



**PUBLIC WORKS DEPARTMENT  
WATER RESOURCES DEPARTMENT**

**PERFORMANCE BUDGET  
2014 - 2015**

**PUBLIC WORKS DEPARTMENT**  
**WATER RESOURCES DEPARTMENT**

**1.0. General**

The Water Resources Department is responsible for planning, developing and managing the State's water resources for supply of water to irrigation, industries and local bodies. Further, this Department implements schemes for Inter-linking of rivers, Extension, Renovation and Modernisation (ERM) of irrigation systems, impounding and regulation of water in the dams, Flood control and diversion, drainage, Coastal protection, Ground water development and Management and maintains all irrigation infrastructure to standards.

Availability of water largely depends on the quantum of precipitation received every year. The vagaries of nature and the quantum of water received from the upper riparian States are the major constraints in planning for the effective utilization of water resources. Taking this into consideration, the Water Resources Department is formulating schemes to utilize the available water resources effectively and optimally.

The Government have taken initiatives to improve the water use efficiency through modernisation of irrigation systems, improved service delivery, participation of farmers in operation and maintenance, canal automation, benchmarking studies, water use efficiency and performance evaluation studies, building the capacity of Water Resources Department officials and farmers through an integrated multi-disciplinary approach to work in an integrated manner under schemes like IAMWARM project.

Apart from this, the utilization of surplus flood flows in the coastal areas through pumping schemes for the benefit of Irrigation lands situated at high level, Artificial Recharge Schemes, Flood Management Programme, Coastal protection works, Restoration of Traditional water bodies, Augmenting drinking water supply are also being implemented by this department.

## 2.0. Outlay and Expenditure for the year 2014-2015

The performance as against budgetary provisions for the year of 2014 - 2015, approved under Demand No.40 (Irrigation) are as mentioned below:

(Rs. in lakh)

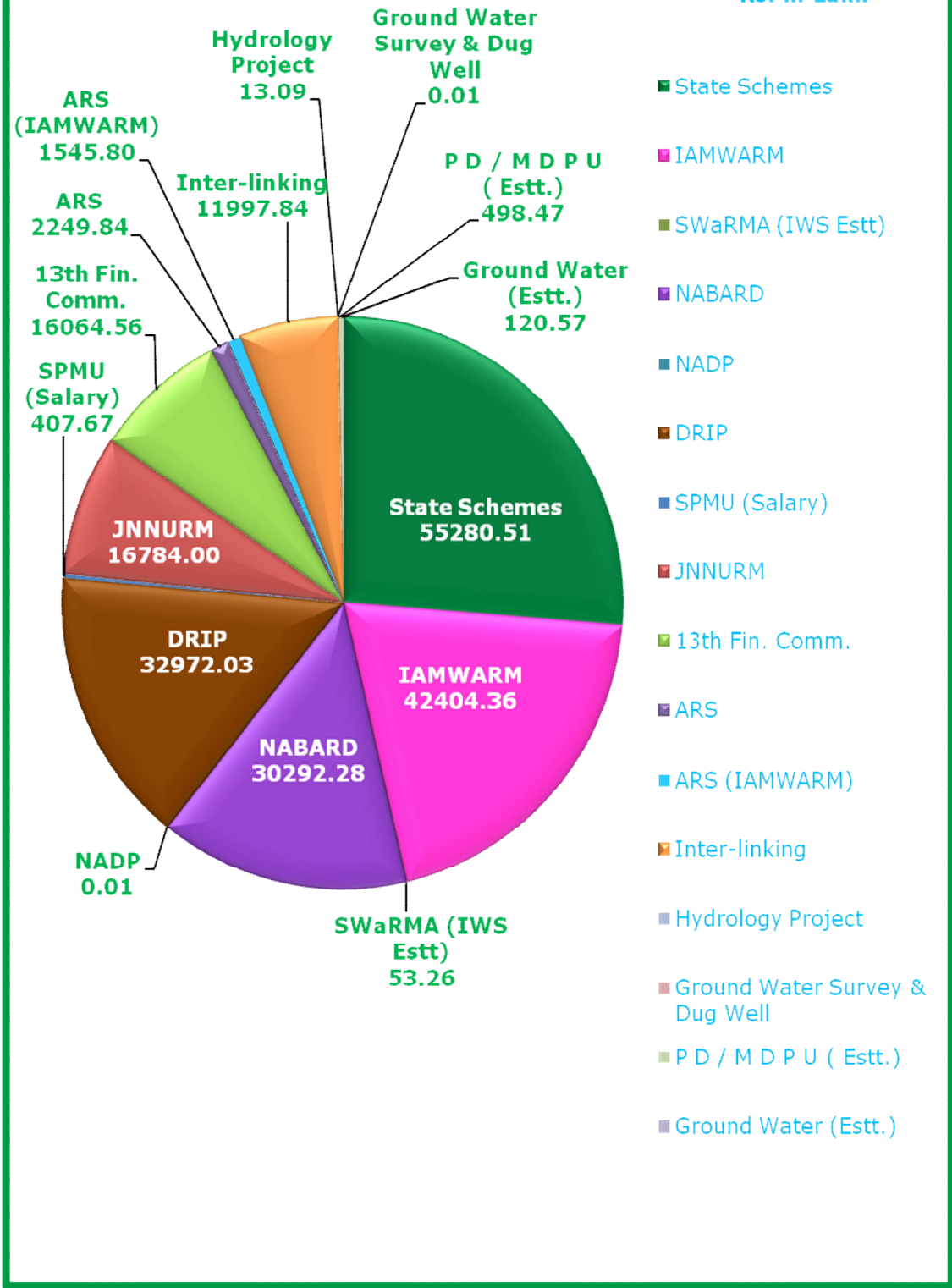
<b>Scheme</b>	<b>B.E. 2014-2015</b>	<b>R.E. 2014-2015</b>	<b>Expenditure</b>
<b>Plan</b>			
State Funded Schemes	55280.51	21579.73	20821.56
IAMWARM Project	42404.36	49066.64	45869.99
SWaRMA	53.26	81.06	62.91
NABARD	30292.28	34267.38	31976.53
NADP	0.01	4.22	2.96
DRIP	32972.03	6065.52	2171.74
SPMU (Salary)	407.67	418.14	295.28
JNNURM	16784.00	16784.00	15669.68
13th Finance Commission	16064.56	12840.60	7800.37
Artificial Recharge Scheme	2249.84	2103.41	1533.92
Artificial Recharge Scheme (IAMWARM)	1545.80	1761.14	1578.62
Inter-linking of rivers	11997.84	1281.01	2003.86
Hydrology Project	13.09	13.09	13.14
Ground Water Survey & Dug Well	0.01	0.01	0.00
<b>Sub Total Plan schemes (Works)</b>	<b>210065.96</b>	<b>148437.95</b>	<b>129800.56</b>
M D P U ( Estt.)	498.47	473.30	338.43
Ground Water (Estt.)	120.57	56.64	51.59
<b>Sub Total Plan (Estt.)</b>	<b>619.04</b>	<b>529.94</b>	<b>390.02</b>
<b>Total Plan schemes</b>	<b>210685.00</b>	<b>148967.89</b>	<b>130190.58</b>

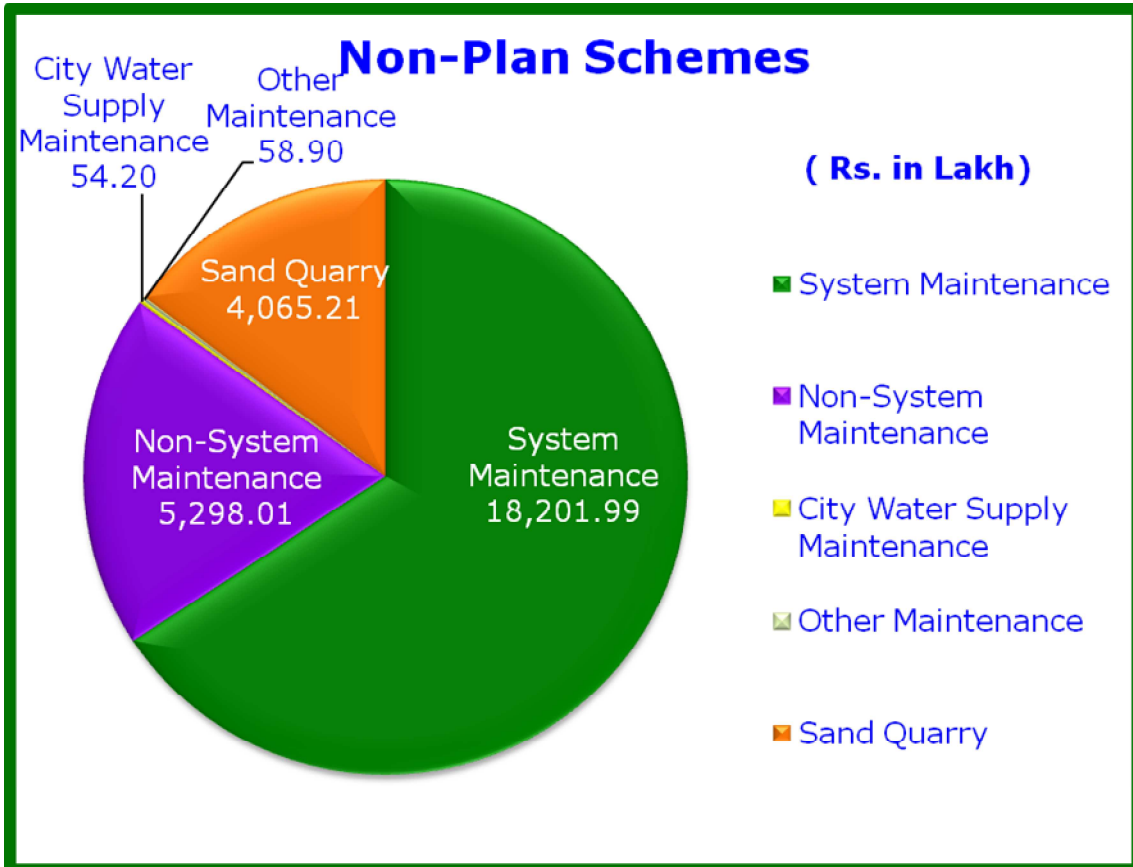
<b>Non Plan</b>			
System Maintenance	18201.99	17626.35	17319.68
Non-System Maintenance	5298.01	4921.00	4893.91
City Water Supply Maintenance	54.20	54.20	53.90
Other Maintenance	58.90	83.90	82.95
Sand Quarry	4065.21	2377.29	2358.39
<b>Sub Total (Non Plan)</b>	<b>27678.31</b>	<b>25062.74</b>	<b>24708.83</b>
<b>GRAND TOTAL</b>	<b>2,38,363.31</b>	<b>1,74,030.63</b>	<b>1,54,899.41</b>

**FUNDS APPROVED UNDER DEMAND No.40**

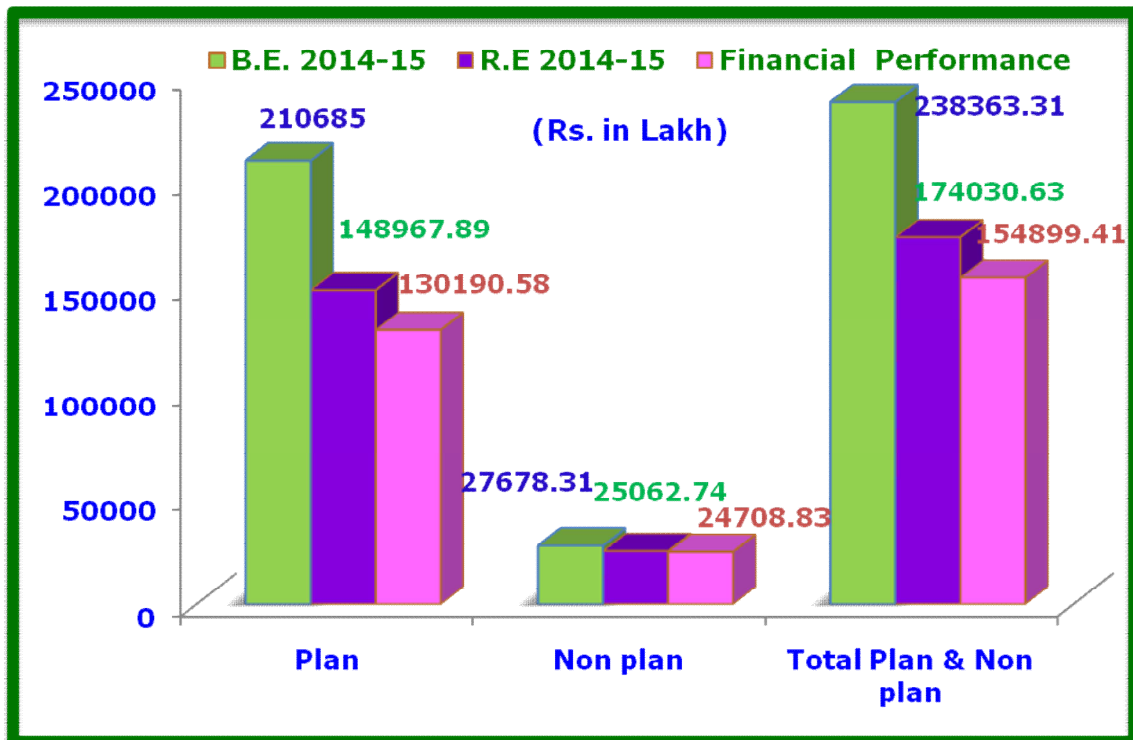
**Plan Schemes**

Rs. in Lakh





### FINANCIAL PERFORMANCE DURING 2014-15



### **3.0. Achievements of Water Resources Department during the year 2014-2015**

In addition to the rehabilitation and modernisation of irrigation infrastructure, various irrigation schemes such as construction of new Anicuts, Check dams, Bed dams, Grade walls and formation of new Tanks, excavation of new Canals and water supply augmentation schemes, Artificial Recharge Schemes, Dam Rehabilitation and Improvement Project (DRIP), Asian Development Bank (ADB) assisted Climate change adaptation programme in the Cauvery delta, are also under implementation. These schemes are under implementation with State funds, NABARD loan assistance, World Bank loan assistance, Asian Development Bank loan assistance etc.

Apart from the above schemes, various rehabilitation works were completed efficiently through the recently concluded IAMWARM Project and 13<sup>th</sup> Finance commission grants in aid programme.

**3.1.** The details of the major initiatives of the Government in the irrigation sector, during the past year (2014 – 2015) are detailed as under:

#### **3.1.1. Rehabilitation of Dams**

##### **Dam Rehabilitation and Improvement Project (DRIP)**

The Dam Rehabilitation and Improvement Project (DRIP) is under implementation with World Bank loan assistance at a cost of Rs.74,549 lakh in the funding pattern of 80:20 (World Bank : State). 69 WRD dams and 38 TANGEDCO dams are proposed to be rehabilitated and improved under this project. The Project agreement has been executed with the World Bank. Out of 11 WRD dams in Phase I, civil works have been completed in 5 dams and work in 5 dams are in progress. The remaining 1 work will commence shortly. For the remaining 58 WRD Dams (other than Phase I dams), Administrative Sanction has been accorded for 11 dams, out of which works have commenced in 6 dams and work in 5 dams will commence shortly.

