality of construction materials and water. Soil, Concrete and Chemical Testing Laboratories under this Division are functioning as the Central Quality Control Testing Laboratory.
- The Environmental Cell Divisions test the quality of water samples collected from important rivers and tanks.
- Design Circle is evolving design and drawings for all irrigation structures.

1.3.2. DESIGN, RESEARCH AND CONSTRUCTION SUPPORT

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

- Repair, Renovation and Restoration (RRR) of water bodies.
- Desilting of Dams in 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.
- The Institute of Hydraulics and Hydrology 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

- Collection of water level data 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), compilation and furnishing the data to the offices of the Hon'ble Chief Minister, Hon'ble Minister for Agriculture and other higher officials of the Government.
- Monitoring the water level of all the Reservoirs in the State during the North East Monsoon period (from October to December) by organizing round the clock turn duty in the office of the Chief Engineer (Operation and Maintenance).
- Periodical monsoon inspection of the Dams is 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 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 Central Water Commission for review.

- The Public Works Workshop and Stores is engaged in fabrication and erection of dam shutters and hoisting arrangements and attending to emergent repair works.
- The State Project Management Unit (SPMU) under this Wing is the Nodal Agency for the Dam Rehabilitation and Improvement Project (DRIP) being implemented with World Bank Assistance.

1.3.4. STATE GROUND AND SURFACE WATER RESOURCES DATA CENTRE

- The State Ground and Surface Water Resources Data Centre carries out various periodic multidisciplinary investigation studies on ground water by maintaining and observing state-wide monitoring network of ground water, surface water and water quality.
- Monitoring water level in selected observation wells throughout Tamil Nadu

for the purpose of drought analysis and also for the estimation of availability of ground water.

- The suitability of ground water for various uses such as domestic, irrigation and industrial uses are studied by using the pre and post monsoon water quality in the State.
- Hydro meteorological observations in different soil conditions covering all the river basins of Tamil Nadu are carried out by conducting various hydrological studies.
- Rainfall data collected from Standard Rain Gauge (SRG), Automatic Rain Gauge (ARG) and Full Climatic Stations (FCS) are analysed and the relationship established between the runoff and seepage.
- Protecting groundwater resources against over exploitation and quality deterioration by adopting different management techniques.
- Improving the Ground water storage through techniques such as artificial

recharge structures and rain water harvesting wherever possible.

- Interaction and coordination with other line departments and water users for better utilization of the available ground water resources.
- Borewells are drilled, wherever necessary, in the State to know the sub-surface lithological characteristics and hydro-geological parameters and quality of ground water of different Aquifers.
- Ground water clearance for water based and non-water based Industries is being issued in safe and semi-critical Firkas of the State.
- Special studies for the purpose of assessing the sea water intrusion into fresh water Aquifer along the coast of Tamil Nadu are being carried out.
- Ground water related issues are being published in the Ground water Bulletins quarterly for the benefit of the ground water users / user Departments.

- Hydrological, Hydro meteorological, Geological and Geophysical data collected in the field are disseminated to various Government Departments, Government Undertakings, Academicians and individuals.
- Implementing Agency for the National Hydrology Project in Tamil Nadu, the Chief Engineer, State Ground and Surface Water Resources Data Centre, is the Member Secretary of the Monitoring Committee for this project and the Nodal Officer for the preparation of State Specific Action Plan (SSAP).

1.3.5. INSTITUTE FOR WATER STUDIES

- This Institute is now undertaking the Micro level Reappraisal Study of River Basins for which Micro Level Studies were already completed.
- This Institute has a well-developed Remote Sensing Centre.
- The Remote Sensing Centre of this Institute provides remote sensing and Geographic Information System (GIS)

based support to the Water Resources Department for effective management of water resources of the State.

- Satellite Data (Imagery) are being interpreted and analysed using special software along with Geographic Information System for these tasks.

1.3.6. IRRIGATION MANAGEMENT TRAINING INSTITUTE (IMTI)

- This Institute provides training to the in-service personnel serving in the Department of Public Works, Agricultural Engineering and Agriculture and also to farmers.
- To ensure effective water management and maintenance of the Irrigation system, necessary Capacity Building Training is being imparted to the Officials and Farmers.

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. The Directorate of Boilers plays a crucial role in the phenomenal 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.

- The Directorate of Boilers is in charge of implementing the provisions of the Boiler Attendants' Rules, 2011 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. The Directorate of Boilers conducts Examination for issue of First Class and Second Class Certificates of Competency for Boiler Attendants for operating the boiler having heating surface not exceeding 1000m² and the Certificate of Proficiency for Boiler Operation Engineers for operating any type and size of Boilers.
- The Directorate of Boilers 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. The Directorate of Boilers is responsible for detecting and curbing the operation of the unregistered and uncertified Boilers.

- The Directorate of Boilers 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 various components and by carrying out inspection at various stages of manufacture from approving the basic raw materials to the final product. It is also responsible for manufacturing activities in Boiler and its connected pipelines & equipment right from the manufacturing end to the user end.

2.0. Special Initiative Schemes

2.1. Revival of Kudimaramath Works- Restoration of water bodies with participatory approach

- In Tamil Nadu, the Great Chola King Karikalan built an Anicut (known as the Grand Anicut) across the river Cauvery, which is the pioneer in irrigation practices in the Country.
- The reaches of the head sluices of the irrigation systems were maintained by the Government which was known as 'Sarkari' and the lower reaches were maintained by the farmers, popularly known as 'Kudimaramath'.
- To revive the Kudimaramath and to improve the Water Resources Management to restore the water bodies through participation of user communities, Rs.100.00 crore was set apart as an incentive fund in the Budget Speech 2016-2017.

- Out of the estimated amount, 10% should come as contribution from the Users' Association or Ayacutdars, in the form of labour or material or cash.
- The Chief Engineer, Design, Research and Construction Support is the Nodal Officer for the Kudimaramath works.
- In this Scheme, maintenance works in supply channels, canals, tanks, shutters, strengthening and reconstruction of surplus weirs, sluices etc., are taken up.
- Minor works are executed on nomination basis through Farmers' Organisations or Farmers' Councils or Ayacutdars or group of Ayacutdars.
- Major works are executed by the Water Resources Department by following the usual Rules and Regulations in force.
- The Hon'ble Chief Minister launched the Kudimaramath works on 13.03.2017 in Manimangalam Tank in Manimangalam Village of Kancheepuram District.

- The Hon'ble Ministers and the District Collectors concerned launched the Kudimaramath works in the remaining 29 Districts.
- During the year 2016-2017, 1519 works at an estimated cost of Rs.100 crore in 30 Districts were taken up.

The Status of District-wise Works for the year 2016-2017 is as below:

(Rs. in crore)

Sl. No.	District	No. of Works	Est. Amt.	No of works completed	No of works in progress
1	Ariyalur	21	1.48	20	1
2	Coimbatore	50	2.32	21	29
3	Cuddalore	10	0.95	6	4
4	Dharmapuri	21	1.56	1	20
5	Dindigul	44	1.30	40	4
6	Erode	63	4.28	44	19
7	Kancheepuram	49	4.26	2	47
8	Kanniyakumari	37	1.95	26	11
9	Karur	29	1.41	24	5
10	Krishnagiri	15	1.08	5	10
11	Madurai	73	5.94	64	9
12	Nagapattinam	61	4.91	21	40
13	Namakkal	16	1.45	11	5
14	Perambalur	9	0.74	4	5
15	Pudukkottai	136	4.01	108	28

Sl. No.	District	No. of Works	Est. Amt.	No of works completed	No of works in progress
16	Ramanathapuram	19	1.48	13	6
17	Salem	48	3.20	38	10
18	Sivagangai	42	4.09	18	24
19	Thanjavur	119	8.26	72	47
20	Theni	13	0.83	10	3
21	Thiruvallur	46	4.33	0	46
22	Thiruvannamalai	23	1.73	0	23
23	Thoothukudi	28	2.31	24	4
24	Tirunelveli	103	6.19	103	0
25	Tiruppur	157	7.21	104	53
26	Tiruvarur	72	5.92	27	45
27	Tiruchirappalli	58	4.03	53	5
28	Vellore	34	3.00	4	30
29	Villupuram	101	8.08	0	101
30	Virudhunagar	22	1.70	21	1
	Total	1519	100.00	884	635

- For the year 2017-2018, Rs.300 crore has been allocated for Kudimaramath works.

District wise works to be taken up in 2017-2018 are as below:

(Rs. in crore)

Sl. No	Name of District	No. of works	Estimate Amount
1	Ariyalur	41	3.69
2	Coimbatore	48	5.09

Sl. No	Name of District	No. of works	Estimate Amount
3	Cuddalore	60	11.50
4	Dharmapuri	14	3.27
5	Dindigul	50	4.54
6	Erode	55	9.04
7	Kancheepuram	38	6.88
8	Kanniyakumari	52	5.83
9	Karur	34	3.83
10	Krishnagiri	12	2.73
11	Madurai	194	31.41
12	Nagapattinam	53	8.00
13	Namakkal	33	7.54
14	Perambalur	19	1.75
15	Pudukkottai	56	9.19
16	Ramanathapuram	91	30.66
17	Salem	51	9.70
18	Sivagangai	125	24.96
19	Thanjavur	85	10.96
20	Theni	14	1.92
21	Thiruvallur	72	14.62
22	Thiruvannamalai	36	8.50
23	Thoothukudi	44	9.02
24	Tirunelveli	265	34.66
25	Tiruppur	164	14.41

Sl. No	Name of District	No. of works	Estimate Amount
26	Tiruvarur	56	5.20
27	Trichirapalli	75	9.71
28	Vellore	63	11.68
29	Villupuram	92	12.50
30	Virudhunagar	73	18.89
	Total	2,065	331.68

- In the ensuing financial years, additional allotment will be made for Kudimaramath works with NABARD assistance.

2.2. Supplying silted up Clay, Silt, Savudu & Gravel in Tanks, Reservoirs and other water bodies to the Public, Farmers and Potters.

Increasing the storage capacity of tanks and channels is one of the mission objectives envisaged during the launch of the Kudimaramath works of the irrigation tanks and channels in Tamil Nadu during March, 2017. The storage capacity of water bodies has considerably reduced due to silting up over the years. The silt is rich in nutrients and can be applied as a good natural manure. Hence, allowing the farmers to

take silt from the water bodies at free of cost to the requirement would be beneficial to them and also the restoration of the lost capacity of the water bodies can also be achieved in the process.

Rule 12(2) and 12 (2-A)(a) of the Tamil Nadu Minor Minerals Concession Rules, 1959 have been amended suitably on 27.04.2017. Accordingly, the persons in the same Village or in the adjoining Villages of the tanks, channels and reservoirs (except Chennai, Kancheepuram and Tiruvallur Districts) in the State are permitted to take the clay, silt, savudu and gravel from the beds of tanks, channels and reservoirs at free of cost after due Notification by the District Collector in the District Gazette and after obtaining permission from the Tahsildar of the Taluk concerned.

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 metre.

Silt deposits have been identified in 42,115 water bodies (WRD and RD&PRD) in the State. Silt deposits have been identified in 11,336 water bodies of WRD (73 channels, 52 Reservoirs and 11,211 tanks). 37,529 water bodies have been notified in the District Gazette and desilting works are in progress. So far, 4.41 M.Cum of silt has been removed and 86,355 farmers have been benefited.

2.3. Proposals for National Action Plan on Climate Change (NAPCC) under Green Climate Fund

National Action Plan on Climate Change (NAPCC) was formulated in 2008 to reduce the impacts of climate variability and change under the guidance of the Central Water Commission.

- Based on this, a Concept Note on “Augmentation of Ground water for climate resilience of vulnerable community” has

been prepared for an amount of Rs.1,444.99 crore.

- The State Level Steering Committee on Tamil Nadu State Action Plan on Climate Change under Green Climate Fund was convened on 15.02.2017 under the Chairmanship of the Chief Secretary and the above concept note was approved by the Committee.

The following components are proposed in the Concept Note:

Sl. No.	Type of structure	No. of works
1.	Check dams	162
2.	Sub-Surface Dyke	15
3.	Artificial Recharge Shafts	389
4.	Artificial Recharge Wells	147

- Another Concept note for “Salinity control in coastal area of Tamil Nadu” (0 to 10km) has been prepared for an amount of Rs.404.83 crore with the following components:

Sl. No.	Type of structure	No. of works
1.	Check dams	11
2.	Tail end regulators	8
3.	Artificial Recharge Shafts	19
4.	Artificial Recharge Wells	4

2.4. Removal of Seemai Karuvel (Prosopis Juliflora) Trees in water bodies

- The Hon'ble Madurai Bench of Madras High Court issued direction to remove all the Seemai Karuvel Trees throughout the State, vide Order dated 09.01.2014 in WP (MD) Nos.18748 of 2013 and 20779 of 2013.
- Contempt Petition (MD) No. 1340 of 2014 was filed in respect of W.P. (MD) Nos. 18748 of 2013 and 20779 of 2013.
- Subsequently, the Hon'ble Madurai Bench of Madras High Court issued directions on 20.12.2016 in W.P. (MD) Nos. 16485 of 2015 and 14699 of 2015 to remove all the Seemai Karuvel Trees in the 13 District Headquarters limit. Accordingly, Seemai Karuvel Trees were removed from the water

bodies of Water Resources Department in 9 District Headquarters limit.

- The Hon'ble Madurai Bench of Madras High Court issued directions on 10.02.2017 and 27.02.2017 to remove Seemai Karuvel Trees within 15 days in all the Districts of the State.
- The removal of Seemai Karuvel Trees has been taken up by Water Resources Department in co-ordination with the District Collectors.
- The Government vide G.O.(D) No. 121, Environment and Forests (FR.14) Department, dated 10.05.2017, constituted a Committee with the Principal Chief Conservator of Forests as the Chairman to undertake a comprehensive scientific study on Seemai Karuvel trees with regard to its ill effects on environment as well as the utility of the tree, if any, and offer their recommendation and submit a detailed report within a period of 3 months.
- The Hon'ble High Court of Madras in its Order dated 11.05.2017 in W.P.No.10614 of 2017 has directed that since the matter has

been referred to a Larger Bench, no further action shall be taken by the official respondents with regard to removal of Seemai Karuvel Trees, until further Orders of the Larger Bench.

- The Hon'ble High Court of Madras in the above Order has also directed to expand the Committee already constituted by including 4 more Experts as Members to make scientific study on the ill-effects of the Seemai Karuvel Trees as well as the utility thereof and submit an interim report within 45 days. Based on the above directions, orders have been issued in G.O. (D). No. 135, Environment and Forests (FR. 14) Department, dated. 23.05.2017.
- The total extent of Seemai Karuvel Trees in water bodies of Water Resources Department was assessed as 1,89,850.92 hectare as under:

Region	Extent (in hectare)
Chennai	25648.25
Trichy	21216.25
Madurai	137890.02
Coimbatore	5096.40
Total	189850.92

2.5. Athikadavu - Avinashi Flood Canal Scheme

- This scheme envisages diversion of flood surplus water of Bhavani River to the drought prone areas of Coimbatore, Tiruppur and Erode Districts. This scheme will be implemented as an Irrigation, Ground Water Recharge and Drinking Water Scheme.
- Administrative Sanction has been accorded for an amount of Rs.3.27 crore to commence the immediate requisite works to implement the scheme.
- Subsequently, permission has been granted for preparation of Environment Impact Assessment Report at an estimated cost of Rs.70.94 lakhs by M/s. WAPCOS Ltd., a Government of India Undertaking. Preliminary works such as obtaining Environment and Forest clearance and preparation of Land Plan Schedule are in progress.
- The Detailed Project Report for this Scheme at an estimated cost of Rs.3,523 crore was forwarded to Central Water Commission, for

obtaining funding assistance under Pradhan Mantri Krishi Sinchayee Yojana (PMKSY).

