



**MUNICIPAL ADMINISTRATION
AND WATER SUPPLY DEPARTMENT**

**POLICY NOTE
2021-2022**

DEMAND No. 34

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Minister for Municipal Administration

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Policy Note – 2021-2022

VISION STATEMENT

Provide a decent quality of life, clean, green and sustainable environment, quality basic amenities, vibrant public spaces, induce economic growth, generate employment and mitigate poverty through responsive city governance leading to a decent quality of life for all by following a comprehensive, inclusive, integrated, transparent and participatory approach of urban development.

1. PREAMBLE

The economic growth is largely associated with urbanization, with cities offering a pathway to rapid poverty alleviation and the achievement of middle-income status. Cities absorb poverty and therefore, people from villages and smaller towns migrate to larger urban centres for better livelihood opportunities.

This population shift and resultant rapid urbanisation is adding pressure on the cities which already continue to face gaps in delivery of basic urban services. Although budgetary outlays on urban infrastructure have been increasing under both Central and State sponsored schemes, these gaps continue to remain large and fall significantly short of the investment needs.

Tamil Nadu – India’s one of the most urbanized states

India has been urbanizing at a moderate pace. However, there are states like Tamil Nadu, experiencing rapid urbanization. The rate of urbanization in Tamil Nadu is highest among the large states and the state is one of the most urbanized states in India with 48.45% of its population living in urban areas at the time of Census 2011. Urban population in the state grew from 1.9 crore in 1991 (34% of total population) to 3.5 crore in 2011 (48.45% of total population) translating to a growth of 83% during this period. In comparison, India’s urban population grew from 25.71% in 1991 to 31.16% in 2011. Despite a higher base of urbanisation to start with, the growth in state’s urban population was much faster than that of India’s urban population during the same period.

The Office of Census, Government of India in its recent report, "Population projections 2011-36, Census of India, 2019", has estimated Tamil Nadu's urban population to be 4 crore or 53% of total population and has projected it to 4.7 crore or 60% of total population by 2036.

Challenges and opportunities due to rapid urbanization

Tamil Nadu's high urbanisation level is also a reflection and a contributor to its vibrant and diversified economic base, as the second largest state in terms of Gross State Domestic Product among Indian states. Yet, the continued pace of urbanisation is adding to the strain on urban infrastructure and service delivery in cities and towns with attendant concerns around quality of urban living. While the state has traditionally had a good coverage of urban infrastructure, the rapid growth in urbanisation could magnify prevalent service gaps leading to adverse effects

on quality of urban living. Further, as economic capacity and per capita incomes grow, citizens' aspirations and expectations with respect to urban services need to be fulfilled. Given this context, the Government of Tamil Nadu recognises that investments in urban infrastructure will need to be stepped up substantially from the current levels.

There is also a need for paradigm shift in the way cities are looked at. Cities have to be treated as clusters of human capital rather than collection of buildings, roads and other hard infrastructure. Acknowledging this, the Government will focus on ensuring inclusive growth of the cities. Therefore, with a view to achieve sustainable and inclusive development the Municipal Administration and Water Supply Department has formulated a citizen centric Vision for next 10 years.

Salient features of the Vision 2031 are as under:

i) Water supply

- Provide a functional water tap to every household in all urban areas.
- Prepare water balance plan for every city / town and make cities water resilient through following approach:
 - Source augmentation by providing recharge structures;
 - Rejuvenation and restoration of urban water bodies;
 - Rain water harvesting
 - Recycle/Reuse of at least 20% of treated used water and reducing wastage and water losses less than 15%.

ii) Sanitation

- Make all cities truly open defecation free by providing access to toilets to every citizen.

- Well maintained public / community toilets to be provided with continuous water supply.
- UGSS in all cities having more than one lakh Population and provide sewer connection to every household in these cities.
- All other cities and towns to be covered under Faecal Sludge and Septage Management services either individually or through cluster approach.

iii) Solid waste management

- All the cities to be made litter free by ensuring 100% segregation at source and door to door collection.
- Creating adequate capacity for processing solid waste and Construction and Demolition waste.

- Legacy waste available in all the towns and cities to be disposed off completely through bio-mining.

iv) Basic health to all

- Urban health infrastructure such as Urban Public Health Centres and Community Health Centres to be improved
- Special focus to be given to child and maternal health. To achieve this, health screening camps to be organized on the theme “Varumun Kappom”, which will help in early detection of maternal anaemia, child anaemia, cervical cancer, diabetes, hypertension etc.
- Promote health and wellness through outdoor physical activities such as sports, walking and cycling.

v) Green and clean cities

- Open land available in the cities will be converted into green spaces.
- Similarly river banks and water bodies in urban areas will be turned into green spaces.

vi) Roads

- All unpaved earthen roads in urban areas to be upgraded as all weather paved roads.
- Roads to be provided with well designed medians and traffic junctions.

vii) Streetlights

- Streetlights will be provided at least at 30m interval in all ULBs
- All streetlights to be provided with energy efficient fittings such as LED and with online monitoring and control.

viii) Crematoriums

- Hygienic, public and ecofriendly crematoria will be provided in all needy ULBs.

ix) Other infrastructure

- Integrated bus stands with modern facilities in all major towns.
- Development of multi-level parking facilities at busy commercial hubs wherever required.
- Bus stands / stops of all urban areas to be improved.
- ULB markets to be redeveloped with modern facilities.
- Hygienically maintained slaughter houses at designated locations at least one in all Corporations / Municipalities.

x) Student and youth development

- All Corporation / Municipal schools to impart high quality basic education. It will be

ensured that learning outcomes are achieved by the students.

- Placement linked Skill Development Programmes are to be developed by all ULBs.
- Corporations and Municipalities to establish modern libraries cum knowledge centres for the benefit of public especially to prepare students for competitive examinations.
- Provide common study centres for students from economically weaker sections.

xi) Welfare of urban poor

- Provide adequate night shelters with quality basic amenities to the homeless.
- Special shelters / dormitories with transport facilities for guest workers to be established in all Corporations.

xii) Online Municipal Services

- All Municipal services at door step using smart solutions like IoT, online services by introducing “Namadhu Sevayil Nagaratchi / Makkal Sevayil Maanagaratchi”
- All ULBs to adopt cashless payment with 100 percent digital transactions in phases.

xiii) Preserve and promote heritage and culture

- Historic buildings in the ULBs to be preserved.
- All cities to be hubs of celebration and festivity, bringing people together to escape temporarily from the mundane nature of everyday routines. Cultural festivals to be organized on the lines of Chennai Sangamam.

xiv) Singara Chennai 2.0

- Chennai to be developed as a modern metropolitan under Singara Chennai 2.0.

Details of Urban Local Bodies

The Municipal Administration and Water Supply Department is administering 15 Corporations, 121 Municipalities and 528 Town Panchayats as listed below:

The details of District wise Urban Local Bodies in the State are provided in the following table:

<i>Sl. No.</i>	<i>District</i>	<i>Corporations</i>	<i>Municipalities</i>	<i>Town Panchayats</i>	<i>Total</i>
1.	Ariyalur	-	2	2	4
2.	Chennai	1	-	-	1
3.	Coimbatore	1	3	37	41
4.	Cuddalore	-	5	16	21
5.	Dharmapuri	-	1	10	11
6.	Dindigul	1	3	23	27
7.	Erode	1	4	42	47
8.	Kancheepuram	-	1	5	6
9.	Chengalpattu	-	8	12	20
10.	Kanniyakumari	1	3	55	59
11.	Karur	-	2	11	13
12.	Krishnagiri	1	1	6	8

<i>Sl. No.</i>	<i>District</i>	<i>Corporations</i>	<i>Municipalities</i>	<i>Town Panchayats</i>	<i>Total</i>
13.	Madurai	1	3	9	13
14.	Nagapattinam	-	2	4	6
15.	Mayiladudurai	-	2	4	6
16.	Namakkal	-	5	19	24
17.	Nilgiris	-	4	11	15
18.	Perambalur	-	1	4	5
19.	Pudukkottai	-	2	8	10
20.	Ramanathapuram	-	4	7	11
21.	Salem	1	4	33	38
22.	Sivagangai	-	3	12	15
23.	Thanjavur	1	2	22	25
24.	Theni	-	6	22	28
25.	Thiruvallur	1	4	10	15
26.	Thiruvannamalai	-	4	10	14
27.	Thiruvarur	-	4	7	11
28.	Thoothukudi	1	2	19	22
29.	Tiruchirappalli	1	3	16	20
30.	Tirunelveli	1	2	18	21
31.	Tenkasi	-	5	18	23
32.	Tiruppur	1	5	16	22
33.	Vellore	1	2	4	7
34.	Thirupathur	-	4	3	7

<i>Sl. No.</i>	<i>District</i>	<i>Corporations</i>	<i>Municipalities</i>	<i>Town Panchayats</i>	<i>Total</i>
35	Ranipet	-	5	9	14
36	Villupuram	-	2	8	10
37	Kallakurichi	-	1	7	8
38	Virudhunagar	-	7	9	16
	Total	15	121	528	664

The Municipal Administration and Water Supply Department is administering the following departments and organisation:

1. Directorate of Municipal Administration (DMA)
2. Greater Chennai Corporation (GCC)
3. Commissionerate of Town Panchayats (CTP)
4. Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB)
5. Tamil Nadu Water Supply and Drainage Board (TWAD Board)
6. Tamil Nadu Urban Infrastructure Financial Services Limited (TNUIFSL)
7. Chennai Rivers Restoration Trust (CRRT)

8. Tamil Nadu Urban Finance and Infrastructure Development Corporation Limited (TUFIDCO)
9. New Tiruppur Area Development Corporation Limited (NTADCL)
10. Tamil Nadu Water Investment Company Ltd (TWIC)

2. DIRECTORATE OF MUNICIPAL ADMINISTRATION

2.1 Administration

Fourteen Corporations *viz.*, Madurai, Coimbatore, Tiruchirappalli, Tirunelveli, Salem, Erode, Tiruppur, Thoothukudi, Vellore, Thanjavur, Dindigul, Hosur, Nagercoil, and Avadi and 121 Municipalities are under the administrative control of the Directorate of Municipal Administration.

The Municipalities are classified based on their annual income as detailed in Table 2.1.

Table 2.1

Sl. No.	Category	Annual income (Rs. crore)	Nos.
1	Special Grade	Above 15.00	15
2	Selection Grade	9.00 - 15.00	28
3	First Grade	6.00 - 9.00	34
4	Second Grade	Below 6.00	44
Total			121

Functions of the ULBs

The urban local bodies in Tamil Nadu are discharging most of the functions stipulated by 74th Constitutional Amendment except census and fire. The functions of ULBs are as given below:

- Urban planning including town planning.
- Regulation of land-use and construction of buildings.
- Planning for economic and social development.
- Roads and bridges.
- Water supply for domestic, industrial and commercial purposes.
- Public health, sanitation, conservancy and solid waste management.
- Urban forestry, protection of the environment and promotion of ecological aspects.

- Safeguarding the interests of weaker sections of society, including the differently abled and mentally challenged.
- Slum improvement and upgradation.
- Urban poverty alleviation.
- Provision of urban amenities and facilities such as parks, gardens, playgrounds.
- Promotion of cultural, educational and aesthetic aspects.
- Burials and burial grounds, cremations, cremation grounds and Electric crematoriums.
- Cattle pounds; prevention of cruelty to animals.
- Vital statistics including registration of births and deaths.
- Public amenities including street lighting, parking lots, bus stops and public conveniences, Regulation of slaughter houses and tanneries.

- Ensuring the services rendered by the Government reaches the citizens.

2.2 Infrastructure Development

2.2.1 Water Supply

The Government aims to ensure daily water supply in all Corporations and Municipalities and also to increase the hours of water supply, to rehabilitate the existing infrastructure by integrating various schemes executed at different points of time and to increase the coverage by identifying new sources, and to complete the ongoing water supply schemes within the stipulated time.

The present status of water supply in Corporations and Municipalities are as detailed in Table 2.2.

Table 2.2

Category	Water Supply (LPCD)	ULBs
Corporations	110 and above	8
	70 to 109	5
	below 70	1
Municipalities	90 and above	70
	40 to 89	51
Total		135

The Government will provide functional water tap connection to every household in urban areas. Action will be taken to supply water @ 135 LPCD in all Corporations and Municipalities having UGSS and @ 90 LPCD in all other Municipalities.

Rejuvenation of water bodies

Preventing entry of sewage into the water bodies, recycling of used water, desilting of water bodies, rejuvenation of inlet and outlet

channels, reclaiming and renovating all the urban water bodies will be implemented more effectively to increase the water storage. The provisions relating to Rain Water Harvesting stipulated in various rules and regulations will be implemented in letter and spirit.

2.2.2 Streetlights

Additional streetlights will be provided wherever required, to meet the norms of one streetlight for every 30 metres. A total number of 7.87 lakh streetlights are available in all the 14 Corporations (other than Greater Chennai Corporation) and 121 Municipalities. Out of these 7.87 lakh streetlights, 3.29 lakh streetlights are still having conventional fittings. It is a well known fact that energy efficient lights results in significant energy savings. Therefore steps will be taken to replace these 3.29 lakh streetlights with energy efficient fittings such as LED.

The capital cost of replacing streetlights will be met by the savings in current consumption charges.

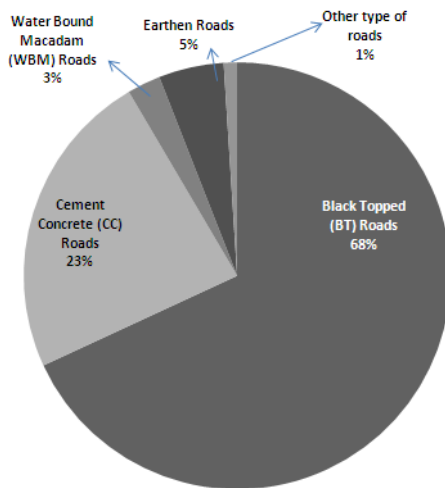
2.2.3 Roads

Roads play a major role in connecting various parts of the town and also improving the mobility and the quality of life in urban areas. The safe motorable roads are designed and built for the use of vehicular traffic and pedestrians by following the norms prescribed by the Ministry of Road Transport and Highways (MORTH).

