

## **DEMAND No. 34**

### **MUNICIPAL ADMINISTRATION AND WATER SUPPLY DEPARTMENT**

**Policy Note - 2015-2016**

#### **5. Chennai Metropolitan Water Supply and Sewerage Board**

Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB) was constituted in August 1978. CMWSSB is vested with the responsibility of promoting and securing the planned development of water supply and sewerage services, operation, maintenance and creation of the required

infrastructure and implementation of prospective plans to meet the requirements of Chennai Metropolitan area for the present and future.

Chennai Metropolitan Water Supply and Sewerage Board is currently providing services through 15 Area Offices and 200 Depot Offices covering an area of 426 Sq.Km with a population of 67.27 lakhs (as per 2011 census). It also serves some local bodies, bulk and industrial consumers.

### **Local bodies and major bulk consumers of CMWSSB**

<b>Sl. No.</b>	<b>Local bodies and Bulk consumers</b>	<b>Water supplied (in Million Litres per day)</b>
1	Pallavaram Municipality	2.90
2	Pammal Municipality	3.00

3	Anakaputhur Municipality	1.90
4	Avadi Municipality	1.10
5	Pozhichalur Village Panchayat	1.20
6	Cowl Bazar Village Panchayat	0.25
7	Railways & Government Hospital	10.00
8	Aavin	0.40
9	Cantonment – (Defence Offices & Quarters)	1.60
10	Industrial consumers	22.88
Total		<b>45.23</b>

### **5.1 Sources of Drinking Water for Chennai City**

Chennai city draws water from surface sources, desalination plants and ground water to meet its water requirement.

### 5.1.1 Surface Water

Surface water is one of the main sources for Chennai. The reservoirs at Poondi, Redhills (Puzhal), Chembarambakkam and Cholavaram near Chennai city, Veeranam lake in Cuddalore district and the Telugu Ganga Project are the main surface water sources.

#### Storage capacity of reservoirs supplying water to Chennai

SI.No	Reservoir	Storage Capacity (in Mcft)
1	Poondi	3,231

<b>Sl.No</b>	<b>Reservoir</b>	<b>Storage Capacity (in Mcft)</b>
2	Redhills (Puzhal)	3,300
3	Chembarambakkam	3,645
4	Cholavaram	881
5	Veeranam	1,465
	<b>Total</b>	<b>12,522</b>

New Veeranam water supply project was commissioned in 2004 as an additional source of water to Chennai city. It supplies 180 MLD of water to the city from Veeranam lake throughout the year.

Krishna water is being received for Chennai city from Kandaleru reservoir situated in Andhra Pradesh under Telugu Ganga Project. As per the agreement signed between the Governments of Tamil Nadu and Andhra Pradesh, 12 TMC of water per annum is to be supplied to Chennai for its drinking water needs. The water receipts have been between 4.5 TMC to 8.2 TMC during the past many years. In 2014-15, the receipt of water till 31.08.2015 is 5.569 TMC.

During the past three years, rainfall has been less than normal and this is the third consecutive year of deficit rainfall in the catchment areas of reservoirs. This has caused a serious strain on the ability of the Board to maintain city water supply.

### **Rainfall in the catchment areas of the city reservoirs**

<b>Year</b>	<b>Rainfall in mm</b>		<b>Deficit in %</b>
	<b>Normal</b>	<b>Actual</b>	
2012	1293.42	981.80	-24.09
2013	1297.50	1064.87	-17.93
2014	1286.21	1025.80	-20.25

#### **5.1.2 Desalination Plants**

The availability of surface water is mainly dependent on the monsoon. Failure of monsoons leads to acute shortages in reservoir levels and affects water supply to Chennai city. The non-availability of

perennial rivers near Chennai adds to the challenge. To drought proof the growing metropolis, the Hon'ble Chief Minister in a far sighted move, announced the setting up of desalination plants in 2003-04. The Government has established two 100 MLD desalination plants which are currently operational. These plants now contribute about 1/3rd of the city's supply.

#### **5.1.2.1 Desalination plant at Kattupalli, Minjur**

A 100 MLD (Million litres per day) desalination plant at Kattupalli, Minjur, built on Design, Build, Own, Operate and Transfer (DBOOT) basis is under operation and supplies water to the northern parts of Chennai



city viz., Manali, Madhavaram, Ennore, Kathivakkam, Thiruvottiyur, Tondiarpet and Vyasarpadi.