- The Monitoring Directorate, Central Water Commission, Coimbatore has informed that to save considerable cost on the land acquisition and to enhance the BC ratio to be more than 1.0, against the current BC ratio of 0.11:1, an alternative proposal may be studied for the above scheme.
- Accordingly an alternate proposal viz., "Lift Irrigation Scheme to benefit the areas of Athikadavu-Avinashi Scheme for Coimbatore, Tiruppur and Erode Districts by diversion of surplus water of river Bhavani from downstream of Kalingarayan Anicut" has been prepared.
- 31 Water Resources Department tanks, 40 Panchayat Union tanks and 630 ponds in Coimbatore, Tiruppur and Erode Districts will be benefited. Besides, the ground water potential will be augmented.
- By implementing this scheme, in addition to the improvement in irrigation there are other benefits like Aquaculture, Sericulture, Animal husbandry etc. The present power

consumption for lifting of Ground Water will be considerably reduced due to increase in water table level in nearby wells.

- In the Financial Year 2017-2018, Rs.250 Crore has been allocated for this scheme.

3.0. INTER STATE WATER ISSUES

3.1. Cauvery Water Dispute

3.1.1. 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.

3.1.2. 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:

Tamil Nadu		(in TMC.Ft.)
At Billigundulu or any other point at the common border between Karnataka and Tamil Nadu	182	419
Flow available in Tamil Nadu between Billigundulu and Mettur	25	
Total flow at Mettur	207	
Flow available in Tamil Nadu below Mettur	212	
Total allocation for Tamil Nadu	419	
Karnataka		270
Kerala		
Kabini sub-basin	21	30
Bhavani sub-basin	6	
Amaravathi sub-basin	3	
Total allocation for Kerala	30	
Puducherry		7
Inevitable surplus		4
Environment Protection (At Billigundulu or any other agreed point at the common border between Karnataka and Tamil Nadu)		10
Grand Total		740

- As per the Final Order, the flow that will be made available at Billigundulu will be (182 + 10 TMC. ft. for Environmental Protection) =192 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.

3.1.3. 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.

The maintainability of the Civil Appeals was argued in the Supreme Court by the Party States on 18.10.2016 and 19.10.2016. The Supreme Court in its judgement on 9.12.2016 has held that these Appeals are maintainable. The case again came up for hearing on 4.1.2017, when the Court ordered fixing the appeals for hearing on 7th February, 2017 and the parties have been directed to submit

preliminary written notes of submissions by that date. Preliminary hearing of the case was held on 7.2.2017 and the case adjourned to 11.7.2017 for further hearing.

3.1.4. Petitions filed before the Cauvery Water Disputes Tribunal under Sec. 5(3) of the Inter State River Water Disputes Act, 1956

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 Cauvery Water Disputes 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 would be heard by it.

The Government of Tamil Nadu filed an Interlocutory Application (I.A.) in the Supreme Court on 01.09.2011 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 in the Supreme Court 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 16.03.2012, 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 Cauvery Water Disputes Tribunal after hearing the Civil Miscellaneous Petition, on 15.07.2014, ordered that it would be desirable that the State of Tamil Nadu may file a fresh application or press the I.A. filed by it in the Supreme Court in

Civil Appeal No. 2453/2007 and get an appropriate direction that the Tribunal may proceed with the application under section 5 (3) of the Act, 1956 and inform the Tribunal. Following this Order, the Government of Tamil Nadu filed an Interlocutory Application in the Supreme Court on 21.07.2014. This I.A. is still pending before the Supreme Court.

3.1.5. Action 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 Government of Tamil Nadu requested the Government of India to immediately constitute the Cauvery Management Board and Cauvery Water Regulation Committee. Thereafter, through letters and meeting the Hon'ble Prime Minister it has been continuously urged to constitute these machineries immediately.

In the irrigation year, 2016-2017, during the course of hearing of the I.A. filed by

Tamil Nadu for release of water by Karnataka, the Supreme Court on 20.9.2016 ordered that the Union of India shall constitute the CMB within four weeks. This order was reiterated on 30.09.2016 and the Court directed the Basin States to nominate their representatives before 1.10.2016.

The Government of India filed an I.A. on 3.10.2016, seeking modification of the Orders passed in relation to the constitution of the CMB. The Supreme Court on 4.10.2016 directed that the constitution of CMB may be deferred.

The argument on the maintainability of the Civil Appeals filed by the Party States on the Final Award of CWDT were heard by the Supreme Court on 18.10.2016 and 19.10.2016. The Supreme Court in its judgement dated 09.12.2016, has held that the Civil Appeals are maintainable. Preliminary hearing of the Civil Appeals was held on 7.2.2017. Thereafter, the Court heard the matters again on 21.03.2017 wherein the court adjourned for further hearing on 11.07.2017.

Tamil Nadu will press and argue again for the early constitution of Cauvery Management Board, during the course of argument on the Civil Appeals.

3.1.6. 2016-2017 Irrigation Season

The normal date of opening of Mettur Dam for Cauvery Delta Irrigation is 12th 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 1st week of June, and the South-West monsoon prediction as given by Indian Meteorological Department and the incidence of rainfall in the catchment area of Cauvery Basin in Karnataka.

As per the Indian Meteorological Department, the South-West Monsoon which set in on 8.6.2016 intensified in the catchment area of the Cauvery Basin in Karnataka in the last week of June 2016. The rainfall in the South Interior Karnataka in the earlier periods was normal as per the IMD norms. However, the inflow into the 4 major reservoirs of

Karnataka was shown as less than the long term average and hence Karnataka was not ensuring supply at Billigundulu as per the Final Order of the Tribunal.

Hence, as per the directions of the Hon'ble Chief Minister, the Chief Secretary wrote to the Chief Secretary of Karnataka on 30.07.2016, requesting to make good the shortfall of 22.934 TMC ft. as on 26.7.2016. A similar letter was also issued to the Secretary, Ministry of Water Resources (MoWR), Government of India. Since no reply was received, the Government of Tamil Nadu filed an I.A. (I.A.No.10/2016) in the Supreme Court on 22.08.2016 praying to make good the shortfall of 50.052 TMC ft. at Billigundulu as on 19.08.2016, as per Final Order as notified on 19.02.2013, to release 25 TMC ft. of water within next 10 days, to release remaining 25 TMC ft. of water before 3rd week of September, 2016 and ensure stipulated quantity for the rest of the period from 20.08.2016 as per the Final Order. This I.A. was listed to be heard on 02.09.2016.

When I.A.No. 10 of 2016 filed by Tamil Nadu came up for hearing in the Supreme Court on 02.09.2016 Karnataka filed its reply Affidavit. The Court recorded the statement of deficit in realisation of flows filed by Tamil Nadu and directed to file additional Affidavit. The case was posted for further hearing on 5.9.2016.

On 5.9.2016, Tamil Nadu filed its Additional Affidavit / Response to the Affidavit filed by Karnataka. During the course of arguments, Karnataka submitted a brief submission. After hearing the parties, the Court, among others, directed Tamil Nadu to approach the Supervisory Committee within three days, response, if any, by Karnataka to be filed within three days there from, and the Supervisory Committee to pass appropriate directions within four days. The Court directed Karnataka to release 15,000 cusecs of water per day at Billigundulu for ten days, and Tamil Nadu to release water proportionately to the Union Territory of Puducherry.

Accordingly, Tamil Nadu addressed the Chairman of the Supervisory Committee on Cauvery on 07.09.2016, presenting Tamil Nadu's case and requesting the Supervisory Committee to issue suitable directions to Karnataka to make good the deficit of 64.755 TMC ft. as on 05.09.2016 at Billigundulu and also directing Karnataka to ensure the flows for the rest of the period as per the Final Order.

In the meanwhile, Karnataka filed a petition on 10.09.2016 requesting to modify the Order dated 5/6.9.2016, reducing to 10,000 cusecs for 6 days. Tamil Nadu filed counter affidavit on 12.9.2016. The Supreme Court heard the matter on 12.9.2016 and modified the order as 12,000 cusecs upto 20.9.2016 and fixed the next hearing as 20.9.2016.

In accordance with the orders of Supreme Court, the Supervisory Committee met on 12.9.2016 and 19.9.2016. The Committee requested the Karnataka to release 3000 cusecs of water for 10 days from 21.9.2016 to 30.9.2016. The Government of Tamil Nadu did not accept this decision.

The Government of Karnataka also not agreed to this. As directed by the Supreme Court, Tamil Nadu and Karnataka on 23.9.2016 filed their objections to the decision of the Supervisory Committee.

Thereafter, the Supreme Court in its hearing on 20.9.2016 took note of the various provisions of the Final Order of the Tribunal and also the views of the Attorney General and directed the Central Government to constitute the Cauvery Management Board within four weeks and also directed Karnataka to release 6000 cusecs from 21.9.2016 onwards as an interim measure and posted the case to 27.09.2016. Karnataka did not abide by this order.

Again on 27.09.2016, as per the suggestion of the Attorney General, the Supreme Court ordered that the Executive heads of both the States may meet under the Chairmanship of the Union Minister for Water Resources so that the impasse between the two States can appositely melt. The Court also directed Karnataka to

release 6000 cusecs from 28.09.2016 for three days.

As per the directions of the Supreme Court, an inter-State meeting was held at New Delhi under the Chairmanship of the Union Minister for Water Resources. In this meeting also, each State reiterated its respective stand and hence the Union Minister concluded that the views of both the States would be communicated to the Supreme Court.

On 30.9.2016, the Supreme Court took note of the deliberations of the Inter-State meeting and directed the constitution of the Cauvery Management Board (CMB) within 4 days which would study the ground reality and give a report forthwith and in the meantime, directed Karnataka to release 6000 cusecs from 1.10.2016 to 6.10.2016.

However, the Government of India filed a petition in the Supreme Court on 3.10.2016 stating that the Supreme Court has no powers under the Act to direct constitution of the CMB and seeking modification of the order passed. When

this petition was heard on 4.10.2016, the Supreme Court deferred its earlier orders for the constitution of the CMB. It also considered the statement of the Attorney General and directed constitution of a High Level Technical Team headed by Mr. J.S. Jha, Chairman, CWC, with Member, CWC, Chief Engineer, CWC, Chief Engineers and Chief Secretaries of Tamil Nadu and Karnataka, and Chief Engineers from Kerala and Puducherry, to go to the area in question and submit a report relating to the ground reality before the Court on 17.10.2016. The Court however ordered to release 2,000 cusecs of water from 7.10.2016 to 18.10.2016. The case was posted for hearing on 18.10.2016.

The Team visited the Cauvery basin of Karnataka on 7.10.2016 and 8.10.2016. Thereafter the team visited the Cauvery Basin in Tamil Nadu on 9.10.2016 and 10.10.2016. The team submitted its report to the Supreme Court on 17.10.2016. The Team did not make any specific recommendation for release of water.

On 18.10.2016, the Supreme Court intended to adjudicate the maintainability of the Appeals first. Also, ordered the continuance of the release of 2000 cusecs of water by Karnataka until further orders. This order was again reiterated in the sittings on 7.2.2017 and 21.3.2017.

In the irrigation year 2016 – 2017, from 1.6.2016 to 31.5.2017, 69.314 TMC ft. was realized at Billigundulu against 192 TMC ft. due as per the Final Order of the Cauvery Water Disputes Tribunal.

3.1.7. Interlocutory Applications filed in the Supreme Court

a) I.A. filed in 2008 regarding Hydel Schemes by Karnataka above Mettur Dam

Tamil Nadu filed an I.A. (I.A. No. 10 of 2008 in C.A.No.2453 of 2007) on 20.11.2008 against the unilateral action contemplated by Karnataka in proceeding with the execution of the Sivasamudram and the Mokedatu Hydro Electric Schemes contrary to consent given to the CWDT and praying for directions to the Government of India

to take up all the Hydel Schemes in Cauvery river 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 forebear 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. 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 Tamil Nadu on 24.4.2012 filed an Interlocutory Application in the Supreme Court against the Government of Kerala from

proceeding with Banasurasagar Irrigation Project in the Kabini Sub Basin which is against the Final Order of the Tribunal. This I.A. is pending.

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

When the media reported that Karnataka has planned to execute several modernisation and lift irrigation schemes through Cauvery Neeravari Nigama Ltd., on 17.3.2014 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 Notices issued, till the Cauvery Management Board is formed and the cases are settled. The Government of Karnataka was also addressed in this regard. As there was no reply, 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.

(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, that the Government of Karnataka had decided to proceed with the construction of two reservoirs at Mekedatu and that the State had invited Global Expression of Interest for the technical feasibility study. On 12.11.2014, the intervention of Government of India was sought in advising 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 Government of India 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. on 18.11.2014 (I.A.No.20 in C.A. No.2453 of 2007). This I.A. is pending.

In the meantime, the Government of Karnataka on 18.11.2014 and again on 8.3.2016 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.

The Tamil Nadu Legislative Assembly on 05.12.2014 passed 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 resolution was forwarded to the Government of India for immediate action. Another resolution passed by the Legislative Assembly on 27.3.2015 was sent to Government of India.

The Union Minister for Water Resources, River Development & Ganga Rejuvenation, in letter dated 8.1.2016 to Hon'ble Chief Minister informed the Government of Tamil Nadu that as and when the DPR is received, it would be examined with reference to the Final Order of the Tribunal and that Karnataka has been addressed to share their plan for the said project with the

co-basin States before taking up the DPR / construction.

On 25.2.2017, the Hon'ble Chief Minister wrote to the Hon'ble Prime Minister urging him to advise Karnataka that the proposal of Karnataka to construct a Balancing Reservoir for drinking water and power generation purposes without the concurrence of the Government of Tamil Nadu should not be allowed to be proceeded with and also the concerned Ministries should not accord clearance to Mokedatu or any other project till the whole issue is settled.

The Hon'ble Chief Minister in the Memorandum presented to the Hon'ble Prime Minister on 27.2.2017 has urged about this project.

The I.As. are pending before the Supreme Court. It is expected that these Applications will be soon heard by the Supreme Court along with the Civil Appeals.

If the Government of Karnataka proceeds to take up any scheme in violation of the Final Order of the Tribunal and without the concurrence of Tamil Nadu, this Government will take all legal action to establish the rights of the Government 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 Newspapers, on 06.11.2014 stating, inter-alia, that the Government of Kerala commenced works for a 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 Government of Tamil Nadu on 08.11.2014 requested the Government of India 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.

Later on, an I.A. was 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 a Dam across the river Pambar at Pattisserry and to maintain status quo.

The 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 until 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 was forwarded to

the Government of India for immediate action.

Again when there were media reports that Kerala has commenced earthwork for laying the foundation for the construction of a dam at Pattisserry, in the letter sent to the Hon'ble Prime Minister on 01.02.2017 the strong objection of Tamil Nadu was conveyed. It was requested to instruct the Ministry of Water Resources, River Development and Ganga Rejuvenation to advise Kerala to forthwith stop the construction work and not to take up any work in the Cauvery basin of Kerala without obtaining the prior concurrence of Tamil Nadu and until the Cauvery Management Board is constituted and the judicial references are finally settled.