The Corporations (except Greater Chennai Corporation) and Municipalities maintain a total length of 23,465 Km of roads. This include 5,505 Km of CC roads, 15,976 Km of BT roads, 592 Km of WBM roads, 1,156 Km of Earthen roads and 236 Km of other type of roads like paver block etc. The undeveloped and underdeveloped areas of Corporations and

Municipalities are fast developing. Therefore, all earthen roads are to be converted to All Weather Roads i.e., BT roads, CC roads and Paver block roads in a phased manner based on the level of development. Well designed centre medians and traffic islands will be provided at all junctions of roads. A detailed survey will be taken up and based on that online Asset Register of Roads, Streets and Lanes will be created for scientific selection and execution of works.

Roads maintained in Corporations and Municipalities



2.2.4. Sanitation

Public health and providing toilet facilities are the essential duty of the urban local bodies. Access to quality toilet is essential for ensuring public health.

(i) Solid Waste Management (SWM)

Handling the solid and liquid wastes and processing them scientifically and in an environment friendly manner is an important function of urban local bodies.

About 6,526 MT of solid waste is being generated in 14 Corporations and 121 Municipalities. Out of which nearly 52% wet waste and 48% dry waste. The wet waste is scientifically processed and converted into manure. Similarly, the dry waste is being collected and transported to Resource Recovery Centres and disposed through the identified

vendors for recycling. The non-recyclable and combustible waste is separated and transported to nearby cement plants, for disposal by co-processing.

Action is being taken to process and dispose the legacy waste dumped at various locations in an environment friendly manner through bio-mining. The Government intends to convert the surplus reclaimed land as urban forests, parks depending on the nature of the land. The Government is committed to make the cities litter free by segregating the garbage at source and converting the bio degradable waste into manure or producing bio gas.

(ii) Removal of Legacy waste

Out of 14 Corporations, bio-mining process to eradicate legacy waste has been taken up in 11 Corporations at an estimated cost of Rs.222.93 crore and in 86 Municipalities at an

estimated cost of Rs.300.90crore. Steps will be taken up to complete the bio-mining process in these Corporations and Municipalities expeditiously. A part of the reclaimed land in various cities will be used for setting up solid waste processing facilities and surplus land will be used for public purposes including developing parks and green spaces.

2.2.5 Town planning

In order to promote "Ease of Doing Business" submission of application for building plan approvals and payment of fees have been made online. However, still the building promoters have to approach various departments to get NOC and clearances. Steps will be taken to make the online building approval system truly faceless through seamless integration of various NOC agencies such as Fire, Revenue, TNPCB etc.

2.2.6 Other infrastructure

(i) Modern bus stands

There are 148 Bus Stands maintained by various Corporations and Municipalities as given in Table 2.3.

Table 2.3

Abstract of the Existing Bus Stands			
Grade of Bus Stand	Number of Bus Stands in Municipalities	Number of Bus Stands in Corporations	Total
A	17	15	32
B	45	5	50
C	49	4	53
D	10	3	13
Total	121	27	148

Government will take necessary steps to modernise all the bus stands in urban areas so as to provide adequate facilities to the public. New Integrated Bus Stands with modern amenities will be established, Multi-level car parking facilities will

be established at busy commercial centres/hubs, as per requirement.

(ii) Parks

Playgrounds and parks are maintained in urban local bodies for the benefit of the general public, especially children. A total of 6,330 parks and 1,101 open spaces are available in Corporations and Municipalities. Nearly 3/4th of the parks, which require improvement and all open places will be developed as vibrant green spaces and will be brought to public use in a phased manner. Open gyms will be provided in the parks depending on the requirement. Outdoor physical activities like walking and sports will also be promoted.

(iii) Crematoriums

In total 1,590 crematoriums are maintained by the Corporations and Municipalities as given in Table 2.4.

Table 2.4

Sl. No.	ULB details	Types of Crematoriums				Total
		Burning Shed	Gasifier	LPG	Electric	
1	Corporations	390	25	15	6	436
2	Municipalities	1,017	95	35	7	1,154
Total		1,407	120	50	13	1,590

The Government is committed to improve the crematoriums by providing basic amenities like water, lights, pathway and sheds for funeral rites. The crematoriums will also be upgraded to energy efficient Electrical / Gasifier (LPG) crematoriums depending on the need in a phased manner.

(iv) Markets

Markets play a vital role in meeting day to day needs of the citizen. Markets also contribute to the revenue of the Corporations and

Municipalities. A total of 330 Markets are being maintained as given in Table 2.5.

Table 2.5

Sl. No	Urban Local Bodies	Weekly Markets		Daily Markets		Total	
		No of Markets	Number of Shops	No of Markets	Number of Shops	Total No of Markets (3+5)	Total no of Shops (4+6)
1	2	3	4	5	6	7	8
1	Corporations	25	2,758	57	7,024	82	9,782
2	Municipalities	81	5,117	167	18,645	248	23,762
	Total	106	7,875	224	25,669	330	33,544

It is essential to upgrade and modernize the daily and weekly markets. The markets located in congested in big cities are to be decentralized to avoid crowding and also to facilitate handling of goods. Steps will be taken to relocate such markets by providing new and modern markets in phased manner by securitizing the future rental income from such markets.

2.3 Urban health infrastructure

287 hospitals and 302 Urban Primary Health Centres (UPHC) are being maintained by various Corporations and Municipalities. Steps will be taken to improve the hospitals and UPHCs.

2.3.1 Maternal and child health care

Urban local bodies will focus on improving maternal and child health services. Action will be taken to avoid infant and maternal mortality. Early detection of diseases like maternal and infant anemia, uterus cancer, diabetes, high blood pressure etc., is essential. Therefore, special screening camps will be organized in all ULBs on the lines of "***Varumun kappom***".

2.3.2 Prevention and control of COVID-19 activities

The Corporations and Municipalities are at the forefront in the fight against COVID-19. Activities for prevention and control of COVID-

19 are being carried out in all the Corporations and Municipalities, with financial assistance under SDRF as well as general funds. During the Second wave of COVID-19, the ULBs across the state had carried out activities like fever surveillance, fever camps, contact tracing, maintenance of COVID care centres, perimeter control of containment Zones, spraying of disinfectants, collection and disposal of bio-medical waste etc. These activities will be continued depending on requirement. Corporations and Municipalities have worked in co-ordination with Public Health Department to facilitate vaccination camps meticulously. All the frontline workers have been administered with two doses of COVID-19 vaccine.

2.3.3 Under Ground Sewerage Scheme (UGSS) and Septage Management

Out of 14 Corporations, UGSS has been taken up for implementation in 13 corporations, of which UGSS completed in 12 Corporations

and put into public use. In the remaining one Corporation (Hosur), detailed project report has been prepared for the implementation of the project and financial tie-up to be done. Of the 12 Corporations that have completed UGSS, several areas are yet to be covered. Therefore, UGSS extension projects have been taken up in 10 Corporations under AMRUT, Asian Development Bank and Smart Cities Mission and the work is at various stages of implementation.

Status of UGSS in 121 Municipalities

- Out of 13 towns having population more than 1 lakh, UGSS has been completed in 9 towns and in remaining towns it is under various stages of implementation.
- Out of 57 towns having population between 1 lakh to 50,000, UGSS has been completed in 18 towns and is under implementation in 5 towns. FSTP has been taken up for implementation in 21 towns

(to serve 23 towns), completed in 5 towns and under progress in 16 towns. For the remaining 13 towns detailed project reports will be prepared for UGSS.

- Out of 51 towns having population less than 50,000 UGSS has been completed in 6 towns and is under implementation in 3 towns. FSTP has been taken for implementation in 24 towns (to serve 26 towns), completed in 4 towns and under progress in 20 towns. The remaining 18 towns will be covered under faecal sludge and septage management.
- The Government will expedite the ongoing projects and will take up UGSS to cover the left over areas in all Corporations and Municipalities having above one lakh population and every household will be connected to sewerage network.

Adequate number of equipment will be provided to all Corporations and Municipalities for the maintenance of sewerage scheme and FSTP activities.

2.4 Education and Youth Welfare

Necessary steps will be taken up to improve quality of education in all Municipal Schools with focus on learning outcomes. Vocational / skill training will be provided in Higher Secondary schools to enhance the employability of the students in coordination with the industries.

2.4.1 Modern Libraries

Modern libraries and knowledge centres will be setup for benefit of the public particularly students who are preparing for competitive exams. Learning centres will be provided in neighbourhood housing poor people like slum tenements for the benefit of school going

children. These centres will be run through community participation and volunteers.

2.5 New Schemes

2.5.1 Kalaingar Nagarpura Mempattu Thittam

As envisaged in the Budget, in order to bridge infrastructure gap, works like improvement of internal street lanes, community halls, shopping complexes, markets, modern libraries etc., will be taken up under Kalaingar Nagarpura Mempattu Thittam for implementation in 121 Municipalities and 528 Town Panchayats with an allocation of Rs.1,000 crore made in the Revised Budget estimates 2021-22.

2.5.2 Namakku Naame Thittam (NNT) - Urban

As indicated in Budget 2021-22, NNT (Urban) will be implemented to take up works like restoration of water bodies, parks, recreation and sports facilities, tree plantation, construct or upgrade school buildings, dispensary buildings, libraries, study rooms etc.,

with public contribution and the funds provided under NNT. This scheme will be implemented in all Corporations including Greater Chennai Corporation, 121 Municipalities and 528 Town Panchayats, with an allocation of Rs.300 crore. Those who contribute significantly for works in Namakku Naame Thittam, will be awarded the Hon'ble Chief Minister's special award every year.

2.5.3 Urban wage employment programme

In order to improve the livelihood of urban poor Dr. C. Rangarajan Committee has recommended the need to create a special programme to provide wage employment to the urban poor. Accordingly, the Government will implement a urban wage employment programme, on a pilot basis, to provide employment to urban poor by engaging them in the creation and maintenance of public assets like parks, play fields, storm water drains, roads, buildings and rejuvenation of water bodies, with

an initial budgetary allocation of Rs.100 crore made in the Revised Budget estimates for the year 2021-22.

2.6 Schemes under Implementation

2.6.1 Union Government Schemes

(i) Smart Cities Mission

Smart Cities Mission was launched by Government of India as a centrally sponsored scheme in the year 2015 with the objective of promoting the cities that provide core infrastructure, a clean and sustainable environment and a decent quality of life to all citizens. Smart Cities Mission provides application of smart solutions in providing service delivery on sustainable and inclusive development and the idea is to look at compact areas, create a replicable model which will act as a light house to other aspiring cities.

The Smart Cities Mission is being implemented in 11 Corporations including

Chennai viz. Coimbatore, Madurai, Salem, Thanjavur, Vellore, Tuticorin, Tirunelveli, Tiruppur, Tiruchirappalli and Erode, to improve the infrastructures of the Corporations and to provide world class amenities. Under the Mission, a financial assistance of Rs.1,000 crore is provided to every city with the sharing pattern of 50:50 between the centre and the states. So far 551 works at an estimated cost of Rs.9,577.97 crore have been sanctioned. Of which, 181 works at a cost of Rs.1,493.89 crore have been completed and other works are in various stages of implementation. The Mission was initially for a period of 5 years and now it has been extended upto March 2023.

(ii) Atal Mission for Rejuvenation and Urban Transformation Scheme (AMRUT)

The purpose of the Atal Mission for Rejuvenation and Urban Transformation scheme (AMRUT) is to ensure the basic infrastructure such as drinking water facilities, waste water and sewage disposal management, storm water

drains, non-motorized transport, parks and green spaces. Cities having population more than 1 lakh, towns of religious and tourist importance have been included in the Mission. In Tamil Nadu, in 28 cities viz., 26 cities with a population of more than 1 lakh and 2 towns of religious and tourist importance namely Velankanni and Rameshwaram have been selected under AMRUT Mission.

Under this scheme, 385 projects are being implemented in 14 Corporations and 12 Municipalities under the administrative control of DMA, at an estimated cost of Rs.9,979 crore. The Mission period has been extended upto March 2023.

Funding towards ULB contribution has been arranged under ADB/ KfW/ TNSUDP/ IUDM/ CGF for Water Supply and UGSS projects.

Out of 385 Projects, 14 projects are for providing water supply, 13 projects are for UGSS and 358 are for green spaces. The details of ongoing projects are as given in Table 2.6.

Table 2.6

Sector	Number of Projects	Estimate Cost (Rs. crore)	Completed projects	Ongoing projects
Water Supply	14	5,873.19	6	8
Under Ground Sewerage Scheme	13	3,911.58	2	11
Green Spaces	358	194.26	358	-
Total	385	9,979.03	366	19

(iii) Swachh Bharath Mission

Under SBM, all the 135 ULBs have been declared as Open Defecation Free cities. However, it is a big challenge for the cities to

maintain ODF status. The Government is committed to make all urban areas truly ODF by providing universal access to toilets.

Purchase of primary collection vehicles such as battery operated vehicles, light commercial vehicles and Tipper lorry, construction of Micro Composting Centers, Resource Recovery Centers and other infrastructure works have been taken up and completed under SBM. So far 5,07,143 Individual House Hold Latrine (IHHL), 22,337 seats of Community toilets has been constructed under SBM urban. Government of India has circulated draft guidelines for SBM 2.0. Therefore preparatory activities such as mapping the existing toilets, identifying new location for CT/PT, identifying location for STPs/FSTPs etc., have been initiated to save time. Community toilets and public toilets (CT/PT) will be constructed at vantage points like market areas,

important public places, tourist places and the places where public gathering is more.

(iv) National Urban Livelihood Mission (NULM)

Under the National Urban Livelihood Mission, Support to Urban Street Vendors and Shelter for the Urban Homeless schemes are implemented through Directorate of Municipal Administration.

Under Shelter for Urban Homeless scheme (SUH), 120 shelters have been constructed for the benefit of street dwellers in 53 Municipalities and 14 Corporations. In addition to the existing shelters, 68 shelters will be constructed under NULM. The policy of the Government is to provide Night shelters with free food support in all the Municipalities and Corporations to have street dwellers free urban area.

Under Support to Urban Street Vendors (SUSV) scheme, vending carts are provided free

of cost to the street vendors, doing vending activities in Corporations and Municipalities. Sanction has been given to procure 1,652 vending carts in Madurai and Erode Corporations and Tiruvannamalai Municipality. So far 600 carts have been supplied. Government will expedite the procurement and supply of balance vending carts. Action will also be taken to provide vending carts to the street vendors located in rest of the 12 Corporations and 120 Municipalities.