### **5.1.2.2 Desalination plant at Nemmeli**

A 100 MLD desalination plant was constructed at Nemmeli at a cost of ₹805.08 crore with assistance from Government of India and Government of Tamil Nadu. The plant was inaugurated on 22.02.2013 by the Hon'ble Chief Minister. The plant is under operation and water from this plant is being supplied to the southern parts of Chennai viz., Sholinganallur, Neelangarai, Injambakkam, Karapakkam, Semmancherry, Thoraipakkam, Perungudi, Kottivakkam, Palavakkam, Thiruvanmiyur,

Velachery, Taramani, Pallipattu, Adyar, Besant Nagar, Nandanam, MRC Nagar, Raja Annamalaipuram and Mylapore.

Deficit monsoons for the past three years in the catchment areas have increased our reliance on desalination plants and these have helped ease the water supply situation in the city.

### **5.1.3 Ground water**

Ground water aquifers at Minjur, Tamaraiakkam, Poondi and Neyveli supply about 60 MLD of water to the city.

#### **5.1.4 Operations and Maintenance of water supply**

The City's water supply has been reorganised due to the continuous failure of the monsoon in the years 2012 - 2014. Presently, the Board is supplying 540 MLD (Million litres per day) of water to Chennai city. Various projects have been taken up by CMWSSB to provide comprehensive water supply and sewerage services to the city's newly added areas.

CMWSSB operates water treatment plants at Kilpauk, Redhills, Chembarambakkam, Surapattu, Vadakuthu and desalination plants at Kattupalli-Minjur and Nemmeli for providing safe and potable water to the city.

## Treatment capacity of water treatment plants

<b>Water treatment plants</b>	<b>Treatment capacity in MLD</b>
Kilpauk	270
Redhills	300
Chembarambakkam	530
Vadakuthu	180
Surapattu	14
Desalination plants at Kattupalli-Minjur and Nemmeli	200
<b>Total</b>	<b>1494</b>

Since its inception in 1978, the Board's water supply operations have seen a manifold increase.

### **Growth in Water supply operations**

<b>Description</b>	<b>In 1978</b>	<b>In 2015</b>
Operational area (sq.km)	174	426
Population (in lakh)	28.60	71.88
Water Supply (MLD)	240	540
Length of water mains (Km)	1,250	6,520
Distribution stations	3	74
Water treatment capacity	182	1,494

<b>Description</b>	<b>In 1978</b>	<b>In 2015</b>
(MLD)		
No. of consumers	1,16,000	6,61,405

The total revenue expenditure for the year 2014-15 is estimated at ₹987.26 crore. The total income of the Board is estimated at ₹497.53 Cr. Of this, the income from Water and Sewerage Taxes is ₹119.10 crore, water and sewerage charges is ₹335.65 crore and other income is ₹42.78 crore. The Government of Tamil Nadu provides grants to the Board for purchase of desalinated water and other purposes. CMWSSB received a sum of ₹227.80 crore as grant during the year 2014-15.

## 5.2 Water supply – New Schemes

For augmenting water supply to under served areas with special attention on covering the 42 newly added areas to Chennai Corporation, CMWSSB is taking up various schemes.

### Stage of Water supply schemes in 42 added areas

<b>Total No. of added areas</b>	<b>Water supply works completed</b>	<b>Works under Progress</b>	<b>Works to be taken up</b>
42	8	28	6

Water supply schemes have been completed in 8 added areas viz. Kathivakkam, Valasaravakkam, Porur, Thiruvottiyur, Ambattur, Maduravoyal, Alandur and Meenambakkam.

In 28 added areas namely Nerkundram, Ullagaram-Puzhuthivakkam, Madhavaram, Ramapuram, Nolambur, Karambakkam, Manapakkam, Nandam-bakkam, Sholinganallur, Karapakkam, Injambakkam, Okkiyum Thoraipakkam, Edayanchavadi, Sadayan-kuppam, Kadapakkam, Theeyambakkam, Vadaperumbakkam, Manali, Surapattu, Kathirvedu, Puthagaram, Puzhal, Pallikaranai, Kottivakkam, Chinnasekkadu, Mugalivakkam, Perungudi and Palavakkam, water supply schemes are in progress.