When the I.A. filed by Tamil Nadu was heard by the Supreme Court on 21.03.2017, the Senior Counsel for Kerala stated that the constructions which are being raised would be only for the purpose of utilization of the

water that has been allocated to Kerala. The Court directed Kerala to send a communication in this regard. Kerala has also been addressed to furnish full particulars of the works being taken up by them. Since the Government of Kerala has not furnished full details of the scheme, the Hon'ble Chief Minister in the letter dated 24.5.2017 to the Hon'ble Prime Minister has requested to advise the Government of Kerala not to go ahead with any construction activities until the Cauvery Management Board is formed and becomes functional and also to furnish all the details of the scheme.

(g) Action taken to restrain Kerala from taking up the construction of Attappady dam and check dams across the river Bhavani

The river Bhavani, which is one of the main tributaries of Cauvery, rises in the Nilgiris District of Tamil Nadu, flows through Kerala and again enters Tamil Nadu. Bhavani river is joined by

major tributaries like Varaga and Siruvani rivers. Siruvani river is an important tributary of Bhavani river in Kerala joining Bhavani just at the State boundary after running for a distance of about 37 km.

The Government of Kerala planned to construct a dam with a capacity of 2.3 TMC ft. When the scheme was sent, the Central Water Commission in 1982 returned the proposal stating that the Cauvery Water Dispute is pending. Subsequently, the Government of India, Ministry of Water Resources, in July 1987 stated that the Government of Kerala was requested to obtain the concurrence of other basin States for clearance of the Attappady Project. The Government of Kerala had not approached the Government of Tamil Nadu for this project.

The Government of Kerala had claimed before the Cauvery Water Disputes Tribunal for allocation of 4.5 T.M.C.ft. to irrigate a total ayacut of 16,990 acres. The Government of

Tamil Nadu had objected to this claim before the Tribunal. However, the Tribunal in its Final Order dated 5.2.2007, has allocated 6 TMC ft. to Kerala in the Bhavani sub-Basin of which only 2.87 T.M.C.ft. of water is allocated for the Attappady Irrigation Project.

When Newspapers published reports that the Government of Kerala has proposed to construct a dam with a capacity of about 4.5 T.M.C.ft. in Attappady Valley at an estimated cost of about Rs.460 Crores, the Government of Kerala was requested on 22.2.2012, not to proceed with the Attappady Scheme in any manner till the Final Order of the Cauvery Water Disputes Tribunal dated 5.2.2007 comes into force. The Government of India was also addressed to advise the Government of Kerala in this matter.

When the Government of Kerala unilaterally approached the Expert Appraisal Committee, functioning under the Ministry of Environment and Forest,

Government of India for consideration of Standard Terms of Reference to conduct Environment Impact Assessment (EIA) study for the scheme in March, 2016, the Committee requested the Government of Kerala to obtain the comments from the Government of Tamil Nadu.

Thereafter, the Government of Kerala in May, 2016 sent only the salient features of the Attappady Irrigation Project for utilization of 2.87 TMC ft. allowed by the Tribunal to irrigate about 12,108 acres against the Cultivable Command Area 10,740 acres mentioned in the Final Order of the Tribunal and sought the comments of Tamil Nadu.

The Government of Kerala without having obtained the views of the Government of Tamil Nadu again approached the Expert Appraisal Committee for River Valley and Hydro Electric Projects in August, 2016 for giving recommendation.

The Expert Appraisal Committee in the 96th meeting held on 11.8.2016 and

12.8.2016 recommended the grant of Standard Terms of Reference with certain conditions.

The Government of Tamil Nadu sought the intervention of the Government of India to direct the MoEF & CC to immediately withdraw the recommendation of the Expert Appraisal Committee and also advise the MoWR, RD&GR not to accord any clearance to the project till the Cauvery Management Board and Cauvery Water Regulation Committee come into force and judicial references are finally settled.

The Tamil Nadu Legislative Assembly passed an unanimous resolution in this regard on 2.9.2016 which was forwarded to the Hon'ble Prime Minister by the Hon'ble Chief Minister, again urging the request of Tamil Nadu.

The MoEF & CC in its letter dated 10.10.2016 informed that the recommendation of the Expert Appraisal Committee regarding this project has been kept in abeyance, till the references filed in the Supreme Court

are settled. The Ministry of Water Resources, River Development & Ganga Rejuvenation also informed in the letter dated 16.11.2016 that so far no preliminary Report / DPR of this project has been received in CWC and that as and when received, it would be examined as per the award of the Tribunal and extant CWC guidelines.

When media carried reports that the Government of Kerala has planned to construct check dams across the Bhavani river and its tributaries in Attappady valley and that the earthwork for laying the foundation at Thekkuvattai and Manjikandi has been commenced and at Padavayal, the work of levelling the land has commenced and the materials for laying the foundation have also been stocked the Government of India, Ministry of Environment, Forest and Climate Change was requested to advise the Government of Kerala to stop the works immediately and not to proceed with the works without obtaining the prior

concurrence of Tamil Nadu and until the Cauvery Management Board and the Cauvery Water Regulation Committee come into force and judicial references are finally settled. In this regard, letters were sent to the Government of India and Government of Kerala continuously.

Since no reply was received, Tamil Nadu filed an I.A in the Supreme Court on 01.02.2017 in this matter.

The Hon'ble Chief Minister in the Memorandum presented to Hon'ble Prime Minister on 27.2.2017 has urged to advise the Government of Kerala to forthwith stop the construction activities across the rivers Pambar and Bhavani and also not to take up any works in the Cauvery Basin of Kerala till the Cauvery Management Board comes into force and judicial references are finally settled.

When this I.A. was heard by the Supreme Court on 21.03.2017, the Senior Counsel for Kerala stated that

the constructions which are being raised would be only for the purpose of utilization of the water that has been allocated to Kerala in the Final Order of the Tribunal. The Court directed Kerala to send a communication in this regard.

Since the Government of Kerala has only reiterated what has been stated before the Supreme Court, the Hon'ble Chief Minister in letter dated 24.5.2017 to the Hon'ble Prime Minister, has requested to advise the Government of Kerala to furnish all the details in respect of the projects that it has already constructed or are under construction or are proposed to be constructed. Further, it has also been requested that the Government of Kerala should be advised not to go ahead with any construction activities until the Cauvery Management Board is formed and becomes functional.

3.1.8. Suit filed by Tamil Nadu in the Supreme Court against Karnataka for claiming damages 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. Karnataka did not release water 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.

The Government of Tamil Nadu filed a Suit (O.S.No.4/2013) 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, on account of non-release of water in terms of the Interim Order of the Tribunal during the irrigation year 2012-2013, 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 at the commencement of the year 2013-2014 and to pay punitive Damages of Rs.1434 crores for deliberate non-compliance of the decision passed by the Tribunal.

Karnataka filed its written submissions in this Suit on 10.03.2015. Tamil Nadu filed its Replication to the Karnataka's written submissions on 01.07.2015.

When the Suit was heard on 26.8.2016, the Supreme Court framed the Issues and directed to file list of witnesses within two weeks and to post the case after 4 weeks. On 28.9.2016, the Government of Tamil Nadu has named 3 witnesses to the Supreme Court. Karnataka has also named 3 witnesses.

The Suit is likely to be listed soon for further hearing.

3.1.9. Suit filed in the Supreme Court against the Government of Karnataka for Sewage let into Cauvery and Pennaiyar

Newspapers on 30.03.2015 carried reports that the Karnataka Minor Irrigation Minister has stated in the Legislative Council that Karnataka is letting down 593 MLD of Sewage water in Cauvery through the 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.

The tests conducted of the Central Pollution Control Board and the State Pollution Control Board in February, 2015 revealed that the pollution of water was above the tolerance limits.

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 rivers by Karnataka, Tamil Nadu filed a Suit with an I.A. in the Supreme Court on 05.06.2015.

Karnataka has filed Written Statement in the Supreme Court on 28.03.2016. Tamil Nadu filed its Replication to the Written Statement of Karnataka on 28.09.2016. The suit is pending in the Supreme Court.

3.2. Mullai Periyar Dam

3.2.1. The Periyar Project was executed by virtue of the Lease Deed signed between the Maharaja of Travancore and Secretary of State for India in Council on 29.10.1886. This deed is for 999 years with effect from

1.1.1886. 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.

3.2.2. 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 hydroelectric 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.

3.2.3. There had been apprehensions about the safety of the Dam. In order to bring the Dam to modern standards, the Central Water Commission suggested certain remedial measures. For the purpose of carrying out the works, the water level was temporarily brought down to 136 ft. The Central Water Commission had also certified that upon carrying on certain works, the water level could be raised to

145 ft. and ultimately to FRL 152 ft. after completing all the strengthening works. However, the Government of Kerala held the view that at all times the water level in the Dam should be kept at 136 ft.

3.2.4. 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. 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 its Order stated that after the strengthening works are completed to the satisfaction of the Central Water Commission, independent Experts would examine the safety angle before the water level is permitted to be raised to 152 ft. (FRL).

3.2.5. 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. The Government of Tamil Nadu filed a Suit (O.S.No.3 of 2006) in the Supreme Court on 31.3.2006 praying to declare "The Kerala Irrigation and Water Conservation (Amendment) Act, 2006" as unconstitutional in its application to and effect on Mullai Periyar Dam. The Supreme Court constituted an Empowered Committee to give its recommendations other than on legal aspects.

3.2.6. The 5 Member Constitution Bench of the Supreme Court after going into the report of the Empowered Committee and also the final arguments, decreed the Suit in favour of Tamil Nadu on 7.5.2014.

The Salient aspects are:-

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 Conservation (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 Mullai Periyar 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 of

Tamil Nadu and Kerala. The Committee shall supervise the raising of the water level to 142 ft. in the Mullai Periyar Dam.

3.2.7. The Supreme Court dismissed the Review Petition filed by the State of Kerala on 02.12.2014 against the Judgement dated 07.05.2014

3.2.8. Supervisory Committee

As per the Decree of the Hon'ble Supreme Court and also on the urge made by the Government of Tamil Nadu, the Government of India constituted the Supervisory Committee. As decided in the 2nd meeting of the Supervisory Committee held on 17.7.2014, the shutters of the spillway 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 time on 07.12.2015, the water level reached 142 ft. The Supervisory Committee has so far held 9 meetings.

3.2.9. Sub - Committee

As decided in the 2nd meeting of the Supervisory Committee on 17.07.2014, a Sub-Committee was constituted on 13.08.2014 to assist the Supervisory Committee with no powers to issue any direction to any party.

3.2.10. 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 FRL +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.
- v) Raising the upstream parapet wall from + 158 ft. to +160 ft. of the Main Dam in the remaining length of 20 metres.

3.2.11. The Government have accorded Administrative Sanction for an amount of Rs. 7.85 crores, vide G.O. (Ms.) No. 122, PWD, dated 16.06.2015. Further, to facilitate carrying out the works early, orders were issued, vide, G.O. (Ms.) No. 142, PWD, dated 17.07.2015 to split up the works 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 on 29.05.2015 for Wildlife clearance & Environmental Clearance and

it is under consideration in the respective Department. In the meanwhile, the Additional Principal Chief Conservator of Forests, Thiruvananthapuram in letter dated 19.11.2016 addressed to the Executive Engineer, Periyar Dam Special Division has returned the proposal, stating that as the area comes under Periyar Tiger Reserve, the Government of Kerala has advised to reject the proposal. In this regard, the Hon'ble Chief Minister of Tamil Nadu presented a Memorandum to the Hon'ble Prime Minister on 27.2.2017, had pointed out that the rejection by the Government of Kerala is against the Decree of the Supreme Court and requested to instruct the concerned authorities to expedite the necessary clearances. The Government of Kerala and the Government of India, Ministry of Environment, Forest and Climate Change have been addressed on 10.5.2017 to expedite the clearances.

The work for raising the upstream parapet wall from +158 ft. to +160 ft. of the Main Dam in the remaining length of

20 metres has been completed in April 2017.

3.2.12. 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.

3.2.13. 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. However, further clearance from the Chief Conservator of Forest, Ministry of Environment & Forests, Regional Office (Sz), Bengaluru has not been obtained by the Kerala State Electricity Board. The Government of

Tamil Nadu is pursuing the matter continuously with the Government of Kerala in this regard.

3.2.14. Execution Petition filed by Government of Tamil Nadu in Supreme Court

In spite of repeated requests by the Government of Tamil Nadu, the Government of Kerala has not extended its cooperation to carry out the strengthening works. Therefore, the Government of India was requested to advise the Government of Kerala to cooperate in the matter. Since no reply was received, the Government of Tamil Nadu, in order to execute the Decree of the Supreme Court dated 7.5.2014, has filed an Execution Petition on 2.3.2017 in the Supreme Court. The Petition was heard on 04.05.2017 and notice issued to Kerala for direction. The matter has been posted to the 2nd week of July, 2017.

3.2.15. 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. 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. 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.

- 3.2.16.** 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, after inspection submitted its report to the Tribunal on 2.7.2015.
- 3.2.17.** The Government of Tamil Nadu on 08.10.2015, filed its objections/comments/remarks to the report of the Committee before the National Green Tribunal (SZ).
- 3.2.18.** The National Green Tribunal (SZ) on 30.5.2017 ordered that excluding the area leased out to Tamil Nadu, any activity shall be carried out in the other territorial area situated in the State of Kerala in accordance with Law and as per the approval given by National Tiger Conservation Authority and adjourned the main case to 07.08.2017.

3.2.19. The Government of Tamil Nadu filed a Civil Suit (O.S. No. 4 of 2014) on 26.09.2014 in the Supreme Court against the proposal of Government of Kerala to construct a Mega Car Park and also to remove the encroachments in the leased area.

3.3. Palar River Water Issue

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

3.3.2. 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.

3.3.3. 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, Ministry of Water Resources 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 from the Government of Andhra Pradesh and in order to protect the interests of people of Tamil Nadu, the Government of Tamil Nadu on 10.2.2006 filed a Suit (O.S. No.2/ 2006) in the Supreme Court.

3.3.4. In accordance with the orders of the Supreme Court dated 07.1.2008 and 28.3.2011, the meeting convened by the Government of India with the Governments of Tamil Nadu and Andhra Pradesh did not yield any solution to the issue.

The Supreme Court framed issues. Based on that, the cross examination of the Tamil Nadu witness which was conducted, is completed.

After the conclusion of cross examination of the witness of Andhra Pradesh and the arguments and counter arguments of both the States, the Supreme Court is expected to deliver the judgment.

3.3.5. In the meantime, there were newspaper 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 5ft. to 12ft. The Government of Tamil Nadu immediately on 01.7.2016 addressed the Government of Andhra Pradesh lodging

its strong protest against the action of the Government of Andhra Pradesh in having unilaterally increased the height of the existing check dam and to take urgent steps to reduce the height of the Check dam to its Original height.

3.3.6. The Government of Tamil Nadu on 11.7.2016 lodged its protest to the Government of Andhra Pradesh against its action with regard to increasing the height of 3 more Check Dams 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.

3.3.7. The Government of Tamil Nadu, on 11.7.2016 requested the Ministry of Water Resources, River Development and Ganga Rejuvenation, Government of India to immediately intervene in the matter and issue instructions to the Government of Andhra Pradesh to reduce the height of Check dams to their original level, not to store additionally

and not to carry out any activities across Palar in violation of the Madras-Mysore Agreement, 1892.