The street vendors are provided loan assistance of Rs.10,000 through banks with 7% interest subsidy. Target has been fixed to provide loan assistance to 3,50,000 street vendors in all Corporations (including Chennai) Municipalities and Town Panchayats. So far, 1,22,293 street vendors have been provided loan amount of Rs.122.29 crore. Action will be

taken to persuade the banks for sanctioning and disbursement.

2.6.2 State Schemes

(i) Integrated Urban Development Mission (IUDM)

The scheme is being implemented with the objective to improve the basic Infrastructure facilities such as water supply, sewerage and sanitation, roads and streetlights, markets, bridges, storm water drain, solid waste management, parks and bus stands. During 2020-21, 148 works taken up at a cost of Rs.500 crore in Corporations and Municipalities, of which 20 works have been completed and 128 works are under progress. The pending works are expected to be completed during the current financial year.

(ii) Capital Grant Fund (CGF)

As per the 5th State Finance Commission recommendation, Infrastructure Gap Filling Fund

(IGFF) has been renamed as Capital Grant Fund and allocation has been increased from 7% to 15% of the aggregate devolution intended for Urban Local Bodies. This fund has three parts corresponding to each tier of ULB. It is being utilized to support capital works linked to basic functions and services in the urban local bodies.

In the year 2020-21, a total sum of Rs.261.31 crore has been allocated under CGF for taking up various infrastructure works. Of which, a sum of Rs.141.76 crore has been allocated to 6 Corporations and Rs. 119.55 crore has been sanctioned to 18 Municipalities.

During the year 2021-22, various basic infrastructure works will be taken at a cost of Rs.453.52 crore under CGF (including GCC).

(iii) Operation and Maintenance (O & M) Gap Filling Fund

The Operation and Maintenance Gap Filling Fund is distributed to urban local bodies where

fund is required for the Operational and Maintenance of basic infrastructure facilities such as water supply, UGD and payment of dues towards water charges and current consumption charges etc.,

The share of O&M Gap Filling Fund has been increased from 3% to 5%. During 2020-21, a total sum of Rs.119.12 crore has been allocated, out of which Rs.60.70 crore sanctioned to 14 Corporations and Rs.58.42 crore to 86 Municipalities.

(iv) Special Roads Programme (SRP)

During the year 2020-21, works have been taken in 94 municipalities and 8 corporations under the Special Roads Programme. Out of 448 packages, works in 84 packages have been completed at a cost of Rs. 54.01 crore, 317 packages are under progress and 47 packages are to be started. Action will be taken up to

complete the works in remaining packages at the earliest.

(v) Tamil Nadu Urban Roads Infrastructure Programme (TURIP)

Roads that are damaged during the execution of drinking water supply projects, sewerage projects and by natural calamities are being taken up for restoration under Tamil Nadu Urban Roads Infrastructure Project.

In the year 2020-21, under TURIP 182 road works have been taken up in 9 Corporations and 56 Municipalities, of which 68 works have been completed at a cost of Rs.58.48 crore and balance works are at various stages of implementation. Steps are being taken for early completion of balance works.

2.7 Externally Aided Projects

The Government of Tamil Nadu is implementing many infrastructure projects funded through external agencies.

2.7.1 German Development Bank (KfW) assisted SMIF

With the financial assistance of KfW, 35 schemes viz., road improvement works, storm water drains, rejuvenation of water bodies, water supply improvement, combined water supply scheme, development of parks and play fields and underground sewerage schemes have been taken up in 37 urban local bodies at a cost of Rs.3049.48 crore.

Out of these 35 schemes, 25 have been completed and put into public use at an estimated cost of Rs.1,783.70 crore and the remaining schemes are at various stages of implementation. The Government will take steps to expedite the pending works and put to public use at the earliest.

2.7.2. Tamil Nadu Sustainable Urban Development Project (TNSUDP)

The World Bank assisted Tamil Nadu Sustainable Urban Development Project

(TNSUDP) is being implemented at a cost of Rs.3,831 crore.

The project consists of 3 components viz., Urban Governance Component, Urban Sector Technical Assistance Component and Urban Investment Component.

(i) Urban Governance (Model City) Component

The main objective is to demonstrate effective models of Urban Management. These Model Cities are envisaged to become role models for ULBs across Tamil Nadu in term of Urban Management and Governance.

Erode, Vellore and Hosur were selected as Model Cities under Urban Governance (Model City) Component. A sum of Rs.383.10 crore has been earmarked for the entire project period of 7 years to improve Urban Management Practices in these Cities.

An amount of Rs.310.38 crore has been released to the 3 Model Cities towards their achievements made upto 2020-21.

(ii) Urban Sector Technical Assistance (TA) Component

Under the Urban Sector Technical Assistance (TA) component, Municipal e-governance / PFM and GIS Knowledge and Institutional Strengthening are done.

a) e-Governance in ULBs

The Government of Tamil Nadu is giving a major thrust to e-governance systems in Municipal Administration. 29 Municipal e-governance modules have been identified for providing quick and better services to the urban citizens. To achieve this goal, a major e-governance project namely "Centralized Web Based Software Application for all Urban Local Bodies" was taken up for implementation under TNSUDP at a cost of Rs.18.31 crore. All the 29

Municipal e-governance modules have been rolled out to all Corporations and Municipalities. This Government has taken steps to make effective use of this facility.

This Government proposes to implement, “Namadhu Sevayil Nagaratchi, Makkal Sevayil Managaratchi” to ensure delivery of all urban services at the door-steps of the citizens. The objective of the e-Governance in Municipalities is to bring home all the services provided to the people by the local bodies with the help of information and telecommunication technology in a simple manner in real time. This will increase people's participation in governance and pave the way for better transparency and better implementation.

b) Knowledge and Institutional Strengthening

Under “Knowledge and Institutional Strengthening” sub component, training and capacity building programs have been completed

at a cost of Rs 9.28 crore benefiting 37,819 staff and officers of ULBs.

During the year 2021-22, training and capacity building program will be organized for 30,000 staffs and officers of various ULBs at an estimated cost of Rs.11.18 crore.

Of the above three components, The Urban Governance (Model City) Component and Urban Sector Technical Assistance Component are being implemented by the Directorate of Municipal Administration. The Urban Investment Component is being implemented through Tamil Nadu Urban Infrastructure and Financial Services Limited.

2.7.3 Integration with TANGEDCO

At present ULBs are paying their dues to TANGEDCO manually by cheques. Now, it is proposed to automate the entire system by

integrating the servers of this department (UTIS Server) with TANGEDCO and selected banks. TANGEDCO dues and related information will be directly received from TANGEDCO server and payment will be made online. This facility will be implemented during 2021-22 under Tamil Nadu Sustainable Urban Development Project (TNSUDP).

2.7.4 Assets

In Urban Tree Information System Software, accounts and bill processes in the Corporations and Municipalities are mandated and all payment vouchers are prepared online. After making the final payment, details of the assets are automatically updated in the respective registers. Action is being taken to update the manual registers available in ULBs to bring the Asset Register Online by which the ULBs can keep their Asset Register updated as on date. Once the Asset Registers are updated

they will be maintained online providing real time information about assets.

Recently, Asset Module has been launched for Tiruchirapalli Corporation. It will be implemented in all Corporation / Municipalities shortly.

2.7.5 Scheme Works' Monitoring

Scheme works, procurement, stores and inventory have been integrated with each other for monitoring purpose. The module is ready for data entry and it will be commissioned during the current financial year.

2.8 Tamil Nadu Institute of Urban Studies (TNIUS)

Tamil Nadu Institute of Urban Studies (TNIUS), Coimbatore was established in 1981 with a view to achieve greater efficiency in the functioning of the administration of urban local bodies with following objectives:

- (i) To create awareness on latest management techniques in various branches of Municipal Administration.
- (ii) To disseminate knowledge on urban issues and urban development through training programmes, seminars, conferences, publications etc.,
- (iii) To conduct research studies and consultancy services in urban development, municipal administration and related disciplines.
- (iv) To assist in the development of urban infrastructure.

The annual contributions collected from the Municipal Corporations, Municipalities and Town Panchayats constitute a major source of revenue for the operations of TNIUS.

2.9 Financial Management

2.9.1 Fifth State Finance Commission

Based on the recommendations of 5th State Finance Commission the quantum of

grant released to Municipal Corporations and Municipalities is given in Table 2.7.

Table 2.7 (Rs.in crore)

Corporations	2020-21		2021-22	
	Allocation	Released	Allocation	Released
SFC	1,382.36	1,358.10	1,352.19	575.62
CGF	241.75	241.75	262.91	-
O&M Gap Filling	80.58	80.58	87.64	-
Municipalities				
SFC	934.79	932.79	966.59	417.32
CGF	175.27	175.27	190.61	-
O&M Gap Filling	58.42	58.42	63.54	-

2.9.2 Sixth State Finance Commission

The Sixth State Finance Commission has been constituted in G.O.(Ms.) No.50, Finance (SFC-MC) Department, 6th March 2020. The Sixth State Finance Commission's Award period will be commencing from 1st April 2022.

2.9.3 Central Finance Commission (CFC)

The 15th Central Finance Commission was constituted under Article 280 of the Constitution of India to make recommendations for devolution of central taxes to State Governments and Local Bodies. The period of 15th Central Finance Commission is from 2020-21 to 2025-26.

The 15th Central Finance Commission has divided the ULBs into two categories:-

Million Plus Cities	Non Million Plus Cities
(Greater Chennai Corporation, Coimbatore, Madurai, and Tiruchirapalli Corporations)	(11 Corporations, 3 upgraded Municipalities, all Municipalities, all Town Panchayats and Two Cantonment Boards (St.Thomas Mount and Wellington))

- On the basis of 15th Finance Commission recommendations Union Government provides Tied and Untied Grants to ULBS.
- The 15th Central Finance Commission has recommended grants on population basis for the Cantonment Boards.

The details of funds released for the year 2020-2021 and 2021-22 are furnished below in Table 2.8.

Table 2.8

(Rs. crore)

Type of Grant	2020-21		2021-22	
	Allocation	Released	Allocation	Released
Million plus cities (tied)	556	556	420	-

Non Million plus cities (tied)	591	591	535.80	-
Non Million plus cities (untied basic grants)	591	591	357.20	-

2.10 Corporations under the Administrative control of Directorate of Municipal Administration

I. Madurai Corporation			
Date of formation	Area (Sq.Km)	Population (2011 census)	Average Annual Income (Rs. in crore)
01.05.1971	147.99	14,70,755	414.11
Major projects taken up for implementation:			
<ul style="list-style-type: none"> • Water Supply source improvement from 			

Mullai Periyar river as additional water source to Madurai for receiving 125 MLD water at an estimated cost of Rs.1,295.76 crore scheme under AMRUT.

- Under Smart Cities Mission, 14 works at a cost of Rs.974.38 crore have been sanctioned of which 3 works completed and the balance works are in progress.
- Under Swachh Bharath Mission (SBM) 23 locations were proposed for the construction of Micro Composting Centre (MCC) at a project cost of Rs.18.99 crore of which 20 MCCs have been completed and the work is in progress in the remaining 3 places.
- Under TURIP and IUDM, laying of B.T. road works and paver block roads to a length of 77.59 Km at an estimated cost of Rs.40.56 crore are under various

stages of implementation.

- Construction of two high level bridges across river Vaigai at Kuruvikaran Salai and Obulapadithurai are in progress at a cost of Rs.46.17 crore. These projects are funded with Infra Structure and Amenities (I&A) Grant.

II. Coimbatore Corporation

Date of formation	Area (SqKm)	Population (2011 census)	Average Annual Income (Rs. crore)
01.05.1981	257.04	16,04,925	998.11

Major projects taken up for implementation:

- 45 works have been taken up under smart cities mission at a cost of Rs. 998.49 crore of which 31 works have been completed and balance works are under various stages of implementation.
- The Water Supply Improvement works under

AMRUT scheme for the 8 added areas has been sanctioned at a cost of Rs. 409.33 crore, and 88% works completed and remaining works are in progress.

- Underground Sewerage Scheme in Kurichi and Kuniyamuthur added areas at a cost of Rs.589.17 crore under AMRUT with assistance of ADB has been taken up for implementation into 2 packages, 62% works completed and remaining works are in progress.
- Construction of an Integrated Bus Stand at Vellalore at an estimated cost of Rs.168.00 crore, is in progress. The project has been delayed as fund has not been fully arranged. Action is being taken up to arrange fund and to expedite the works.
- The source augmentation for Coimbatore Corporation from Pillur Dam has been taken up with financial assistance under AMRUT and from HUDCO at an estimated cost of Rs.779.86 crore. Only 10% of work is

completed. Implementation of work is delayed due to delay in land acquisition process. Action is being taken to expedite the process.

- The 24x7 Water Supply Scheme to the Corporation core area (60 wards out of 100 wards) has been sanctioned at an estimated cost of Rs.646.71 crore and 13% of work has been completed.
- Road works under TURIP - Phase - I, Phase-II, IUDM, SRP, 14th CFC scheme for a length of 238.42 Km at an estimated cost of Rs. 189.19 crore are in progress.

III. Tiruchirappalli Corporation

Date of formation	Area (Sq.Km)	Population (2011 census)	Average Annual Income (Rs.in crore)
01.04.1994	167.23	9,15,869	722.84

Major projects taken up for implementation:

- Under AMRUT and Assistance from Asian Development Bank, Under Ground

Sewerage Scheme, Phase II, works at an estimated cost of Rs.377.29 crore (3 Packages) and Under Ground Sewerage Scheme Phase III works at an estimated cost of Rs.335.07 crore are under progress.

- Under Smart Cities Mission, 74 works have been taken up for implementation at an estimate cost of Rs.930.46 crore. Out of this, 11 works completed and put into use and 63 works are under various stages of implementation.
- Under TURIP 2020-21, 9 road works have been taken up at an estimated cost of Rs.5 crore, of which 8 works are completed and 1 work is nearing completion.
- Under 15th Finance Commission 2020-21, 16 works under various heads have been taken up at an estimated cost of Rs.42 crore and are under various stages of implementation.