**Status of Works in Phase I dams  
(Rs. in lakh)**

<b>Sl. No.</b>	<b>Name of work</b>	<b>Cost</b>	<b>Stage of work</b>
1	Rehabilitation and Improvement to Nambiyar dam in Tirunelveli District	235.07	Civil work completed
2	Rehabilitation and Improvement to Adavinainarkoil dam in Tirunelveli District	268.26	Civil work completed
3	Rehabilitation and Improvement to Vadakkupachaiyar dam in Tirunelveli District	255.24	Civil work completed
4	Rehabilitation and Improvement to Kodumudiyar dam in Tirunelveli District	220.25	Civil work completed
5	Rehabilitation and Improvement to Poigaiyar dam in Kanniyakumari District	115.29	Civil work completed
6	Rehabilitation and Improvement to Mordhana dam in Vellore District	467.45	95% work completed. Further work in progress
7	Rehabilitation and Improvement to Siddhamalli dam in Ariyalur District	1,452.51	85% work completed. Further work in progress
8	Rehabilitation and Improvement to Gomukhinadhi dam in Villupuram District	404.44	65% work completed. Further work in progress
9	Rehabilitation and Improvement to Kodaganar dam in Dindigul District	418.54	75% work completed. Further work in progress



<b>Sl. No.</b>	<b>Name of work</b>	<b>Cost</b>	<b>Stage of work</b>
10	Rehabilitation and Improvement to Vidur dam in Villupuram District	592.96	30% work completed. Further work in progress
11	Rehabilitation and Improvement to Manimuthar dam in Tirunelveli District	1,796.66	Work will commence
	<b>TOTAL</b>	<b>6,226.67</b>	

### **Status of Dams Other than phase I dams**

**(Rs. in lakh)**

<b>Sl. No.</b>	<b>Name of work</b>	<b>Cost</b>	<b>Stage of work</b>
1	Rehabilitation and Improvement to Thirumurthy Dam in Tiruppur District	438.10	25% work completed. Further work in progress
2	Rehabilitation and Improvement to Kuthiraiyar dam in Dindigul District	129.00	18% work completed. Further work in progress
3	Rehabilitation and Improvement to Palar - Porandalar dam in Dindigul District	398.50	9% work completed. Further work in progress
4	Rehabilitation and Improvement to Amaravathy dam in Tiruppur District	602.61	Work commenced
5	Rehabilitation and Improvement to Nagavathy dam in Dharmapuri District	64.00	Work commenced
6	Rehabilitation and Improvement to Thoppaiyar dam in Dharmapuri District	120.00	Work commenced
	<b>Total</b>	<b>1,752.21</b>	

### **3.1.2. New Reservoirs**

#### **Works in progress**

- To store 1 TMC ft., of Krishna water in two fillings, a new Reservoir is being formed near Kannankottai and Thervaikandigai Villages in Gummidipoondi Taluk of Tiruvallur District, at an estimated cost of Rs.33,000 lakh. 36% civil works and 60% of Land acquisition works have been completed.
- Formation of a New Reservoir across Marudaiyar river near Kottarai Village in Alathur Taluk of Perambalur District was sanctioned at an estimated cost of Rs.10,800 lakh. Soil investigation work has been completed. Regarding Land Acquisition process, Land plan schedule for the reservoir site has been finalised with 921.64 acre of patta land and 222.94 acre of poramboke lands. Land plan schedule to be prepared for the surplus course from the proposed weir, after finalising the alignment. Action being taken by the Collector, Perambalur to initially acquire the land covered in the Head works and also in other areas through private negotiation. Nearly 90% of the land owners have given their consent through private negotiation, so far. Design and Drawings have been finalised for the related structures and Detailed Project Report is under preparation.
- Upgradation of Peikulam, Pottaikulam and Korampallam tanks into Reservoir in Thoothukudi District at an estimated cost of Rs.2,007 lakh is nearing completion.

### **3.1.3. Inter-linking of Rivers**

#### **Work Completed**

- Construction of New Barrage across river Cauvery at 250 metre downstream of the existing Kattalai Bed Regulator in Mayanur Village of Krishnarayapuram Taluk in Karur District was completed at an estimated cost of Rs.25,445 lakh.

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

### **Works in progress**

- Formation of a Flood Carrier Canal from the Kannadian Canal to drought prone areas of Sathankulam and Thisaiyanvilai by Inter-linking Tamiraparani, Karumeniyar and Nambiyar Rivers in Tirunelveli and Thoothukudi Districts, at an estimated cost of Rs.36,900 lakh is in progress. Land acquisition for this scheme is also in progress.

The revised cost appraisal of the project for Rs.872.54 crore as per Schedule of rates 2014-15 has been finalized by the Central Water Commission, New Delhi and approved by the Technical Advisory Committee of Central Water Commission during the meeting held on 16.07.2015 for availing the grant under Accelerated Irrigation Benefit Programme (AIBP).

### **3.1.4. Artificial Recharge Structures**

#### **Artificial Recharge Structures under Master Plan Artificial Recharge Scheme (MPARS)**

- The Groundwater resource of the State is being replenished by constructing Check dams, Recharge Shafts and Percolation Ponds etc., under the Master plan Artificial Recharge Scheme at a cost of Rs.55,000 lakh. In this scheme, 523 works were sanctioned for Water Resources Department at an estimated cost of Rs.26,742.17 lakh. Out of this, 492 works have been completed. 31 works have been dropped.

## **Construction of Recharge Shafts announced by the Hon'ble Chief Minister**

- Construction of 1,335 artificial recharge shafts in Cauvery and Vennar sub-basins of Tiruvarur District at an estimated cost of Rs.2,000 lakh was completed.

## **Artificial Recharge Structures under NABARD**

### **Works Completed**

- Construction of an Artificial Recharge structure across Varamoongilpallam odai in S.F.No.287 of Narasingapuram Village in Coimbatore South Taluk of Coimbatore District was completed at an estimated cost of Rs.105.50 lakh. Due to the construction of this structure an extent of 46.36 acre in the zone of influence are benefited through 52 Wells by means of ground water recharge.
- Construction of an Artificial Recharge structure across Sullipalam odai in S.F.No.574 of Thennamanallur Village in Coimbatore South Taluk of Coimbatore District was completed at an estimated cost of Rs.106 lakh. Due to the construction of this structure, an extent of 50.53 acre in the zone of influence are benefited through 120 open Wells and 170 Bore wells by means of ground water recharge.

## **Sub surface dykes**

### **Works Completed**

- Formation of a sub surface dyke using impervious soils (Clay etc.) across Vegavathi river near Mettukuppam Village in Kancheepuram Taluk and District was completed at an estimated cost of Rs.22 lakh.
- Construction of sub surface dyke across Palar river near Palur Village in Chengalpattu Taluk of Kancheepuram District was completed at an estimated cost of Rs.1,683 lakh.

### **Work in progress**

- Construction of Diaphragm wall across Pennaiyar river between Perangiyur and Pidagam Villages in Villupuram Taluk and Ulundurpet Taluk of Villupuram District at an estimated cost of Rs.1,263 lakh is in progress.

### **3.1.5. New Tanks**

#### **Works in progress**

- Formation of a new tank across the Nallathangal Odai near Kothayam Village of Oddanchatram Taluk in Dindigul District at an estimated cost of Rs.1,112 lakh is in progress.
- Formation of a new tank across Kallar Odai near Viswakudi in Thondamanthurai Village of Vepanthattai Taluk in Perambalur District at an estimated cost of Rs.3,307 lakh is in progress.

### **3.1.6. New Canals / Supply Channels**

#### **Work Completed**

- Excavation of new supply channel to feed Kagankarai tank in Tirupattur Taluk of Vellore District was completed at an estimated cost of Rs.271 lakh. An extent of 211.20 acres of wet land is stabilized besides bridging a gap of 7.35 acres of wet land.

#### **Works in progress**

- Formation of New Flood carrier canal from Kanjampatti odai of Vilathikulam Taluk in Thoothukudi District to feed Sayalgudi and other tanks in Kamudhi and Kadaladi Taluks of Ramanathapuram District at an estimated cost of Rs.1,800 lakh is in progress.
- Excavation of new supply channel from Senganbasuvanthalav tank to divert flood surplus water of Chinnar river to feed Endapatti tank,

Kondasamanahallu tank and 8 other intermediate tanks in Palacode Taluk of Dharmapuri District at an estimated cost of Rs.1,020 lakh is in progress.

- Excavation of New Supply Channel for diversion of flood waters from Bettamugilapallam Village in Denkanikottai Taluk of Krishnagiri District, to Kesarigulihalla reservoir in Palacode Taluk of Dharmapuri District at an estimated cost of Rs.100 lakh is in progress.
- Linking of Parambilkulam Aliyar Project System to Uppar Canal in Dharapuram Taluk of Tiruppur District at an estimated cost of Rs.810 lakh is in progress.

### **3.1.7. New Anicuts and Regulators**

#### **Work in Progress**

- Construction of Tail end regulator across Kandaparisinar drain at LS 26.40 km in Jambuvananodai Village of Thiruthuraipoondi Taluk in Tiruvarur District at an estimated cost of Rs.300 lakh is in progress.

### **3.1.8. Check Dams / Bed Dams / Grade Walls**

#### **Check Dams**

#### **Works completed**

- Construction of Check dam across Kosasthalaiyar at Thirukkandalam Village of Tiruvallur District was completed at an estimated cost of Rs.3,500 lakh. This scheme serves as a part of the schemes augmenting drinking water supply to the Chennai City.
- Construction of a Check dams across Ayyanapuram vari and Nandavanapatti drain below G.A. Canal crossing at LS 8,250 m and LS 3,250 m respectively in Ayyanapuram and Sanjivipuram Villages of Thanjavur Taluk and District was completed at an estimated cost of Rs.150 lakh.

- Construction of Check dam across Vallam vari at LS 10.50 km in Varavukottai Village of Thanjavur Taluk and District was completed at an estimated cost of Rs.32 lakh.
- Construction of Check dam across Vallam Vari drain at LS 13.00 km, 17.50 km and 20.20 km in Vandaiyariruppu, Sadaiyarkovil, Chinnaponnapur Villages of Orathanadu Taluk in Thanjavur District was completed at an estimated cost of Rs.140 lakh.
- Construction of Check dam across Nasuviniyar Drain at LS 5.50 km in Thittakudy Village of Pattukkottai Taluk in Thanjavur District was completed at an estimated cost of Rs.120 lakh.
- Construction of Check dam across Nasuviniyar Drain at LS 18.60 km in Narasingapuram Village in Thanjavur District was completed at an estimated cost of Rs.175 lakh.
- Construction of Check dam across Pattuvanachi Drain at LS 15.25 km in Veppankulam Village of Pattukkottai Taluk in Thanjavur District was completed at an estimated cost of Rs.90 lakh.
- Construction of Check dam across Pattuvanachi Drain at LS 19.20 km in Moothakurichi Village of Pattukkottai Taluk in Thanjavur District was completed at an estimated cost of Rs.105 lakh.
- Construction of Check dam across Pattuvanachi Drain at LS 23.00 km in Vattakudy Village of Pattukkottai Taluk in Thanjavur District was completed at an estimated cost of Rs.105 lakh.
- Construction of Check dam across Muthalaimuthuvari at LS 16.20 km in Vannarapettai Village of Thanjavur Taluk and District was completed at an estimated cost of Rs.94 lakh.

- Construction of Check dam across Cholakampatti Drain below G.A. Canal crossing at LS 9,200 m in Thondarayanpadi Village of Thanjavur Taluk and District was completed at an estimated cost of Rs.77 lakh.
- Construction of Check Dam across Jambugapuram Vari at LS 9.50 km in Arsuthippattu Village of Orathanadu Taluk in Thanjavur District was completed at an estimated cost of Rs.48 lakh.
- Construction of Check dam across Jambugapuram Vari at LS 14.00 km in Arsuthippattu Village of Orathanadu Taluk in Thanjavur District was completed at an estimated cost of Rs.62 lakh.
- Construction of Check dam across Konavari Drain below G.A. Canal crossing at LS 3,100 m in Kalvirayanpettai Village of Thanjavur Taluk and District was completed at an estimated cost of Rs.42 lakh.
- Construction of Check dam across Sudukattuvari at LS 3,500 m in Vanarapettai Village of Thanjavur Taluk and District was completed at an estimated cost of Rs.26 lakh.
- Construction of Check dam across Kodaganar near Thirukoornam Village in Vedsandur Taluk of Dindigul District was completed at an estimated cost of Rs.410 lakh.
- Construction of Check dam across Vaigai near Kunnappanendal Village below Parthibanur Regulator in Ramanathapuram District was completed at an estimated cost of Rs.1,950 lakh.
- Construction of Check dam across Anaimaduvupallam near Boluvampatti Reserve Forest area in Kalikkanayakkanpalayam Village in Coimbatore South Taluk of Coimbatore District was completed at an estimated cost of Rs.93 lakh.



- Construction of Check dam across Vannathangarai Odai in S.F.No.463 of Moppiripalayam Village in Sulur Taluk of Coimbatore District was completed at an estimated cost of Rs.73.50 lakh.
- Construction of Check dam across Periyapallam in S.F.No.10 of Kalampalayam Village in Mettupalayam Taluk of Coimbatore District was completed at an estimated cost of Rs.66.30 lakh.
- Construction of a Check dam across Kumuttipatty Nadhi in S.F.No.77 of Karunchami Goundanpalayam Village in Coimbatore South Taluk of Coimbatore District was completed at an estimated cost of Rs.79 lakh.
- Construction of Check dam across Kodaganar near Agaram Village of Dindigul District was completed at an estimated cost of Rs.680 lakh.

### **Works in progress**

- Construction of Pulankulam Check dam across Santhanavarthini River in Vembarpatti Village of Dindigul Taluk and District at an estimated cost of Rs.400 lakh is in progress.
- Construction of Nedunkulam Check dam across Santhanavarthini river in Avilipatti Village of Dindigul Taluk and District at an estimated cost of Rs.350 lakh is in progress.
- Construction of Check dam across Santhanavarthini river in Kombaipatti Village of Dindigul Taluk and District at an estimated cost of Rs.175 lakh is in progress.
- Construction of 2 Check dams across Vaigai river at Valipparai and Govindanagaram Villages in Andipatti Taluk of Theni District at an estimated cost of Rs.495 lakh is in progress.

- Construction of Check dam across Ayyar River in Chithambur Village of Musiri Taluk in Tiruchirappalli District at an estimated cost of Rs.645 lakh is in progress.
- Construction of Check dam across Ariyar River in Ammapettai Village of Srirangam Taluk in Tiruchirappalli District at an estimated cost of Rs.306 lakh is in progress.
- Construction of Check dam across Nandiyar river in Vellanur Village of Lalgudi Taluk in Tiruchirappalli District at an estimated cost of Rs.320 lakh is in progress.
- Construction of Check dam across Uppar river in Irungalur Village of Manachanallur Taluk in Tiruchirappalli District at an estimated cost of Rs.320 lakh is in progress.
- Construction of Check dam across Karaipottanar River in Nagayanallur Village of Thottiyam Taluk in Tiruchirappalli District at an estimated cost of Rs.294 lakh is in progress.
- Construction of Check dam across Ayyar River near Veeramachanpatty Village of Thuraiyur Taluk in Tiruchirappalli District at an estimated cost of Rs.260 lakh is in progress.
- Construction of Check dam across Dombatchi River in Malaiyadipatti Village of Manapparai Taluk in Tiruchirappalli District at an estimated cost of Rs.166 lakh is in progress.
- Construction of Check dam across Thalugai River in Naganallur Village of Thuraiyur Taluk in Tiruchirappalli District at an estimated cost of Rs.142 lakh is in progress.
- Construction of Check dam across Koraiyaru River in Kannivadugapatty Village of Marungapuri Taluk in Tiruchirappalli District at an estimated cost of Rs.70 lakh is in progress.

- Construction of Check dam across Kannuthu River in A.Reddiyapatty Village near Vaiyampatty of Manapparai Taluk in Tiruchirappalli District at an estimated cost of Rs.90 lakh is in progress.
- Construction of check dam across Kosasthalaiyar River in Pattaraiperumpudur Village to channelise water to Veeraragavaperumal temple tank in Tiruvallur Taluk and District at an estimated cost of Rs.2,500 lakh is in progress.