3.3.8. As there was no response to the requests from the Government of Andhra Pradesh and the Government of India, the Government of Tamil Nadu, filed a Suit with an Interlocutory Application (I.A.) in the Supreme Court on 18.7.2016.(O.S.3/2016). The matter came up for hearing on 10.1.2017. The matter was adjourned for 4 weeks.

3.3.9. The Supreme Court has directed the Government of Andhra Pradesh to file the Written Statement. In the meantime, the Government of Tamil Nadu filed an Amended Plaint on 03.03.2017 which has been admitted by the Supreme Court.

The suit is expected to be heard shortly.

3.4. Parambikulam Aliyar Project - Review of Agreement

3.4.1. The Parambikulam Aliyar Project, a multi-valley, multipurpose, 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 Governments of Kerala and Tamil Nadu was entered into on 29.05.1970 with retrospective effect from 09.11.1958. The Taluks of Pollachi, Palladam, Udumalapettai and Dharapuram in the Districts of Coimbatore and Tiruppur 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 at the level of Ministers and Officials for completing the review of the Agreement.

3.4.2. 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.

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

3.4.3.1. 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 details from the Government of Kerala, suitable action will be taken.

3.4.3.2. B) Construction of 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. as provided for in the Agreement, can be examined by Tamil Nadu, if only Kerala gives concurrence for the Balancing Reservoir.

3.4.3.3. 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. The concurrence of the 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.

3.4.4. 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 taking all possible steps to complete the review of this Agreement.

3.5. Neyyar

3.5.1. The Neyyar Irrigation Project, first and second stages were planned and executed by the Travancore – Cochin Government during the 1st and 2nd Five

year plan periods (1950-1955 & 1955-1960). Due to the States 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 Government 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.

3.5.2. The Government of Kerala was supplying water to Tamil Nadu, from the Left Bank canal 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.

3.5.3. After the Re-organisation of States 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 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. The Government of Tamil Nadu and Kerala held bilateral discussions but no solution could be found out. The intervention of the Government of India sought by the Government of Tamil Nadu also did not yield fruitful results. So, the Government of Tamil

Nadu on 30.05.2012 filed a Suit along with an I.A. in the Supreme Court. In this case, it has been prayed to forthwith supply water to Tamil Nadu from Neyyar Irrigation Project.

3.5.4. The Supreme Court in its order dated 23.2.2017 has directed to file the list of witnesses. The Government of Tamil Nadu has nominated a witness. The matter is likely to be taken up for hearing shortly.

3.6. Repairs to Shenbagavalli Anicut

3.6.1. 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 1,773 AD and it diverts flows to mainly two tanks namely Kulashekhara Periyakulam and Raisinge Periyakulam in Sivagiri Taluk of Tirunelveli District through a channel, namely, Kanyamadagu channel which is 4,400 ft. (1341m) long. About

10,924 acres in Tirunelveli and Virudhunagar Districts are being irrigated.

3.6.2. 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.

3.6.3. However, the deposit amount was returned 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.

3.6.4. 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.

3.6.5. The Government of India, Ministry of Water Resources on 19.02.2014, 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 in August, 2010 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 by Tamil Nadu or by Kerala for which reimbursement will be made by Tamil Nadu.

3.6.6. In the meanwhile, Writ Petitions (MD) No. 1260 of 2015, 2398 of 2015 and 3601/2015 have been filed in the Madurai Bench of Madras High Court. These Writ Petitions are pending.

3.7. Pennaiyar River

3.7.1. 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.

3.7.2. 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 Tamil Nadu State, build any new Anicut or any structure to obstruct, divert or store the waters of the river across any part of the river.

3.7.3. 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.

3.7.4. When the Government of Karnataka had proposed to construct Check Dams and diversion structures across the river Pennaiyar, the Government of Tamil Nadu on 19.05.2012 pointed out to the Government of India that the attempt of the Government of Karnataka to construct the check Dams and diversion structures will withhold the flows across 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 Government of India 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. The Government of India is continuously addressed to advise the Government of Karnataka in this matter.

3.8. Inter Linking of Rivers

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

The Government of Tamil Nadu has consistently been urging the Government of India to implement the inter linking of Peninsular rivers, namely, Mahanadhi - Godavari - Krishna - Pennar - Palar - Cauvery - Vaigai - Gundar and Pamba - Achankoil - Vaippar.

In W.P. (Civil) No.512 of 2012, the Supreme Court in its Order dated 27.02.2012, directed the Government of India to constitute a Special Committee for the implementation of inter linking of

rivers and after the formation of the Committee on 06.05.2013, no steps were taken by the Government of India to implement the inter linking of rivers project. The Government of Tamil Nadu requested that the Special Committee should be activated and all Inter-State rivers should be nationalised so that water resources of the country are optimally utilised.

3.8.2. The National Water Development Agency (NWDA) has prepared the feasibility reports for interlinking of Mahanadhi - Godavari - Krishna - Pennar - Palar - Cauvery - Vaigai - Gundar link in 2004. 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 to be taken by NWDA and it is now conducting water balance study of Mahanadhi basin.

3.8.3. Tamil Nadu has requested for enhancing the quantum of water proposed to be transferred to Tamil Nadu by 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.

Special Committee for Inter Linking of Rivers

3.8.4. The Ministry of Water Resources, Rivers Development and Ganga Rejuvenation, Government of India, notified the constitution of the Special Committee for Inter linking of Rivers 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.

3.8.5. In the 12 meetings so far held, 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 are presented to the Committee from time to time:-

- a) The Interlinking of Rivers Project should be implemented under National Perspective Plan as is being done in the case of Ganga Rejuvenation.
- b) 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 a 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 is 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.

3.8.6 Hon'ble Chief Minister in the Memorandum presented to the Hon'ble Prime Minister on 27.2.2017 had pointed out that not much headway has been made in the inter linking of rivers and reiterated the demand to nationalise all Inter-State Rivers.

3.9. Pamba - Achankoil - Vaippar Link

3.9.1. 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, Sathur and Tenkasi in Tamil Nadu and will also help to generate peak power of 500 MW for Kerala.

3.9.2. The Government of Tamil Nadu has given its acceptance in December, 1995 to the proposal. The Government of Kerala is not in favour of this project.

3.9.3. In the meetings of the Special Committee for Inter linking of Rivers, the Government of Tamil Nadu has been emphasising that National Water Development Agency (NWDA) should be instructed to prepare the Detailed Project Report (DPR) for Pamba-Achankoil-Vaippar link immediately.

3.9.4. The Hon'ble Chief Minister in the Memorandum presented to the Hon'ble Prime Minister of India on 27.2.2017 has, among others, reiterated the demand for the implementation of Pamba – Achankovil - Vaippar link.

3.9.5. In the meantime, 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. The case is pending.

3.9.6 The Hon'ble Chief Minister in letter dated 24.05.2017 to the Hon'ble Prime Minister of India, among others, stated that the Government of Kerala which cooperated with the preparation of the Feasibility Report for the scheme is now reluctant to give its concurrence to prepare the Detailed Project Report, although the project is mutually beneficial to both the States and requested the Hon'ble Prime Minister of India to advise the Government of Kerala to accord its concurrence in the National interest.

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

4.0. CREATION OF NEW IRRIGATION INFRASTRUCTURE

4.1. STATE FUNDED SCHEMES

4.1.1. Formation of New Reservoirs

In Perambalur, Tiruvallur and Vellore Districts, 3 New Reservoirs are under formation at an estimated cost of Rs.483.75 crore. By implementing these schemes, an ayacut of 9,133 acres will be benefited. The details of these Works are as below:-

Perambalur District

- Formation of a 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, 45% of work has been completed.
 - The storage capacity proposed is 211.58 Mcft. with an annual storage of 423.16 Mcft. in two fillings.
 - An extent of 4,194 acres of dry lands will be brought under cultivation in 10 Villages.

- The total requirement of lands for this scheme is 1,116.33 acres. Land Acquisition is nearing completion.

Tiruvallur District

- Formation of a new Reservoir at Kannankottai Village, at an estimated cost of Rs.330 crore, by merging the existing two tanks, viz., Kannankottai Hissa Rajaneri tank and Thervaikandigai tank is in progress. So far, 60% of work has been completed.
- This reservoir would facilitate storing of about 1 TMC ft. of Krishna water in 2 fillings.
- Providing assured irrigation facilities to the existing ayacut of 740 acres.

Vellore District

- Formation of Earth Dam, construction of Spillway and River Sluices across Malattar River at Bathalapalli 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.

4.1.2. Construction of New Barrage

Cuddalore and Nagapattinam Districts

- Detailed Project Report has been prepared for construction of a New Barrage across Kollidam River near Adhanur and Kumaramangalam Villages at a cost of Rs.400.00 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.
- This scheme has also been included in the concept note for “Augmentation of Ground water for climate resilience of vulnerable community” under Green Climate fund.
- It is proposed to pose the scheme for funding assistance under Long Term Irrigation Fund (LTIF) with NABARD Loan assistance.

4.1.3. Formation of New Canals / Supply Channels

Formation of 4 new Canals / Supply Channels in 3 Districts, viz, Ramanathapuram, Salem and Tirunelveli at an estimated cost of Rs.25.48 crore are in progress. By implementing this scheme, an extent of 4,385 acres will be benefited. The details of these works are as below:-

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% of 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 dams in Kumarasamiyur, Thukkiyampalayam, Vazhapadi and Mannayakanpatti Villages in Vazhapadi Taluk at an estimated cost of Rs.3.68 crore are in progress. So far, 10% of work has been completed. By implementing this scheme, an extent of 138 acres will be benefited.

Tirunelveli District

- Construction of a 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, 70% of works have been completed.
- Construction of a Weir at LS 2,046 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. So far, 10% of works have been completed.

4.2. NABARD ASSISTED SCHEMES

4.2.1. New Anicuts and Regulators

Formation of 5 New Anicuts / Regulators in 5 Districts, viz, Kancheepuram, Madurai, Perambalur, Tiruvannamalai and Virudhunagar at an estimated cost of Rs.29.75 crore will commence soon. By implementing these schemes, an extent of 2,366 acres will be benefited. The details of these works are as below:-

Kancheepuram District

- Construction of an Anicut across Cheyyar River near Vengancheri Village in Uthiramerur Taluk at an estimated cost of Rs.8.00 crore will commence soon. By implementing this scheme, an extent of 365 acres will be stabilized besides bridging a gap of 445 acres.

Madurai District

- Construction of an Anicut across Palar River to feed Rettaikulam tank and other tanks in Pottalpatti Village of Melur Taluk at an estimated cost of Rs.2.95 crore will

commence soon. By implementing this scheme, an extent of 150 acres will be stabilized besides bridging a gap of 55 acres.

Perambalur District

- Construction of an Anicut across Kallar River near V Kalathur Village to feed Ayanperaiyur Tank and Keeranur Tank in Veppanthattai Taluk at an estimated cost of Rs.8.00 crore will commence soon. By implementing this scheme, an extent of 471 acres will be benefited.

Tiruvannamalai District

- Construction of an Anicut across Cheyyar River near Anaivadi Village to feed Karaipoondi tank and Koralpakkam tank in Polur Taluk (Kalasapakkam) at an estimated cost of Rs.7.30 crore will commence soon. By implementing this scheme, an extent of 342 acres will be stabilized and an extent of 246 acre of gap will be bridged.

Virudhunagar District

- Construction of an Anicut across Kowshikanadhi in Avudaiyapuram Village to feed Kaalaperumalpatti tank in Virudhunagar Taluk at an estimated cost of Rs.3.50 crore will commence soon. By implementing this scheme, an extent of 28 acres will be stabilized besides bridging a gap of 264 acre.

4.2.2. Formation of New Check dams / Bed dams / Grade walls

5 Check dams in 5 Districts, viz, Ariyalur, Cuddalore, Karur, Thoothukudi and Tiruvallur are in progress. Further, 4 Check dams in 4 Districts, viz, Karur, Sivagangai, Tiruppur and Tiruvallur will commence soon. The total estimated cost of the Check dams is Rs.98.205 crore. 1 Grade wall in Thiruvarur District will commence soon at an estimated cost of Rs.1.19 crore. By implementing these works, an ayacut of 4,404 acres will be benefited. The details of these works are as below:-

Ariyalur District

- Construction of a Check Dam across Vilangudi Odai in Vilangudi Village of Ariyalur Taluk at an estimated cost of Rs.0.995 crore is in progress. By implementing this scheme, an extent of 41 acres will be stabilized and an extent of 18 acres of gap will be bridged through 8 nos. of open wells and 16 nos. of bore wells in the zone of influence.

Cuddalore District

- Construction of a Check Dam across Gadilam River near Maligampattu Village in Panruti Taluk at an estimated cost of Rs.5.00 crore is in progress. So far, 80% of work has been completed. 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.

Karur District

- Construction of a 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. So far, 69% of work has been completed.
- Construction of a Check Dam across Kodaganar River near Venjamangudalur Village in Aravakurichi Taluk at an estimated cost of Rs.7.00 crore will commence soon. By implementing this scheme, an extent of 589 acres will be benefited through 45 wells and more than 100 bore wells in the zone of influence.

Sivagangai District

- Construction of a Check dam across Vaigai river near Thirupuvanam Town Panchayat in Thirupuvanam Taluk at an estimated cost of Rs.10.00 crore will commence soon. By implementing this scheme, an extent of 1,330 acres will be benefited through 86 wells and borewells.

Thiruvarur District

- Construction of a Grade wall across Nattar River at mile 78/5-6 to feed Kaduvangudi channel in Nannilam Taluk at an estimated cost of Rs.1.19 crore will commence soon. By implementing this scheme, an extent of 365 acres will be benefited.

Thoothukudi District

- Construction of a 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.

Tiruppur District

- Construction of a Check dam across Uppar River of Periyakumarapalayam Village in Dharapuram Taluk at an estimated cost of Rs.2.30 crore will commence soon. By implementing this scheme, an extent of 249 acres will be benefited through 86 nos. of wells.

Tiruvallur District

- Construction of a Check dam across Kosasthalaiyar River in Pattaraiperumpudur Village to channelise water to Arulmigu Veeraragavaperumal Temple Tank in Tiruvallur at an estimated cost of Rs.25.00 crore is in progress. So far, 40% of work has been completed.
- Construction of a Check Dam across Kosasthalaiyar River near Attrambakkam Village in Uthukottai Taluk at an estimated cost of Rs.7.00 crore will commence soon. By implementing this scheme, an extent of 356 acres will be benefited by recharging 40 nos of wells.

4.2.3. Formation of New Canals / Supply Channels

Formation of 2 new Canals / Supply channels in 2 Districts, viz, Theni and Tiruppur are in progress and Formation of a new Branch Channel in Madurai District will commence soon. The total estimated cost of these works is Rs.62.20 crore. By

implementing this scheme, an extent of 11,761 acres will be benefited. The details of these works are as below:-

Madurai District

- Formation of a Branch Channel to Nedumadurai Tank and Thottiyapatti Tank from Nilayur Extension Channel in Thirupparankundram Taluk at an estimated cost of Rs.1.30 crore will commence soon. By implementing this scheme, an extent of 589 acres will be stabilized besides bridging a gap of 317 acres.

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, 77% of work has been completed. By implementing this scheme, an extent of 4,795 acres will be benefited.

Tiruppur District

- Linking of Parambikulam Aliyar Project System to Uppar Canal in Dharapuram Taluk at an estimated cost of Rs.8.10 crore is in progress. So far, 92% of work has been completed. By implementing this scheme, an extent of 6,060 acres will be benefited.