IV. TIRUNELVELI CORPORATION			
Date of formation	Area (Sq.Km)	Population (2011 census)	Average Annual Income (Rs. in crore)
01.06.1994	108.65	4,74,838	150.22
Major projects taken up for implementation:			
<ul style="list-style-type: none"> • UGSS project has been taken up in 2 phases at an estimated cost of Rs. 296.11 crore and Rs. 447.75 crore respectively under the financial assistance of Asian Development Bank and AMRUT. The work is in progress. The implementation of phase 3 work is delayed due to poor performance of the contracting agency. • Under Smart Cities Mission, an amount of Rs.974.87 crore has been allotted for execution of 74 works, of which 15 are completed and the remaining works are in various stages of implementation. • Under Special Road Programme Scheme, TNSUDP and IUDM, 7 package of road restoration works have been taken up for a length of 47.163 Km at a cost of Rs. 34.40 crore and are at various stages of progress. 			

V. Salem Corporation			
Date of formation	Area (Sq.Km)	Population (2011 census)	Average Annual Income (Rs.in crore)
01.06.1994	91.34	8,29,267	232.23
Major projects taken up for implementation:			
<ul style="list-style-type: none"> • 81 Nos. of projects have been taken up under Smart Cities Mission at an estimated cost of Rs.965.87 crore are under various stages of implementation. • An amount of Rs.0.42 crore has been sanctioned to purchase jetroding machine and desalting machine for solid waste management works under Swachh Bharat Mission. • An amount of Rs.54.24 crore has been sanctioned to restore 151 roads under TURIP and Road Safety Fund 2020-21 and are under various stages of implementation. 			

VI. ERODE CORPORATION			
Date of formation	Area (in Sq.Km)	Population (2011 census)	Average Annual income (Rs.in crore)
01.01.2008	109.52	4,98,121	252.92
Major projects taken up for implementation:			
<ul style="list-style-type: none"> • Out of 42 projects taken up under Smart Cities Mission, at a cost of Rs.933 crore, 16 projects are completed at a cost of Rs. 277.20 crore and remaining projects are under progress. • Under Special Road Program, TURIP and TNSUDP, 12 packages of road restoration works have been taken up for a length of 82.67 Km at an estimated cost of Rs. 31 crore and all works are under various stages of implementation. • Under KfW fund, Underground Sewerage Scheme has been taken up at an 			

estimated cost of Rs.209.22 crore and the work has been completed. In Phase-II, providing UGSS for added areas of Corporation at a cost of 65.64 crore is being implemented.

- Under 15th Central Finance Commission and SFC grants, for Solid Waste Management 7 works have been taken up at an estimated cost of Rs.4.42 crore. Action will be taken to implement these works expeditiously.

VII. TIRUPPUR CORPORATION

Date of formation	Area (in Sq.Km)	Population (2011 census)	Average Annual income (Rs.in crore)
01.01.2008	159.35	8,77,778	216.59
Major projects taken up for implementation:			
<ul style="list-style-type: none"> • Under Smart Cities Mission 26 works have been taken up at the cost of Rs. 975.76 			

crore of which 7 works have been completed with an expenditure of Rs. 162.51 crore, balance works are at various stages of implementation.

- Water supply improvement scheme at a cost of Rs. 1,120.57 crore under AMRUT and Asian Development Bank funding with river Bhavani as source is under progress.
- Under TURIP Scheme 5 packages of road works were taken up at an estimated cost of Rs.7 crore and the works are under progress. Under TNSUDP 2020-21 Scheme 4 packages of road works were taken up at an estimated cost of Rs.11.84 crore and the works are under progress.
- Under IUDM, 10 packages of works are taken up at an estimate cost of Rs.15.07 crore and the works are under various stages of implementation.

VIII. THOOTHUKUDI CORPORATION

Date of formation	Area (Sq.Km)	Population (2011 census)	Average Annual income (Rs. in crore)
05.08.2008	90.66	3,72,408	187.21

Major projects taken up for implementation:

- 66 works have been taken up under Smart Cities Mission at an estimated cost of Rs.974.42 crore, of which 27 works have been completed and the remaining works are in progress.
- Under TURIP, SRP and IUDM an amount of Rs.29.01 crore has been allotted for restoration of 97 roads to a length of 48.86 Km. of which 42 works are completed and the remaining 55 works are under progress.

IX. VELLORE CORPORATION			
Date of formation	Area (Sq.Km)	Population (2011 census)	Average Annual income (Rs.in crore)
01.08.2008	87.915	5,04,079	99.73
<p>Major projects taken up for implementation:</p> <ul style="list-style-type: none"> • Under Smart Cities Mission, 38 works at an estimated cost of Rs. 960.45 crore have been sanctioned and 14 works are completed. • The Underground Sewerage Scheme, for the added areas and omitted areas of Vellore Corporation has been taken up at an estimated cost of Rs.691.21 crore in 2 phases with a financial assistance of AMRUT and ADB and the works are in progress. 			

X. THANJAVUR CORPORATION

Date of formation	Area (Sq.Km)	Population (2011 census)	Average Annual income (Rs. in crore)
19.02.2014	36.33	3,51,655	60.17

Major projects taken up for implementation:

- 89 Projects have been taken up at an estimated cost of Rs.967.78 crore under Smart Cities Mission. Out of 89 projects, 16 works completed and 73 projects are under progress.
- Under Tamil Nadu Urban Road Infrastructure Programme, 12 works are taken up at an estimated cost Rs.20 crore.
- Under NULM, construction of shelter for attenders at RMH hospital campus at an estimated cost Rs.1.50 crore is under process.

XI. DINDIGUL CORPORATION

Date of formation	Area (Sq.Km)	Population (2011 census)	Average Annual income (Rs. in crore)
19.02.2014	14.01	2,07,225	73.07

Major projects taken up for implementation:

- Under Tamil Nadu Urban Road Infrastructure Development Programme 2020-21 a sum of Rs.5 crore has been sanctioned for restoration of roads damaged due to implementation of UGSS and water supply improvement works for an length of 12.58 Km. Out of this 9.21 Km has been restored and remaining works are in progress.
- Rs.15 crore has been sanctioned Under Special Road Programme 2020-21 for restoration of interior roads for a length of 31.815 Km. So far, 21.60 Km of roads have been restored and remaining works are in progress.

XII. HOSUR CORPORATION

Date of formation	Area (Sq.Km)	Population (2011 census)	Average Annual income (Rs. in crore)
01.03.2019	72.41	2,45,354	102.41

Major projects taken up for implementation:

- 41 Road works have been taken up at an estimated cost of Rs.15 crore under TNUDF, of which 24 works completed and remaining works are in progress.
- Rs.3.34 crore has been sanctioned for 3 works under 15th CFC (Tied Grant) of which 1 work completed, remaining 2 are under Progress.
- Rs.33.98 crore has been sanctioned for 3 works under TNSUDP –Model city and works are under progress.

XIII. NAGERCOIL CORPORATION

Date of formation	Area (Sq.Km)	Population (2011 census)	Average Annual income (Rs. in crore)
01.03.2019	49.10	2,24,849	59.56

Major projects taken up for implementation:

- Water supply improvement work at an estimated cost of Rs.251.43 crore has been taken up under AMRUT. 75% of the work is completed and balance work is under progress.
- One package of road work was taken up at an estimated cost of Rs.10 crore under TURIP. Work is under progress.

XIV. AVADI CORPORATION

Date of formation	Area (Sq.Km)	Population (2011 census)	Average Annual income (Rs.in crore)
17.06.2019	65	3,44,701	108.49

Major projects taken up for implementation:

- Storm water drainage works in 5 packages (16.69 Kms) were taken up at an estimated cost of Rs 27.30 crore under IUDM. Out of which 13.08 Km completed and remaining work is under progress.
- Under Tamil Nadu Urban Road Infrastructure Project (TURIP) - 2019-2020 scheme, road work has been taken up at an estimated cost of Rs 25 crore with 7 packages (72 roads), works are under progress
- Under Tamil Nadu Sustainable Urban Development Project (TNSUDP) road works have been taken up in 8 packages (33 roads) at an estimated cost of Rs 15 crore.

2.11 Financial Position of Corporations and Municipalities is given in Table 2.9.

Table 2.9

(Rs. in crore)

Sl. No.	Description	Corporations		Municipalities	
		2019-20	2020-21	2019-20	2020-21
Income					
1	Tax Revenue	935.54	715.40	505.45	547.83
2	Non Tax Revenue	759.47	487.99	503.68	330.61
3	Assigned Revenue	119.15	174.11	146.80	147.92
4	SFC/CFC Grants	1,088.38	1,420.00	1,196.95	1,570.67
5	Capital Receipts	93.20	975.74	184.57	129.03
	Total	2,995.74	3,773.24	2,537.45	2,726.06
Expenditure					
1	Establishment/Administrative	2,060.98	2,278.51	1,706.49	1,850.12
2	Capital Expenditure	1,920.71	3,111.83	1,297.51	1,359.59
	Total	3,981.69	5,390.34	3,004.00	3,209.71
	Deficit	985.95	1,617.08	466.55	483.65

The details of amount payable to other agencies and outstanding of loan as on 31/03/2021 are given below in Table 2.10.

Table 2.10

(Rs. in crore)

Sl. No.	Details	Corporations	Municipalities
1	TUFIDCO	360.72	152.65
2	TNUIFSL	1,132.87	774.75
3	Ways & means advance	250.82	-
4	Advance payment pending	116.00	-
5	TANGEDCO	248.70	164.00
6	TWAD	261.03	17.50
7	Audit fees	15.39	1.46
8	GPF	13.52	10.84
9	CPS	25.74	4.69
10	Salary dues / pension etc	64.00	4.19
	Total	2,488.79*	1,130.08*
*Unaudited figures			

3. GREATER CHENNAI CORPORATION

The Corporation of Chennai was established as a local body on 29th September, 1688. It is the oldest municipal institution in the country and the second oldest in the world. The city has an area of 426 SqKm and a population of 66.72 lakh as per the 2011 census.

The office of the Corporation was functioning in a building in Errabalu Chetty street. It was only in 1913 that the Corporation moved its offices to its present imposing structure, the Ripon Buildings, named after Lord Ripon, the Viceroy, who introduced local self-government in India in the last quarter of nineteenth century.

Until 1974, the responsibility for the planning of the city was vested with the Municipal Corporation. After the formation of the Madras Metropolitan Development Authority (now CMDA) in August 1974, under the Town and Country Planning Act, 1972, the task of

planning for the city and the greater metropolitan area has been taken over by the said authority.

For administrative convenience, Greater Chennai Corporation is divided into 15 Zones having 200 divisions. These 15 Zones are organised into three regions.

Salient features of the Greater Chennai Corporation are given in Table 3.1.

Table 3.1

Area	Population	Regions	Zones	Wards/ Divisions	Roads
426 SqKm	66.72 lakh (as per 2011 Census) 85.17 lakh (2019)	3	15	200	5,657 Km
Street-lights	Bridges	Storm water Drains	Solid Waste Generation	Schools	Parks
2.86 lakh	283	2,071 Km	5,100 MT/day	281	702
Play-fields	UPHC/UHC/ Maternity centres	ICDS/ Balwadis/ Anganwadis	Comm- unity Toilets	Cremation Sheds/ Burial Grounds	Sancti- oned staff
872	140/16/5	1,806	1,575	209	23,917

3.1 Vision Singara Chennai 2.0

When the Hon'ble Chief Minister was the Mayor of Chennai Corporation, he took several steps to develop Chennai as 'Singara Chennai'. Subsequently, Chennai city has been expanded to an area of 426 Sq. Km. There are gaps in the infrastructure/development in the added areas. GCC will take necessary steps to develop and beautify Chennai under the Government's ambitious 'Singara Chennai 2.0' programme. Singara Chennai 2.0 will give importance to ecology, culture, lifestyle and infrastructure. The objective is to improve the liveability and sustainability of the city on par with the best in the world.

"Under Singara Chennai 2.0", development activities will be taken up based on the following themes:

1. **Thooimai Chennai**

- Bio-mining of legacy waste at Kodungaiyur and Perungudi and converting the retrieved land as urban green space.
- Strengthening of micro-compost centres and enforcement of solid waste discipline.
- Collection, processing and disposal of construction and demolition waste scientifically.
- GCC will make special arrangements for handling bulk waste and garbage disposal in slums.
- Steps will be taken to make Chennai litter free.
- Poster-free Chennai.
- Modernisation of slaughterhouses, markets etc.

2. **Pasumai Chennai**
 - Massive tree planting will be taken up across the city as a citizen-driven initiative.
3. **Neermegu Chennai**
 - A water tap connection to every household.
 - Waterways and water bodies will be rejuvenated to convert them into vibrant and eco-friendly public spaces.
4. **Ezhilmigu Chennai**
 - Facade lighting of Ripon Buildings, Victoria Public Hall, Adyar, Saidapet and Thiru-vi-ka bridges, etc. will be undertaken to enhance their grandeur and beauty. Other organisations will also be encouraged to do facade lighting of their heritage buildings such as Central and Egmore stations, Public Works Department building, Director General of Police office building, Vivekananda Foundation building, etc.
 - Junctions, centre medians and underside of bridges will be beautified.

- City infrastructure will be upgraded through new roads, bridges, street lights and stormwater drains across the city.
- Differently-abled friendly footpaths

5. **Nalamigu Chennai**

- Access to quality toilets will be provided to all citizens to make the city truly open defecation free.
- Well maintained and quality public and community toilets all over the city.
- The city will give special attention to maternal and child health.
- A healthy lifestyle with exercise, a good diet, non-motorized transport etc. will be promoted.
- UGSS in all added areas and everyhousehold to be connected to sewerage system.

6. **Pathukappana Chennai**

- Streetlights at every 25 metres - Focus on lighting the lesser lit areas of the city to enhance the safety of the citizens in general.

- Provision of modern toilets, improving CCTV surveillance, etc. in public places to enhance women's safety in the city.

7. **Kalviyil Chennai**

- The quality of education and infrastructure in Chennai Schools will be improved.
- Learning centres for school going children who do not have adequate space at home for studying.
- Modern libraries.

8. **Natpumigu Chennai**

- Quality night shelters at various places in the city.
- Differently-abled, child and elderly-friendly footpaths.
- Soft skill training to all service sector workers to enhance the city's attractiveness as a travel destination.

9. **Seermigu Chennai**

- Services at door steps through use of modern technology.