Water supply schemes in 6 added areas namely Mathur, Jalladampettai, Madipakkam, Neelankarai, Semmancheri and Uthandi will be taken up with Government of India / Chennai Mega City Development Mission funds shortly.

### **5.2.1 Desalination Plants Announced 400 MLD Desalination Plant at Perur along ECR, Chennai**

The Hon'ble Chief Minister of Tamil Nadu has announced on the floor of assembly in 2013 that a 400 MLD desalination Plant would be constructed at Pattipulam along the East Coast Road in South Chennai. As the land proposed for the project was found to have some legal

problems, the location was shifted to a nearby site at Perur on the East Coast Road.

The Detailed Project Report for setting up the 400 MLD capacity SWRO desalination plant at Perur, has been prepared at a cost of ₹4070.67 Cr. This includes the product water conveyance main also. The DPR has been sent to Government of India to be posed for funding under JICA, and is under process.

### **5.2.2 150 MLD Desalination Plant at Nemmeli along ECR Chennai**

An announcement under rule 110 by the Hon'ble Chief Minister was made on the floor of assembly on 16.04.13 that another 150 MLD

capacity desalination plant will be set up in the vacant land of 10.50 acres available in the premises of the 100 MLD desalination plant at Nemmeli.

The Detailed Project Report for setting up 150 MLD capacity desalination plant in the available vacant land of the existing Nemmeli desalination plant has been prepared at a cost of ₹1371.86 Cr. This includes the product water conveyance Main also. The Government of Tamil Nadu has accorded Administrative sanction for DPR. The DPR has been sent to Government of India for seeking funds from Government of India and assistance from KfW and the tender will be invited shortly.

### **5.2.3 Laying of water supply transmission main to Tambaram, Pallavaram and Pammal areas**

A project to lay a 1200 mm transmission main from Poonamallee bye-pass junction to Tambaram for a length of 22 kms, to extend water supply to Tambaram, Pallavaram, Pammal and other local bodies has been sanctioned by Government at a cost of ₹93.48 Cr. from the Infrastructure and Amenities Fund. This work is under progress and is likely to be completed in the year 2015-16.

### **5.2.4 Laying second water transmission main from Chembarambakkam to Poonamallee bye-pass junction**

The work of laying, a second pipe line of 2000 mm diameter from Chembaram-bakkam Water Treatment Plant to Poonamallee bye-pass

junction for a length of 6.5 Kms to convey the full quantity of 530 MLD of treated water from Chembarambakkam to the city, at an estimated cost of ₹41.35 Cr. is under progress and likely to be completed in the year 2015-16.

### **5.2.5 Laying of pipeline from the newly formed reservoir at Kannankottai and Thervoykandigai to convey water to the poondi reservoir**

The work of laying 900 mm dia. pumping main for transmission of water from the proposed Thervoykandigai reservoir to Krishna canal for a length of 17 Km is under progress and is likely to be completed in the year

2016-17. The estimated cost is ₹93.77 crore.

### **5.2.6 Water Supply Schemes under the Chennai Mega City Development Mission (CMCDM)**

The Chennai Mega City Development Mission to improve infrastructure and basic amenities in Chennai city with special focus on the newly added areas was launched by the Hon'ble Chief Minister. The status of the works taken up under the scheme is as follows :-

#### **Water supply works taken up under CMCDM**

<b>Sl. No</b>	<b>Name of the scheme</b>	<b>Est. cost (₹ in Cr)</b>	<b>Status of works</b>
	<b>2011-12</b>		
1	Laying of water supply lines in uncovered areas of Slums	23.56	Works completed

2	Providing Under Ground Tanks and Water filling points in Newly Added areas	12.23	
3	Replacement of choked water mains / PVC mains	20.71	
<b>2012-13 Water Supply Schemes</b>			
4	Nolambur	18.00	Works will be completed in 2015-16.
5	Karambakkam	20.56	
6	Ramapuram	32.54	
7	Manapakkam	10.92	
8	Nandambakkam	6.00	
9	Okkiyam-Thoraipakkam	46.00	
10	Injambakkam	22.30	
11	Sholinganallur-Karapakkam	35.70	