4.2.4. Formation of New Tank

Dindigul District

- Formation of a New Tank across Nallathangal Odai near Kothayam Village of Oddanchatram Taluk at an estimated cost of Rs.11.12 crore is in progress. So far, 80% of work has been completed. By implementing this scheme, an extent of 804 acres will be benefited.

5.0. REHABILITATION OF IRRIGATION INFRASTRUCTURE AND SYSTEMS

5.1. STATE FUNDED SCHEMES

5.1.1. Rehabilitation of Dams

Administrative sanction has been accorded for Rehabilitation and Improvement works in 2 Dams in Coimbatore District and Idukki District (Kerala) at an estimated cost of Rs.11.67 crore.

The details of the works are as follows:-

Coimbatore District

- Rehabilitation of Tunnel entry shutter at Urulikkal and Tunnel intake trash rack structure in Sholayar Dam in Valparai Taluk at an estimated cost of Rs.3.82 crore will commence soon.

Idukki District (Kerala)

- Administrative sanction was accorded for Rs.7.85 crore for Strengthening of Baby Dam by providing RCC backing and instrumentation for Main Dam and Baby Dam of Mullai Periyar Dam. Raising the

upstream parapet wall was completed on 08.04.2017. Other works will be commenced after finalization of tenders and getting environmental clearance from the Ministry of Environment, Forest and Climate Change, Government of India and Kerala Forest Department.

5.1.2. Rehabilitation of Supply Channels

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. So far, 90% of works have been completed. By implementing this scheme, an extent of 592 acres will be benefited.

5.1.3. Renovation of Tanks

5 Tanks are being renovated in 3 Districts, viz, Dindigul, Kancheepuram and Tiruvallur Districts at an estimated cost of Rs.131.10 crore. By implementing this scheme, an extent of 204 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. So far, 90% of works have been completed. 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 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.

5.2. NABARD ASSISTED SCHEMES

5.2.1. Rehabilitation of Anicuts

Salem District

- Rehabilitation of 6 anicuts constructed across Sarabanga River and its channels and 10 tanks in Sarabanga basin in Omalur Taluk at an estimated cost of Rs.14.62 crore will commence soon. By implementing this scheme, an extent of 2,317 acres will be benefited.

5.2.2. Rehabilitation of Regulators

Cuddalore District

- Extension of Perampattu Anicut as a Regulator across Old Coleroon River in Chidambaram Taluk at an estimated cost of Rs.10 crore is in progress. By implementation of this scheme, inundation and sea water (surface water) intrusion can be prevented, thereby recharging the ground water. So far, 90% of works have been completed.

5.2.3. Rehabilitation of Canals, Supply Channels and Rivers

Rehabilitation of 3 Canals and Supply Channels in Kanniyakumari, Madurai and Sivagangai and Tirunelveli Districts are in progress. Rehabilitation of 8 Canals and Supply Channels in 8 Districts, viz, Coimbatore, Erode, Madurai, Namakkal, Nagapattinam, The Nilgiris, Salem and Villupuram will commence soon. The total estimated cost of these works are Rs.164.25 crore. By implementing this scheme, an extent of 1,33,543 acres will be benefited.

The details of these works are as below:-

Coimbatore District

- Lining of the Chithirai Chavadi Irrigation Channel from LS 0 to 4,000m in Perur Taluk at an estimated cost of Rs.2.97 crore will commence soon. By implementing this scheme, an extent of 400 acres will be benefited.

Erode District

- Rehabilitation of Kalingarayan Channel from LS Mile 9/7 to 12/5 - 361 in Erode Taluk at an estimated cost of Rs.36.75 crore will commence soon. By implementing this scheme, an extent of 16,238 acres will be benefited.

Kanniyakumari District

- Protecting the side banks of Chunkan Odai and improvements to Erappaiyar to feed Poigai Dam in Thoivalai Taluk at an estimated cost of Rs.3.25 crore is in progress. So far, 43% of works have been completed. By implementing this scheme, an extent of 945 acres will be benefited.

Madurai and Sivagangai Districts

- 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 crore is in progress. So far, 75% of works have been completed. By implementing this scheme, an extent of 75,380 acres will be benefited.

Madurai District

- Regradation of the Therkar River from Melakottai Anicut to Kambikudi Anicut in Thirumangalam Taluk at an estimated cost of Rs.3.37 crore will be taken up. By implementing this scheme, an extent of 3,148 acres will be benefited.

Namakkal District

- Rehabilitation of Mettur East Bank Canal from LS 45.303km to 58.000km in Kumarapalayam Taluk at an estimated cost of Rs.25 crore will commence soon. By implementing this scheme, an extent of 7,481 acres will be benefited.

Nagapattinam District

- Rehabilitation of Mankondanar drain near Thagattur Village in Vedaranyam Taluk at an estimated cost of Rs.2.94 crore will commence soon. By implementing this scheme, an extent of 10,830 acres will be benefited.

The Nilgiris District

- Rehabilitation of Puthurvayal Channel from LS 670m to 2,040m in Gudalur Taluk at an estimated cost of Rs.1.97 crore will commence soon. By implementing this scheme, an extent of 1,100 acres will be benefited.

Salem District

- Rehabilitation of Mettur West Bank Canal from LS 7.283 km to 13.92 km in Mettur Taluk at an estimated cost of Rs.25 crore will commence soon. By implementing this scheme, an extent of 14,672 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 crore are in progress. So far, 68% of works have been completed. By implementing this scheme, an extent of 2,000 acres will be benefited.

Villupuram District

- Rehabilitation and Reconstruction works in Kolianur Channel in Villupuram Taluk at an estimated cost of Rs.8 crore will commence soon. By implementing this scheme, an extent of 1,349 acres will be benefited.

5.2.4. Renovation of Tanks

37 tanks are being renovated in Ramanathapuram District and 1 tank will be renovated in Tiruchirappalli District. The total estimated cost of these works is Rs.9.96 crore. By implementing this scheme, an extent of 2,524 acres will be benefited.

The details of the works are as follows:

Ramanathapuram District

- Rehabilitation and Restoration of 37 Ex-Zamin tanks at an estimated cost of Rs.9.26 crore are in progress. So far, 96% of works have been completed. On implementing this scheme, an extent of 2,383 acres will be benefited.

Tiruchirappalli District

- Permanent Rehabilitation of the damaged portions of Maniyankurichi Tank in Maniyankurichi Village of Mannachanallur Taluk at an estimated cost of Rs.0.70 crore will commence soon. By implementing this scheme, an extent of 141 acres will be benefited.

5.3. Centre-State Shared Schemes and Centrally Sponsored Schemes

5.3.1. Repair, Renovation and Restoration (RRR) of water bodies directly linked to agriculture under Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)

- Repair, Renovation and Restoration (RRR) is a Centre-State shared scheme under PMKSY.
- The funding pattern is 90:10 (Centre:State) for drought prone areas (DPAP Block) and 25:75 (Centre:State) for non-drought prone areas (General Block) for 2015-2016.
- As per new guidelines of PMKSY, the funding pattern is 60:40 (Centre: State) for drought prone areas (DPAP Block)

and 25:75 (Centre:State) for non-drought prone areas (General Block) for 2016-2017.

- The objective of the scheme is comprehensive improvement of selected water bodies including catchment treatment and its command area development, increase in storage capacity of water bodies, ground water recharge, improvement in agricultural productivity and increasing the availability of drinking water.
- 49 tanks pertaining to Vellore (25) and Ramanathapuram (24) Districts at a cost of Rs.27.38 crore under Phase I of this programme have been taken up, to benefit an extent of 10,522.64 acres.
- 56 tanks pertaining to Vellore (28), Ramanathapuram (9) and Sivagangai (19) Districts at a cost of Rs.27.30 crore under Phase II of this programme have been taken up, to benefit an extent of 11,233.41 acres.
- The Government of India have released a grant of Rs.5.13 crore under Phase I and Rs.4.10 crore under Phase II.
The District-wise details of progress of works are as below:

Ramanathapuram District

- Works in 11 tanks, viz., Ariyanendal, Urappuli, Soodiyur, Pottithatti, Mudalur, Veeravanur, Kalari, Ettivayal, landhai, Uthirakosamangai and Panaikulam in Paramakudi and Ramanathapuram Taluks at an estimated cost of Rs.10.73 crore are in progress.

Vellore District

- Works in 4 tanks, viz. Vazhapandal, Ayiramangalam, Melapandal and Pinnanthalangal in Arcot and Vellore Taluks at an estimated cost of Rs.1.73 crore are in progress.

Works to be taken up

- Works in 49 tanks in Dharmapuri, Tiruvannamalai, Vellore and Virudhunagar Districts to be taken up at an estimated cost of Rs.23.43 crore under Phase III to benefit an ayacut of 9,358.31 acres.
- Works in 97 tanks in Coimbatore, Dharmapuri, Krishnagiri, Ramanathapuram, Sivagangai, Tiruppur and Virudhunagar Districts to be taken up at an estimated cost of Rs.46.41 crore

under Phase IV to benefit an ayacut of 18,146.88 acres.

- Works in 10 tanks in Dindigul and Vellore Districts to be taken up at an estimated cost of Rs.31.36 crore under Phase V to benefit an ayacut of 3741.81 acres.

5.3.2. Cauvery Modernisation Scheme under the Accelerated Irrigation Benefits Programme (AIBP)

- A Concept Paper on "Improvements and Rehabilitation of Irrigation Systems in Cauvery Basin for Efficient Irrigation Management" for an estimated amount of Rs.11,420 crore was sent to the Government of India for clearance.
- The Central Water Commission, Government of India has accorded in-principle clearance for the preparation of Detailed Project Report.
- Under State Fund concurrence has been given for Rs.2,298.75 crore for ERM Project in Grand Anicut Canal.
- As a first phase, the DPR for "ERM of Grand Anicut Canal Sub-basin" at an estimated cost of Rs.2,298.75 crore has been approved by the Government of

India on 30.09.2016. The detailed package wise estimates have been prepared.

- The proposal for investment clearance placed in the Investment Clearance Committee meeting held on 05.05.2017 has been recommended.
- For the remaining packages, the Government of India has extended the validity period for preparation of DPR till 31.12.2017.
- The Detailed Project Report for 'Improvements and Rehabilitation of Kattalai High Level Canal Irrigation system' for an amount of Rs.270 crore is under consideration.
- The preparation of Detailed Project Reports for the remaining irrigation systems viz. Cauvery, Vennar, Lower Coleroon, Lower Bhavani Project, Noyyal sub basins and Raja Voikkal Project as per Central Water Commission (CWC) guidelines have been completed.
- As regards the proposal for "Improvements and Rehabilitation of Irrigation Systems in Cauvery Basin for efficient Irrigation Management" at a cost

of Rs.14,500 crore under “National Project”, the Government of India has requested to send the proposal after preparation of remaining 8 Detailed Project Reports (DPR).

The project cost of various sub basin at 2016-2017 price levels are as tabulated below:-

Sl. No.	Name of Basin / Scheme	Amount (Rs.in crore)
1	Cauvery Sub Basin	4570.00
2	Vennar Sub Basin	4400.00
3	Grand Anicut Canal Sub	2298.75
4	Lower Coleroon Sub Basin	1211.25
5	Lower Bhavani Project	1239.00
6	Kattalai High Level Canal Project	270.00
7	Noyyal Sub Basin	162.00
8	Raja Voikkal Project	159.00
9	Ground Water Recharge Scheme	190.00
	Grand Total	14,500.00

5.3.3. National Agriculture Development Programme (NADP)

- Rehabilitation and modernization of the irrigation infrastructure is taken up under National Agriculture Development Programme (NADP) sponsored by Government of India.
- Reconstruction of Regulator in Nagapattinam District, Construction of Anicuts in 2 Districts viz, Pudukottai and Sivagangai, Construction of Check Dams in 4 Districts viz, Thanjavur, Tirunelveli, Tiruppur and Villupuram and Construction of a Diaphragm Wall in Vellore District will commence soon. The total estimated cost of these works is Rs.21 crore. An extent of 2,541 acres will be benefited on completion of these works.

The details of these works are as below:-

Nagapattinam District

- Reconstruction of Nattarmangalam drainage regulator across Thiruchengattangudy drain at mile 3/7 in Nattarmangalam Village of Nagapattinam

Taluk at an estimated cost of Rs.0.80 crore will commence soon. By implementing this scheme, an ayacut of 408 acres will be benefited.

Pudukottai District

- Construction of an anicut across Kozhuvanar River to feed Alathur and Vengakudi tanks in Pilluvalasai Village in Avudaiyarkoil Taluk at an estimated cost of Rs.4.00 crore will commence soon. By implementing this scheme, an ayacut of 667 acres will be benefited.

Sivagangai District

- Construction of an anicut across Palar River to feed Perumi tank and other tanks in Thiruvudaiyarpatti Village in Thirupathur Taluk at an estimated cost of Rs.2.50 crore will commence soon. By implementing this scheme, an ayacut of 215 acres will benefit by stabilisation, besides bridging a gap of 379 acres.

Thanjavur District

- Construction of a Check dam across Vedapuri River at LS 35.00 km in

Poyundarkudikkadu Village in Orathanadu Taluk at an estimated cost of Rs.3 crore will commence soon. By implementing this scheme, an ayacut of 494 acres will be benefited through 102 Nos. of bore wells.

Tirunelveli District

- Construction of a Check Dam across Nambiyar River at Thottavilai in Thiruvambalapuram Village in Radhapuram Taluk at an estimated cost of Rs.4 crore will commence soon. By implementing this scheme, an ayacut of 195 acres will be benefited through 17 wells.

Tiruppur District

- Construction of a Check dam across Nallar river in S.F. No. 271 of Devanurpudur Village in Udumalpet Taluk at an estimated cost of Rs.1.80 crore will commence soon. By implementing this scheme, an ayacut of 59 acres will be benefited through 54 wells.

Vellore District

- Construction of a Diaphragm Wall across Malattar River near Masigam Village in Gudiyatham Taluk at an estimated cost of Rs.3 crore will commence soon. By implementing this scheme, an ayacut of 378 acres will be benefited through 36 wells. Further, 14 Nos. of infiltration wells will be recharged.

Villupuram District

- Construction of an Artificial Recharge Structure across Muktha River near SF No. 87 of Eduttavainatham Village of Chinnasalem Taluk at an estimated cost of Rs.1.90 crore will commence soon. By implementing this scheme, an ayacut of 125 acres will be benefited through 39 wells.

5.4. Externally Aided Projects

5.4.1. Dam Rehabilitation and Improvement Project (DRIP) with World Bank Assistance

- The Dam Rehabilitation and Improvement Project is under implementation with the World Bank Assistance in order to strengthen and maintain the dams.
- Three Organizations, viz., Water Resources Department (WRD), Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO) and Agricultural Engineering Department (AED) are participating in this project.
- The total cost of the project is Rs.745.49 crore. The funding pattern between the World Bank and the State is in the ratio of 80:20.