- Use of technological solutions in the daily activities of GCC, such as street lighting, solid waste disposal, infrastructure improvement etc.,

10. **Thonmai mattrum Kalacharam Mikka Chennai**

- Steps will be taken to preserve heritage buildings in the city
- Cultural events such as 'Chennai Day' and 'Chennai Sangamam' will be promoted.

In the Budget Estimates 2021-22, Rs.500 crore has been provided for Singara Chennai 2.0 by the Government of Tamil Nadu. Necessary schemes and programmes will be taken up under Singara Chennai 2.0. Other schemes such as City Partnership Programme will be dovetailed to take various schemes, projects and activities of programmes of GCC and Chennai Metropolitan Water Supply and Sewerage Board.

3.2 Infrastructure

3.2.1 Roads

The Greater Chennai Corporation (GCC) maintains 471 Bus Route Roads of 387 Km and 34,640 interior roads to a length of 5,270 Km as in Table 3.2.

Table 3.2

Sl. No	Zone	Zone Name	Bituminous Roads		Cement Concrete Roads		Other Roads	
			BRR and IRR		BRR and IRR		(Earthen and WBM)	
			Nos.	Length in Km	Nos.	Length in Km	Nos.	Length in Km
1	I	Thiruvottiyur	884	155.65	611	65.05	8	0.5
2	II	Manali	759	150.93	296	23.42	27	4.67
3	III	Madhavaram	2,409	391.51	264	25.45	152	40.17
4	IV	Tondiarpet	1,280	242.07	1,629	188.53	0	0
5	V	Royapuram	716	183.35	711	75.01	0	0
6	VI	Thiru. Vi. Ka Nagar	1,192	222.37	1,051	156.56	2	0.26

7	VII	Ambattur	2,934	468.50	631	56.47	23	3.19
8	VIII	Anna Nagar	1,373	294.88	1,010	107.11	0	0
9	IX	Teynampet	1,221	323.15	556	81.76	0	0
10	X	Kodambakkam	1,481	312.89	911	129.47	1	0.11
11	XI	Valasaravakkam	2,676	363.33	449	42.91	29	2.16
12	XII	Alandur	1,062	156.48	576	70.35	22	1.51
13	XIII	Adyar	1,792	360.96	1,140	114.59	2	0.17
14	XIV	Perungudi	2,446	397.52	586	50.71	41	4.79
15	XV	Sholinganallur	1,464	293.46	621	86.49	50	8.28
		TOTAL	23,689	4,317.04	11,042	1,273.88	357	65.81

The upkeep of Bus Route Roads and interior roads is taken up with the grants provided under Tamil Nadu Urban Road Infrastructure Fund (TURIF), Chennai Mega City Development Mission (CMCDM) Scheme and GCC's capital funds.

(i) Bus Route Roads and Interior Roads

Bus Route Roads will be upgraded through Tamil Nadu Urban Road Infrastructure Fund

(TURIF) and Chennai Mega City Development Mission (CMCDM) Schemes. While taking up roads, GCC will follow the policy of milling the previously laid roads to avoid a rise in road level.

GCC is taking efforts to ensure that the roads laid are of the best quality with good road furniture. Quality of roads laid is ensured through an independent quality audit by Project Monitoring Agencies.

(ii) Bus shelters and traffic islands

GCC maintains 1,416 bus shelters built under various schemes including 637 bus shelters set up under Build, Operate and Transfer (BOT). Further, it maintains 128 traffic islands and 173 centre medians.

3.2.2. Bridges

Greater Chennai Corporation maintains 26 major bridges (14 flyovers and 12 railway over

bridges), sixteen vehicular subways, five pedestrian subways, four foot over bridges and 234 minor bridges.

The following major projects are currently under execution as given in Table 3.3.

Table 3.3

S. No	Name of Work	Source of Fund	Estimate cost (Rs. crore)
1.	Bridge across Puzhal surplus water canal at Amullavoyal	CMCDM	15.90
2.	Bridge across Puzhal surplus water canal at Burma Nagar		14.33
3.	Skywalk with escalators from Mambalam Railway station to T. Nagar Bus Terminus	SCM	28.45
4.	Steel Foot Over Bridge across Nungambakkam Subway	CGF	5.42
5.	ROB in place of the existing LC-1 at Kolathur - Villivakkam (Near ICF Gate)		61.98
6.	Bridge across Puzhal surplus water canal at Vadaperumbakkam	CMCDM	19.33

7.	Reconstruction of a ROB at Elephant Gate Road (GCC Portion only)	CGF	30.78
8.	Demolition and reconstruction of a bridge at Stephenson Road across Otteri Nullah		43.46
9.	Retrofitting and rehabilitation of Parthasarathy bridge	O & M Gap Filling Fund	8.48
10.	Retrofitting and rehabilitation work of Vaidyanathan bridge		5.01

In order to facilitate the free flow of traffic, and provide sustainable traffic management for future requirements, GCC has proposed constructing 3 flyovers one each at the intersection of Konnur High Road - Strahans Road - Cooks Road – Bricklin Road (Otteri); over the existing subway at Ganesapuram; and along South Usman Road - CIT Nagar 1st main road at an estimated cost of Rs.335 crore.

3.2.3 Stormwater Drains

Greater Chennai Corporation maintains a 2,071 Km long storm water drain network comprising 8,835 storm water drain structures as in Table 3.4.

Table 3.4

Sl. No.	Zone No.	Zone Name	No. of SWDs	Length of existing SWDs (Km)
1	I	Thiruvottiyur	422	73.13
2	II	Manali	216	47.00
3	III	Madhavaram	263	75.69
4	IV	Tondiarpet	383	115.49
5	V	Royapuram	339	104.87
6	VI	Thiru Vi Ka Nagar	485	130.21
7	VII	Ambattur	846	212.25
8	VIII	Anna Nagar	587	163.25

9	IX	Teynampet	628	161.31
10	X	Kodambakkam	716	196.88
11	XI	Valasaravakkam	1,445	256.35
12	XII	Alandur	943	193.22
13	XIII	Adyar	516	132.09
14	XIV	Perungudi	863	172.14
15	XV	Sholinganallur	183	37.14
Total			8,835	2,071.02

GCC also maintains 30 canals to a length of 48.78 Km as in Table 3.5.

Table 3.5

Sl. No.	Zone No.	Zone Name	Name of the Canal	Length (Km)
1	I	Thiruvottiyur	Thamaraikulam Canal	0.50
2	II	Manali	Old Napalayam Canal	1.29

3			Thulasi Nagar Canal	2.04
4			Manali Pudur TNHB Canal	1.12
5			Periya Eatchankuzhi Canal	0.26
6			Kadapakkam Lake Surplus Canal	0.95
7			Madhavaram - Manali Lake Canal	1.27
8	IV	Tondiarpet	Captain Cotton Canal	3.04
9			Kodungaiyur Canal	5.28
10			Link Canal	0.40
11			Vyasarpadi Canal	1.27
12			Jawahar Canal	0.76
13	VI	Thiru Vi Ka Nagar	Ekangipuram Canal	1.53
14			TVS Canal	0.91
15	VII	Ambattur	Nolambur Canal	1.25
16			Ambattur SIDCO Canal	2.19
17			Padikuppam Canal	2.77
18	IX	Teynampet	Nungambakkam Canal	0.90

19	IX & XIII		Mambalam Canal & Nandanam Canal	6.86
20	X	Kodambakkam	Reddykuppam Canal	0.50
21	X		MGR Canal	1.80
22	X		Jaffer khanpet Canal	0.60
23	X		Trustpuram Canal	1.51
24	XI & XII		Alandur	Nandambakkam Canal
25	XII	Adambakkam Canal		0.92
26	XIII	Adyar	Rajbhavan Canal	1.20
27	XIII		Chellammal College and Guindy Industrial Estate Canal	2.26
28	XIV	Perungudi	Pallikaranai Canal	0.34
29	XV	Sholinganallur	Secretariat colony Canal	1.08
30	XV		Semmencherry Canal	2.51
Total				48.78

To mitigate the damages caused by inundation and flooding during monsoons in the Kosasthalaiyar Basin, the long-pending demand for stormwater drains is addressed by the

Kosasthalaiyar Integrated Stormwater Drainage (ISWD) project.

The construction of integrated stormwater drains in the Kosasthalaiyar basin for a length of 768 Km for Rs.3,220 crore with ADB funding is in progress in 45 packages. Efforts will be made to finish this project expeditiously. About 30 lakh people living in Ambattur, Manali, Madhavaram and Thiruvottiyur will benefit from the project.

Construction of integrated stormwater drains in Kovalam Basin sanctioned at a cost of Rs.1,714 crore will be expedited. About 9 lakh people living in Perungudi, Sholinganallur and part of Alandur Zones will benefit from this.

The GCC will construct additional stormwater drains missing links under Tamil Nadu Sustainable Urban Development Project (TNSUDP) for Rs.120 crore.

3.2.4 Special Projects

(i) Smart Cities Mission (SCM)

Under the Chennai smart city initiative, 37 works have been completed at the cost of Rs.599 crore and 5 works are under execution at an estimated cost of Rs.308 crore as given in Table 3.6.

Table 3.6

Sl. No.	Name of Work	Estimated cost (Rs. crore)
1	Restoration and beautification of Villivakkam tank including suspension bridge	45.42
2	Green building for Command-and-Control centre	47.00
3	Improvement to Mambalam canal	83.81
4	Water supply network augmentation for ABD area by CMWSSB	53.10

5	Installing of single and three-phase smart meters in ABD area of the smart city by TANGEDCO	78.55
	Total	307.88

(ii) Chennai City Partnership Programme

As mentioned in the Budget Speech, Chennai City Partnership Programme will focus on enhancing resilience of Chennai city and improving service delivery in the Greater Chennai metropolitan area for a set of key services. It will cover the following thematic areas:

1. Urban mobility and spatial development;
2. Water and resilience; and
3. Urban governance, services, and finance.

Mega streets Programme

A key component of the City Partnership Program is Mega streets. To further its efforts in creating high-quality and equitable streets for all, GCC has launched the Mega Streets Programme to re-imagine the city's arterial roads as "complete streets," taking into account the needs of all street users and uses. The new designs would include continuous footpaths, streamlined carriageways, organised on-street parking and well-planned underground utilities. The designs also integrate bus stops, street vending and all other street furniture, locating them carefully such that they do not hinder the walking experience of pedestrians. The first phase of this programme is taken up as a project spanning over 70 SqKm.

(iii) Installation of Chennai Metropolitan Area Intelligent Transport Systems

The Chennai Metropolitan Area Intelligent Transport Systems project at an estimated cost of Rs.905 crore with loan assistance from the Japan International Cooperation Agency (JICA), is expected to create an efficient traffic system to meet increasing traffic demands in the Chennai Metropolitan Area. Major components proposed include 1) Chennai Traffic Information and Management System, and 2) City Bus System.

Consultants have been appointed and the detailed project report (DPR) and bidding documents are ready including the concurrence of JICA.

3.2.5 Buildings

The Greater Chennai Corporation maintains 2,802 buildings such as schools,

hospitals, community centres, markets, etc. as in Table 3.7.

Table 3.7

SL NO	ZONE	UHC	UPHC	EOC	School Buildings	Community Centre	Night Shelter	Office buildings	Other Buildings	Total
1	Thiruvottiyur	1	6	-	-	1	2	14	176	200
2	Manali	1	2	-	-	1	1	7	56	68
3	Madhavaram	1	4	-	-	3	2	14	144	168
4	Tondiarpet	1	15	-	46	4	6	16	122	210
5	Royapuram	1	13	1	42	7	16	38	194	312
6	Thiru-Vi-Ka Nagar	1	14	-	51	8	3	19	184	280
7	Ambattur	1	9	1	-	1	2	8	122	144

8	Anna Nagar	1	15	-	28	8	5	8	223	288
9	Teynampet	1	16	-	53	13	8	18	34	143
10	Kodambakkam	1	15	1	37	6	2	18	190	270
11	Velasaravakkam	1	5	-	-	1	2	12	19	40
12	Alandur	1	5	-	-	4	1	14	179	204
13	Adyar	1	11	-	24	3	3	6	326	374
14	Perungudi	1	5	-	-	4	-	12	51	73
15	Sholinganallur	2	5	-	-	2	2	13	4	28
TOTAL		16	140	3	281	66	55	217	2,024	2,802

Construction of nine UPHCs at an estimated cost of Rs.30 crore will be expedited and completed in 2021-22. Special shelters, community centres, school buildings, anganwadis and other office buildings will be taken up as per need.

3.2.6 Electrical

Streetlights

The Greater Chennai Corporation provides uniform street lighting in all the bus route roads and interior roads for the safety of commuters and citizens. All bus route roads and interior roads are provided with adequate streetlights. The Corporation maintains 2.86 lakh streetlights. All are energy-efficient LED lights. 426 high mast lights have been erected at vital locations such as major road junctions, beaches and parks as in Table 3.8.

Table 3.8

Sl. No.	Zone	Name of Zone	No. of Streetlights	No. of High Mast lights
1	I	Thiruvottiyur	12,923	23
2	II	Manali	11,253	8
3	III	Madhavaram	18,213	37
4	IV	Tondiarpet	18,443	27
5	V	Royapuram	15,067	29

6	VI	Thiru-Vi-Ka-Nagar	17,365	32
7	VII	Ambattur	26,086	49
8	VIII	Anna Nagar	20,483	28
9	IX	Teynampet	22,212	49
10	X	Kodambakkam	23,529	31
11	XI	Valasaravakkam	20,340	17
12	XII	Alandur	15,683	27
13	XIII	Adyar	22,953	32
14	XIV	Perungudi	22,845	20
15	XV	Sholinganallur	19,163	17
TOTAL			2,86,558	426

In general, streetlights in Chennai are provided at a distance of 25 m. However, in many pockets particularly in extended areas, adequate streetlights are not present. New energy-efficient LED street lights will be provided in these poorly lit areas and newly developing residential areas.

3.2.7 E-Governance

Online services include financial, revenue (including property tax etc.), works management, town planning, legal case management system, personnel management system, pension management, public grievance redressal, Namma Chennai App, birth and death registration, 1913 call centre, WhatsApp services, etc.

Geographical Information system (GIS) infrastructure establishment (Phase-II) including the server room and GIS application centre, has been taken up for Rs. 21.47 crore under the World Bank assisted TNSUDP and is under implementation.