## **Bed Dams**

### **Work completed**

- Construction of Bed dam across Vaigai River near Valasai Village to feed lower Nattarkal and 16 benefited tanks in Ramanathapuram District was completed at an estimated cost of Rs.1,986 lakh thereby benefiting an ayacut of 8,369 acre.
- Construction of Bed dam across Vaigai River to feed 36 tanks through Koothangal supply channel near Kamuthagudi Village in Paramakudi and Mudukulathur Taluks of Ramanathapuram District was completed at an estimated cost of Rs.1,970 lakh thereby benefitting an ayacut of 5,333 acre under 36 tanks fed by the Koothankal supply channel off taking from Vaigai river and 14,787 acre under 21 tanks fed by the left main canal off taking from Parthibanur regulator.
- Construction of Bed dam across Vaigai river to feed 14 tanks near Thelichathanallur Village in Paramakudi Taluk of Ramanathapuram District was completed at an estimated cost of Rs.1,900 lakh thereby benefiting an ayacut of 6,920 acre under 37 tanks of left main canal of Parthibanur regulator and upper Nattarkal channel.
- Construction of bed dam across river Cauvery at LS 98.40 km to feed A 73 – Veppathur Channel in Thiruvisanallur Village of Thiruvudaimaruthur Taluk in Thanjavur District at an estimated cost of Rs.200 lakh is in progress

## **Grade walls**

### **Works completed**

- Construction of a Grade wall across Vennar river at L.S 30/1 mile to restore the Theoretical bed level and to feed Rettaivoikkal and Aathuvoikkal in Piramanpettai Village in Thanjavur Taluk and District was completed at an estimated cost of Rs.713 lakh.
- Construction of a Grade wall across Vennar river at L.S 56/5-6 mile to maintain the Theoretical bed level to feed Samanthana Cauvery channel in Ukkadai Village of Papanasam Taluk in Thanjavur District was completed at an estimated cost of Rs.410 lakh.
- Construction of a Grade wall across Cauvery river at L.S 49/5 mile to feed New Umayalpuram Channel in Ramanujapuram Village of Papanasam Taluk in Thanjavur District was completed at an estimated cost of Rs.356 lakh.
- Construction of a Grade wall across Pamaniyar river at L.S 87/05 mile to maintain the theoretical bed level to feed Kandaparichanar main channel in Siramelkudi Village of Pattukkottai Taluk in Thanjavur District was completed at an estimated cost of Rs.355 lakh.
- Construction of a Grade wall across Palavar river at LS 35.40 km in Arasalur Village of Thiruvaidaimaruthur Taluk in Thanjavur District was completed at an estimated cost of Rs.164 lakh.
- Construction of a Grade wall across Cauvery river at L.S 106.60 km to feed A 79 - Namachivayapuram channel, A 80 - Old Kanjanur channel, A 81 - New Kanjanur Channel, in Manalur Village of Thiruvaidaimaruthur Taluk of Thanjavur District was completed at an estimated cost of Rs.119 lakh.

- Construction of a Grade wall across Manniyar river at L.S 65/7-4450 mile to feed Manakathan Channel and Aliyan Channel in Koothanur Village of Thiruvaidaimaruthur Taluk of Thanjavur District was completed at an estimated cost of Rs.74 lakh.
- Construction of a Grade wall across Manniyar river at L.S 68/6 mile to feed Melaraman channel, Kondayan channel, Kilimangalam channel, Keelaraman channel and Manakunnam channel in Kuruchi Village of Thiruvaidaimaruthur Taluk of Thanjavur District was completed at an estimated cost of Rs.69 lakh.
- Construction of a Grade wall across Kudamurutty river at L.S 30/2 mile to feed Konerirajapuram Supplemental channel and Konerirajapuram channel at Konerirajapuram Village in Thiruvaiyaru Taluk of Thanjavur District was completed at an estimated cost of Rs.767 lakh.
- Construction of a Grade wall across Kudamurutty river at L.S 39/0-100 mile and L.S 40/1 mile to feed Sorudaiyan Channel and Ayyanarmathur Channel in Thiruchotruthurai Village in Thiruvaiyaru Taluk of Thanjavur District was completed at an estimated cost of Rs.1,135 lakh.
- Construction of a Grade wall across Cauvery river at L.S 28/68 mile to feed Koothur Channel and Old Maharajapuram Channel at Koothur Village in Thiruvaiyaru Taluk of Thanjavur District was completed at an estimated cost of Rs.1,340 lakh.
- Construction of Grade wall across Cauvery river at L.S 104.48 km to feed A78 Manalur channel in Tirumangalakudi Village of Thiruvaidaimaruthur Taluk in Thanjavur District was completed at an estimated cost of Rs.116 lakh.

### **Work in progress**

- Reconstruction of Grade wall across Veeracholan River at L.S 131.20 km Vasishtacheri Village of Tharangambadi Taluk in Nagapattinam District at an estimated cost of Rs.95 lakh is in progress.

### **3.1.9. Rehabilitation of Anicuts**

#### **Works completed**

- Rehabilitation of 16 Old Anicuts in Amaravathy River System in Karur and Tiruppur Districts at an estimated cost of Rs.1,953 lakh was completed thereby stabilising an ayacut of 15,208 acre and provided assured supply of water for irrigation.
- Rehabilitation of South Bank of Andipalayam anicut and its supply channel in Palladam Taluk of Tiruppur District was completed at an estimated cost of Rs.60 lakh benefiting an ayacut of 117 acre.
- Rehabilitation of Kuniyamuthur anicut and its supply channel from L.S 0/0 km to 2/0 km in Coimbatore South Taluk of Coimbatore District was completed at an estimated cost of Rs.90 lakh benefiting an ayacut of 115 acre.

#### **Works in progress**

- Rehabilitation of Thandarai anicut in Thiruvannamalai Taluk and District at an estimated cost of Rs.60 lakh is in progress.
- Rehabilitation of Alathur Anicut, supply channel and feeding tanks in Chengam Taluk in Thiruvannamalai District at an estimated cost of Rs. 65 lakh is in progress.
- Rehabilitation of Vedan Kalingal and Uppathu Kalingal Anicut (Thalaiyar anicut) in Uppiliyapuram and Kottapalayam Villages in Thuraiyur Taluk of

Tiruchirappalli District at an estimated cost of Rs.120 lakh is in progress.

- Rehabilitation of Pallapatti old anicut and Kottankulam anicut across Pallar at Pallapatti Village and Kottankulam Kanmoi surplus course of Kottampatti Village of Melur Taluk in Madurai District at an estimated cost of Rs.125 lakh is in progress.
- Rehabilitation of Samyvaikkal anicut across Oothampari river near Bodinayakkanur Village and Taluk in Theni District at an estimated cost of Rs.57 lakh is in progress.

### **3.1.10. Rehabilitation of Regulators**

#### **Work completed**

- Rehabilitation of Pelandurai Regulator across Vellar River in Thittakudy Taluk of Cuddalore District was completed at an estimated cost of Rs.1,750 lakh.

#### **Works in progress**

- Rehabilitation of Sethiathope (Regulator) Anicut in Chidambaram Taluk of Cuddalore District at an estimated cost of Rs.2,365 lakh is in progress.
- Reconstruction of Sirupuliyur Regulator across Nattar river at L.S. 78/1-33 mile in Polagudi Village of Nannilam Taluk in Tiruvarur District at an estimated cost of Rs.114 lakh is in progress.
- Rehabilitation of Hydro Mechanical Equipments and upgrading the Manual operating arrangements of the shutters by electrification in North and South Coleroon at Upper Anicut in Mannachanallur Taluk of Tiruchirappalli District at an estimated cost of Rs.1,000 lakh is in progress.
- Rehabilitation of Sand Vent at the Head of Uyyakondan Channel in Pettavaithalai Village in Srirangam Taluk of

Tiruchirappalli District at an estimated cost of Rs.137 lakh is in progress.

### **3.1.11. Rehabilitation of canals / Supply Channels**

#### **Works Completed**

- Rehabilitation of Kalingarayan Channel from L.S. 0/0-000 mile to L.S 3/3-000 mile in Erode Taluk and District was completed at an estimated cost of Rs.4,100 lakh, thereby benefiting an ayacut of 15,750 acre.
- Rehabilitation of Arakkankottai and Thadapalli channels in Gobichettipalayam Taluk of Erode District was completed at an estimated cost of Rs.4,055 lakh benefiting an ayacut of 24,504 acre.
- Regradation of Therkkar river from Sathankudi anicut to Melakottai anicut in Thirumangalam town of Madurai District was completed at an estimated cost of Rs.306 lakh.
- Rehabilitation of Swamimalai bed dam across Cauvery River at L.S 54/3 mile in Swamimalai Village of Kumbakonam Taluk in Thanjavur District at an estimated cost of Rs.75 lakh, was completed. By implementing this scheme, an ayacut of 5,900 acre was benefited.
- Rehabilitation of Palavar Head Sluice with syphon arrangements at L.S 0/0 mile in Nagakudi and Melamaruthuvakudi Villages of Papanasam Taluk in Thanjavur District was completed at an estimated cost of Rs.60 lakh benefiting an ayacut of 3,983 acre.
- Modernisation of Vadavar extension canal from LS 33.01 km to 44.82 km Mannarkudi Taluk of



Tiruvarur District at an estimated cost of Rs.2,300 lakh is in progress.

- Rehabilitation of Krishnaiyengar channel in Mettupalayam Taluk of Coimbatore District was completed at an estimated cost of Rs.30 lakh benefiting an ayacut of 117 acre.

### **Works in progress**

- Rehabilitation of Thovalai Channel and Radhapuram Channel including tanks in Kanniyakumari District at an estimated cost of Rs.2,250 lakh is in progress.
- Rehabilitation of Contour Canal from LS 0.00 km to LS 49.30 km in Tiruppur and Coimbatore Districts at an estimated cost of Rs.22,115.22 lakh is in progress.
- Strengthening the slipped portion at various places of Kandaleru - Poondi canal in between LS 13.00 km to 25.275 km in Uthukottai Taluk of Thiruvallur District at an estimated cost of Rs.1,988 lakh is in progress.
- Reconstruction of Syphon Aqueduct in Tirunagari Channel at LS 14/100 Km in Thennilakudi Village of Sirkali Taluk in Nagapattinam District at an estimated cost of Rs.195 lakh is in progress.

### **3.1.12. Renovation of Tanks**

#### **Works Completed**

- Renovation and Modernisation of Valayathur tank in Arcot Taluk of Vellore District was completed at an estimated cost of Rs.53 lakh. This work bridged the gap area of 755.35 acre which increased the productivity.
- Construction of a Protection wall on the Southern side of the New Sewage Treatment plant to avoid Erosion of soil in to the Ooty lake in Udthagamandalam Taluk

of Nilgiris District at an estimated cost of Rs.64 lakh was completed.

### **Work in Progress**

- The water storage capacity of Chennai city water reservoirs is being augmented by strengthening, standardising and creation of additional storage space for four tanks, viz., Cholavaram, Porur, Nemam and Ayanambakkam at an estimated cost of Rs.13,000 lakh is in progress.

**Cholavaram:** Rehabilitation works for creating additional storage of 200 Mcft has been completed at an estimated cost of Rs.50 lakh.

**Porur:** Rehabilitation works for creating additional storage of 24 Mcft has been completed at an estimated cost of Rs.2,000 lakh. 95% of the Civil works and 8% of Earth selling component have been completed.

**Ayanambakkam:** Rehabilitation works for creating additional storage of 24 Mcft has been completed at an estimated cost of Rs.3,000 lakh. 99% of the Civil works and 62% of Earth selling component have been completed.

**Nemam:** Creation of additional storage of 320 Mcft at an estimated cost of Rs.7,950 lakh is in progress. 97% of the Civil works and 8% of Earth selling component have been completed.

- Rehabilitation of Perur Tank, Neyveli tank and Komangalam tank in Musiri Taluk of Tiruchirappalli District at an estimated cost of Rs.151 lakh is in progress.
- Rehabilitation of Kottathur Tank, Sathanur Tank, Peramangalam Tank and Mahadevi Tank of Musiri Taluk in Tiruchirappalli District at an estimated cost of Rs.317.40 lakh is in progress.

- Rehabilitation of Nagayanallur tank, Pidaramangalam tank, Murungai tank, Valvelputhur anicut and Maruthampatti anicut in Thottiyam Taluk of Tiruchirappalli District at an estimated cost of Rs.295 lakh is in progress.
- Modernisation and Rehabilitation of Uppar Nandhiyar Sub Basin and Marudayar Sub Basin, Tanks, Anicuts and Supply Channels in Perambalur District at an estimated cost of Rs.222.30 lakh is in progress.
- Rehabilitation of Amoor Tank in Ponneri Taluk of Tiruvallur District at an estimated cost of Rs.70 lakh is in progress.
- Rehabilitation and Modernisation of Valasakalpatty tank in Gengavalli block of Salem District at an estimated cost of Rs.538.35 lakh is in progress.

### **3.1.13. Flood Protection Works**

#### **Work completed**

- Temporary Restoration of the meandering portion in the right bank of the Vellar river at Killai in Chidambaram Taluk of Cuddalore District was completed at an estimated cost of Rs.49 lakh.

#### **Works in progress**

- Permanent restoration and flood protection works to Anaipappankulam tank surplus course in Thirumangalam town of Madurai District at an estimated cost of Rs.1,100 lakh is in progress.
- Protection of Right Bank of River Cauvery at downstream of Upper Anicut in Srirangam Taluk of Tiruchirappalli District at an estimated cost of Rs.111 lakh is in progress.

### 3.1.14. Coastal protection Works

#### Work in progress

- Construction of series of 10 numbers of Groynes from Ernavoorkuppam to Ennore at LS 15/200 km to 19/000 km along coastal area in Madhavaram Taluk of Tiruvallur District was sanctioned at an estimated cost of Rs.3,182 lakh. Clearance under Coastal Regulation Zone 2011 notification of Government of India has been obtained after conducting Environmental Impact Assessment studies. Preliminary Works are in progress.

### 3.1.15. Buildings and related Infrastructure

#### Works completed

The Government have sanctioned a sum of Rs.408 lakh for the 16 works for the year 2014-15 under Part – II schemes. Out of which, 15 works have been completed. Balance 1 work will commence after obtaining clearance from Forest Department.