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

Present status

WRD Dams

- Out of the 69 Dams taken up under DRIP, Administrative Sanction for 68 dams has been accorded and Administrative Sanction for the remaining 1 dam (Uppar (Tiruppur)) has to be obtained after getting additional fund approval from World Bank.
- So far, works have been awarded for 67 dams in which 36 works have been completed except instrumentation works. In the remaining 31 dams, works are in

progress. For 1 dam work (Pechiparai) work will commence after finalization of tender. The details of these 31 dams are as follows:

Sl. No.	Name of the Dam	District	Est. Amt. (Rs. in crore)
1	Manimukthanadhi	Villupuram	71.16
2	Wellington	Cuddalore	6.41
3	Vaniar	Dharmapuri	0.93
4	Kesarigulihalla	Dharmapuri	1.06
5	Vidur	Villupuram	5.93
6	Nagavathi	Dharmapuri	0.64
7	Pambar	Krishnagiri	0.83
8	Lower anicut	Thanjavur	16.47
9	Veeranam	Cuddalore	8.09
10	Sathanur	Thiruvannamalai	5.09
11	Puzhal	Thiruvallur	2.32
12	Cholavaram	Thiruvallur	2.47
13	Chembarambakkam	Kancheepuram	3.85
14	Manimuthar	Tirunelveli	17.97
15	Gadana	Tirunelveli	3.39

Sl. No.	Name of the Dam	District	Est. Amt. (Rs. in crore)
16	Ramanadhi	Tirunelveli	1.77
17	Chittar – I	Kanniyakumari	2.27
18	Chittar – II	Kanniyakumari	3.80
19	Perunchani	Kanniyakumari	7.64
20	Pilavukkal Periyar	Virudhunagar	2.04
21	Kullursandai	Virudhunagar	6.57
22	Anaikuttam	Virudhunagar	4.26
23	Vaigai	Theni	7.68
24	Sothuparai	Theni	2.01
25	Kariakoil	Salem	2.84
26	Mettur	Salem	10.72
27	Sholayar	Coimbatore	16.67
28	Aliyar	Coimbatore	8.82
29	Upper Nirar	Coimbatore	2.51
30	Gunderipallam	Erode	2.98
31	Bhavanisagar	Erode	19.71
	TOTAL		248.90

SEDIMENTATION STUDIES

- Sedimentation studies have been completed totally in 31 dams from 2013-2014 to 2015-2016. For the year 2016-2017, Administrative sanction awarded for 12 dams and survey works are in progress.

TANGEDCO Dams

- Out of 38 dams, Administrative Sanction has been accorded for 20 dams. In the 18 dams, works are in progress and for 2 dams, tender is to be called for.

Agricultural Engineering Department Works

- Catchment Area Treatment Works in Krishnagiri and Kundah Reservoirs were taken up to a value of Rs.15.41 crore in three phases. So far, works in Phases I and II to a value of Rs.10.21 crore have been completed and the works in Phase-III is in progress.

5.4.2. Climate Change Adaptation Programme in Cauvery Delta with the Assistance of Asian Development Bank (ADB)

- 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 (ADB) will be Rs.1,092 crore and the State Share will be Rs.468 crore.
- Construction of tail end regulators, re-construction / rehabilitation of all the tail end regulators and improve the drains for the required distance by widening and desilting in the upstream to bring them to standards are proposed. This will also ensure coastal protection.
- As a first stage of this project, works in rivers / drains viz. Harichandranathi, Adappar, Vellaiyar, Pandavaiyar, Valavanar Drain, Vedharanyam Canal and Uppanar Drain, and 13 various pumping schemes in part of Lower Vennar system in Cauvery Delta have been sanctioned at

an estimated cost of Rs.960.66 crore. The Status of these works are as follows:

S. No.	Name of the River/ Drain	Est. Amt. (Rs.in crore)	Present Stage of Work
1.	Harichandranathi	257.74	7% of work completed
2.	Adappar	168.35	10% of work completed
3.	Vellaiyar	178.17	12% of work completed
4.	Pandavaiyar	100.80	40% of work completed
5.	Valavanar Drain	44.62	15% of work completed
6.	Vedharanyam Canal and Uppanar Drain	32.18	20% of work completed
7.	Pumping Schemes	14.59	40% of work completed
	Sub Total	796.45	

- Setting up of Project Management Unit, Project Implementing Units, Obtaining Environmental and Coastal Regulation Zone (CRZ) clearance, Appointment of Consultant for Environmental Impact and Resettlement at an estimated cost of Rs.164.21 crore are under progress.

5.4.3. Tamil Nadu Irrigated Agricultural Modernisation Project (TNIAMP-IAMWARM Project – II) with World Bank Assistance

- As the follow-on project of the successfully completed IAMWARM Project, the IAMWARM Project II is proposed to be taken up in the remaining 66 sub-basins of the State covering 30 Districts to benefit an extent of 5.43 lakh hectare over a period of 7 years starting from 2017 with an outlay of Rs.3,042 crore.
- The Project will be implemented by Water Resources Department and 7 Line Departments under the co-ordination of Water Resources Department.
- In this Project, it is proposed to take up rehabilitation of 4,778 Tanks and 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.2,195 crore, by the Water Resources Department.

- Administrative Sanction has been accorded for an amount of Rs.743.5649 crore for 18 sub-basins selected for rehabilitation under Phase – I and for an amount of Rs.43.63 crore for rehabilitation of 59 flood affected tanks, under Retroactive funding.

5.4.4. NATIONAL HYDROLOGY PROJECT

- The objective of the National Hydrology Project (NHP) is to improve the extent, quality and accessibility of water resources information and to strengthen the capacity of water resources management institutions. The proposed duration of the project is eight years (2016 to 2024).
- The State Ground and Surface Water Resources Data Centre (SG & SWRDC) is the Nodal Agency for the implementation of the NHP in Tamil Nadu.
- The project allocation is Rs.100.00 crore, as 100% Grant from the Government of India.

The project components are:

Component A (Rs.60.00 crore) :

- Water Resources Data Acquisition System - Expand and upgrade water resources monitoring and data acquisition systems.

Component B (Rs.5.00 crore) :

- Water Resources Information System (WRIS) - Develop and support centralized database management system.

Component C (Rs.15.00 crore) :

- Water Resources Operation and Planning System - Develop DSS in selected river basins for Surface and Ground water assessment, Flood forecasting and Reservoir operations, Irrigation planning and management.

Component D (Rs.20.00 crore) :

- Institution Capacity Enhancement - Capacity building through Establishing and supporting Water Resources Data Centres and Centres of Excellence.

Present Status of the Project:

- The Memorandum of Agreement has been signed on 04.11.2016.
- The Project Implementation Plan (PIP) has been approved on 16.12.2016.
- Administrative Sanction has been accorded for the project on 09.06.2017.
- The Annual Work Plan for Rs.15 crore for the year 2016-2017 has been sent to the Government of India for approval.

5.4.5. NATIONAL WATER MISSION

- National Water Mission is one of the 8 National Missions launched to address Climate Change Adaptation and Mitigation of nation.
- The main objective of the National Water Mission is conservation of Water, minimizing wastage and ensuring its more equitable distribution both across and within states through integrated water resources development and management.
- In Tamil Nadu, the Chief Engineer, Water Resources Department, State Ground and Surface Water Resources Data

Centre is the Member Secretary of the Monitoring Committee for this Project and the Nodal Officer for the preparation of State Specific Action Plan (SSAP).

- As per mandate of the National Water Mission Project, a Climate Change Cell has been formed in the office of Chief Engineer, SG&SWRDC. The climatic and hydrological data are being collected for documentation of climate change studies.
- As an initiative, a field study on "On the spot study of water situation in drought affected areas of Tamil Nadu State" was taken up in co-ordination with CWC and ancillary report was sent to Director, CWC, Coimbatore.

Present status

- The Ministry of Water Resources allotted Rs.50 lakh for implementing National Water Mission Project in the State. Based on the above, the Government of Tamil Nadu approved the National Water Mission Project.

- The proposal envisages the "Preparation of State Specific Action Plan (SSAP) for Tamilnadu" departmentally using the services of specialized experts in the domains of Agriculture, TWAD, TNPCB, CGWB, etc. and the Field Engineers, Geo Scientists of Groundwater wing.
- Memorandum of Agreement (MoA) for executing this project has been signed between the Chief Engineer (SG&SWRDC) and Director, NERIWALM on 03-06-2016.
- The first installment of Rs.20 lakh has been released by NERIWALM to implement the NWM Project during 2016-2017 and 2017-2018.
- The project is proposed to be carried out in 2 phases. Phase-I, consists of data collection and preparation of reports for the following themes of the State.
 1. Water Resources of the States
 2. Water resources planning and development

3. Water resources issues
 4. Project related issues
 5. Irrigation and Agriculture
- Phase-II consists of the following
 1. Water Resources Management
 2. Water Governance
 3. Documentation of studies
 4. Preparation of interim report
 - On completion of above task, State Specific Action Plan will be prepared. Based on SSAP necessary comprehensive plan to develop the Water Resources of Tamil Nadu will be prepared and sent to National Water Mission to obtain funds.

6.0. Disaster Management – Drought Relief works for augmenting Ground Water Resources

- In Tamil Nadu, North East Monsoon period is from October to December. Normally, during this monsoon period, the average rainfall is 440 mm. But in the year 2016, the State received only 168.30 mm rainfall, which is 62% less than the normal. The rainfall deficit in 32 Districts was in the range of 35% to 81%.
- Orders have been issued in G.O.(Ms.)No.6, Revenue [DM 3(1)] Department, Dated 10.01.2017 for constructing sub-surface reservoirs, sub-surface dykes and other water conservation works at an estimated cost of Rs.25.00 crore by Water Resources Department. 64 Estimates have been prepared at an estimated cost of Rs.24.91 crore which are under consideration.

6.1. Construction of Sub-surface Dykes

- Construction of 28 Nos. of sub-surface dykes in rivers & Streams in 6 Districts viz.,

Nagapattinam, Pudukottai, Ramanathapuram, Thanjavur, Thoothukudi and Tiruvarur for an amount of Rs.3.03 crore is proposed to be taken up.

6.2. Formation of Sub-surface storage structures by Desilting the tank deeply below sill level

- Formation of 34 Nos. of sub-surface storage structures by desilting the tank deeply below the sill level in Greater Chennai Area and in the Districts of Coimbatore, Dindigul, Erode, Madurai, Tiruppur and Virudhunagar for an amount of Rs.20.51 crore is proposed to be taken up.

6.3. Construction of Check dams

- Construction of 2 Nos. of Check dam in The Nilgiris District for an amount of Rs.1.37 crore is proposed to be taken up.

7.0. Flood Protection Works

7.1. State funded Schemes

Flood Protection Works in Kancheepuram District at an estimated cost of Rs.23.50 crore are in progress as mentioned below:

- Rehabilitation and restoration of the flood damaged Adyar River and its tributaries by widening, desilting and standardization of the river regime at an estimated cost of Rs.19.00 crore is in progress. So far, 29% work has been completed.
- Rehabilitation and restoration of the flood damaged Vegavathy River in the Kancheepuram town limit at an estimated cost of Rs.4.50 crore is in progress. So far, 18% work has been completed.

7.2. NABARD Assisted Schemes

Cuddalore District

The Hon'ble Chief Minister laid foundation stone on 08.05.2017 for the Permanent Flood Protection works in Cuddalore District

at an estimated cost of Rs.140.01 crore as under:

- Rehabilitation and Improvements to Velapakkam Channel in Panruti and Cuddalore Taluks at an estimated cost of Rs.2.91 crore.
- Rehabilitation and Strengthening of Gadilam River from Visoor Village to Devanampattinam Village at an estimated cost of Rs.22.50 crore.
- Rehabilitation and Strengthening of Visur odai and Periyakattupalayam odai in Panruti Taluk at an estimated cost of Rs.14.60 crore.
- Permanent flood protection works to Paasimuthan Odai, Thillaiamman Odai, Omakulam Drain, Khan Sahib Canal and Muthiahpillai Surplus in Chidambaram Taluk at an estimated cost of Rs.25 crore.
- Improvements to increase the carrying capacity of Manavaikkal and Old Coleroon to avoid flood damages in Kattumannarkoil and

Chidambaram Taluks at an estimated cost of Rs.75 crore.

Theni District

Construction of Retaining wall to strengthen the banks of Varaganathi River in Periyakulam Town limits near Thenkarai Village in Periyakulam Taluk at an estimated cost of Rs.15 crore will be taken up.

8.0. COASTAL PROTECTION WORKS

8.1. State funded Schemes

5 works in Thoothukudi District at an estimated cost of Rs.69.49 crore are in progress. The details of these works are as under:

- Construction of Groyne at Vembar at an estimated cost of Rs.14.20 crore is in progress. So far, 65% works have been completed.
- Construction of Groyne at Veerapandiapattinam at an estimated cost of Rs.10.64 crore is in progress. So far, 75% works have been completed.
- Construction of Groyne at Keelavaippar at an estimated cost of Rs.11.75 crore is in progress. So far, 30% works have been completed.
- Construction of Groyne at Periyathalai at an estimated cost of Rs.25.20 crore is in progress. So far, 65% works have been completed.

- Construction of Groyne at Kallamozhi at an estimated cost of Rs.7.70 crore is in progress. So far, 65% works have been completed.

8.2. NABARD Assisted Schemes

11 works in Kanniyakumari and Tiruvallur Districts at an estimated cost of Rs.34.82 crore are in progress. 1 work at an estimated cost of Rs.7.82 crore will be taken up in Kanniyakumari District. The details of these works are as under:

Kanniyakumari District

- Construction of Groyne at Mandaikaduputhur in Kalkulam Taluk at an estimated cost Rs.7.82 crore, Coastal Regulation Zone clearance is obtained. State Level Environment Impact Assessment Authority Clearance is awaited.
- Rehabilitation of the Rubble Mound Sea wall in Eraviputhenthurai Village of Vilavancode Taluk at an estimated cost of Rs.3 crore is in progress.

Tiruvallur District

- Construction of series of 10 Nos. of Groynes at LS 15/200 km to 19/000 km from Ernavoorkuppam to Ennore in Madhavaram Taluk at an estimated cost of Rs.31.82 crore is in progress. So far, 75% of works have been completed.

9.0. Other Infrastructure Developments

9.1. Formation of Roads and Construction of Bridges

Construction of 2 Bridges in Chennai and Kancheepuram Districts at an estimated cost of Rs.14.97 crore are in progress. Construction of a Causeway in Dindigul District is to be taken up at an estimated cost of Rs.1 crore. 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, 75% of 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, 70% of works have been completed.

Dindigul District

- Construction of a Causeway across Palar River near Mattumandai Village in Palani Taluk at an estimated cost of Rs.1.00 crore will be taken up.

9.2. Buildings and other infrastructural facilities

Construction and Renovation of Staff Quarters and Office buildings in Cuddalore, Tiruppur and Tirunelveli Districts at an estimated cost of Rs.0.68 crore are in progress. 1 Work in Idukky District in Kerala will be taken up at an estimated cost of Rs.0.50 crore. The details of these works are as below:

Cuddalore District

- Construction of a Sub-Division Office building with Section Offices for the Planning and Designs Sub-Division, Cuddalore, in the Public Works Department campus at an estimated cost of Rs.0.28 crore is in progress.

Tiruppur District

- Water supply arrangements for the Quarters and Office buildings in the Amaravathy Dam at an estimated cost of Rs.0.30 crore are in progress. So far, 45% of works have been completed.

Tirunelveli District

- Repairs to Project Planning and Designs Division and Sub-Division Offices at Tirunelveli at an estimated cost of Rs.0.10 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.

9.3. Development of Park

- 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, 65% of works have been completed.