<b>2013-14 Water Supply Schemes</b>			
12	Sadayankuppam	28.21	Works will be completed in 2016-17.
13	Edayanchavadi		
14	Kadapakkam		
15	Manali	21.33	
16	Pallikaranai	42.82	
17	Mugalivakkam	31.37	
18	Chinnasekkadu	11.00	Works will be completed in 2015-16.
19	Kottivakkam	23.00	
20	Perungudi	45.00	
21	Palavakkam	30.00	

22	Vadaperumbakkam & Theeyambakkam	20.00	Works will be completed in 2016-17.
23	Surapattu	82.61	
24	Kathirvedu		
25	Puthagaram		
26	Puzhal		
<b>Total</b>		<b>583.86</b>	

### **5.2.7 Jawaharlal Nehru National Urban Renewal Mission (JnNURM)**

Under the Jawaharlal Nehru National Urban Renewal Mission, the Government of India was giving a grant of 35% and the State Government was contributing 15% of the project cost as an interest free loan. The status of the works taken up under the scheme are:-

<b>Sl. No</b>	<b>Name of the scheme</b>	<b>Est. cost (₹ in Cr.)</b>	<b>Status of works</b>
1	Improvement works to water supply system in Chennai city	322.00	Works completed
	<b>Water Supply Schemes</b>		
2	Maduravoyal	23.30	Work completed
3	Thiruvottiyur	85.11	
4	Ambattur	267.08	
5	Alandur improvement works	64.39	

6	Ullagaram-Puzhuthivakkam	24.24	Works will be completed in 2015-16.
7	Nerkundram	19.17	
<b>Total</b>		<b>805.29</b>	
<b>Deposit works for other Local Bodies</b>			
1	Avadi	103.84	Works will be completed in 2015-16.
2	Sriperumbudur	42.20	
<b>Total</b>		<b>146.04</b>	

JnNURM scheme has since been discontinued by the Government of India.

### **5.2.8 Japan International Cooperation Agency (JICA)**

Madhavaram water supply scheme has been taken up with JICA assistance. The details are as follows:-

<b>Scheme</b>	<b>Est. cost (₹ in Cr.)</b>	<b>Status of works</b>
Madhavaram	55.00	Works will be completed in 2015-16.

### 5.2.9 Tamil Nadu Urban Development Project – III (TNUDP-III)

Sl. No.	Scheme	Est. cost (₹in crore)	Status of works
1	Pammal	43.10	Works will be completed in 2015-16.
2	Pallavaram	99.95	
Total		143.05	

### 5.3 Sewerage services

CMWSSB is providing sewerage services to Chennai city including waste water treatment, reuse of treated water and power generation from Sewage Treatment Plants. Sewage Treatment Plants at Chennai have an installed capacity of 769 MLD.

Sewage generated from houses and other buildings is collected through the sewerage system of a length of 3,994 kms. This sewage is taken to 228 sewage pumping stations. The sewage system of the city is divided into 5 zones with independent zonal collection, conveyance, treatment and disposal facilities. The collected sewage from pumping stations is conveyed to 13 Sewage Treatment Plants.

### Capacity of Sewage Treatment Plants

Sl. No.	Treatment Plant	Capacity in mld
1	Nesapakkam (3 units : 23+40+54 mld)	117
2	Kodungaiyur (3 units : 110+80+80 mld)	270
3	Koyambedu (3 units : 34+60 +120 mld)	214
4	Perungudi (2 units : 79+72 mld)	151
5	Villivakkam (1 unit : 5 mld)	5
6	Alandur (1 unit : 12 mld)	12
Total - 13 units		769



### **Sewage Treatment Plants under construction**

Sl. No.	Location	Capacity in mld	Estimate cost (₹ in cr.)	Present stage
1	Thiruvottiyur	31	26.33	Works will be completed in 2015-16.
2	Sholinganallur	18	33.71	
Total		49	60.04	

The sewerage services of the Board have increased manifold since its inception in 1978.