(Rs. in lakh)

Sl. No.	Name of the Scheme	Estimate Amount
1	Purchase of New Staff car for Superintending Engineer, Middle Cauvery Basin circle, Tiruchirappalli.	6.00
2	Purchase of a New Staff Car for Superintending Engineer, Lower Cauvery Basin Circle, Thanjavur.	6.00
3	Construction of Section office building at Amaravathi Nagar in Udumalpet Taluk of Tiruppur District.	7.00
4	Construction of Section officer's Quarters at Amaravathi Nagar in Udumalpet Taluk of Tiruppur District.	13.00
5	Construction of Section office building at	7.00

<b>Sl. No.</b>	<b>Name of the Scheme</b>	<b>Estimate Amount</b>
	Sathiyamangalam in Erode District.	
6	Construction of Sub Division Office with Section Offices for Planning and Design Sub Division, Nagercoil in PWD campus at Nagercoil	27.00
7	Construction of Irrigation Assistant quarters (Twin Type) for Lower Anicut Section at Anaikarai in Thanjavur District	11.00
8	Construction of Irrigation Assistant quarters (Twin type) at Sathanur dam in Thandarampattu Taluk of Tiruvannamalai District	11.00
9	Construction of Irrigation Assistant quarters (Twin type) at Srimushnam town in Kattumannarkoil Taluk of Cuddalore District	11.00
10	Construction of Irrigation Assistant quarters (Twin type) in Thanjavur Town of Thanjavur District	11.00
11	Construction of Section office building for Mettur Canal Section at Kullampatty in Sankagiri Taluk of Salem District	7.00
12	Construction of a Section office building at Muthupettai in Thiruthuraipoondi Taluk of Tiruvarur District	7.00
13	Construction of Anthiyur Section office building in Anthiyur Taluk of Erode District	7.00
14	Construction of Environmental Sub Division Office with Section Offices at Madurai District.	27.00
	<b>Other work</b>	
15	Bank protection works to the sliding portion of both banks of Vennar River using Gabion Structure in between L.S 49/1 mile to L.S 49/7 mile in Kalanjeri	200.00

<b>Sl. No.</b>	<b>Name of the Scheme</b>	<b>Estimate Amount</b>
	Village of Papanasam Taluk in Thanjavur District	
	<b>TOTAL</b>	<b>358.00</b>

### **Work to be commenced**

(Rs. in lakh)

<b>Sl. No.</b>	<b>Name of the Scheme</b>	<b>Estimate Amount</b>
1	Renovation of Dormitory Block - II at Thekkady	50.00

### **3.1.16. Roads and Bridges**

#### **Works completed**

- Construction of bridge at Ambalavarkattalai to Sundagudi road in Km 3/2 across Maruthaiyaru river (Km 51/0) in Ariyalur Taluk and District was completed at an estimated cost of Rs.1,000 lakh.
- Construction of a Causeway across Kuthiraiyar river and a Culvert in Panchanthangi supply channel near Myladumparai in Pappampatti Village of Palani Taluk in Dindigul District was completed at an estimated cost of Rs.63 lakh.
- Constructions of 3 Bridges in Erode District were completed at an estimated cost of Rs.116 lakh.

#### **Works in progress**

- Formation of Service Road on the right side bund of Vaigai River in Paramakudi town at Ramanathapuram

District at an estimated cost of Rs.650 lakh is in progress.

- Construction of a Causeway across Cooum river at Choranchery Village in Poonamallee Taluk of Tiruvallur District at an estimated cost of Rs.120 lakh is in progress.
- **Hon'ble Chief Minister**, during the Collectors' Conference-2012, announced the Construction of a High level bridge across river Kollidam at mile 45/5 + 50 m in Azhagiamanavalam Village to connect left bank of Kollidam with Melaramanallur Village in Ariyalur Taluk and District at an estimated cost of Rs.4,800 lakh and it is in progress.

### **3.1.17. Parks and Tourism Development works**

#### **Works completed**

- Development of Park in Mukkombu in Srirangam Taluk of Tiruchirappalli District was completed at an estimated cost of Rs.310 lakh.
- Development of Kallanai Tourist place in Thanjavur District was completed at an estimated cost of Rs.408 lakh.
- Development of Park arrangements at Jederpalayam anicut in Paramathi-Velur Taluk of Namakkal District was completed at an estimated cost of Rs.456 lakh.

### **4.0. Tamil Nadu Irrigated Agriculture Modernisation and Water - Bodies Restoration and Management (TN IAMWARM) Project**

The **Hon'ble Chief Minister** of Tamil Nadu during the year 2005 initiated the TN IAMWARM Project with the aim to improve service delivery of irrigation system and to increase the productivity of irrigated agriculture with effective integrated water resources management in a Sub-basin framework with the financial assistance of World Bank by eight line departments.

This project was taken up as an integrated project with an initial outlay of Rs.2,54,700 lakh, implemented in 61 sub basins to benefit an extent of 16.53 lakh acre with a revised outlay of Rs.2,82,093 lakh and completed on 30.06.2015. Activities involve tank system modernisation by restoring and repairing water bodies and improving canal irrigation system through repair and rehabilitation. Under the project 5,011 Tanks, 791 Anicuts and 8,775 Km length of Supply Channels are being rehabilitated for a value of Rs 2,05,165 lakh.

### **Works Completed**

During the year 2014-15, rehabilitation works were completed in 383 tanks, 125 anicuts and 380 km length of supply channel.

Lining of Head Irrigation Channel and installation of Flow Measuring Devices in phase I & II sub basins was completed at an estimated cost of Rs.7,150 lakh.

In order to augment the ground water, construction of 39 check dams and 56 numbers of artificial recharging well structures in the bed of tanks were taken up under the project.

## **4.1 PARTICIPATORY IRRIGATION MANAGEMENT**

### **Works Completed**



- Administrative sanction for Rs.36.32 lakh in, WUAs and Department officials to provide Capacity Building 2012 to conduct in-depth training programme for Support Organisations programme for Water Users Associations was accorded. Training has been completed during 2012-13 in 5 batches at IMTI, Trichy. These participants of Support Organisations and Department officials in turn will give training to the Water Users Associations.
- Administrative Sanction was accorded for Rs.30.32 lakh for conducting training programme for Competent Authorities (AEs /JEs) on PIM activities during 2012. 143 Competent Authorities have been trained under Phase I & II of IAMWARM Project during 2012-13.
- Administrative Sanction was accorded for Rs.1,514 lakh to create awareness among the farmers and to build capacity to WUA's through Support Organisations for 13 Packages of sub-basins under Phase I & II. The Capacity Building Training to WUAs by Support Organisation has started in the year 2011 – 12 for 7 Packages and completed.
- Administrative Sanction was accorded for Rs.48.60 lakh for conducting training programme for Competent Authorities (AE/JEs) on PIM activities. 182 Competent Authorities have been trained in 8 batches under Phase III and Phase IV by IMTI, Trichy.
- Administrative Sanction was accorded for Rs.632.30 lakh for conducting elections to WUAs from Phase I to IV, for creating awareness about TNFMIS Act among farmers etc. Out of this 2,815 WUAs, election has been completed for 2,755 WUAs from Phase I to IV.
- A new Alternate Model have been proposed as per World Bank recommendation and approval by engaging additional PIM staff in all regions on contract basis for PIM activities to create awareness among farmers and

Capacity Building training to WUAs in Phase III, Phase IV and left out sub-basins of Phase I & II. Administrative Sanction was accorded for Rs.2,204 lakh. The Capacity Building training to the WUAs has started during December 2013. Out of 1103 Training, 1033 Two days training & 888 One day follow up training are completed.

#### **4.2 Information Technology and Information Management System**

Institutional Modernization through Information Technology (IT) and Information Management System has been taken up under IAMWARM project to streamline and improve efficiency of WRD, better planning and management through decisions that emerge by timely flow of information at all levels.

- For implementation of Information Technology and Information Management system an amount of Rs.4,244 lakh has been sanctioned and the work is executed through ELCOT. Total Expenditure incurred so far is Rs.2,262 lakh.
- M/s Tech Mahindra has been engaged as the consultant for Enterprise Information Management System (EIMS) through ELCOT at a cost of Rs.833 lakh. TNIAMWARM Project work has been completed and therefore balance work in EIMS is proposed to be carried out through State funds.

#### **4.3 Training**

##### **Works completed**

An amount of Rs.846 lakh has been allotted under IAMWARM Project to improve the capacity and efficiency of WRD Engineers.

The total expenditure incurred since commencement of the project is Rs.624 lakh.

During 2014-15, 42 training programmes on topics such as Geographic Information System, Participatory Irrigation Management including National Study Tours, and Study Tours within the State were conducted incurring an expenditure of Rs.143 lakh.

#### **4.4 Construction Quality Management and Technical Supervision**

##### **Works Completed**

Administrative Sanction accorded for employing consultancy for Construction Quality Management and Technical Supervision at an estimated cost of Rs.978 lakh. Agreement has been signed with M/s. WAPCOS Ltd, India and the Work has commenced on 14.03.2011. M/s. WAPCOS have established Ground and Mobile Laboratories at Irukkangudi and Villupuram. Revised Administrative sanction accorded for Rs 1,400 lakh. M/s. WAPCOS collect samples and conduct test for assuring the quality of the Works in Phase I, II, III & IV sub basins, left out works and additional schemes. Quality control test in Phase I, II, III & IV have been completed. So far, a total of 54,318 Nos. of quality control tests have been conducted by M/s.WAPCOS including left out works and additional schemes.

#### **4.5 Procurement of Software, Scientific Equipments and Instruments, etc.,**

##### **Works Completed**

For the Procurement of Software, Scientific Equipments and Instruments, Administrative Sanction has been accorded for an amount of Rs.250 lakh. The procurement of Software such as AUTOCAD Civil 3D 2012, Arc GIS, FEM, and scientific equipments and instruments such as total station, GPS and Lab equipments for the various Offices of the Water Resources Department have been completed.

#### **4.6 Environmental Activities**

##### **Works Completed**

Environmental activities such as Environmental Impact Assessment, Awareness Program, Testing of water and soil samples, etc., are being carried out in Phase I, II, III and IV Sub-basins for which administrative sanction has been accorded for Rs.773 lakh. An expenditure of Rs. 733 lakh has been incurred so far. All works completed in Phase I & II Sub basins. Awareness programme completed in Phase III & IV sub basins.

The positive and negative impacts regarding environmental and social aspects due to implementation of the Project in the Sub-basin areas along with the mitigation measures are presented in the Environmental Impact Assessment Reports. EIA reports for Phase I, II & III sub basin project area have been prepared for the period up to March 2014 and sent to World Bank. Testing of water and soil samples and preparation of Environmental Atlas for Phase III & IV sub basins are completed.

#### **4.7 Irrigation Research Fund**

##### **Works Completed**

Under Tamil Nadu IAMWARM Project, in order to foster research in Irrigation Development and Management by conducting research studies by private sector, academic and department staff, Government have constituted Irrigation Research Advisory Committee and has established the Irrigation Research Fund. Administrative Sanction has been accorded for an amount of Rs.153.02 lakh for taking up seven research studies in the field of Re-Use of waste water for Irrigation, Assessment of project performance, Development of real time flood forecasting and Management system and Research study for the implementation of community collaborative Water Management have been taken up and all the studies are completed.

#### **4.8. State Water Resources Management Agency (SWaRMA)**

SWaRMA has been formed as an Agency envisaged in the Project Appraisal Document (PAD) of IAMWARM Project and functioning since 09.06.2011 to advise in planning and efficient managing of water by the Water Resources Department and also by the line departments in a holistic approach.

SWaRMA is endowed with the responsibility of advising the Government on the following subjects / issues:

- Water Policy
- Water Allocation
- Development and management of the water resources of the State
- Scrutinise and approve the River Basin Master Plans for enhancing the quality with necessary emphasis on environment and social sustainability
- Recommend clearance for the formulated projects in the context of River Basin Plans taking into account the availability of surface and ground water

**Activities of SWaRMA :**

- Collection of various data for all the river basins in Tamil Nadu from Water Resources Department, Agricultural Department, Department of Statistics, Revenue Department, Tamil Nadu water Supply and Drainage Board, Tamil Nadu Pollution Control Board, Municipalities and Panchayats, etc., for the web enabled data base on GIS Platform "TNWRIS" .
- Data base for the following 9 River Basins have been prepared exhibiting the details of surface and ground water potential, sectoral demands, water balance, demographic details, environmental conditions, water quality, pollution details, existing and recommended agricultural pattern:

- i) Vaippar
- ii) Vaigai
- iii) Vellar

- iv) Paravanar
- v) Agniyar
- vi) Parambikulam Aliyar Project
- vii) Thamiraparani
- viii) Kallar
- ix) Gundar

- A data hub has been created to share the data among SWaRMA, Institute for Water Studies, State Ground and Surface Water Resources Data Centre and Institute of Hydraulics and Hydrology.
- The “TNWRIS” is created mainly to provide information regarding the Tamil Nadu Water Resources Information System and is created in-house with open source servers using the following software:
  - QGIS / GRASS
  - POST GRESQL / POSTGIS
  - GEOSERVER
  - EXTJS, GEO-EXT
  - OPEN LAYERS
  - JAVA, JSP, SEERVLET
  - HTML, CSS, JAVA SCRIP
  - SWAT (Soil Water and Analysis Tool)
  - ARC GIS
  - ERDAS (Image Processing Software)
- The TNWRIS is similar to India-WRIS website and has made use of the services of GIS trained Water Resources Department officials only and “TNWIRS” is hosted by SWaRMA on 29.11.2014.
- SWaRMA has coordinated with the Institute for Water Studies, Chennai in the preparation and release of TNWRD Tank Unique Code Book on 29.11.2014.
- Three meetings of the State Water Advisory Committee have been conducted on 17.05.2013, 13.06.2014 and 08.09.2014.

- The office building for SWaRMA has been completed at a cost of Rs.500 lakh.
- SWaRMA has organised fourteen programs pertaining to various irrigation subjects, vis-a-vis seminars, workshops related to water management, measures to control water demand, water auditing, promoting awareness to public in water related issues, software training programs to personnel for development of TNWRIS , etc.,
- Necessary GIS maps have been prepared for the proposed World Bank assisted TNIAMWARM Project-II and the Government of India assisted RRR, AIBP, ERM, FMP and Cauvery Modernisation Schemes, etc.
- SWaRMA has participated and presented the TNWRIS website in the India Water Week program on 17.01.2015 in New Delhi conducted by the National Water Development Agency, New Delhi.
- Show caused the TNWRIS website in the World Bank wrap-up meeting of the Hydrology Project-III on 04.02.2015 at New Delhi and shared the experience in the development of TNWRIS website with technocrats of other States.
- Participated in the 9<sup>th</sup> WATMAN International Conference and Workshop 2015 held on 27.02.2015 organised by the Water Today Pvt Ltd., Chennai and presented the data, its logical advantage on macro level audit and TNWRIS website.
- SWaRMA has also published a number of publications essential and useful for the Engineers and Scientists. "The Water Resources field hand book for Madurai Region" which is a ready reckoner on all aspects of water resources of Madurai Region for better basin planning and service delivery and the preparation of hand book for other three regions are in progress.

## 5.0. 13<sup>th</sup> Finance Commission Grants-in-aid Programme

Under 13<sup>th</sup> Finance Commission Grants-in-aid programme, 'coastal protection works' and 'Restoration of traditional water bodies' have been implemented.

### 5.1. Coastal Protection Works

During the year 2014-15, the following 8 works at an estimated cost of Rs.4,195.50 lakh have been completed in Kanniyakumari, Nagapattinam, Thoothukudi and Tirunelveli Districts.