3.2.8 Parks and Playfields

Greater Chennai Corporation maintains 702 parks, 105 centre medians, 99 traffic islands and 163 roadside parks. Out of these 702 parks,

59 parks are maintained directly by the GCC, 540 parks are maintained by private contractors, and 103 parks are maintained under adoption. Out of 103 parks under adoption, 92 parks were created and maintained by residential welfare associations and individuals/ firms, and 11 parks were established by GCC and are maintained under adoption. GCC also maintains 872 play grounds and other sports facilities as in Table 3.9.

Table 3.9

Zone	Name of the Zone	Parks (Nos.)	Play Grounds (Nos.)	Children's Playgrounds (Nos.)
I	Thiruvottiyur	8	-	-
II	Manali	23	8	28
III	Madhavaram	34	9	2
IV	Tondiarpet	53	25	37
V	Royapuram	24	10	-
VI	Thiru-Vi-Ka Nagar	41	22	3

VII	Ambattur	62	7	1
VIII	Anna Nagar	41	42	9
IX	Teynampet	37	13	5
X	Kodambakkam	54	17	50
XI	Valasaravakkam	77	6	6
XII	Alandur	66	2	4
XIII	Adyar	66	50	29
XIV	Perungudi	55	8	4
XV	Sholinganallur	61	1	22
	TOTAL	702	220	200

(i) Ongoing Works

During the current financial year 2021-22, it is proposed to create new parks in the vacant OSR lands vested with Greater Chennai Corporation. Open-air gym equipment are being installed in most of the parks under development. All the newly developed parks are designed as differently-abled friendly.

Under the Chennai River Restoration Trust (CRRT), the formation of new park and playfield work at Adyar river bank, Kotturpuram is under progress at an estimated cost of Rs.9.41 crore and all these works would be completed during the current year.

(ii) Innovative Projects (Traffic Park and Sensory Park)

A Children's Traffic Park has been established near Napier Bridge in Kamarajar Salai (measuring an area of 4,137 Sq Mt) for educating children on the importance of traffic signals and rules.

Further, Greater Chennai Corporation has created a Model Sensory Park for all abilities measuring an area of about 1,529 Sq Mt in the existing playground abutting Chennai Middle School at Santhome.

In continuation of this, for the current financial year, 2 new sensory parks are being taken up and are under progress. These works would be completed in this financial year.

(iii) Centre Medians

Existing centre medians on main arterial roads will be provided facelifts and beautified with ornamental plants.

(iv) Tree Planting

Greater Chennai Corporation has taken sustained efforts to increase the green cover in Chennai city and planted native tree saplings in various parts of the city. It is proposed to take up tree planting with community participation in coordination with the Residential Welfare Associations. Over 35,000 trees have been planted in past three months.

3.3 Health and Sanitation

3.3.1 Solid Waste Management

On average, 5,100 MT of solid waste is generated daily in Chennai. It is collected at the household level. The source segregated wet and dry wastes are channelised to the decentralised processing facilities, and the remaining waste is transferred to the landfill sites at Perungudi and Kodungaiyur.

At present, solid waste management activities are being carried out in five out of fifteen Zones by Greater Chennai Corporation and in the remaining ten Zones through private concessionaires.

(i) Infrastructure

For carrying out solid waste management activities, the GCC operates 293 battery-operated vehicles, 97 battery operated tricycles,

2,237 tricycles, 136 HMV/LMV compactors, 18 HMV/LMV tippers, 16 mechanical sweepers etc. Likewise, the private concessionaires operate 3,071 battery-operated vehicles, 130 HMV/LMV compactors, 80 HMV/LMV tippers and 39 mechanical sweepers.

The GCC employs 5,686 permanent and 4,427 contract workers for solid waste management activities. And the private operators have 9,505 workers for carrying out these conservancy operations.

(ii) Wet and Dry Waste Processing

In line with SWM Rules 2016, the Greater Chennai Corporation initiated decentralised facilities to process the source segregated wet and dry waste. At present, there are 245 wet waste processing facilities such as micro composting centres, vermi-composting centres, windrow composting centres, bio-gas plants, bio

methanation plants, bio-CNG plants having 1,218 tonnes per day (TPD) capacity. There are 185 dry waste centres such as material recovery facilities, resource recovery centres, incinerators etc., having 528 TPD capacity. From the wet waste processing units, nearly 400 MT of manure is produced every month.

In addition to this, the non-recyclable combustible dry waste of 50 MT is sent to cement industries for co-processing every week.

Additional six bio-CNG plants having a capacity of 600 TPD are being set up to process the wet waste. They are under various stages of construction.

Further, there are proposals for dry waste disposal centres (incinerators, pyrolysis units) with a capacity of 655 TPD. On completion of these facilities, the total capacity of decentralized facilities will be around 3,300 TPD

which will result in a reduction of waste being sent to processing and disposal centres.

(iii) Processing and Disposal Centres

a) Perungudi

Perungudi site is located in the southern part of the city, spread over an area of 225.16 acre and is in use for more than 35 year as a landfill. Solid waste from Zones 9 to 15 is sent to the Perungudi site.

The estimated volume of legacy waste above ground level is around 30.63 lakh cubic metre. The Greater Chennai Corporation has initiated reclamation of the Perungudi landfill through bio-mining process at a project cost of Rs.350.65 crore sanctioned under the Swachh Bharat Mission. The bio-mining work has commenced and the project is expected to be completed in three year.

b) Kodungaiyur

The Kodungaiyur site is located in the northern part of the city, has an extent of 257.5 acre and is in use for more than 40 year. Zones 1 to 8 use this facility.

The estimated volume of legacy waste above ground level is around 65 lakh cubic metre. Detailed project report to reclaim the land through bio-mining is under preparation. On completion of DPR, this project will be taken up for implementation.

(iv) Construction and Demolition (C&D) Waste

Presently the C & D waste collection in Chennai is around 600 TPD. To improve the service delivery, the collection and transportation of C&D waste have been outsourced and operations have commenced.

GCC is setting up two facilities for processing C & D waste on a PPP basis one each at Kodungaiyur and Perungudi. The Perungudi facility is under trial run. The construction of the Kodungaiyur facility will be expedited and completed in this financial year. The final products such as coarse and fine aggregates will be used in construction activities.

(v) Mechanical Infrastructure

The mechanical engineering department of the GCC has a total fleet strength of 1,389 vehicles which includes vehicles for conservancy operations and transportation of C & D waste, such as compactors, battery-operated vehicles, HMTV/LMTV tippers, front end loaders, bulldozers, hydraulic excavators etc. In addition, the GCC has special equipment for conservancy operations such as amphibian vehicles (2 nos.) and robotic multipurpose excavators (4 nos.) for clearing the floating garbage in canals and 7

vehicle-mounted suction cum jetting machines with recycling facility for clearing stormwater drains.

(vi) Sanitation – Community Toilets / Public Toilets

The Greater Chennai Corporation was declared as an 'Open Defecation Free' corporation on 31.01.2018 and further recertified as 'Open Defecation Free' on four occasions. However, it remains a challenge before the GCC to maintain the city truly ODF. Continuous efforts are required to be taken for this. There are 807 conventional public toilets in GCC, having 7,247 seats. Existing toilets will be modernised, and additional toilets will be added in a phased manner utilising GoI and GoTN grants and GCC's funds. New toilets will be taken up after assessing the need. Adequate provision for maintenance will also be made. Construction and maintenance of toilets through

Public Private Partnership and Corporate Social Responsibility (CSR) initiatives will be encouraged.

3.3.2 Public Health

The Public Health wing was one of the first establishments with good infrastructure in Chennai Corporation. In earlier years, healthcare services were provided through health officers, sanitary inspectors, medical officers, and support staff in dispensaries and Urban Health Posts (now called Urban Health Centres).

Greater Chennai Corporation provides comprehensive health care services such as antenatal and postnatal care, child health care, basic diagnostics, and treatment for communicable and non-communicable diseases under one roof.

(i) Health Infrastructure

Under the National Urban Health Mission Scheme, the Greater Chennai Corporation is running 140 Urban Primary Health Centres (UPHC) and 16 Urban Community Health Centres (UCHC).

The GCC is running 5 dialysis centres one each at Lakshmiapuram UPHC, Chinna Porur UCHC, Perungudi UCHC, Nungambakkam diagnostic centre and Injambakkam UCHC. One more dialysis centre at Thiruvottiyur will be functioning shortly.

36 Polyclinic centres at UPHCs and other facilities in GCC provide medical care for the early detection and treatment of diseases for people living in slums.

Three hospitals providing traditional Indian systems of medicine (Ayurveda, Yoga and

Naturopathy, Unani, and Siddha) have been established in Zones – 4, 10 and 13

(ii) Services

a) Birth and Death Registration

Birth and Death certificates are made available online on the official website of GCC (www.chennaicorporation.gov.in) and the general public to download the certificates free of cost.

b) Vector Control Activities

Greater Chennai Corporation controls vector-borne diseases through anti larvae and anti-mosquito activities. The GCC has engaged 3,621 workers for vector control activities.

Anti-mosquito activities, i.e., fogging operations, are carried out using 68 vehicle-mounted and 287 handheld fogging machines, and 12 mini fogging machines. Additionally, 256

handheld spraying machines and 167 power sprayers are used to spray larvicide in stormwater drains, open drains, and canals. Gambusia fishes are introduced in water bodies to control larvae breeding.

Recently, GCC has also deployed drones for spraying larvicide in large water bodies and canals.

c) Shelter for Urban Homeless

The GCC runs 55 special shelters, out of which 42 shelters are for urban homeless, and 13 are for attendants of the in-patients in Govt. Hospitals (special shelters). All these shelters are being run in coordination with Non-Governmental Organizations.

d) Veterinary Care

Animal Birth Control Programme

Stray dogs are caught based on specific complaints; they are sterilised and immunised

against rabies and released in the same area, as per the Animal Birth Control (Dogs) Rules, 2001. The GCC runs three animal birth control centres in Kannammamet, Pulianthope and Loyd's Colony.

Slaughterhouses

Greater Chennai Corporation is running slaughterhouses at Perambur, Villivakkam, Saidapet, and Kallikuppam for providing clean and quality meat to the public.

e) District Blindness Control Society

The GCC has a well-established blindness control programme. Eye screening units are functioning in 43 UPHCs. It has been planned to reduce the prevalence of blindness to 0.25% by 2025 and to reduce the prevalence of other ophthalmic conditions like refractive error, glaucoma, and diabetic retinopathy. A mobile ophthalmic unit is proposed to be set up.

f) National Tuberculosis Elimination Programme

The National Tuberculosis Elimination Programme aims at eliminating TB by 2025. Presently 36 TB units are functional in Chennai. All the 140 UPHCs are functioning as Designated Microscopic Centres.

(iii) Prevention and Control of COVID 19

The first case of COVID-19 was reported in Chennai on March 17, 2020. Samples from GCC are being collected from UPHCs/ UCHCs/ fever camps and 42 static sample collection centres.

The GCC has taken up several innovative measures to control the second wave of the COVID-19 pandemic as given below:

1. Mandatory disease notification by private hospitals, clinics, private CT Scan Centres and pharmacies.

2. Setting up of 21 COVID-19 screening centres.
3. Creating additional bed facilities with oxygen supply at various places including Chennai Trade Centre
4. Management of patients based on symptoms from an early stage.
5. Single window distribution of lab results to avoid panic.
6. Deployment of special car ambulances for the transport of COVID-19 patients.
7. Triaging at doorsteps for patients below 45 years of age.
8. Establishment of telemedicine centre at Ripon building.
9. Establishment of Tele Call Centre in each Zone.
10. Additional manpower was deployed in all categories including 12,000

fever survey workers and 2,000 focus volunteers.

11. Proactive citizen outreach activities.
12. Strict enforcement of COVID-19 protocol such as mask discipline and social distancing.

(iv) COVID-19 Vaccination

As of 16.08.2021, a total number of 35,15,561 doses have been administered. Of them, 24,82,713 eligible persons have received 1st dose vaccination, and 10,32,848 persons have received 2nd dose vaccination.

A special vaccination drive is being conducted for differently-abled persons and people in shelter homes by the GCC.

The above activities enabled Greater Chennai Corporation to reduce the daily caseload from 7,564 (as of 12-05-2021) to around 200 within two months.

3.4 Revenue

It is imperative to have adequate resources to implement schemes and programmes to improve liveability and enhance the quality of life for the citizens. Keeping this in mind, the GCC aims to improve revenue collection by enhancing efficiency through innovation and technological solutions.

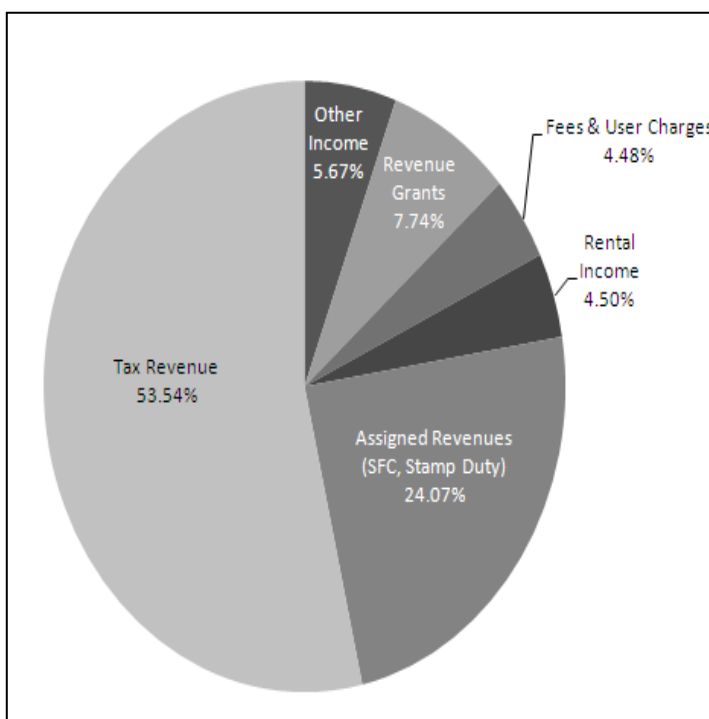
GCC has a budget of nearly Rs. 4,000 crore. The actual budget numbers of financial Year 2019-20 are given in Table 3.10.