### **Improvements in sewerage services**

Sl. No.	Description	In 1978	In 2015
1	Length of sewer mains (in Km)	1,223	3,994
2	No. of pumping stations	58	228
3	Sewage treatment capacity (MLD)	57	769
4	No. of consumers	1,14,000	7,78,488

### **5.3.1 Sewerage Schemes taken up under the Chennai Mega City Development Mission (CMCDM)**

Under this fund, the following schemes have been taken up in the newly added areas:-

#### **Stage of Under ground Sewerage Schemes in 42 added areas**

<b>Total No. of added areas</b>	<b>Works completed</b>	<b>Works in progress</b>	<b>Works to be taken up</b>	
			<b>DPRs completed</b>	<b>DPRs under preparation</b>
42	4	16	10	12

Under ground sewerage schemes have been completed in 4 of the 42 added areas. They are Valasaravakkam, Alandur, Madhavaram and Meenambakkam.

In 16 added areas namely Maduravoyal, Perungudi, Porur, Ullagaram-Puzhuthivakkam, Pallikaranai, Ambattur, Thiruvottiyur, Kathivakkam, Ramapuram, Sholinganallur, Karapakkam, Surapattu, Puthagaram, Kathirvedu and Nolambur under ground sewerage schemes are under progress. The UGSS for Mugalivakkam is in tender stage.

10 added areas namely Manapakkam, Injambakkam, Okkiyam-Thoraipakkam, Manali, Chinnasekkadu, Edayanchavadi, Sadayan-kuppam,

Karambakkam, Jalladam- pettai and Kadappakkam will be taken up with Government of India / Chennai Mega City Development Mission funds shortly.

The Balance of 12 added areas viz. Nandambakkam, Nerkundram, Kottivakkam, Palavakkam, Neelankarai, Madipakkam, Puzhal, Mathur, Theyyambakkam, Vadaperumpakkam, Semmencherry and Uthandi, will be taken up for providing under ground sewerage schemes after finalisation of land required for the construction of sewage pumping stations.

### Sewerage schemes taken up under CMCDM

Sl. No	Name of the scheme	Estimate Cost (₹ in Cr.)	Status of works
	<b>2011-12</b>		
1	Laying of force mains between pumping stations	9.26	Works completed
2	Enlargement of Sewage Pumping Mains	20.39	
3	Insertion of UGSS openings in Mogappair, construction of Roadside pumping stations with submersible pumpsets	14.08	
4	Improvement to existing	11.24	

	Sewage Pumping stations		
5	Enlargement of sewer mains	31.18	Works completed
6	Procurement of sewerage maintenance equipments	9.90	Machines purchased and deployed
7	Re-routing and enlargement of Sewage Pumping Mains and allied works	36.55	Works will be completed in 2015-16.

<b>2012-13 Under Ground Sewerage Schemes</b>			
8	Kathivakkam	86.15	Works will be completed in 2015-16.
9	Sholinganallur-Karapakkam	110.90	
10	Ramapuram	48.50	Works will be completed in 2016-17.
11	Procurement of sewerage maintenance equipments	15.20	Machines purchased and deployed
<b>2013-14 Under Ground Sewerage Schemes</b>			
12	Thiruvottiyur (Annai Sivagami Nagar)	8.51	Works will be completed in 2015-16.



13	Nolambur	26.01	Works will be completed in 2017-18.
14	Surapattu	35.00	
15	Puthagaram & Kathirvedu	60.00	
16	Mugalivakkam	54.79	Under tender stage
	<b>Total</b>	<b>577.66</b>	

### 5.3.2 Jawaharlal Nehru National Urban Renewal Mission (JnNURM)

Under the Jawaharlal Nehru National Urban Renewal Mission, the Government of India was giving a grant of 35% and the State Government contribution is 15% as an interest free loan. The works taken up under the scheme are:-

<b>Sl. No</b>	<b>Name of the Scheme</b>	<b>Est. cost (₹in Cr.)</b>	<b>Status of works</b>
1	Providing water supply and sewerage facilities along Rajiv Gandhi Salai	41.77	Works completed
<b>Under Ground Sewerage Schemes</b>			
2	Ullagaram-Puzhuthivakkam	28.08	Works will be

3	Ambattur	130.91	completed in 2015-16.
4	Maduravoyal	57.45	
5	Porur	38.29	
6	Perungudi	20.19	
7	Pallikaranai	58.61	
<b>Total</b>		<b>375.30</b>	