#### Completed Coastal Protection Works during 2014-15

(Rs. in lakh)

Sl. No.	Name of work	Estimate
<b>I. Kanniyakumari District</b>		
1	Construction of RMS wall for a length of 460 m at Kotilpadu Taluk	324.00
2	Construction of RMS wall for a length of 520m at Kesavanputhanthurai of Agastheeswaram Taluk	131.00
3	Construction of RMS wall at Melmidalam of Villavancode Taluk	69.50
4.	Reformation of RMS wall in Poothurai in Villavancode Taluk	209.00
<b>II. Nagapattinam District</b>		
5	Collecting field bed levels along the coast covering required stretch and seaward	42.00



	covering breaker zone and collection of other details like tidal current, along shore current etc., at Vanagirikuppam, Thirumullaivasal, Seruthur, Samanthanpettai in Sirkali Taluk.	
6	Construction of Rubble Mound Sea Wall for a length of 950 m and Construction of groynes at Vanagirikuppam of Sirkali Taluk.	1698.00
7	Construction of Rubble Mound Sea Wall for a length of 500 m and Construction of groynes at Vanagirikuppam of Sirkali Taluk.	1697.00
<b>III. Thoothukudi &amp; Tirunelveli District</b>		
8	Collecting field bed levels along the coast covering required stretch and seaward covering breaker zone and collection of other details like tidal current, alongshore current etc. at Punnakayal Village of Tiruchendur Taluk of Thoothukudi District and at Idinthakarai, Uvari in Radhapuram Taluk, Tirunelveli District.	25.00
<b>Grand Total</b>		<b>4,195.50</b>

**5.2. Restoration of Traditional Water Bodies completed during 2014-15 (Phase II, III & IV)**

**Restored Tanks**

**(Rs. in lakh)**

<b>Sl. No.</b>	<b>District</b>	<b>Name of Tank</b>	<b>No. of Tanks</b>	<b>Estimate Amount</b>
1	Ariyalur	Thuthur Eri, Adidravidan Eri	2	81.13
2	Cuddalore	Puliyur Tank, Karkudal Tank, Kuttiankuppam Tank, Akkadavalli Tank, Karumbur Thangal Tank, Krishnan Kuppam Manakkollai Hissa Tank, Vayalur Tank, Aladi Tank	8	222.42
3	Dharmapuri	Bommanur Tank, Dobbaipallam Tank, Erupalli Tank, Dhalavalli Tank	4	84.00
4	Kancheepuram	Valarkundram Tank, Karumbur Tank, Mugaiyur, Valayakaranai Big Tank, Ottiyampakkam Tank, Nedumaram, Anur Tank, Vazhuvadur Tank, Kilpakkam Tank, Manamai(20.a), Thenneri Hissa Tank, Kunnathur, Thattambattur Chitteri, Uthukadu Tank, Thimmasamudram Tank, Sembakkam Tank, Illalur Periya Eri and Chitteri	16	636.67
5	Krishnagiri	Achamangalam Tank, Narayanappan Tank, Balinayanapalli Tank, Chinnamattarapalli Tank, Rangappa Naicken Tank, Byaskhan Tank,	11	327.63

<b>Sl. No.</b>	<b>District</b>	<b>Name of Tank</b>	<b>No. of Tanks</b>	<b>Estimate Amount</b>
		Kattusingiripalli Tank, Badethalav Tank, Naralapalli Tank, Adavanga Tank, Masdhihalla Tank		
6	Madurai	Vavidamaruthur, Arumbanur, Chetikulam, Pappakudi, Achankulam, Mannadimangalam, Vedathakulam, Maduran Eri	8	225.07
7	Namakkal	Alathur Tank, Kakaveri Tank, Devanampalayam Tank	3	53.00
8	Pudukkottai	Vennavikulam	1	36.00
9	Ramanatha- puram	Paroor, Kalayanur, L.Karunkulam, Vaigai, Vannikudi, Illapakudi, Siruvayal Tank, Anjamadaikachan Tank, Agaram Tank, Pananiyur Tank, Thuthakudi, Kanganerend hal Vayalur Tank	13	289.89
10	Sivagangai	Ammi Kanmoi, Themmampattu, Sekkadi	3	100.79

<b>Sl. No.</b>	<b>District</b>	<b>Name of Tank</b>	<b>No. of Tanks</b>	<b>Estimate Amount</b>
11	Thanjavur	Vellaiyan Eri,Navakulam, Velleri, Sirupalakulam, Kandeawaram Tank(141.a), Mudathali Tank(141.b), Ettivayal Eri, Kallivayal Eri, Kasankulam, Vengarai Periya Eri(150.a), Senniyakulam Tank (150.b), Katchakulam Tank(153.a), Kuppathevan Kalathikulam, Tank (153.b), Thantchankulam Tank(156.b), Vellankadu Tank, Melamarichikattai eri(161.b), Ayyanarkulam Tank(161.c), Pudukulam Tank(161.d), Palli Odaivayal, Sevidayakulam Tank, Pudukulam, Navalur Tank, Kavani Eri, Maduran Eri, Egapuri Eri, Sadayan Eri, Ayyanar Eri, Pappan odai, Sembaneri, Karisavayal odai Eri, Sengalodai Tank,(141.c), Ammayandi Eri,Sellikurichi Tank,Pinneri Tank, Chithandi Tank, (156.a), Parakkalakulam, Edaiyathi Tank, Seethakulam, Navaiodai, (161.a), Athanakulam, Painkattuvayal Eri	42	1009.70

<b>Sl. No.</b>	<b>District</b>	<b>Name of Tank</b>	<b>No. of Tanks</b>	<b>Estimate Amount</b>
12	Theni	Athikarikulam(20.b)	1	35.04
13	Tiruvallur	Vediyangadu Tank, Periyangapudi Tank, , Nabalur Pudu Eri, Ayyaneri Tank, Alamelumangapuram Tank, Pappampakkambakka m Sembampattu Tank(88.a), Panapakkam periya eri & Chitteri, Erumbi Tank,Srikalikapuram Tank,Silambu Tank, Ponnimangadu Big Tank,Velanjeri Tank, Raghavannaidukuppam Tank, Padmanabapuram Tank,Periyaramapuram, Arumbakkam Tank, Arungulam Big Tank, Chinnakadambur Big Tank,Lakshmanapuram Tank,Murukampattu Tank,Athipattu Tank, Kaverirajapuram Digeva Eri, Kaverirajapuram Periya Eri, Tank, Amarambedu Tank, Thottakadu Tank	25	532.74
14	Thoothukudi	Keelamangalam, Eppodumvendrani, Therkkukalmedu, Kollamparambu, Korkai, Vellaramkarisalkulam	6	398.70
15	Thiruvannamalai	Nethapakkam Tank	1	16.00

<b>Sl. No.</b>	<b>District</b>	<b>Name of Tank</b>	<b>No. of Tanks</b>	<b>Estimate Amount</b>
16	Tiruchirappalli	Sevanthan kulam, Purantha kulam, Asur Tank, Poyyakudi Tank, Sevanthan kulam, Puthur uthamanur, Vellanur West, Vellanur East, Jambumadai Tank, Kollakudi Tank, Sukkiran Eri	11	560.53
17	Vellore	Maruthalam Tank, , Pariyamangalam(88.b), Karivedu Chithanji Tank, Melakuppam Tank, Velam, Kolatheri Tank, Kelmelakuppam Chitteri, Gudalur Tank, Panavattambadi, So masamudiram Tank, Budur Tank, Sekkanur Tank, Puthur Tank, Vallimalai vellaneri Tank, Sembedu Tank	15	263.86
18	Villupuram	Vengur Chiteri, Nannadu Tank, Mambakkam Tank, Vadasiruvalur Tank, Vedampattu Tank, Cholavandipuram Tank, Panjamadevi Pudu Eri Thangal, Kongampattu Tank, Kondangi Tank, Motchakullam Tank, G.Ariyur Tank, Athipakkam Tank, Otteripalayam Tank, Kalanchikuppam Tank, Vengathur Tank, Purangari Tank, Elarampattu Tank,	38	912.77

<b>Sl. No.</b>	<b>District</b>	<b>Name of Tank</b>	<b>No. of Tanks</b>	<b>Estimate Amount</b>
		V.Puthur Tank, Navamal Marudur Tank, Vadamalayanur Tank, Rampakkam Tank, Paranur Tank, Urangani Tank, Mallapuram Ganapathi Tank, Palagacherry, Poikunam Tank, Chellampattu, Vadachettiandal , Velananthal Tank, Kosapadi Tank, Mallapuram Vairandhangal Tank, Poovarsankuppam Tank, Pandalam, Kachirapalayam Tank, Ravuthanallur Tank, A.Kumaramangalam Tank, Parindhal Tank, Udayanchi Tank		
19	Virudhunagar	Pudukottai Periyakulam, Injar Nativapatti, Veppilaipatti, Sirukulam, Vannankulam, Sevalkulam, Onampatti, Ondipulinaicken	8	130.83
<b>Total</b>			<b>216</b>	<b>5,916.76</b>

## 6.0. Jawaharlal Nehru National Urban Renewal Mission (JNNURM)

A Comprehensive Master Plan on improvements to macro drainages like Buckingham canal, Otteri Nullah, Virugambakkam- Arumbakkam drain, Velachery - Veerangal Odai and Ambattur Tank surplus are implemented by Water Resources Department and improvements to micro drainages such as storm water drains are implemented by Corporation of Chennai to mitigate flood damages during the monsoon period in Chennai City under Jawaharlal Nehru National Urban Renewal Mission (JNNURM) scheme.

This is a Centre-State shared scheme. At present, improvements to macro drainages are implemented at a revised estimated cost of Rs.69,986 Lakh. Out of 10 packages, works were completed in 6 Packages and works in 4 packages are in progress.

### 6.1. Status of Completed packages are as under

(Rs. in lakh)

Package	Name of work	Estimate
I	Improvement to Kodungaiyur drain, Otteri nullah and Kolathur-Madhavaram diversion channel	9018.00
IV	Improvement to Central Buckingham canal from Coom South Lock to Adyar North Lock	2048.00
V	Improvement to South Buckingham canal from Adyar South Lock to Okkiyam Maduvu (from 0 m to 10500 m) Reach I and II	5958.00
VI	Improvement to South Buckingham canal from Okkiyam Maduvu to Muttukkadu backwater (from 10500m to 23500m)	9036.00
VIII	Improvement to Ambattur tank	2388.00



X	Formation of new diversion channel to Korattur Tank surplus course in Ambattur Taluk of Tiruvallur District	2776.00
	<b>TOTAL</b>	<b>31,224.00</b>

## 6.2. Status of on-going packages

(Rs. in lakh)

Package	Name of work	Estimate Amount
II	Improvement to Arumbakkam-Virugambakkam drain and construction of diversion channel from Maduravoyal to Cooum	10827.00
III	Improvement to North Buckingham canal	11719.00
VII	Improvement to Veerangal Odai and Short cut Diversion Drainage for Velachery Tank	11224.00
IX	Improvements to Porur Tank Surplus Drainage	4992.00
	<b>Total</b>	<b>38,762.00</b>

## 7.0. Climate Change Adaptation Programme in Cauvery Delta

The Climate Change Adaptation through Sub-basin Development Programme (CASDP) in Cauvery delta would be implemented with the loan assistance of Asian Development Bank (ADB) at a cost of about Rs.1,56,000 lakh. The ADB loan assistance is Rs.1,09,200 lakh and the State's share is Rs.46,800 lakh for this scheme. The Department of Economic Affairs (DEA) of the Government of India (GoI) has accorded its acceptance for taking up this scheme to the ADB and the ADB has approved the provision of Technical Assistance (TA) to the GoI to prepare this programme. The

topographical survey works in Vennar Sub Basin of the Cauvery Delta, have since been completed. The Project has been cleared by the 33<sup>rd</sup> Screening Committee of the Department of Economic Affairs of the Ministry of Finance, Government of India on 13<sup>th</sup> September 2013, at New Delhi.

As a first stage of this project, it is proposed to take up works in Adappar river, Harichandra river, Pandavayar river, Vellaiyar river, Valavanar Drain and Vedaraniyam Canal of the part of Lower Vennar system of Cauvery Delta as a 'Stand Alone Project'. The Detailed Project Report has been prepared at a cost of Rs.84,063 lakh and administrative sanction has been accorded. Further, orders have been issued to call for tenders for two rivers viz., Vellaiyar and Pandavayar for a value of Rs.25,738 lakh in anticipation of the signing of the agreements with the ADB. The draft Procurement documents for Vellaiyar river, Pandavayar river and Pumping schemes have been sent to ADB for approval. The project works will commence early.

## **8.0. Improvements and Rehabilitation of Irrigation Systems in Cauvery Basin for Efficient Irrigation Water Management**

The Central Water Commission, has issued In principle consent for the preliminary project proposal on the "Improvements and Rehabilitation of irrigation systems in Cauvery Basin" for efficient water management at a cost of Rs.11,42,000 lakh.

As the Phase -I of this project "Improvements and Rehabilitation of Grand Anicut Canal System" is proposed to be taken up. The consultancy services for the preparation of DPR as per CWC guidelines and related works has been entrusted to the consultant, M/s WAPCOS Ltd., and a sum of Rs.1,000 lakh has been sanctioned towards the consultancy charges. The Detailed Project Report has been prepared at a cost of Rs.2,61,000 lakh and sent to Government of India seeking funding assistance under Accelerated Irrigation Benefits Programme (AIBP).

## 9.0. Vision 2023 of the Hon'ble Chief Minister

### Schemes Implemented / Proposed

The Vision document for Tamil Nadu released by the **Hon'ble Chief Minister** during March 2012, identified "Assurance of Timely Irrigation", as the core principle for the Water Resources sector. Restoration of Dams, Tanks, Wells and improving the connectivity of the dams and canals were proposed as the initiatives to be undertaken. Further to this, the **Hon'ble Chief Minister** released the Phase-II of the Vision 2023 document on 17.02.2014. An outlay of Rs.57,00,000 Lakh was earmarked for the Water Resources sector in the document. The Task Force Committee constituted by the Government to recommend ways to achieve the targeted goals of this Vision 2023, has recommended many initiatives to the tune of Rs.43,50,000 lakh.

Some of the schemes under implementation are:

1. Formation of new Reservoir near Kannankottai and Thervoikandigai Villages in Gummidipoondi Taluk of Tiruvallur District.
2. Creation of additional water storage in Nemam tank
3. Irrigated Agriculture Modernisation & Water Bodies Restoration & Management (IAMWARM) Project.
4. National Bank for Agriculture and Rural Development (NABARD) assisted schemes
5. Construction of Barrage across River Cauvery at 250m Downstream of the existing Kattalai bed regulator in Mayanur Village of Krishnarayapuram Taluk in Karur District at a cost of Rs.25,445 lakh has been completed.
6. Linking of Tamirparani, Karumeniyar and Nambiyar rivers

Some of the proposals under formulation are:

1. Improvements and rehabilitation of Irrigation systems in Cauvery Basin for Efficient Irrigation Water Management.
2. Asian Development Bank loan assisted Climate Change Adaptation through Sub-Basin Development Programme
3. Excavation of Link Canal to interconnect Pennaiyar River with Palar River through Cheyyar river and augmenting supply to Nandan Canal in Tiruvannamalai District.
4. Construction of Barrage across Kollidam near Adhanur and Kumaramangalam Villages in Cuddalore and Nagapattinam Districts.

## **10.0. Inter State Water Issues**

### **10.1. Cauvery Water Dispute**

**As a result of the efforts taken by the Hon'ble Chief Minister, and the cases filed in the Supreme Court of India, the Government of India published the Final Order of the Cauvery Water Disputes Tribunal in the Gazette of India on 19.02.2013. This is a Historic Achievement obtained as a result of action taken by the Government of Tamil Nadu for the past 40 years particularly by the continuous efforts taken by the Hon'ble Chief Minister since May 2011, which stabilised the fair rights and safeguarded the livelihood of the farmers especially Cauvery Delta Farmers.**

In order to effectively implement the Final Order of the Tribunal, Cauvery Management Board (CMB) and Cauvery Water Regulation Committee (CWRC) are to be constituted as per the recommendations of the Tribunal. The following action has been taken as per the orders of the Hon'ble Chief Minister to constitute CMB and CWRC:

- Following the notification of the Final Order of the Tribunal in the Gazette of India on 19.02.2013, the Hon'ble Chief Minister addressed the then Prime Minister on 22.02.2013 and 11.03.2013 to place in position the CMB and CWRC as recommended by the Tribunal in its Final Order.
- Since the Central Government did not constitute these bodies, as per the orders of the Hon'ble Chief Minister, an I.A. (No. 5 of 2013) was filed in the Supreme Court on 18.03.2013 to direct the Government of India to constitute the above machinery before the end of April, 2013.
- Pending constitution of the CMB, the Hon'ble Supreme Court on 10.05.2013 ordered that a Supervisory Committee be constituted as a **pro tem measure** for implementation of the Final Order dated February 5, 2007 as notified on February 19, 2013, consisting of the Secretary, Union Ministry of Water Resources as Chairman and the Chief Secretaries of the respective States of Karnataka, Tamil Nadu, Kerala and Union Territory of Puducherry as Members.
- Based on the aforesaid order of the Supreme Court, the Government of India notified the constitution of the pro tem Supervisory Committee on Cauvery in its gazette on 22.05.2013.
- The Hon'ble Chief Minister on 17.05.2013 urged the then Prime Minister to instruct the Ministry of Water Resources to constitute the CMB and CWRC, immediately. Following this, the Hon'ble Chief Minister again requested the then Prime Minister on 02.09.2013 and 03.09.2013, to constitute the CMB and CWRC.
- As the Supervisory Committee in its four meetings did not take any concrete steps to effectively implement the Final Order of the Tribunal, as ordered by the **Hon'ble Chief Minister**, an I.A. (I.A. No. 7/2013) was filed in the Supreme Court on 11.11.2013, praying to direct the Government of India to constitute the CMB

and CWRC as a permanent measure. When this Application came up for hearing on 03.12.2013, the Supreme Court posted this Application for hearing along with the Civil Appeals.