Table 3.10

Sl.No.	Account Head	Actuals 2019-2020 (Rs. crore)
1	REVENUE ACCOUNT	
	Receipts	2,678.49
	Expenditure	2,836.97
2	CAPITAL ACCOUNT	
	Receipts	1,565.26
	Expenditure	1,248.92

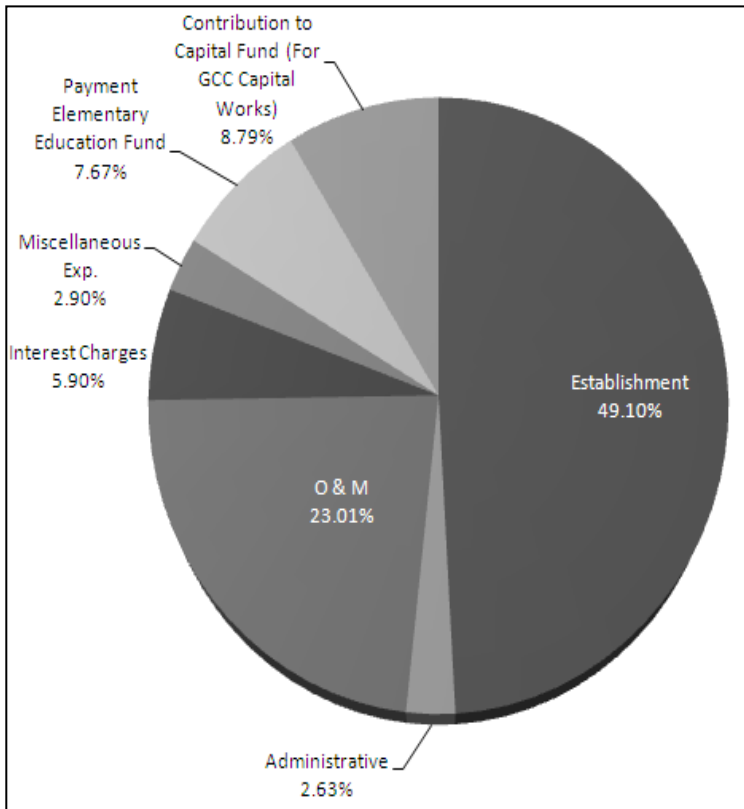
A breakup of the different sources of income/revenue receipts of GCC is given in figure 1.

Figure – 1: Category-wise Revenue Receipts



A breakup of the revenue expenditure is given in figure 2.

Figure – 2: Category-wise Revenue Expenditure



3.4.1 Revenue Department is responsible for the collection Property tax, professional tax, company tax, entertainment tax, trade license fee and rent on shopping complexes.

Category-wise demand is given in Table 3.11.

Table 3.11

Sl.No.	Category	Half-yearly Demand (Rs. crore)
1	Property tax	387
2	Profession tax	215
3	Company tax	0.60
4	Entertainment Tax	Due to COVID-19, entertainment tax collection is minimal. Rs.20.67 crore were collected in FY 2019-20
5	Trade License fee	20 (Yearly)
6	Rent on shopping complexes	9

3.4.2 Improving Collection Efficiency through Technology

Despite the strain on finances due to old tax rates and the economic downturn precipitated by COVID-19, GCC is taking various efforts to improve tax collection efficiency through new and innovative solutions. The Geographical Information System (GIS) and Drone Survey project (Phase-I) was initiated by GCC under the World Bank assisted TNSUDP, at a cost of Rs.6.44 crore (Phase-I) and is expected to be complete by March 2022.

One of the objectives is to identify unassessed and under assessed buildings. Field survey is completed for 107 wards out of 200 wards and the GCC is taking all efforts to improve the financial position by bringing all under/unassessed properties into the property tax net.

3.4.3 Financial Position of GCC

Property tax is the main source of revenue for urban local bodies. Presently, the GCC is facing a severe shortfall in revenue receipts on the item of property tax collection due to deferment of General Revision of Property Tax rates and COVID-19 pandemic.

Additionally, GCC has an outstanding loan amount of Rs.2,715.17 crore (including Rs.550 crore overdraft from State Bank of India), pending contractor payments of Rs.218.57 crore and Rs.511.97 crore payable to various Government agencies

Apart from this, the GCC is expected to incur additional expenditure on account of outsourcing of solid waste management in 10 Zones.

3.5. Education

The Education Department of Greater Chennai Corporation strives to provide quality education, enriched with life skills to the children through the Chennai Schools.

The GCC has 281 schools and 3,012 teachers under its administration as in Table 3.12.

Table 3.12

Type of School	Number
Primary School with KG Section	119
Middle School with KG Section	92
High School	38
Higher Secondary School	32
TOTAL	281

3.5.1 Students Enrolment

During the academic year 2021-22, enrolment has seen an uptick. The GCC has taken various innovative measures for increasing enrolment, which has risen to 1,02,928. The enrolment has crossed one lakh mark after a decade. Due to the increased enrolment, the need for additional classrooms is being addressed by the Corporation.

3.5.2. Public Examination Results

Chennai Schools have been producing good results in public examinations both in 10th and 12th std as seen from Table 3.13. The GCC strives to improve these numbers every year through various interventions.

Table 3.13

Academic Year	10th Public Examination			12th Public Examination		
	Appeared	Pass	Pass Percentage	Appeared	Pass	Pass Percentage
2016-17	6,302	5,865	93.07	6,423	5,700	88.74
2017-18	5,908	5,516	93.36	5,788	5,139	88.79
2018-19	5,730	5,297	92.44	4,837	4,377	90.49
2019-20	5,988	5,988	100	4,648	3,988	85.80
2020-21				5,130	5,130	100

3.5.3 Model and Smart Chennai Schools under the CITIIS fund

The Model and SMART Chennai Schools project under the CITIIS (City Investments to Innovate, Integrate and Sustain) challenge initiative is being implemented for Rs.95.25 crore of which, Rs.76.2 crore is funded by AFD

(French Development Agency) while Chennai Smart City Limited is contributing Rs. 19.05 crore. This project comprises hard and soft infrastructure.

The Greater Chennai Corporation runs an Industrial Training Institute at Zone-9, affiliated to the National Council of Vocational Training (NCVT) of Government of India and provides various courses for skilling students as plumber, fitter, mechanic, electrician, motor mechanic and computer operator. After the completion of these courses, the trainees are provided with job opportunities in various industries by the institute.

There are three Community Colleges run by Greater Chennai Corporation at C.V.Raman street, Alwarpet; Sundaram street, Purasaiwakkam; and Naattu Pillayar Koil street, Seven Wells especially for the students who are

unable to continue their school education. Various skill development courses like computer software, paramedical courses, baking and confectionery making and jute bag-making are taught at these community colleges.

Under Singara Chennai 2.0, GCC aims to establish smart classrooms in all Chennai Schools in a phased manner. GCC will also provide extra classes for the benefit of children from vulnerable sections of society.

Modern libraries cum knowledge centres will be set up for the benefit of citizens, especially students who are preparing for competitive examinations.

3.6 Sustainable Development Goals

The Greater Chennai Corporation is giving high priority to achieve Sustainable Development Goals before 2030. Action is being

taken to achieve the above-said goals through the following:

a) Good Health and Well Being - Greater Chennai Corporation provides comprehensive health care services such as antenatal and postnatal care, child health care, basic diagnostics, and treatment for communicable and non-communicable diseases under one roof. As part of the NUHM and World Bank funded Chennai City Partnership Programme, the physical and human infrastructure in the health sector will be revamped and upgraded.

b) Quality Education - Classrooms were transformed into Smart Classrooms by equipping them with electricity, network connectivity, a desktop computer, smart board, tablets and furniture.

c) Gender Equality - The GCC is implementing a slew of projects under the Nirbhaya Scheme

for the benefit of women such as access to modern toilets, livelihoods, safety etc. A gender lab will also be established in GCC to look into gender issues and come up with solutions.

d) Clean Water and Sanitation – Restoration of water bodies have been taken to raise the water table in the vicinity of water bodies and to beautify the surrounding area. Rainwater harvesting structures are erected in all newly laid stormwater drains. Many individual and community wells have been converted into recharge structures.

GCC is currently undertaking a modernization drive for all the existing public and community toilets.

e) Affordable and Clean Energy- All existing street lights in Chennai have been converted into energy-efficient LED lights. The GCC is also encouraging a shift to non-motorized transport

such as walking, cycling as well as E-bikes to promote the general well-being of citizens.

f) Partnership for Goals - The Government of Tamil Nadu and the World Bank have proposed to engage in the Chennai City Partnership Programme for achieving various disbursement linked indicators covering multiple sustainable development goals.

4. COMMISSIONERATE OF TOWN PANCHAYATS

Town Panchayats are urban areas in transition. These smaller towns act as an economic hub for nearby villages. It is important to provide quality infrastructure in Town Panchayats to meet urban aspirations of the people. It also helps in checking outward migration. The Government will ensure basic infrastructure and amenities in all Town Panchayats like protected drinking water, streetlights, health and sanitation, well laid paved roads etc.

There are 528 Town Panchayats in Tamil Nadu comprising of 8,288 wards, spreading over 6,283 SqKm area with nearly 91 lakh population.

4.1. Administration

Town Panchayats are under the administrative control of the Commissionerate of Town Panchayats and are governed by the Tamil

Nadu District Municipalities Act, 1920. Town Panchayats are grouped in 4 categories based on the annual income as detailed in Table 4.1.

Table 4.1

Category	Annual Income	Nos.
Special Grade	Exceeding Rs.200 lakh	64
Selection Grade	Exceeding Rs. 100 lakh and upto Rs. 200 lakh	202
Grade - I	Exceeding Rs. 50 lakh and upto Rs. 100 lakh	200
Grade – II	Below Rs. 50 lakh	62
	Total	528

4.2. Functions of the Town Panchayats

Town Panchayats play vital role in providing basic civic amenities to the public, like water supply, sanitation, streetlights, roads, crematoriums, parks and play fields, water

bodies, bus stands, shandies, stormwater drains etc.,

4.2.1 Water Supply

In order to provide protected water supply to all areas of the Town Panchayats, continuous action is taken to create and improve water sources. The Government will ensure supply of water at 70 LPCD to all Town Panchayats and 135 LPCD of water in towns having UGSS.

Out of 528 Town Panchayats, 110 Town Panchayats have stand-alone water supply schemes and 389 Town Panchayats receive drinking water from 129 Combined Water Supply Schemes maintained by TWAD Board. Remaining Town Panchayats receive water from local sources. At present, 38% of households are provided with functional household tap connection. It is the aim of the Government to provide functional household tap connection to

every household in all the Town Panchayats in a phased a manner.

4.2.2 Roads

Roads play important role in connecting the nearby villages with towns. Further, Town Panchayats act as the market hub for selling agricultural produce of the adjoining rural areas. Hence formation and maintenance of quality roads is one of the important functions of the Town Panchayats.

All the 528 Town Panchayats are maintaining 23,092 Km of different types of roads as detailed in Table 4.2.

Table 4.2

Sl.No.	Types of Roads	Length (Km)
1	Black Topped (BT) Roads	12,640
2	Cement Concrete (CC) Roads	5,893
3	Paver Block Roads	1,137
4	Water Bound Macadam (WBM) Roads	171

5	Gravel Roads	66
6	Earthen Roads	3,185
	Total	23,092

Existing 3,185 Km of earthen roads will be upgraded as paved roads in a phased manner.

4.2.3 Streetlights

Maintenance of streetlights is one of the important function of Town Panchayats. A total of 4,73,628 streetlights are maintained by 528 Town Panchayats, which include 3,923 high mast lights, 752 mercury lights, 28,551 sodium vapour lights, 2,15,235 tube lights, 1,05,448 CFL lights, 1,14,143 LED lights and 5,576 solar lights.

All the streetlights in Town Panchayats will be replaced by energy efficient lights such as LED lights, which will minimize energy consumption. Funds for this purpose will be

arranged by scrutinizing the savings in current consumption charges.

4.2.4 Modernisation of Bus Stands

There are 222 bus stands and 1,318 bus shelters maintained by Town Panchayats. Steps will be taken to upgrade the bus stands by providing modern facilities.

At first instance, bus stands located in Heritage / Tourism / Temple Towns will be upgraded as modern bus stands to benefit the Tourists/ Pilgrims.

4.2.5 Shandies

The weekly markets play a vital role in the economy of the town and surrounding villages. Further, these shandies improve the livelihood opportunities available to small and micro traders besides generating employment for local population. There are 646 shandies maintained

by the Town Panchayats. Action will be taken to modernise the shandies wherever required.

4.2.6 Shopping Complexes

Many industrial and business establishments are situated in Town Panchayats. Town Panchayats have many small and micro enterprises that manufacture, spare parts for the major factories. The Town Panchayats serve as a hub for supplying manpower, raw material etc., to these enterprises. Shopping complexes are required to provide business and storage spaces for the small and marginal traders with all amenities at affordable cost.

Town Panchayats have 13,711 shops. The existing shopping complexes will be modernised based on requirement. It will also augment the revenue of Town Panchayats.

4.3 Sanitation

Providing better sanitation facilities to the people is a fundamental duty of Town Panchayats. Several measures are being taken to improve the sanitation and cleanliness in the Town Panchayats.

4.3.1 Solid Waste Management

Town Panchayats have taken several steps to manage solid waste as per Solid Waste Management Rules 2016. Nearly 2,100 metric tons of solid waste is generated in Town Panchayats everyday. Out of which nearly 1,000 metric tons of waste is bio-degradable and remaining waste is non bio-degradable.

Door-to-Door collection of solid waste is carried out in 96% of households, of which 90% of solid waste is segregated at source. Efforts are being taken to improve segregation at source. Measures will be taken to compost the

bio-degradable waste and to dispose the non-biodegradable waste in an environment friendly manner.

To maintain the Town Panchayats clean and green, 7,045 sanitary workers and 14,696 self-help group members are engaged in the solid waste management activities. At present, battery operated vehicles have been provided to ease the field work of the sanitary workers and to create a safe and better working environment. At 49 places, legacy waste is being disposed through bio mining at a cost of Rs.32.72 crore. Bio mining will be taken up at the remaining sites to ensure processing and safe disposal of legacy waste.

Home composting and roof top gardening is being encouraged to reduce the solid waste collected from the households. Nearly 64,000

households are practising home composting in various Town Panchayats.