10.0. Desilting of Dams and Water Bodies

- Most of the reservoirs in the State are very old. Due to the natural process of erosion in the catchment area, movement of sediments and deposition in the water spread area of the reservoirs, the storage capacity of the reservoirs has considerably reduced.
- To ensure release of water for timely irrigation by restoring the original capacity of reservoirs, the Water Resources Department has initiated the process of desilting of reservoirs in the State in a phased manner. The details of the works initiated are as under:

10.1. Desilting of Vaigai, Pechipparai, Mettur, Amaravathy Reservoirs and Srivaikundam Anicut

- In the first phase, the following reservoirs/ anicut have been identified for taking up desilting works.
 - i. Vaigai Reservoir in Theni District
 - ii. Pechipparai Reservoir in Kanniyakumari District.

- iii. Stanley Reservoir (Mettur Dam) in Salem District.
 - iv. Amaravathy Reservoir in Tiruppur District.
 - v. Srivaikundam Anicut in Thoothukudi District.
- M/s. WAPCOS Limited has been engaged as the Consultants for preparation of the Detailed Project Reports (DPR) and overall project management activities at a cost of Rs.8.35 crore.
 - The DPRs for Desilting of Vaigai Reservoir and Amaravathy Reservoir have been prepared and the preparation of DPR for desilting of Pechipparai Reservoir and Mettur Dam are in progress.
 - Preparation of Rapid Environmental Impact Assessment Study for desilting of Vaigai, Pechipparai, Mettur and Amaravathy Reservoirs is in progress.
 - Estimate for “Desilting of Amaravathy Reservoir in Tiruppur District” at an estimated cost of Rs.293.70 crore is under consideration.

- As per the directions of the National Green Tribunal, restoration of Srivaikundam Anicut to its original capacity at an estimated cost of Rs.5.93 crore was taken up. At present, works have been temporarily stopped as per the National Green Tribunal's (Southern Zone) Order. By implementing this scheme, an extent of 25,560 acres will be benefited and ground water will be recharged in 18 Villages.

10.2. Desilting of Parappalar Reservoir

- It is proposed to restore the capacity of Parappalar reservoir by taking up desilting works at an estimated cost of Rs.19.50 crore. Desilting will be commenced after obtaining pathway permission from the Ministry of Environment, Forest and Climate Change of Government of India.

10.3. Desilting of Veeranam tank

- The Veeranam tank located near Lalpettai in Kattumannarkoil Taluk of Cuddalore District has silted up over a period of time resulting in considerable reduction in its storage capacity.

- Based on the requests of the farming community and the public to desilt this tank and restore its original capacity of 1,465 Mcft., desilting, 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 has been taken up. So far, 70% of the work has been completed.
- This tank primarily fulfills the irrigation needs of the registered ayacut of 44,856 acres and in addition, it serves to augment the drinking water requirements of Chennai city by supplying 78 cusecs of water, depending upon the availability of water in the tank.

11.0. Inter-linking of rivers within the State

Inter-linking of rivers not only serves the irrigation and drinking water requirements of drought-prone areas, but also acts as a flood diversion arrangement thereby minimizing the flood damages. The schemes for inter-linking of rivers which are in progress and under formulation are detailed below:

11.1. Tamiraparani - Karumeniyar -Nambiyar Rivers Link :

- Administrative Sanction was accorded at an estimated cost of Rs.369.00 crore in anticipation of funding assistance from Government of India under AIBP.
- The scheme is proposed for interlinking of Thambraparani, Karumeniyar and Nambiyar rivers by excavating a new flood Carrier Canal from LS 6.5 km of existing Kannadian channel near Vellankuzhi Village to ML Theri near Thisayanvilai to utilize 2,765 Mcft. of surplus water.
- By implementation of this scheme, 56,908.8 acre of lands will be benefited. An

extent of 33,298.07 acre of ayacut in Tirunelveli District and 23,610.73 acre of ayacut in Thoothukudi District will be benefited.

- The revised length of flood Carrier Canal is 62.225 km in Tirunelveli District and 12.95 km in Thoothukudi District.
- A total of 50 Villages i.e., 32 Villages in Tirunelveli District and 18 Villages in Thoothukudi District will be benefited.
- A total of 252 tanks i.e., 177 tanks in Tirunelveli District and 75 tanks in Thoothukudi District, will be benefited.
- A total of 5220 wells i.e., 2,657 wells in Tirunelveli District and 2,563 wells in Thoothukudi District, will be benefited.

Present stage of the scheme

Stage - I & II works

- Stage-I works (18 Packages) were taken up with State fund. 9 Packages have been completed in all respects. 2 package agreements were foreclosed. Balance 7 Packages are partially completed.

- Subsequently Stage-II works (18 Packages) were also taken up. 7 package works have been completed. 1 package works are in progress. 1 package agreement was foreclosed. Balance 9 packages are partially completed.

Status of approval by Government of India

- The Revised Cost Appraisal was approved by the Central Water Commission, New Delhi for Rs.872.45 crore (Price level 2014-2015) on 7.5.2015.
- The Ministry of Environment, Forests & Climate Change has accorded Environmental clearance (EC) to the project on 28.5.2015.
- The Investment clearance has been accorded by the Ministry of Water Resources, River Development and Ganga Rejuvenation, Government of India on 19.4.2016 for Rs.872.45 crore.
- Revised Administrative Sanction for the Part of the scheme of Rs.543.32 crore was accorded on 13.04.2017, in which

Rs.310.62 crore for excavation of flood carrier canal works in Stage I & II and Rs.232.70 crore for land Acquisition works in Stage I to IV has been provided.

Details of Land acquisition Works

- Administrative Sanction was accorded for Land acquisition and Land transfer works of the scheme in Tirunelveli District.
- Six Land acquisition units are formed for land acquisition works with six Tahsildars and other staff with a total sanctioned strength of 87.
- Permission was granted to acquire lands under Stage III and Stage IV. Accordingly, consent letters from the land owners were obtained for 70% of land acquired for the Stage I to IV.
- The total land required for the scheme as per Revised Land Plan Schedule is 3266.58 Acres (1322.50.7 Ha.). So far, 302.99 Acres (122.67.8.Ha.) have been acquired.

Expenditure Details

- An expenditure of Rs.213.20 crore has so far been incurred including the land acquisition expenditure of Rs.10.00 crore.

Details of balance works to be done:

Stage III & IV works

- In Stage III & IV (36 Packages), 35.841 km length of Main canal, 75.625 km length of supply channels and 280 cross drainage works are to be taken up.

11.2. Cauvery - Agniyar - South Vellar - Manimuthar - Vaigai – Gundar link

- It is one of the links envisaged in the Feasibility Report prepared for "Peninsular River link" by the National Water Development Agency (NWDA) of Government of India.
- In the 1st phase of the scheme, the Construction of a Barrage across River Cauvery near Mayanur has been completed. In the 2nd phase, a new canal taking off from the upstream of this barrage has been

proposed to connect the Agniyar, South Vellar, Manimuthar, Vaigai and Gundar Rivers.

- The Project Report for the Cauvery-Gundar Link Canal Scheme prepared at a cost of Rs.5,166.00 crore (as per 2011-2012 schedule of rates) and sent to the Government of India under Flood Management Programme (FMP) was returned.
- This scheme is now being considered as an irrigation project and is proposed to be implemented in Phases and in the First Phase, a concept paper has been prepared for "Excavation of link canal from Cauvery (Kattalai Barrage) to South Vellar" at an estimated cost of Rs.7840.87 crore, which is under consideration.
- For implementation of this phase from Kattalai barrage to South Vellar, an extent of 3,619.63 acres of patta lands and 405.57 acres of poramboke land have to be acquired. The land acquisition cost works out to approximately Rs.2,372.23 crore. For implementing this

scheme, approximately Rs.7,840.87 crore is required for civil work and land acquisition.

- By implementing this scheme, an extent of 42,153.49 acres of land will be benefited through 19 anicuts and 270 tanks in Pudukkottai District. After this, Detailed Project Report for the work of "Excavation of link canal from South Vellar to Gundar River" will be prepared.

11.3. Pennaiyar (Sathanur dam) –Cheyyar link

- In this scheme it is proposed to divert 5.87 TMC ft. of water from Pennaiyar river for 20 days at the rate of 3,400 Cusecs.
- In this scheme a new canal for a length of 23.55 km will take off from Sathanur dam at FRL and will connect with the Cheyyar river at upstream of Alathur anicut.
- Further, a branch canal of length 28.72 km 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 the Taluk of Chengee in Villupuram District.
- Further, the diverted flood waters will also recharge the ground water table in Palar river bed. For implementing this scheme, an extent of 602.48 acre of patta land, 68.15 acre of forest land and 44.81 acre of poramboke land have to be acquired.
- Investigation works for preparation of Detailed Project Report based on New Land Acquisition Act is in progress. The Surveying & levelling estimate for preparation of DPR has been prepared for an amount of Rs.0.35 crore.

11.4. Pennaiyar (Nedungal anicut) – Palar link

- This scheme aims to divert 3.5 TMC ft. of flood waters of Pennaiyar river to Palar river during the months of October to December.

- The Detailed Project Report for this scheme is under scrutiny of the NWDA.
- The Pennaiyar (Nedungal) - Palar link canal takes off from the existing Nedungal anicut and runs for a length of 54.150 km by gravity and outfalls into Kallar river which is a tributary of Palar River near Natarampalli Village of Vaniyambadi Taluk of Vellore District.
- By implementing this scheme, 23,465 acres of existing command area will be stabilized through open wells and bore wells in Vaniyambadi Taluk of Vellore District.
- For implementing this scheme, an extent of 1,736.41 acres of patta land and 91.39 acres of poramboke land have to be acquired and the land acquisition cost works out to Rs.227.52 crore. The total estimate cost works out to Rs.374.48 crore excluding land acquisition cost.
- The State Level Environmental Impact Assessment Authority has given clearance for the Term of Reference (ToR) of this

project for preparing Environmental Impact Assessment Report.

- An estimate has been prepared for an amount of Rs.0.70 crore for preparation of Environmental Impact Assessment Report by engaging a consultant.

11.5. Cauvery (Mettur dam) – Sarabanga - Thirumanimuthar - Ayyar link

- This scheme envisages diversion of a portion of surplus water of Cauvery River to the Districts of Salem, Namakkal, Perambalur and Tiruchirappalli by excavating a new canal.
- The proposed length of canal is 169.400 km which will take off from the foreshore area of Mettur dam at FRL level and will link Sarabanga, Thirumanimuthar and Ayyar rivers which are all tributaries of the River Cauvery.
- As Phase-I of this scheme, a preliminary Detailed Project Report for the work of “Excavation of link canal for a length of 132.305 km from Mettur dam to Pavithram tank” has been prepared at an estimated

cost of Rs.6,800.00 crore as per the 2015-2016 Schedule of Rates, in five slices.

- For implementing this scheme, an extent of 2,342 acres of patta land and 195 acres of forest land have to be acquired. Estimated amount for land acquisition works out to Rs.498.00 crore.
- The investigation works for the Phase II work of "Excavation of link canal from Pavithram tank to Ayyar River" is in progress.

12.0. Other Schemes under Investigation / Formulation

12.1. Formation of New Reservoirs

12.1.1 Formation of a reservoir across Shoolagiri Chinnar

- A new Reservoir has been proposed in this scheme, near Vaanioddu in Krishnagiri District at the confluence Point of Shoolagiri Chinnar River with Pennaiyar River. By implementing this scheme, 1,765 acres of land will be benefited.
- Administrative sanction has been accorded for an amount of Rs.0.10 crore for conducting detailed investigation and levelling operations and the works are under progress.
- For implementation of this scheme, patta land to an extent of 401 acres and forest land to an extent of 266 acres have to be acquired.

12.1.2. Vazhamalaiyar Reservoir Scheme

- The Vazhamalaiyar originating in the eastern slopes of Western Ghats confluences the Nichabanadhi, a tributary of Vaippar River.
- It is proposed to construct a reservoir across Vazhamalaiyar in Sivagiri Taluk of Tirunelveli District.
- By implementing this scheme, an extent of 10,452.33 acres of land will be benefitted through 42 tanks and 1,530 wells. For implementing this scheme 160.11 acres of patta lands and 56.58 acres of poramboke land have to be acquired. The detailed Project Report has been prepared for this scheme for an amount of Rs.81.00 crore for the Schedule of rates 2016-2017.

12.1.3. Elumichaiyar Reservoir Scheme

- Elumichaiyar originating from Western Ghats, joins with Koraiyaru and confluences with Thambraparani River at Koraiyaru Vellankuzhi.

- It is proposed to construct a reservoir across Elumichaiyaru in South Kallidaikurichi Village in Ambasamudram Taluk in Tirunelveli District.
- In this scheme it is proposed to give Elumichaiyaru river water to Manimutharu main canal irrigation lands when there is shortage of water.
- By implementing this scheme, 260.15 hectares of land will be benefitted under Elumichaiyar river system and 1,457 Hectares of land will be stabilised for irrigation facilities and also 10.43 Hectares gap will be filled under Manimuthar main canal. For implementing this scheme, an extent of 236.46 acres of patta land and 12.46 acres of Poramboke land have to be acquired. Detailed Project Report has been prepared for this scheme for an amount of Rs.79.00 crore as per the schedule of rates 2016-2017.

12.1.4. Formation of Reservoir across Koraiyar River in V.K. Puram Village of Ambasamudram Taluk in Tirunelveli District

- Koraiyar River is a tributary of Tamirabarani River. It originates as Vadakku Koraiyar and Therkkku Koraiyar and joins as Koraiyar River.
- This scheme aims to form a reservoir across Koraiyar River in V.K. Puram Village of Ambasamudram Taluk in Tirunelveli District.
- The proposed capacity of this reservoir is 1,017.23 Mcft. Annual storage of the reservoir in 1.22 fillings is calculated as 1,241.02 Mcft.
- By implementing this scheme, an extent of 9,091.59 acres of land will be benefited. For implementing this scheme, an extent of 254.44 acres of reserve forest land, 59.85 acres of patta land, 79.37 acres of poramboke land have to be acquired.

- For preparation of DPR, an estimate at a cost of Rs.0.25 crore has been prepared for Surveying and Levelling.

12.2. Formation of New Canals / Channels

12.2.1. Formation of New Channel from Barur East Main Canal

- This proposal aims to form a new channel at LS 15.95 km of Barur East main Canal in Krishnagiri District to provide irrigation facilities to 33 tanks in Uthangarai and Pochampalli Taluks.
- By implementing this scheme, 724 acres of land under the 33 tanks will get benefited, besides benefiting 617 acres of land through recharge of ground water. For implementation of this scheme, 103 acres of patta land have to be acquired.
- Administrative Sanction for land acquisition process and for carrying out detailed investigation works has been accorded for an amount of Rs.14.00 crore and the works are in progress.

12.2.2. Ramanadhi - Jambunadhi Link Scheme

- This proposal envisages diversion of flood water of Ramanadhi at Ambasamudram Taluk to the ayacut areas of Jambunadhi in Tenkasi and Alangulam Taluks in Tirunelveli District.
- By implementing this scheme, total extent of 4,058.18 acres will get benefited.
- Administrative Sanction has been accorded for land acquisition process and for carrying out detailed investigation work for an amount of Rs.5.40 crore. Detailed investigation works have been completed. Detailed Project report has been prepared for this scheme for an amount of Rs.40 crore as per the Schedule of rates 2016-2017. Land acquisition work is in progress.