- In the Memorandum presented to the **Hon'ble Prime Minister** on 03.06.2014, the Hon'ble Chief Minister urged him to order the Ministry of Water Resources, to constitute the Cauvery Management Board and the Cauvery Water Regulation Committee as a permanent measure in order to implement the Final Order of the Tribunal.
- Soon after the Chief Minister of Karnataka presented a Memorandum on 10.06.2014 to the Prime Minister, requesting him not to constitute the Cauvery Management Board and the Cauvery Water Regulation Committee, the **Hon'ble Chief Minister** on 13.06.2014 had urged the **Hon'ble Prime Minister** to constitute the Cauvery Management Board & Cauvery Water Regulation Committee immediately as the views expressed by Karnataka have no relevance and should be overruled.
- The Tamil Nadu Legislative assembly had passed a resolution on 05.12.2014 that "...to ensure the release of water as per the monthly schedule stipulated by the CWDT in the Final Order, this house resolves that the CMB and the CWRC should be constituted by the Government of India immediately....." Subsequently, the Hon'ble Chief Minister has written a letter to the Hon'ble Prime Minister on 12.12.2014 in this regard, enclosing the Resolution of the Assembly.
- The Hon'ble Chief Minister on 21.03.2015, among others, had urged the Hon'ble Prime Minister to instruct the Ministry of Water Resources, to constitute the Cauvery Management Board (CMB) and the Cauvery Water Regulation Committee (CWRC) without any further delay so as to ensure that the Final Order of the Cauvery Water Disputes Tribunal is implemented in letter and spirit.

- In the Resolution passed unanimously by the Tamil Nadu Legislative Assembly on 27.03.2015 stressed inter alia to forthwith constitute the CMB and CWRC. This was also stressed in the D.O. letter of the Hon'ble Chief Minister dated 27.03.2015 addressed to the Hon'ble Prime Minister, which was handed over in person to the Prime Minister by the team of 55 MPs from Tamil Nadu.
- The Hon'ble Chief Minister also met the Hon'ble Prime Minister in person on 25.04.2015 and handed over the D.O. letter dated 25.04.2015, inter alia urging him to direct the Ministry of Water Resources to accede to the long pending request of Tamil Nadu to constitute the CMB and CWRC without any further delay.
- Again on 07.08.2015, when the Hon'ble Prime Minister visited Chennai, the Hon'ble Chief Minister presented a Memorandum, reiterating the request of Tamil Nadu to form the Cauvery Management Board and the Cauvery Water Regulation Committee immediately.
- The possibility of bringing this matter for early hearing in the Hon'ble Supreme Court is being considered by the Senior Advocate for Tamil Nadu.

### **As regards the proceedings before the Cauvery Water Disputes Tribunal**

- When the Chairman of the Tribunal Thiru N.P Singh resigned on health grounds in April 2012, the Hon'ble Chief Minister requested the Government of India to appoint a new Chairman to the Tribunal.
- The Government of India appointed Dr. Justice. B.S. Chauhan, as the new Chairman of the Cauvery Water Disputes Tribunal by notifying its official Gazette dated: 13.05.2014. He assumed charges on 21.05.2014.

- The Tribunal under the new Chairman held a sitting on 15.07.2014 at New Delhi and heard the Civil Miscellaneous Petition by Tamil Nadu dated 16.03.2012. After hearing, the Tribunal in its order dated: 15.07.2014 directed the Government of Tamil Nadu to file an Interlocutory Application before the Supreme Court and obtain orders to direct the tribunal to hear the Section 5 (3) petitions.
- Accordingly, the Government of Tamil Nadu has filed an Interlocutory Application in the Supreme Court on 21.07.2014. When this came up for hearing on 08.08.2014, the Court ordered to "list the matter before a bench of which Hon'ble Justice Mr. Kurian Joseph and Hon'ble Justice Mr. Rohinton Foli Nariman are not the members." This petition is yet to be posted for hearing.

### **Action taken on Karnataka's other schemes**

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

### **I.A. filed to restrain Karnataka from taking up two reservoirs at Mekedatu**

- When a news item appeared in Times of India dated 12.11.2014, stating inter-alia that the State of Karnataka has decided to proceed with the construction of two reservoirs at Mekedatu and that the State has



invited Global Expression of Interest for the technical feasibility study, the Hon'ble Chief Minister of Tamil Nadu wrote to the Hon'ble Prime Minister on 12.11.2014 requesting to intervene and advise the Government of Karnataka to withhold the Expression of Interest called for by the Government of Karnataka for the technical feasibility study and advise it not to take any steps to execute any irrigation, hydro power, lift irrigation schemes or any other scheme in the guise of drinking water supply in the Cauvery Basin of Karnataka without the consent of the Government of Tamil Nadu. The Prime Minister was also requested to instruct the Ministry of Environment and Forests and Ministry of Water Resources, Government of India, not to give clearance to any project proposed by Karnataka without consulting the Applicant State of Tamil Nadu. A similar letter was issued to the State of Karnataka on 12.11.2014 and to the Ministry of Water Resources on 13.11.2014.

- 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 in C.A. No.2453 of 2007 in this regard. This I.A. is yet to come up for hearing.
- As the Government of Karnataka is unilaterally taking up the new schemes in the Cauvery basin, in order to protest and to stop such schemes, the Tamil Nadu Legislative assembly had passed a resolution on 05.12.2014 that
- "This house resolves 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 CMB 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".

- Subsequently, the Hon'ble Chief Minister has written a letter to the Hon'ble Prime Minister on 12.12.2014 communicating a copy of the resolution passed in the Assembly and requesting the Prime Minister to advise the Government of Karnataka and Kerala not to take up any schemes till the Cauvery Management Board comes into effect and without the concurrence of the Government of Tamil Nadu.
- The Hon'ble Chief Minister in the letter dated 21.03.2015 to the Hon'ble Prime Minister again urged him to advise the Government of Karnataka not to proceed with the construction of Reservoirs at Mekadatu and also not to take up any scheme without prior permission of the Government of Tamil Nadu.
- The Government of Tamil Nadu on 26.03.2015 has filed an Additional Affidavit in the Supreme Court in this regard.
- On 27.03.2015, the Tamil Nadu Legislative Assembly passed a resolution in this regard. This resolution has been sent to the Hon'ble Prime Minister through a delegation of Tamil Nadu MPs, with a request to take immediate action.
- Recently from the Media reports it is seen that the Water Resources Minister of Karnataka has stated that the DPR regarding the Mekedatu project would be sent to centre within 6 months. The Hon'ble Chief Minister of Tamil Nadu met the Hon'ble Prime Minister on 25.04.2015 and apprised him of the latest developments and requested him to intervene in the matter and not to permit Karnataka to take up the preparation of DPR till the CMB is constituted and is in position.
- It is learnt through media that the Chief Minister of Karnataka led a delegation of MPs and Floor Leaders of Karnataka Legislature and presented a Memorandum to the Hon'ble Prime Minister on 30.04.2015 regarding Mekedatu HEP.

- On 07.08.2015, when the Hon'ble Prime Minister visited Chennai, the Hon'ble Chief Minister presented a Memorandum, reiterating the request of Tamil Nadu to advise the Government of Karnataka not to proceed with the project without the concurrence of Tamil Nadu and also not to grant techno-economic clearance and environmental clearance to the project, till the CMB is formed and becomes functional.
- The Advocates for Tamil Nadu are considering the possibilities for bringing this matter for early hearing in the Hon'ble Supreme Court. And based on their suggestion, suitable further action will be taken.

**Action taken to restrain Kerala from taking up the construction of dam at Pattissery across the river Pambar**

- Based on a news item appeared in "The New Indian Express", dated 06.11.2014 stating, inter-alia, that the State of Kerala has commenced works for a new dam across Pambar at Pattissery, for which the Chief Minister of Kerala is reported to have laid foundation on 03.11.2014 through video conferencing, the Hon'ble Chief Minister of Tamil Nadu wrote to the Hon'ble Prime Minister on 08.11.2014 to advise the Government of Kerala to furnish full details of the schemes proposed by Kerala in the Pambar sub-basin and not to proceed with the proposed construction of the dam or any other project in any manner in the Pambar sub-basin, till the Cauvery Management Board is constituted and the consent of the Government of Tamil Nadu is obtained. The Prime Minister was also requested to immediately intervene in this matter and to constitute the Cauvery Management Board and the Cauvery Water Regulation Committee for the effective implementation of the Final Order of the Tribunal. A similar letter was issued to the State of Kerala on 08.11.2014 and to the Ministry of Water Resources on 13.11.2014.

- Since there is no response either from the Government of Kerala or the Government of India, an I.A. has been filed in the Supreme Court on 28.11.2014. This I.A. is yet to come up for hearing.
- In this regard, the Tamil Nadu Legislative assembly also passed a resolution on 05.12.2014 that;
- "This house resolves 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 Pattiserry and that till the CMB is constituted and comes into effect and also without the concurrence of the Government of Tamil Nadu, no scheme should be taken up for execution by the Government of Kerala."
- Subsequently, the Hon'ble Chief Minister has written a letter to the Hon'ble Prime Minister on 12.12.2014 communicating a copy of the resolution passed in the Assembly and requesting the Prime Minister to advise the Government of Kerala not to take up any schemes till the Cauvery Management Board comes into effect and without the concurrence of the Government of Tamil Nadu.
- The Government of Kerala has informed the Government of India that the proposed construction is only a restoration of the existing check dam and storage is only 0.035 TMC ft. and not 2 TMC ft as reported in the media.
- Kerala has also filed its counter to Tamil Nadu's I.A. in the Supreme Court on 13.07.2015. Further appropriate action will be taken in the matter in consultation with the Advocates.
- The Advocates for Tamil Nadu are considering The possibilities for bringing this matter for early hearing in the Hon'ble Supreme Court. And based on their suggestion, suitable further action will be taken.

## **Action taken on letting Sewage into Cauvery and Pennaiyar by Karnataka**

- News item appeared in the "Bangalore Mirror" on 30.03.2015 that the Karnataka Minor Irrigation Minister has stated that Karnataka is letting down 593 MLD of Sewage water in 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.
- Another news item appeared in Deccan Chronicle dated 9.5.2015 relating to untreated or partially treated sewage water generated by Bengaluru City on a daily basis being let in Cauvery and Pennaiyar.
- The Central Pollution Control Board Zonal Office South had taken three samples from river Pennaiyar, 2 km upstream of the entry point of Tamil Nadu from September 2014 to February 2015 which were analysed in the Zonal laboratory at Bengaluru. The test results reveal that BOD varied from 19.7 to 32 mg per litre and fecal coliform varied from 38,400 to 7,80,000 MPN/100ml which is highly alarming.
- Tamil Nadu also obtained samples on 25.4.2015 from two locations in the two rivers. The samples were collected by the State Pollution Control Board's Laboratory at Hosur and the report reveals alarming results and some of the elements namely the DO, BOD, fecal coliform and total coliform are far above the tolerance limits prescribed for inland surface water by Bureau of Indian Standards IS: 2296-1982.

- The Central Government under the Water (Prevention & Control of Pollution) Act, 1974, has prescribed norms for effluent discharge from the sewage treatment plants. The present discharge of effluents into rivers Cauvery and Pennaiyar by Karnataka is far in excess of the limits and Karnataka has to take appropriate remedial measures immediately before the situation becomes irreversible.
- It is seen from the media reports that one Mr. K. Sudhan has filed an application before the National Green Tribunal, Chennai, regarding the sewage let into the rivers of Pennaiyar and Cauvery impleading Tamil Nadu and Karnataka. The Court has issued notice to the Respondents including Chief Secretary of Tamil Nadu to file their reply.
- The letting of untreated effluents into rivers or streams without conforming to the standards prescribed by the Central Pollution Control Board, State Pollution Control Boards and the rules and regulations framed for protection of the environment has not only affected the inhabitants of Tamil Nadu by the resultant pollution, but is also causing lasting harm to animals and vegetation. Karnataka is duty bound to ensure that the sewage and industrial effluent are treated as per the standards before the same are let into the rivers. The failure to do so has resulted in causing huge damage and suffering to Tamil Nadu and its inhabitants affected by pollution.
- Tamil Nadu, therefore, filed an Original Suit in the Hon'ble Supreme Court on 05.06.2015 along with an I.A.

## 10.2. Mullai Periyar Dam

### Historic event

- **As a result of the continuous and tireless efforts of the Hon'ble Chief Minister, the Supreme Court of India on 07.05.2014, ordered that the water level in the Mullai Periyar Dam can be increased to 142 ft, initially, and the balance strengthening works and maintenance works can be undertaken by Government of Tamil Nadu. As per the judgement, the Supervisory Committee Constituted to restore the water level to 142 ft, decided to implement the judgement after inspecting the dam on 17.07.2014. The water level in the Mullai Periyar Dam is set to raise 142 ft. a historic achievement for the people of Tamil Nadu, which is made possible only because of the persistent efforts and constant guidance of the Hon'ble Chief Minister.**

### Constitution of Supervisory Committee

- In the Memorandum presented by the **Hon'ble Chief Minister** to the **Hon'ble Prime Minister** of India on 03.06.2014, the need to immediately constitute the Supervisory Committee, as ordered by the Hon'ble Supreme Court on 07.05.2014 was emphasized. Accepting to the request of the **Hon'ble Chief Minister**, the Government of India on 18.06.2014 decided to form the Supervisory Committee. The Government of India, Ministry of Water Resources on 01.07.2014 constituted the Supervisory Committee. As ordered by **Hon'ble Chief Minister**, on 03.07.2014, the Chairman, Supervisory Committee was requested to convene the meeting of the Supervisory Committee immediately before a South West monsoon intensified so as to raise the water level in the Dam to 142 ft. as ordered by the Supreme Court.

## **Balance Strengthening works to be carried out to restore the water level to + 152 ft**

- Works suggested by the Central Water Commission, recommended by the Expert Committee 2000 and Ordered by the Hon'ble Supreme Court in its Order dated 27.02.2006 which has been reiterated by the Empowered Committee, 2012 and by Hon'ble Supreme Court in its Order dated 07.05.2014 are Strengthening the Baby dam and Earthen bund including instrumentation, laying wearing coat over the walk way, Protecting the upstream side of the Island between main dam and spillway and reservoir, pitching work extended to the downstream side of the dam upto the abutments and Raising the upstream parapet wall from + 158 ft. to 160 ft. of the Main dam in the remaining length of 20 m.
- The preparatory works to take up the strengthening works are currently in progress. Working drawings and specifications for carrying out the strengthening works have been prepared and concurrence of CWC for instrumenting the Baby dam has also been obtained. Detailed estimate have been prepared and the Government in G.O (Ms.) No.122 Public Works (ISW1) Department Dated 16.06.2015 have accorded Second Revised Administrative Sanction for a sum of Rs.7.85 crores for strengthening the Baby Dam by providing RCC backing and instrumentation for Main Dam and Baby Dam and other strengthening works. It is planned to call for tenders shortly.