<b>Deposit works for other local bodies</b>			
8	Avadi Municipality	158.05	Works will be completed in 2015-16.
9	Tambaram Municipality	160.97	
10	Thirumazhisai Town Panchayat	20.47	
11	Sriperumbudur Town Panchayat	47.40	
<b>Total</b>		<b>386.89</b>	

### 5.3.3 Tamil Nadu Urban Development Project – III (TNUDP- III)

Under this scheme, assistance has been provided for the following three works:-

#### Works Taken up under TNUDP-III

Sl. No	Name of the Scheme	Est. cost (₹in Cr.)	Status of works
1	Madhavaram – UGSS	50.22	Works completed
2	Thiruvottiyur – UGSS	87.63	Works will be completed in 2015-16.
3	Ambattur Phase – I – UGSS	65.75	Works will be completed in 2015-16.
<b>Total</b>		<b>203.60</b>	

#### **5.3.4 Power generation from Sewage treatment plants**

In the last 8 years, CMWSS Board has commissioned 6 Nos. of Sewage Treatment Plants (STPs) with a total capacity of 378 MLD. In these plants, electricity is generated by using Biogas produced from the plants. This generated power is used to operate the sewage treatment plants.

### Power generation from Sewage Treatment Plants 2014-15

<b>Sl. No.</b>	<b>Sewage treatment plant</b>	<b>Treatment capacity in mld</b>	<b>Average Power Produced in Kwh/day</b>	<b>Total power requirement in Kwh/day</b>	<b>Percentage of power requirement met through in house production</b>
1	Kodungaiyur	110	14,000	13,500	103.70
2	Koyambedu	60	5,000	9,000	55.55
3	Nesapakkam-I	40	5,800	5,800	100.00
4	Nesapakkam-II	54	3,000	9,000	33.33
5	Perungudi I	60	7,200	8,500	84.71

6	Perungudi II	54	7,000	8,500	82.35
<b>Total</b>		<b>378</b>	<b>42,000</b>	<b>54,300</b>	<b>77.35</b>

This has reduced the dependence of the STPs on electricity drawn from the TANGEDCO Grid by about 77%. In the last 8 years, electricity worth ₹39.60 Crore has been produced. In 2014-15, the value of electricity produced is ₹6.25 Cr. This initiative is proposed to be continued in the upcoming Sewage Treatment Plants wherever feasible.

The utilization of biogas for production of power reduces the emission of green house gases such as Methane (CH<sub>4</sub>) and Carbon dioxide (CO<sub>2</sub>) into the atmosphere and also consumption of Electricity from TANGEDCO.



### **5.3.5 Mechanisation of sewer cleaning operations**

The Board has mechanized the operation and maintenance of the city's sewerage system. CMWSSB has procured adequate number of machines and is presently operating 119 Jet Rodding machines, 241 Desilting machines, 28 Jetting cum suction machines and 43 Super Sucker machines for effective maintenance of its sewer system.

### **5.3.6 Preventive maintenance of sewer system**

CMWSSB is maintaining sewer lines of 3994 kms. to serve a total 7,78,488 consumers which includes 6,61,405 consumers having water connections. Chennai city has a flat terrain and this is a challenge.

CMWSSB has now implemented preventive maintenance for its sewer network. According to the field conditions, sewers have been classified depending on the periodicity of maintenance required. Accordingly, the equipment is deployed and the sewer network is maintained by the Board.

The number of sewer blocks in the city has considerably reduced due to the implementation of Preventive maintenance. The number of sewer block complaints has come down by 38.87%.

### **5.3.7 Plugging of sewage outfalls**

During the Budget 2012-13, it was proposed to plug 337 sewage outfalls at a cost of ₹300 Crore. This would prevent untreated sewage

from entering Chennai city water ways. This sewage would be appropriately treated and disposed.

In the first phase, works for plugging 179 of the 337 outfalls were taken up and are in progress. An amount of ₹150 Crore was sanctioned under Infrastructure and Amenities Fund. These works will be completed by January 2016.

In the second phase, to carry out the balance works for plugging, 158 sewage outfalls, Government has sanctioned ₹163 crore vide G.O.(Ms)No.158, MA&WS (MW) Dept. Dated 11.12.2014 and the works have commenced.