12.2.3. Formation of a New Channel in Thottamanthurai

- In this scheme, it is proposed to divert surplus water from Suruliyar to supplement the irrigation requirements

under the Shanmuganadhi reservoir in Thottamanthurai in Uthamapalayam Taluk of Theni District.

- Administrative Sanction was accorded for carrying out detailed investigation and levelling works, for an amount of Rs.0.10 crore. The study regarding various alternate feasible alignments has been done. It is proposed to investigate further alternatives which would reduce the cost of the scheme.
- The ayacut of Shanmuganadhi reservoir, about 1,640 acres and 209.84 acres of Karuvelankulam, Nayakkar Kanmoi and Thathamuthan Kanmoi will be stabilized. In addition to this, 9,476 acres of dry land will be irrigated through 2,300 open wells and 363 bore wells which will be benefited through ground water recharge.

12.24. Excavation of New Supply Channel from Right and Left sides of the Ennekol Anicut

- This scheme is proposed to divert 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 16 check dams
- For implementation of this scheme, 419.81 acres of patta land, 95.58 acres of poramboke land and 26.12 acres of forest land have to be acquired.
- Administrative Sanction for carrying out detailed investigation and levelling works has been accorded for an amount of Rs.0.33 crore. The Detailed Project Report has been prepared and is under scrutiny.

12.2.5. Excavation of a New Channel from 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 and 10 check dams 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 have to be acquired.
- Administrative Sanction has been accorded for an amount of Rs.0.70 crore for carrying out detailed investigation and levelling works and the works are in progress.

12.2.6. Diversion of surplus water of Chinnar River from Jerthalav Canal

- This scheme aims to divert surplus water of Chinnar River from the Jerthalav canal by forming a new supply canal at LS 5.00 km to feed 14 tanks including Erranahalli and Pulikarai tanks in Palacode Taluk of Dharmapuri District.
- By implementing this scheme, an extent of about 478.43 acres through 14 tanks will get benefited.
- For implementation of this scheme, an extent of 68.10 acres of Patta land and 13.40 acres of Poramboke land have to be acquired.

- Administrative Sanction for an amount of Rs.0.10 crore has been accorded for carrying out detailed Surveying and Levelling operations and the works are in progress.

12.2.7. Diverting flood water from Maniyachipallam Odai to Varattupallam Reservoir

- The Maniyachipallam Odai originates in the Minjian Boli Hill in Burgur Village, Andhiyur Taluk of Erode District and flows towards northern direction for a length of 30 km and confluences with Palar River, a tributary of river Cauvery.
- The Varattupallam Odai originates at Thaamaraikkarai hamlet and flows towards southern direction and joins river Bhavani. The Varattupallam Reservoir is constructed across the Varattupallam Odai with a capacity of 139.60 Mcft.
- Before formation of this reservoir, the Gettisamudram tank, Andiyur big tank, Brahmadesam tank, Vembathi tank and Appakudal tank were receiving water from

Varattupallam Odai. After formation of the reservoir and also due to lesser rainfall, the above said tanks do not receive enough water.

- It is proposed to divert flood water from Maniyachipallam Odai to the Varattupallam Reservoir.
- Administrative Sanction for an amount of Rs.0.10 crore has been accorded for carrying out detailed surveying and levelling operation and the works are in progress.

12.28. Supply of surplus rain water of Mettur Reservoir by pumping to Sarabanga River

- This scheme aims to supply surplus rain water of Mettur Reservoir to the tanks in the areas of Nangavalli, Vanavasi, Mecheri, Tharamangalam, Edappadi, Magudanchavadi and Konganapuram by pumping.
- By implementing this scheme, an extent of 4,952 acres will get benefited directly through 100 tanks and 40 nos. of anicuts

and an extent of 8,100 acres of land will get benefited indirectly.

- For implementation of this scheme, an extent of 219 acres of Patta land have to be acquired.
- Administrative Sanction has been accorded for an amount of Rs.0.10 crore for carrying out detailed Surveying and Levelling works and the works are in progress.

12.2.9. Excavation of New Channel from Nangunerian Channel

- This proposal aims to widen the Nangunerian Channel and excavation of a New Channel from this Nangunerian Channel to feed 46 Tanks in Nanguneri Taluk of Tirunelveli District.
- It is proposed to excavate a new Bye Pass Channel originating from Nangunerian Channel, before the Nangunerian Tank for a length of 20.55 km to feed 46 tanks with surplus water of Pachaiyar during flood seasons.

- By implementing this scheme, an extent of 1,786.48 acres of ayacut under Nanguneri tank and 1,756.93 acres of ayacut under 46 tanks will be benefited.
- For implementation of this scheme, 9.24 acres of Patta wet land, 469.94 acres of Patta dry land and 60.80 acres of Poramboke land have to be acquired. The preparation of feasibility report is under progress.

12.3. Formation of New Tanks

12.3.1. Formation of a new tank near Chokkanur Agraharam Village

- This scheme aims to form a new tank across river Ponnai at the foot hills of Pachaimalai near Chokkanur Agraharam Village of Attur Taluk in Salem District.
- By implementing this scheme, an extent of 441 acres of land will get benefited.
- For implementation of this scheme, an extent of 23.10 acres of Patta land and 36.01 acres of Poramboke land have to be acquired.

- Administrative sanction has been accorded for an amount of Rs.0.10 crore for conducting detailed Surveying and Levelling operations and the works are in progress.

12.3.2. Formation of Tank across jungle stream near Kanakkampalayam Village in Gobichettipalayam Taluk of Erode District (Vedaparai Reservoir Scheme)

- Kanakkampalayam tank scheme is proposed across jungle stream which originates at Madapatti hill Village reserve forest and flows in the southern direction and finally joins with Bhavani River.
- The capacity of the tank is 28.75 Mcft. with an annual storage of 43.12 Mcft. in 1.5 filling.
- By implementing this scheme, 500 acres of land will be benefited.
- For implementation of this scheme, an extent of 14.30 acres of Patta land and

88.43 acres of Forest land have to be acquired.

- Compensatory land for acquisition of the Forest land has been identified by the District Collector and the approximate estimate cost works out to Rs. 65.53 crore. Preparation of a Detailed Project Report is under progress.

Edappadi K. Palaniswami
Chief Minister



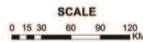
View of surplus discharge from the Saddle of Sathanur Dam, awarded as the best maintained dam for the year 2015-2016

17 RIVER BASINS OF TAMIL NADU



Legend

- Rivers
- 17 River Basins**
- 1 Chennai
- 2 Palar
- 3 Varahanadi
- 4 Pennaiyar
- 5 Paravananar
- 6 Vellar
- 7 Cauvery
- 8 Parambikulam Aliyar
- 9 Agniyar
- 10 Pambar Kottakaraiya
- 11 Vaigai
- 12 Gundar
- 13 Vaippar
- 14 Kallar
- 15 Tamiraparani
- 16 Nambiyar
- 17 Kodaiyar
- District Boundary
- Trichy - District Name



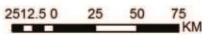
GOVERNMENT OF TAMIL NADU
 WATER RESOURCES DEPARTMENT, PWD
 SELECTED FOR WATER STUDIES
 TAMIL NADU STATE CENTRE FOR RIVERS DEWARANAPALLE
 THIRUVANANTHURUPURAM


WATER RESOURCES DEPARTMENT - REGIONS



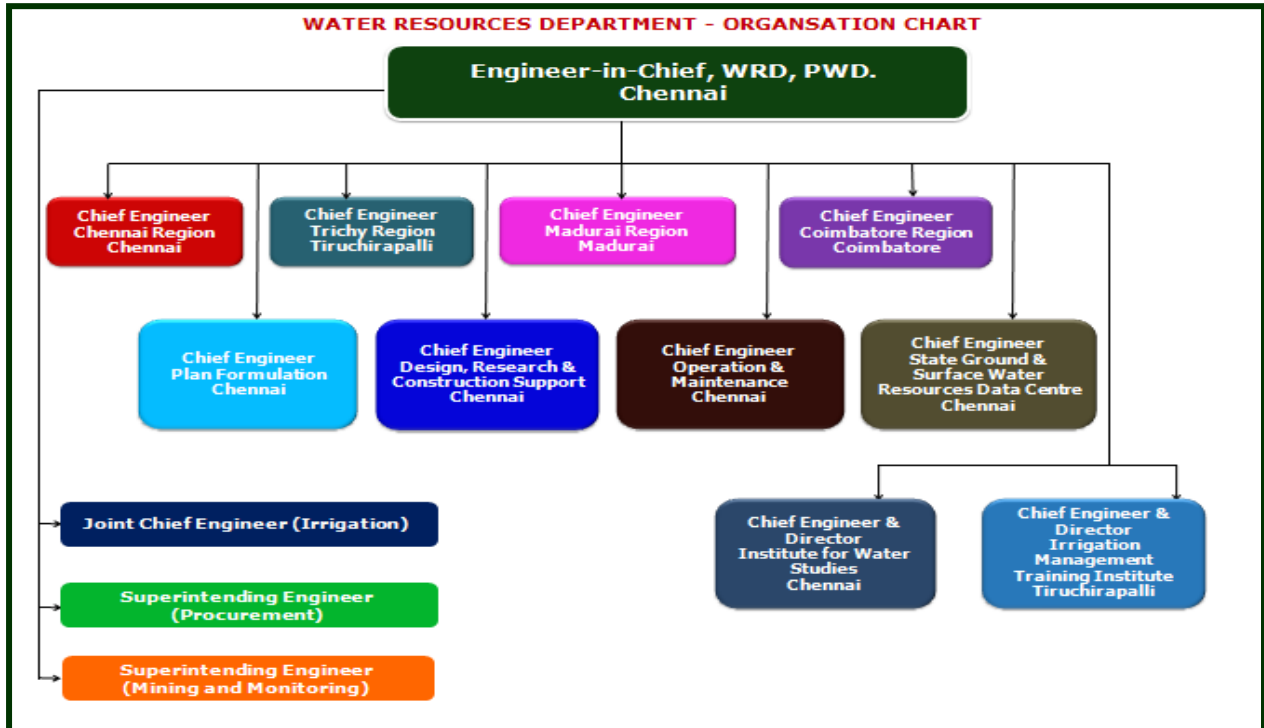
LEGEND

- Chennai Region
- Trichy Region
- Coimbatore Region
- Madurai Region
- River Basin Boundary
- District Boundary




 GOVERNMENT OF TAMIL NADU
 WATER RESOURCES DEPARTMENT, PWD
 INSTITUTE FOR WATER STUDIES
 TAMIL NADU STATE CENTRE FOR REMOTE SENSING APPLICATION
 THARAMANI, CHENNAI-600113.

WATER RESOURCES DEPARTMENT - ORGANSATION CHART





The Hon'ble Chief Minister launched the Kudimaramath Scheme works at an estimated cost of Rs.100.00 crore to rehabilitate the water bodies in Tamil Nadu on 13.03.2017 in Manimangalam Tank in Manimangalam Village of Kancheepuram District



The Hon'ble Chief Minister laid foundation stone through Video Conferencing on 08.05.2017 at Secretariat for 5 Flood Protection Works at an estimated cost of Rs.140.01 crore in Cuddalore District



**The Hon'ble Chief Minister inaugurated the Desilting Works
in Mettur Dam of Salem District on 28.05.2017**



**Trichy District - Protection of Right Bank of River Cauvery
at Downstream of Upper Anicut in Srirangam Taluk**



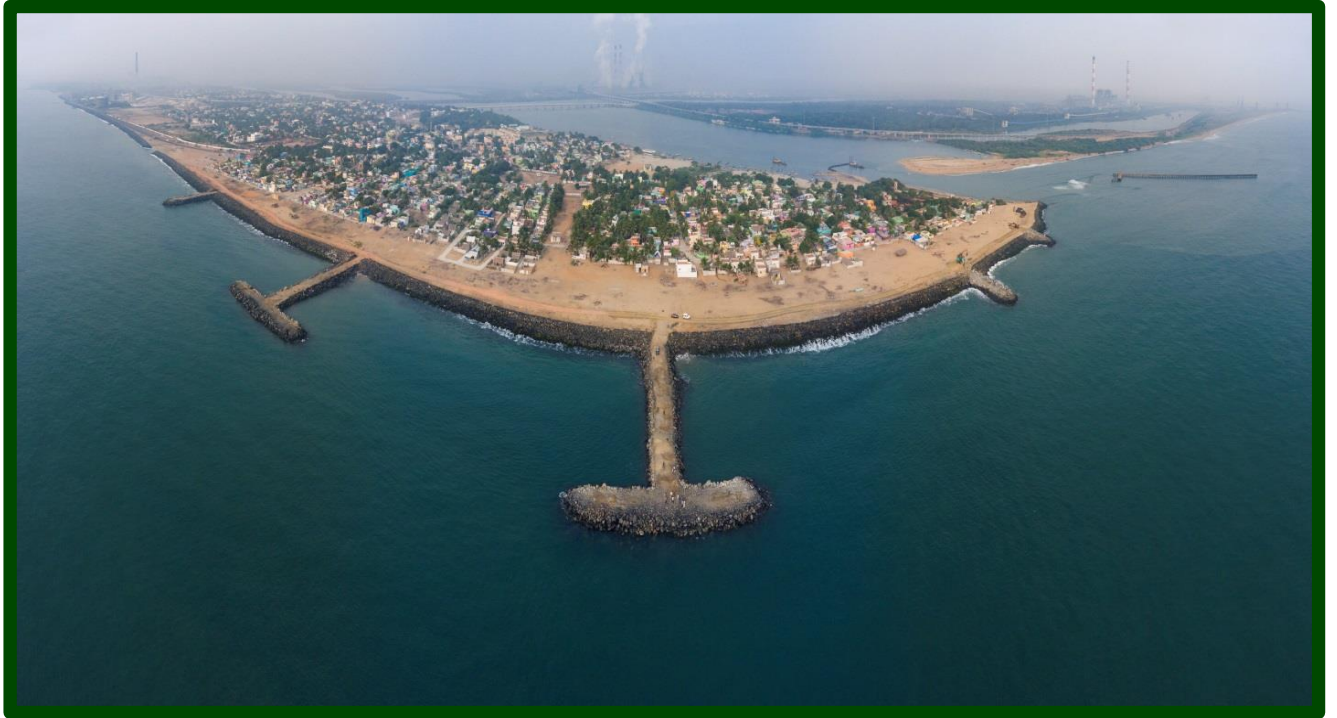
**Erode District - Rehabilitated Kalingarayan Anicut across
Bhavani River in Anainasuvampalayam Village**



**Theni District – Modernized Gullapuram Supply Channel
in Gullapuram Village**



**Karur District - Checkdam constructed across Nanganjiyar River
in Sellivalasu Village**



**Tiruvallur District - Series of Groynes under construction
from Ennore to Ernavoorkuppam coastal area**



**Sivaganagai District - Anicut Constructed across Manimuthar River
in Udhayachi Village**



**Nagapattinam District - Strengthening of Pandavayar River Bund
in Killkudi Village under ADB assistance**



**Theni District – Modernized Nagarvalli Anicut Channel
in Devadhanapatti Village**



Dindigul District – Modernized Rajavaikkal in Narasingapuum Village



**Theni District - Check dam constructed across Vaigai River
in Valipparai Village**



**Theni District - Canal formed at L.S. 25m near Thevaram Village
in 18th Canal Extension Scheme**



Nagapattinam District - Grade wall constructed across Cauvery River at L.S. 115.070 km to feed Kuthalam Channel in Mathirimangalam Village