## **Works carried out at Mullai Periyar Dam complex**

- In the drainage gallery of the Mullai Periyar Dam at 45 ft. and 10 ft. level anti skidding tiles were laid.
- The weathering coat was laid over the path way in between the Main dam and Baby dam.
- Colonel John Penny Cuick residence at the dam site was renovated.



- The electrical repair works were carried out in the inspection bungalow and the officers, labours quarters at dam site.

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

#### **National Green Tribunal**

- The Government of Kerala had proposed a Mega car park in the water spread area of Mullai Periyar Dam to the left of the leading channel, near the Irrigation Head sluice. In this connection as two Applications were already filed before the National Green Tribunal (SZ) by residents 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 Respondents from proceeding with any construction, earth filling or any related developmental activity in the area leased and in possession of the State of Tamil Nadu. This was accepted by the Tribunal and on 05.09.2014, the National Green Tribunal (SZ) ordered a direction to the 3<sup>rd</sup> Respondent (Deputy Director, Project Tiger) to maintain status quo by not making any further developmental or constructional activities in the Periyar Tiger Reserve in Idukki District till 26.09.2014 which include Periyar lake area also. On 29.09.2014, the matter came up for hearing and the National Green Tribunal (SZ) ordered that the status quo granted shall continue until further orders.
- 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 on the factual aspects within 6 weeks and the matter is posted to 22nd January 2015. On 22.01.2015 the NGT (SZ) heard the case and fixed a time limit of two weeks for

the Government of India, Ministry of Environment and Forests (MoEF) to constitute the Two Member Committee and 4 weeks to submit its report and adjourned the matter to 16.03.2015.

- In the meanwhile, the MoEF constituted a Committee. The MoEF had informed the Tribunal that for conducting inspection survey and submission of report, a sum of Rs.14.60 lakhs would be required and informed to the Tribunal that it should be shared by the Government of Tamil Nadu and the Government of Kerala. On 16.02.2015 the National Green Tribunal (SZ) directed that the cost of the survey should be shared by both the States equally and the States should deposit the amount before the National Green Tribunal on or before 24.02.2015, and adjourned the matter to 25.02.2015.
- On 02.03.2015, the Government of Tamil Nadu submitted its share of Rs. 7.3 lakhs before the National Green Tribunal. The two Member Committee comprising of Dr. Swarna Subbarao, Surveyor General of India and Shri. S.M.Somashekar, Chief Conservator of Forest (Central), Regional Office, (Southern Zone, MoEF, GoI) on 30.03.2015 inspected the disputed area along with the officials of Tamil Nadu and Kerala. On 07.04.2015, when the case came up for hearing, as the survey work was in progress, the National Green Tribunal adjourned the matter to 25.05.2015. Later the survey has been completed. On 25.05.2015, when the case came up for hearing, the National Green Tribunal ordered to submit the report on 02.07.2015. On 02.07.2015, the Expert Committee filed the survey report before the National Green Tribunal. The Counsel for the parties sought time for placing their comments/remarks/objections on the report and further time when the case came up for hearing on 10.07.2015 and 10.08.2015. The matter is to be listed for hearing in September, 2015.

### **Civil Suit filed in the Hon'ble Supreme Court:**

- The Government of Tamil Nadu also filed an Application (O.S. No. 4 of 2014) on 26.09.2014 in the Hon'ble Supreme Court praying to grant permanent injunction restraining the Kerala from trespassing/ encroaching upon the area leased to the Tamil Nadu under the Agreement of 1886 and affirmed by the Supplemental Agreements of 1970 and from taking up any further construction of the Mega Car Park in the leased area and to restore the land trespassed / encroached upon to its original state and an I.A to grant ad- interim injunction restraining the respondent State of Kerala from taking up any further construction of the Mega Car Parking Project in the leased area under the Agreement of 1886, pending disposal of the Suit.
- The Supreme Court of India heard the matter in the Chamber on 13.07.2015, and it was ordered that eight weeks time is granted to the State of Kerala to file Written Statement. `

### **EIA study opposed for construction of new dam**

- The Supreme Court, in its Order dated 07.05.2014, has categorically stated that the existing Mullai Periyar Dam is Hydrologically, Structurally and Seismically safe and added that in view of the matter for the construction of new dam, there has to be an agreement between the Parties and the offer made by Kerala cannot be thrust upon Tamil Nadu. Thus, the Supreme Court held that the Government of Kerala is prohibited from constructing a new dam. Irrespective of that, the Government of Kerala had obtained clearance suo moto from the Standing Committee of National Board for Wildlife (NBWL) of Ministry of Environment and Forest (MoEF) for conducting an Environmental Impact Assessment (EIA) study for new Mullai Periyar Dam in a 10 km radius of the proposed dam site.

- The Hon'ble Chief Minister of Tamil Nadu on 13.12.2014 has urged the Hon'ble Prime Minister to direct the MoEF to withdraw the clearance given by the Standing Committee of NBWL for the EIA study and requested not to act upon any such request made by the Government of Kerala. This was followed by a letter from the Chief Secretary to Secretary, MoEF and also to the Secretary, Ministry of Water Resources (RD & GR) on 19.12.2014. Further, on 07.05.2015, the Government of Tamil Nadu filed an I.A (No. 27 of 2015) praying to restrain the State of Kerala and its officials from conducting any drilling operation, investigation or survey work or any other work in connection with the New Dam proposal pursuant to the clearance dated 03.12.2014 and also direct the Ministry of Environment and Forests to withdraw the clearance given by the Standing Committee of the National Board for Wildlife and from conducting any Environment Impact Assessment study for construction of a new Mullai Periyar Dam by the Government of Kerala.
- This matter was mentioned on 12.05.15 and the Hon'ble Supreme Court ordered to list before an appropriate Bench in July, 2015. On 01.07.2015, the State of Tamil Nadu filed an Additional Affidavit in I.A No. 27 of 2015. On 03.07.2015 when the matter came up for hearing, the Hon'ble Supreme Court ordered to list along with other I.A's in August 2015.
- Contempt Notice was also issued to the Chief Secretary, Government of Kerala and Member Secretary, Standing Committee for NBWL of MoEF, GoI on 16.05.2015 on this issue. The Chief Secretary, Government of Tamil Nadu on 23.05.2015 requested the Secretary, MoEF and Climate Change not to accord any Environmental and /or Forest Clearance including prior Environmental Clearance and approval of the terms of reference for Environmental Impact Assessment Study by the Government of Kerala for the construction of New Mullai Periyar Dam.

- In the meanwhile, the Chief Engineer, IDRB, Kerala addressed the Secretary, Ministry of Environment Forests & Climate Change and requested for necessary action to be taken for getting the Terms of Reference (TOR) approved at the earliest.
- On 04.06.2015 a news item appeared in certain sections of media that the Ministry of Environment, Forests & Climate Change has approved the Terms of Reference for carrying out Environment Impact Assessment Study for construction of new Mullai Periyar dam in Idukki district of Kerala. However, vide Release ID: 122303 the Ministry clarified that no approval has been granted for carrying out Environment Impact Study for the construction of new Mullai Periyar Dam in Idukki District of Kerala.
- The Hon'ble Chief Minister of Tamil Nadu in letter dated 10.06.2015 addressed to the Hon'ble Prime Minister of India pointed out that the very fact of entertaining the Government of Kerala's request and considering the same by the Government of India for approving the terms of reference to conduct and Environmental Impact Assessment Study for the construction of a new dam is itself a gross violation of the Decree and Order of the Hon'ble Supreme Court dated 07.05.2014 and requested to seek personal intervention and instruct the Ministry of Environment, Forests and Climate Change and its Agencies, to desist from entertaining and considering the proposal of the Government of Kerala in future and also to negative the proposal and return it to the Government of Kerala.
- In response to the Contempt Notice, the Deputy Director (WL), GoI, informed vide letter dated 18<sup>th</sup> June 2015 that the recommendation of the Standing Committee of NBWL is for EIA study only and is subject to the existing directives of the Hon'ble Supreme Court and provisions of Forest (Conservation) Act, 1980 and the matter is being re-examined by the Ministry.

- Further, the Joint Secretary, MoEF & Climate Change vide his D.O letter dated July 15, 2015 addressed the Chief Secretary, Government of Tamil Nadu and informed that the facts mentioned in the decree of the Hon'ble Supreme Court dated 07.05.2014 were not brought to the notice of the Ministry since this Ministry was neither a Respondent nor an intervener in O.S No.3 of 2006 and further informed that in view of the decree of the Hon'ble Supreme Court it has been decided to seek the approval of the Standing Committee of NBWL for rescinding the recommendations of the Board and nullifying the decision of having accorded the approval for Terms of Reference (TOR) to carry out EIA study. Further it was informed that subsequent proposal of the Government of Kerala seeking TOR to carry out EIA study for construction of a new dam under EIA notification, 2006 has also been rejected in view of the orders of the Hon'ble Supreme Court.
- Further in the 84th meeting of the Expert Appraisal Committee (EAC) for River Valley and Hydroelectric Projects held on 3-4<sup>th</sup> June, 2015 at New Delhi, the Construction of new dam at Mullaperiyar to replace the existing old dam by Kerala for consideration of TOR was discussed, when the EAC noted that that the matter in complete perspective is sub judice and hence decided to defer the proposal for grant of scoping clearance to the project till any directions of the Hon'ble Supreme Court.
- Tamil Nadu is closely watching the situation and taking all steps to protect the interest of Tamil Nadu.

### **10.3. Palar River**

When the Government of Andhra Pradesh proposed to construct a dam at Ganeshapuram in Kuppam Taluk with a storage capacity of about 0.6 T.M.C.ft. for irrigation and drinking water to Kuppam town and surrounding areas, the Government of Tamil Nadu on 10.02.2006 filed a Suit with an Interlocutory Application in the Supreme Court. The prayers made in the Suit are as follows:-

### **(A) Prayers in the Suit**

- (i) grant injunction restraining the State of Andhra Pradesh from constructing any structure / works across the river Palar at Ganeshpuram, Kuppam Taluk, Andhra Pradesh or at any other place wherein river Palar flows and its tributaries and impounding / diverting water therein in violation of the Mysore – Madras Agreement of 1892 and
- (ii) grant mandatory injunction directing the Union of India to take action on the letter dated 01.02.2006 of the Plaintiff State with reference to Inter-State River Palar

### **(B) Prayers in the Interlocutory Application**

- (i) pass an ad-interim ex-parte injunction restraining the Respondent No.1 / Defendant No.1 State of Andhra Pradesh from taking up the construction of any structure / works across the river Palar and its tributaries pending disposal of the present suit and
  - (ii) pass an ex-interim ex-parte injunction in terms of prayer (a) above and make the same absolute after notice to the Respondents / Defendants viz., the Government of Andhra Pradesh and the Government of India, Ministry of Water Resources.
- In the Memorandum presented on 14.06.2011 Hon'ble Chief Minister, Tamil Nadu had requested the Prime Minister to advise the Government of Andhra Pradesh not to go ahead with any work relating to the construction of the proposed reservoir across the river Palar.
  - The Supreme Court framed 7 issues to decide the Suit. When the Suit came up for hearing on 04.07.2011, the Court requested the parties to list the witnesses. The Government of Tamil Nadu and Government of Andhra Pradesh have nominated their witnesses and their Affidavits were filed in the Supreme Court. The cross

examination of Tamil Nadu witness was held on 12th and 13th November, 2013 and 30th January, 2015. Further, cross examination of Tamil Nadu witness has been fixed in the third week of July 2015. After the conclusion of cross-examination of the witnesses of Tamil Nadu and Andhra Pradesh and the arguments and counter arguments of both the states Supreme Court is expected to deliver the judgement.

- When media projected that the Government of Andhra Pradesh has decided to construct a reservoir across the River Palar, on the advice of the Hon'ble Chief Minister, Tamilnadu, on 20.04.2014, the Government of India was informed that since the suit is pending before the Supreme Court and the matter is sub judice, the Government of Andhra Pradesh may be advised not to execute any project across the River Palar or in its tributaries till the Suit is disposed of by the Supreme Court.
- Since, the Palar dispute is pending before the Supreme Court and the C.W.C, Govt of India had already advised the Government of Andhra Pradesh not to go ahead with the project, there is no possibility for the Government of Andhra Pradesh to construct Dam across the River Palar. However, the Government of Tamil Nadu is closely monitoring this issue and is taking all the necessary steps to protect the rights of people of Tamil Nadu.

#### **10.4. Pennaiyar River**

- The river Pennaiyar is one of the 15 Rivers mentioned in Schedule-A of the Madras-Mysore Agreement, 1892. As per Clause-II of the 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.



- When the Government of Karnataka proposed to build Check Dams and diversion structures across the river Pennaiyar, Hon'ble Chief Minister on 19.05.2012 wrote to the Prime Minister stating that the Government of Karnataka has neither sought the consent of the Government of Tamil Nadu nor have they furnished any information to the Government of Tamil Nadu, despite the Government of Tamil Nadu taking up the matter with the Government of Karnataka to furnish the details of the schemes and also urging them not to commence any work without the consent of the Government of Tamil Nadu and requesting him to intervene and advise the Government of Karnataka to stop forthwith the execution of any check dams or diversion structures etc., across the river Pennaiyar.
- Hon'ble Chief Minister on 27.03.2013 has once again sought the intervention of the Prime Minister to advise the Government of Karnataka to stop any construction activity across the river Pennaiyar and not to venture upon any schemes in the river without the prior consent of Tamil Nadu.
- The Committee constituted by the Government of Tamil Nadu as assured by legislature on 12.04.2012 to monitor the construction of diversion structures across Pennaiyar by Karnataka is periodically inspecting and sending the report.
- The Minister of Water Resources, Government of India on 30.09.2013 has informed that a team of officers of Central Water Commission (CWC) deputed, by MoWR visited the upstream basin areas in the inter - State border as well as Mugalur and Lakkur tank in Karnataka and it appears that there is no apparent breach of the existing Madras - Mysore Agreement of 1982.
- The Ministry of Water Resources, Government of India, on 14.02.2014 has informed that as far as the issue of construction of Check dam across the Markandeyanadhi, a tributary of Pennaiyar is

concerned, no DPR / proposal in this regard has been received in CWC for examination from inter - State angle and on 05.03.2015 reiterated its stand.

- The Government of Tamil Nadu on 07.10.2014, 22.01.2015 and 19.02.2015 requested the Ministry of Water Resources, River Development and Ganga Rejuvenation, Government of India, to advise the Government of Karnataka to stop any construction activity across the river Pennaiyar and not to venture upon any schemes in the river without the prior consent of Tamil Nadu.
- The media reported in March 2015 that Government of Karnataka is letting down untreated sewage and industrial effluents into Cauvery and Pennaiyar rivers and its streams. A private litigant has filed an application (No. 103 of 2015) before the National Green Tribunal, Chennai, regarding the untreated sewage and industrial effluents letting into canals, channels or river courses that eventually join with river Cauvery directly or indirectly, impleading Karnataka, Union Government and Tamil Nadu. The Government of Tamil Nadu is to file the Counter Affidavit in this regard.
- Tamil Nadu, filed an Original Suit in the Hon'ble Supreme Court on 05.06.2015 and an I.A to pass a judgment and decree i.e., permanent injunction restraining Karnataka from letting the untreated effluents into the river Cauvery and Pennaiyar, its main stream, tributaries and all other streams before the same enters Tamil Nadu.
- The Government of Tamil Nadu is closely monitoring the situation and taking appropriate action to protect the interest of the farmers who depend on the waters of the river Pennaiyar.