### **5.3.8 Reuse of raw sewage and secondary treated water in Industries**

CMWSSB is also supplying 36 MLD of secondary treated water to M/s. Chennai Petroleum Corporation Ltd., M/s. Madras Fertilizer Ltd., and M/s. Manali Petro Products Ltd. The revenue accrued to the Board is ₹13.50 crore for the year 2014-15.

### **5.3.9 New Proposals**

#### **5.3.9.1 Recycling of waste water - 45 MLD TTRO Plant at Koyambedu**

Administrative sanction has been accorded by the Government of Tamil Nadu for construction of a 45 MLD capacity Tertiary Treatment Reverse Osmosis (TTRO) plant at Koyambedu to supply treated water to the industries at Irungakattukottai / Sriperumbudur / Oragadam etc. at a

cost of ₹394 crore. Tender for the above work has been received and is under evaluation.

### **5.3.9.2 Recycling of waste water - 45 MLD TTRO Plant at Kodungaiyur under TNSUDP**

The Hon'ble Chief Minister of Tamil Nadu has announced on the floor of the Assembly that Government would promote reuse of treated waste water for industrial purposes in place of fresh water. To cater to the Industries and Power plants in North Chennai, another 45 MLD TTRO Plant would be set up at Kodungaiyur at a cost of ₹255 crore with funding from TNSUDP. Administrative approval has been accorded by Government of Tamil Nadu and the work on this project will commence in 2015-16.

## **5.4 Rain Water Harvesting**

Thanks to the vision and efforts of the Hon'ble Chief Minister, CMWSSB started implementing the rain water harvesting programme in 2002. This made Chennai a pioneer in Rain water harvesting. The Board has taken the following steps to popularise rainwater harvesting in Chennai.

To avail new/renewal of water and sewer connections, installation of Rain Water Harvesting structures has been made mandatory for all buildings irrespective of size and area.

In Chennai city about 7,20,000 buildings exist with a total no. of 8,27,800 RWH structures. During the year 2014-15, a total number of 8,615 rainwater harvesting structures were constructed. Recharge

potential from Rain Water Harvesting structures is 2.30 TMC. Awareness campaigns and special camps are conducted before monsoon every year to encourage consumers to maintain the structures properly. The Area / Depot Engineers are monitoring the installation and maintenance of Rainwater Harvesting Structures in Chennai city.

Following the implementation of the Rain Water Harvesting scheme, ground water levels and its quality is improving every year, especially during the monsoon period.

## **5.5 Maintenance of Lakes**

There are 21 lakes in the Chennai city area with a water spread area of 641.58 Hectares. Lakes serve the important function of

impounding rain water and recharging the under ground water table. The recharge potential of these lakes is 1.05 TMC. CMWSSB intends to ensure the integrity of these lakes so that their recharge potential is fully harnessed.

## **5.6 Grievance Redressal**

The Board has taken the following steps to improve service delivery, ensure transparency and speedily redress grievances of consumers.



### **5.6.1 24x7 Complaints Registration & Monitoring System**

A 24x7 complaint cell is functioning at the CMWSSB Head Office to receive, register and monitor the grievances of the consumers. Consumers can register their complaints / grievances either in person or by dialling 45674567. The registered complaints are immediately transferred online and also by SMS to the respective Depot Engineer to rectify the defects. Accordingly, rectification of the defects is being attended to immediately. On an average, 85 complaints are being registered in the compliant cell daily. The grievance redressal system has been revamped to make it user friendly. A separate grievance redressal and facilitation office has been set up to serve the consumers.

CMWSSB has implemented Short Message Service (SMS) to enable the consumer can register a complaint over mobile phone and get an acknowledgement for the complaint from the Board through SMS. Action taken is informed to the consumer through SMS after redressal of the complaint.

### **5.6.2 Complaint redressal through website**

CMWSSB has a website [www.chennaietrowater.tn.nic.in](http://www.chennaietrowater.tn.nic.in) Consumers can register their complaints through the Boards website. The complaints registered are forwarded to the respective Area Offices and the same are redressed as per the Citizens' Charter.

### **5.6.3 Open House Meeting**

The Board conducts Open House Meetings in all the Area Offices between 10.00 A.M. and 1.00 P.M. on the 2nd Saturday of every month to improve service delivery. The Senior Officers of the Board preside over these meetings. The complaints / grievances / suggestions received during these meeting are also attended to immediately.