## **10.5. Neyyar**

- The Vilavancode Taluk in the erstwhile Trivancore – Cochin Government got merged with Tamil Nadu in Kanniyakumari District, consequent on the reorganization of States.
- The Government of Tamil Nadu on 30.05.2012 has filed a Suit with an I.A. in the Supreme Court of India against the State of Kerala to release water from the Neyyar Dam for an ayacut of 9200 acres with the following prayers:-

### **Prayers in the Suit**

- (i) Declare that the 1<sup>st</sup> Defendant State of Kerala is bound to honour and implement the existing arrangement for supply of water under the existing arrangement for supply of water under the Neyyar Irrigation Project to the ayacut of an extent of 9200 acre in Vilavancode Taluk in Kanniyakumari District transferred to the State of Tamil Nadu pursuant to Reorganisation of States and to continue to give effect to the same as the said Project being protected covered under section 108 of the States Reorganisation Act 1956;
- (ii) consequently direct the 1<sup>st</sup> Defendant State of Kerala to ensure uninterrupted supply of waters of the river Neyyar to the Plaintiff State to irrigate the aforesaid area in the Vilavancode Taluk of Kanniyakumari District under the Neyyar Irrigation Project in every irrigation year being a Project covered under section 108 of the States Reorganisation Act 1956
- (iii) Direct the 2<sup>nd</sup> Defendant Union of India to ensure that the Project for the supply of water under the Neyyar Irrigation Project, to the ayacut in Vilavancode Taluk Kanniyakumari District in the State of Tamil Nadu, covered under Section 108 of the State Re-organisation Act 1956, is fully given

effect to by issuing appropriate directions to the 1<sup>st</sup> Defendant State of Kerala and to accordingly ensure that the Water supply under the Neyyar Irrigation Project, to the ayacut in Vilavancode Taluk Kanniyakumari District in the State of Tamil Nadu, is restored.

### **Prayer in the I.A.**

Direct the 1<sup>st</sup> Defendant State of Kerala to supply water forthwith under the Neyyar Irrigation Project to the State of Tamil Nadu to irrigate an extent of 9200 acres in the Vilavancode Taluk of Kanniyakumari District in every irrigation year pending disposal of the Suit.

- The Neyyar Suit (O.S. No.2 of 2012) came up for hearing on 07.02.2014 before the Bench. The application filed by the State of Kerala for amending the Written Statement was taken on record. As the Additional Solicitor General of Government of India requested 8 weeks time for filing their Written Statement, the Bench permitted Tamil Nadu and Government of India to file their respective responses in 8 weeks time and adjourned the matter.
- On 09.05.2014, the Additional documents consisting of documents already filed in the Hon'ble Supreme Court in our I.A and in the Complaint and few additional documents obtained from National Archives have been compiled and filed in the Hon'ble Supreme Court. The reply of State of Tamil Nadu to the application filed by Kerala were filed on 15.09.2014.
- The case is expected to be heard by the Hon'ble Supreme Court early.

### **10.6. Krishna Water Supply Project**

As per the Inter-State Agreement between the Government of Andhra Pradesh and Government of Tamil Nadu on 18.04.1983, the Government of Andhra Pradesh has to deliver 12 TMC ft. of water at Tamil Nadu Border, every year as below:

July to October – 8 TMC ft. (4 Months)

January to April – 4 TMC ft. (4 Months)

During the past 4 years the following quantity of water has been realized at Tamil Nadu border.

<b>S. No.</b>	<b>Year</b>	<b>Quantity of Water (in TMC feet)</b>
1.	2011-2012	8.056
2.	2012-2013	4.700
3.	2013-2014	5.665
4.	2014-2015 (Upto 28.06.2015)	5.569

### **11.0. Award for Best Maintained Dam**

The 89 dams in Tamil Nadu are being maintained to standards by the Engineers of Water Resources Department. As a token of recognition and appreciation of the efforts put in by the Engineers, awards have been instituted for the best maintained dam during that year. For the year 2014-15, the Mettur Dam (Stanley Reservoir) has been selected as the best maintained dam.

### **12.0. Protection of Tanks and Eviction of Encroachments**

The waterbodies in the state are being protected under the "Tamil Nadu Protection of Tanks and Eviction of Encroachment Act". The public have been enlightened on the importance of protecting the tanks and maintaining the water bodies in good condition and also on the provisions of this Act and Rules.

Out of the 14098 tanks maintained by the Water Resources Department, 4,087 tanks have been fully protected so far.

### **13.0. State Ground and Surface Water Resources Data Centre (SG & SWRDC)**

Since Ground Water is a dynamic resource, the SG & SWRDC of WRD carries out various periodic multidisciplinary investigation studies on groundwater by maintaining and observing statewide monitoring network of groundwater, surface water and water quality, since ground Water is a dynamic resource. As on March 2009, about 80% of the available ground water resources have been utilized. Accordingly, the State Ground and Surface Water Resources Data Centre carried out the following main works:

- Monitoring of water level in the selected observation wells, throughout Tamil Nadu for the purpose of drought analysis, estimation of availability of ground water, and also for the purpose of assessing the sea water intrusion study in Tamil Nadu.
- Hydro meteorological observations in different soil conditions covering all the river basins of Tamil Nadu for various hydrological studies.
- Rainfall data collected from SRG, ARG and FCS were analyzed for establishing the relationship between the runoff and seepage.
- Bore wells were drilled throughout the State to know the sub-surface litho-logical characteristics, and sub-surface hydro geological parameters and quality of ground water of different aquifers.
- Hydro geological, geophysical and Villagewise data were collected under "Intensive survey on micro level basis" in all the districts of Tamil Nadu. This study will help to switch over from "blockwise groundwater potential assessment" to "Firkawise groundwater potential assessment" as suggested by National and State water policies. The Micro level Assessment study (Revenue –

Firkawise) as on 2013 for the State of Tamil Nadu is under progress.

- To study the aquifer dimensions in detail, the aquifer mapping and Management studies were taken up in seventeen Districts of Tamil Nadu as phase I and the study is under progress.
- Ground Water samples were collected during July (pre-monsoon) and during January (post monsoon) to assess the ground water quality to study its suitability for drinking, industries & irrigation purposes etc.
- Consultancy services were rendered to farmers, general public, industries and Government departments for the selection of suitable sites for sinking of wells and drilling of bore wells, based on the geological, hydro geological and geophysical surveys by collecting nominal charges.
- Data generated by means of collection and investigation by this Department was disseminated to various Government Departments, Government undertakings NGOs, academicians and individuals. Ground Water related issues were published quarterly for the benefit of the ground water users/user departments.

Ground Water clearance for minor irrigation schemes Industries and Infrastructure projects which are located other than over exploited and critical blocks of Ground Water categorization were issued by this department.

## **Hydrology Project – II**

The Hydrology Project-II ended in May 2014 with a total cost of Rs.3,084 lakh with the following works taken up in the two months of April-May 2014.

- Field Survey for the development of The Basin Information System (BIS) with the data like Rainfall, Climate, GWL and DGPS data and hydraulic particulars

was completed for Vaippar Basin and one each sub basins of Agniar and Tamiraparani basins.

- Some office equipments were procured and Basic trainings in Domain Software were given to the Staff.
- The Balance payments of 53 Telemetric Gauge Stations (GD wells) were made.

#### **14.0. Institute of Hydraulics and Hydrology (IHH)**

This institute is functioning under Design Research and Construction Support (DR & CS) wing of Water Resources Department. This institute has a Hydraulics Division located in Poondi which is engaged in conducting model studies, monitoring shore line changes of Tamil Nadu coast and evaluation of Coastal protection works. Further, the Water Shed Management Board Division located at Pollachi is engaged in sedimentation and water shed management studies in selected reservoirs / tanks in Tamil Nadu for arriving up-to-date reduction in capacity due to sedimentation.

During the year 2014-2015 Sedimentation study for 10 dams were taken up at a cost of Rs.58 lakh under DRIP.

##### **Sedimentation study in progress**

1. Sholaiyar Dam (Coimbatore District)
2. Peruvareppallam Dam (Coimbatore District)
3. KundhaPallam Dam (Nilgiri District)
4. Pegumbahallah Dam (Coimbatore District)
5. Thumbalahalli Dam (Dharmapuri District)
6. Kesarigulihalla Dam (Dharmapuri District)
7. Golwarpatti Dam (Virudhunagar District)



8. Pilavakkal Kovilar Dam (Virudhunagar District)
9. Nambiyar Dam (Tirunelveli District)
10. Vadakkupachaiyar Dam (Tirunelveli District)

## **15.0. Institute for Water Studies (IWS)**

### **Work Completed**

#### **Micro Level Study**

The Institute for Water Studies has grouped the 34 rivers of Tamil Nadu into 17 major River basins. So far, Micro level studies have been completed for 16 River basins except Cauvery River basin. These Micro level study reports have been sent to all the Regional Chief Engineers of Water Resources Department and other Line departments.

To update the above reports with the present data, Reappraisal studies were initiated since 2010. Accordingly, Reappraisal studies for Kodaiyar, Vaippar, Vaigai, Vellar and Palar River Basins have been taken up and already completed. The Micro Level Reappraisal study for Tamiraparani River Basin has been taken up during 2014-15 and completed. The study report has been sent to all the officials of WRD and other line departments for reference.

#### **Remote Sensing and Geographic Information System Activities**

- Season wise crop area assessment has been done using temporal Satellite data in Cauvery basin and given to Cauvery Technical Cell and Inter State Water Wing, Chennai.

- A new initiative, the first in the country, undertaken by IWS is the unique coding of WRD Tanks. Unique coding for all WRD tanks with all attributes have been prepared and completed. The soft copy of this have been distributed to all officials of WRD.
- 17 River basin boundaries and 127 sub basin boundaries have been delineated in 1:50000 scale and published.
- Thematic maps have been prepared for Micro level Reappraisal study of Tamiraparani River basin.
- Railway Affecting Tanks (RAT) maintained by WRD in the entire State (Tamil Nadu) has been prepared under GIS platform and delineated along the railway track numbering 967 tanks have been completed and sent to Southern Railway Department.
- Drainage map for all River Basins in A<sup>0</sup> size have been prepared and sent to all WRD officials during the monsoon period (2014-15).
- For the preparation of DPR under IAMWARM Phase II, tanks with drainage maps marking the unique coding for 66 sub – basins have been prepared and given to all the regional WRD officials.

## **16.0. Irrigation Management Training Institute (IMTI)**

Irrigation Management Training Institute is a state level Training Institute, functioning at Tiruchirappalli, established by the Government of Tamil Nadu in the year 1984. The ultimate goal of IMTI is increasing irrigated agricultural productivity through improved efficiency of irrigation systems and improved productivity of water, delivered for irrigation.

IMTI, Tiruchirappalli is imparting training to in-service Junior/Middle/Senior level Officers of Water Resources, Agricultural Engineering, Agriculture and Horticulture Departments and Field Staff of WRD on various aspects of

Irrigation Management and relevant subjects. Farmers are also trained on Water Management and Participatory Irrigation Management (PIM).

During the year 2014-15, the training programmes such as Operation and Maintenance of Irrigation Systems, Effective Communication Skills for Irrigation Management, Climate Adaptability for Irrigation Department, Public Relationship for Irrigation Management, Coastal Hydrology and Prevention of Sea Water Intrusion, Dam Safety and Dam Instrumentation have been organised to the officers by this Institute.

Further, Basic Windows for Ministerial Staff and Advanced Computer Courses on Geographic Information System (GIS), Auto CAD with AUTOLISP have also been organised to the Officers of Water Resources, Agricultural Engineering, Agriculture and Horticulture Departments.

Study tour programme within and outside of the State are also conducted to the officers for getting immense exposures on water management, modern techniques, cropping pattern, machineries, participatory irrigation management being followed and adopted in that region.

Besides that, special courses such as Disaster Management training courses under funds from Revenue Administration, Core and Follow-up Workshops on Capacity Building to Competent Authorities of Water Users Association in Phase III & IV sub basins of IAMWARM Project have also been conducted.

The farmers of Kalingarayan Basin in Erode district and Ponnaiyar Dam Basin in Trichy district were given training on Climate Change and appropriate Adaptive techniques to overcome Climate Change under Climate Adapt Programme with Norwegian Embassy fund.

During 2014-15, 23 training programmes by incurring an amount of Rs.31.58 lakh, under Government Grants have been conducted. Overall 128 training programmes have been conducted under Government Grants, IAMWARM

Project and Other Deposit Funds and about 2,887 numbers of participants (1,192 farmers & 1,695 officers) benefitted by the above trainings.

For the financial year 2015-16, it is planned to conduct 145 training programmes for the officials of WRD, AED, Agriculture and Horticulture Departments and farmers from various places of the State through IMTI.

## **17.0. Sand Quarry**

In G.O. Ms. No.451, Public Works Department, dated 03.10.2003, the Government have accorded permission for operating the sand quarry in all river beds of Tamil Nadu under the control of Water Resources Department, Public Works Department as per rules and regulations. In October 2003, sand was sold at the rate of Rs.1,000/- per lorry load (2 units).

Based on the request of the public and to control the construction cost the sale price of sand has been reduced from Rs.1,000 to Rs. 600 per lorry load (2 Units) with effect from 19.06.2004 as per G.O. Ms. No.401, PW (WSPL) dated 18.06.2004. At Present, the sand is being sold at the rate of Rs.800 per Lorry load (2 units or 200 Cft) excluding tax and loading charges.

In order to maintain the uninterrupted supply of sand for all Construction Industry, necessary steps have been taken to find out the new quarries and getting environmental clearance from State Environmental Impact Assessment Authority (SEIAA). Further to prevent the shortage of sand in Tamil Nadu, at present 61 Sand quarries are being operated after getting clearance from SEIAA. This imparts reduction in shortage of sand and the market rate of sand is also reduced to some extent.

The revenue generated through the sand quarries during 2014-15 is Rs.12,602 lakh.

## **18.0. Directorate of Boilers**

The Directorate of Boilers, Tamil Nadu has the responsibility to conduct the Boiler Attendants Examination and the Boiler Operation Engineers Examination.

The Boiler Attendants Examination has been called for in December, 2013. The oral examination has been conducted during 2014. Totally 1,103 candidates have been declared as passed in the examination.

The Directorate of Boilers has conducted tests to the High Pressure welders. During the year 2014-2015, nearly 1,704 such tests were conducted and certificates were issued to 1,704 successful candidates in different types and process of welding such as pipe welding, tube welding and plate welding in Carbon Steel and Alloy Steel.

The Directorate of Boilers counsels new entrepreneurs for starting new Boiler Manufacturing and Boiler Components manufacturing units in the State of Tamil Nadu and helps them to commence production in a speedy manner.

The Tamil Nadu Directorate of Boilers during 2014-2015, has cleared installation of 283 new Boilers and their connected pipelines and completed the Registration process in the various existing and new Industries. The Directorate of Boilers have inspected 4,648 Active Boilers, out of total strength of 5,079 Boilers in scheduled time without loss of production. Besides the above, the Directorate of Boilers has cleared about 2,21,461 High Pressure Valves, 16,341 High Pressure Piping Components and 72,895 tubular components manufactured by the various manufacturing units and issued certificates. The Directorate of Boilers has approved nearly 527 Data Booklets and 450 Design Documents for the fabrication of various types of Boiler and Boiler components. This clearly indicates that utmost cooperation and encouragement is extended by this Directorate of Boilers to the growing industries.

During the financial year 2014-2015, about 38 Boilers were found to be not in order. Out of 38 Boilers, 38 Boilers were repaired, inspected, duly certified and brought back into use.

The Directorate of Boilers is realizing considerable revenue to the Public Exchequer by way of inspection fees for conducting stage inspections to the Boilers and Boiler Components manufactured, conducting annual inspection of installed Boilers, according approval to various design drawings, conducting the tests and issuing certificates to the welders and conducting Examinations for Boiler Attendants and Boiler Operation Engineers. During the year 2014-2015, the Directorate of Boilers has earned a revenue of Rs.663 lakh.

**O. PANNEERSELVAM**

**Minister for Finance and Public Works**