4.3.2 Liquid Waste Management

The sullage water from the residential areas flows into water bodies and get mixed with the groundwater and pollutes the environment which poses health risks to the people. In order to prevent this, action plan has been prepared to set up treatment plants to recycle the effluent and reuse the treated used water for gardening and agricultural purposes.

Action is being taken to prevent the inflow of waste water in to the water bodies and to set up sewage treatment plants wherever necessary.

4.3.3 Under Ground Sewerage Scheme (UGSS)

Under Ground Sewerage Schemes are provided in 15 Town Panchayats at a cost of Rs.540.08 crore through TWAD Board and CMWSSB. Out of which, 7 works have been completed at an estimated cost of Rs.188.90 crore. Works in 5 Town Panchayats are nearing completion and in the remaining 3 Town Panchayats works are at various stages.

It is proposed to implement UGSS scheme in 7 Town Panchayats adjoining Chennai city namely Nandivaram-Guduvancheri, Peerankaranai, Perungalathur, Chitlapakkam, Madambakkam, Mangadu and Kundrathur.

4.3.4 Faecal Sludge and Septage Management

As a pilot scheme in the State, Faecal Sludge and Septage Management (FSSM) project was implemented in Karunkuzhi Town Panchayat in Chengalpattu District and

Periyanaickenpalayam Town Panchayat in Coimbatore District at an estimated cost of Rs.5.18 crore, and Rs.2.02 crore respectively. These projects are functioning successfully.

In continuation of this, FSSM is being implemented in 8 Town Panchayats at an estimated cost of Rs.22.79 Crore. FSSM is also under implementation for 58 Town Panchayats integrated with 52 Municipalities on cluster basis at 48 locations.

Further, Feacal Sludge Treatment Plant in Thirukazhukundram Town Panchayat of Chengalpattu District is taken up at an estimated cost of Rs.0.92 crore with the aid of private sector and preliminary works are under progress.

All the Town Panchayats will be covered either with UGSS or FSTP (on cluster basis) in a phased manner.

4.3.5 Prevention and control of COVID -19

Town Panchayat have been coordinating with the District Administration for prevention and control of COVID -19 Pandemic. Household survey was carried out to identify the persons with COVID-19 symptoms and take them to medical camps for testing. Essential items such as food and medicines were distributed to the people in the Containment Zones with the help of frontline workers.

During the Second wave of the COVID-19, preventive measures are carried out with financial assistance from the SDRF at a cost of Rs.7.07 Crore and Rs.18.06 Crore from the General Fund of Town Panchayats.

The small and micro business were worst affected during the pandemic. To restore the economic activities of the street vendors, 49,705

small and micro vendors in Town Panchayats have been identified and recommended to the bank to provide a loan assistance of Rs. 10,000 each.

4.3.6 Crematoriums

There are 2,130 burial grounds in Town Panchayats. Water supply and streetlight facilities are provided in these burial grounds. There are 31 electric crematorium maintained by Town Panchayats.

Eco and people friendly electric or gasfired crematoriums will be provided in Town Panchayats based on requirement.

4.4. Environment

Due to rapid Urbanization, environment gets polluted. In order to protect the environment, steps are being taken to transform Town Panchayats into green towns by creating

parks, planting trees, rejuvenation of water sources and promoting rainwater harvesting.

Continuous action is taken to identify vacant spaces to plant and maintain native trees like Punga, Vembu, Tamarind under “Miyawaki” method. Tree plantation will be taken up in all Town Panchayats as people’s movement.

4.4.1 Rejuvenation of Water Bodies

2,366 water bodies are being maintained by the Town Panchayats. Out of which 1,415 water bodies are rejuvenated. The remaining 951 water bodies are in need of rehabilitation and rejuvenation. These water bodies will be rejuvenated to improve the water storage, and the bunds of these water bodies will be developed as green spaces under Namakku Naame Thittam with people’s participation and by dovetailing various state and schemes of the Union Government.

4.4.2 Parks

There are 648 parks in 528 Town Panchayats. Footpaths and playing equipment for the children are provided in these parks. Trees will be planted in the available open spaces in the parks. Action is being taken to identify open spaces for creating new parks. Play equipment will also be provided on need basis to promote wellness of the people.

4.5. Schemes under implementation

4.5.1 Swachh Bharat Mission

Through this project individual household toilets, community toilets and associated works have been completed. As a result, all 528 Town Panchayats have been declared as Open Defecation Free areas. Steps are being taken continuously, to attain the goal of ODF+ by recycling the faecal sludge and reusing the waste water. However, to maintain the towns as Open Defecation free continuously remains a

major challenge before the Town Panchayats. Surveys will be conducted in Town Panchayats to identify potential open defecation hot spots and action will be taken to make the Town Panchayats truly open defecation free by providing access to a toilet to everyone. Necessary preparatory activities are being carried out so as to participate in Swachh Bharat Mission 2.0 as and when it is launched.

4.5.2 PMAY (U)-Housing for All

Own house is a life time goal for all. Under this scheme, houseless are being benefited. Under Beneficiary Led Construction (BLC) component of 'Housing for All (Urban)' scheme, grant is released in 4 instalments directly to the beneficiary bank account based on the construction stages captured through Geo-Tagging method and uploaded on the portal of Ministry of Housing and Urban Affairs.

Under this scheme, a total of 88,473 beneficiaries were identified and approved by

the Central Sanctioning and Monitoring Committee, with a financial assistance of Rs.2.10 lakh per family (GoI Grant Rs.1.50 lakh and GoTN Grant Rs.0.60 lakh) for a total amount of Rs.1,857.93 crore. So far, 57,218 units have been completed and the remaining 31,255 units are in various stages, and will be completed during this year.

4.5.3 National Urban Livelihood Mission (NULM)

(i) Shelter for Urban Homeless

Under NULM scheme, 41 works have been approved and taken up at an estimated cost of Rs.16.24 crore. This includes 2 normal shelter for urban homeless and 39 special shelters for the attendants accompanying inpatients in Government Hospitals. Out of these, 36 works have been completed and the remaining 5 works are under progress.

(ii) Support to Urban Street Vendors

Under the support to urban street vendors component of DAY-NULM scheme, vending carts were approved for 228 street vendors in Velankanni Town Panchayat at a cost of Rs. 1.88 crore. Action is being taken to procure pushcarts.

4.6 State Government Schemes

4.6.1 NABARD – National Agricultural Bank and Rural Infrastructure Development Fund

NABARD bank is extending financial assistance for the construction of roads and bridges in Town Panchayats.

During 2020-21 financial year, 105 road works were taken up in 86 Town Panchayats for nearly 173 Km length at a cost of Rs93.88 crore. So far 58 works are complete and remaining 47 works are under progress. Action is being taken to complete the works early.

A sum of Rs. 200.70 crore has been provided in Revised Budget Estimates 2021-22 under this scheme.

4.6.2 Capital Grant Fund

Under Capital Grant Fund, works are taken to provide basic infrastructure such as water supply, solid waste management, storm water drains, Slaughter house, modern crematoriums, community halls, improvement to shandies, improvement to bus stands etc.,.

During 2020-21 Financial year, 229 works were taken up at an estimated cost of Rs.244.77 crore, out of which 110 works are complete and remaining 119 works are at various stages. Action is being taken to complete the works early.

A sum of Rs.203.75 crore has been allocated for the year 2021-22.

4.6.3 Operational and Maintenance Gap Filling Fund

Operational and Maintenance Gap Filling Fund is allocated to the Town Panchayats for bridging the gap in maintenance of infrastructure such as water supply schemes, underground sewerage projects and for payment of electricity bill for the water charges.

During 2020-21, 164 works were taken up at a cost of Rs.69.57 crore, out of which 151 works are complete and remaining 13 works are at various stages. Action is being taken to complete the works early.

A sum of Rs.67.91 crore has been provided in Revised Budget Estimates 2021-22 under this scheme.

4.6.4 Tamil Nadu Urban Road Infrastructure Project (TURIP)

TURIP is being implemented with a view to upgrade the urban roads with pavements and stormwater drains.

In the year 2020-21, 146 road works have been taken up for approximately 142 Km at an estimated cost of Rs.84.22 crore in 102 Town Panchayats, of which 75 road works are complete and the remaining 71 works are at various stages. Action is being taken to complete the works early.

A sum of Rs. 83 crore has been provided in Revised Budget Estimates 2021-22 under this scheme.

4.6.5 Special Roads Programme (SRP)

Special Roads Programme fund is provided to restore the roads damaged due to

implementation of UGSS, water supply schemes and natural calamities. During 2020-21, 262 road works have been taken up for 302.33 Km at an estimated cost of Rs. 150 crore in 182 Town Panchayats, out of which, 95 road works are complete and the remaining 167 works are at various stages.

4.6.6 Integrated Urban Development Mission (IUDM)

Fund provided under this scheme are used to improve basic infrastructures like roads and streets, water supply, stormwater drains, solid waste management, improvement of bus stands and parking places etc., in an integrated manner.

During the financial year 2020-21, 346 works were taken up at an estimated cost of Rs.124 crore, out of which 201 works have been completed and the remaining 145 works are in

various stages. The pending works will be completed during the current year.

4.7 e-Governance

The National Informatics Centre has developed a software to provide the requisite e-taxation services to the public in Town Panchayats. In the first phase, the software is being developed for levy and collection of five modules namely property tax, professional tax, trade license, water charges and non-tax items. In this regard, Rs.6.64 crore has been released to ELCOT for procurement of hardware and server. The above work will be completed before January 2022. On successful implementation, the e-delivery of services will be available at ease to the public in Town Panchayats.

4.8 Financial Management

4.8.1 Fifth State Finance Commission

As per recommendations of the Fifth State Finance Commission (SFC), funds released

during the year 2020-21 and 2021-22 are given in Table 4.3.

Table 4.3

(Rs. in crore)

Sl. No	Type of Grant	2020-21		2021-22	
		Allocation	Released	Allocation	Released
1	SFC Grant	999.26	999.26	1,086.69	273.31
2	Capital Grant fund	187.36	187.36	203.75	-
3	O&M fund	62.45	62.45	67.91	-
Total		1,249.07	1,249.07	1,561.34	273.31

4.8.2 Sixth State Finance Commission

Sixth State Finance Commission has been constituted by the Government on 06.03.2020. The 6th SFC will recommend release of grants for five year period from financial year 2022-23 to 2026-27.

4.8.3 Central Finance Commission

As per the recommendation of the 15th Central Finance Commission (CFC), the Government of India has allocated Grants as Untied Grant and Tied Grant to Urban Local Bodies for six years i.e. from 2020-21 to 2025-26 as given in Table 4.4.

Table 4.4 (Rs. in crore)

Sl. No	Year	Tied Grant	Untied Grant
1	2020-21	269.23	269.24
2	2021-22	166.09	110.73
3	2022-23	172.05	114.70
4	2023-24	181.90	121.27
5	2024-25	192.69	128.46
6	2025-26	196.41	130.94
Total		1,178.37	875.34

The 15th CFC Grants released by the Government of India for the year 2020-21 and 2021-22 are as given in Table 4.5.

Table 4.5

(Rs in crore)

Sl. No	Type of Grant	2020-21		2021-22	
		Allocation	Received	Allocation	Received
1	Tied Grant	269.23	269.23	166.09	-
2	Untied Grant	269.23	269.23	110.73	-
Total		538.46	538.46	276.82	-

4.8.4 Income and Expenditure details of the Town Panchayats are given in Table 4.6.

Table 4.6

(Rs in crore)

Sl.No.	Description	2019-20	2020-21
Income			
1	Tax Revenue	399.72	203.27
2	Non Tax Revenue	581.66	348.17
3	Assigned Revenue	282.17	166.72
4	SFC/CFC Grants	1,063.30	1,709.92
5	Capital Receipts	148.76	741.58
Total Income		2,475.61	3,124.53
Expenditure			
1	Establishment/Administrative	1,497.80	1,770.14
2	Capital Expenditure	1,018.04	2,899.24
Total Expenditure		2,515.84	4,669.38
Deficit		40.23	1,544.85

The details of amount payable to other agencies and outstanding loan as on 31.03.2021 are given in Table 4.7.

Table 4.7

(Rs. in crore)

Sl.No.	Particulars	Amount
1	Current consumption Charges	18.47
2	LIC Loan including interest	26.01
	Total	44.48

5. CHENNAI METROPOLITAN WATER SUPPLY AND SEWERAGE BOARD

Chennai is the fourth-most populous urban agglomeration in India and 36th largest urban area by population in the world. In 1974, Chennai city and the area contiguous to it were notified as Chennai Metropolitan Area (CMA). Subsequently, during the year 1978 Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB) was established as a statutory body under an Act of Tamil Nadu (Act 28) with the objective of exclusively attending to the growing needs of and for planned development and appropriate regulation of water supply and sewerage services in the Chennai Metropolitan Area with particular reference to the protection of public health and for all matters connected therewith.

The Board is managed by a full time Managing Director. The constitution of the Board of CMWSSB is as below:-

Board of Directors

CHAIRMAN	
1	Minister for Municipal Administration
DIRECTORS	
2	Additional Chief Secretary to Government, Municipal Administration & Water Supply Department
3	Additional Chief Secretary to Government, Finance Department
4	Managing Director, CMWSS Board
5	Principal Secretary to Government/ Commissioner, Greater Chennai Corporation
6	Member Secretary, Chennai Metropolitan Development Authority
7	Managing Director, TWAD Board
8	Executive Director, CMWSS Board
9	Additional Secretary to Government/ Finance Director, CMWSS Board
10	Engineering Director, CMWSS Board

For any city, it is imperative to provide safe drinking water and safe disposal of sewage for improving the environment and the quality of the lives of its citizens. The Government is committed to provide protected water supply and sewerage services at reasonable rates, matching international standards. In order to achieve this, over the past four decades, CMWSSB has significantly developed its capacity and capability to cater to the growing needs of Chennai city. As on date, CMWSSB is catering to nearly 85 lakh people spread over 426 sq Km in Chennai city through 15 Area offices and 200 Depots. It also supplies water to some of the adjacent local bodies and bulk industrial consumers.

Vision for the future

- Provide functional water tap connection and sewerage facility to every household in Chennai city.

- Prepare water balance plan for Chennai city to address the demand - supply gap through source augmentation and infrastructure strengthening and make it water resilient.
- Harness rain water by implementing and monitoring Rain Water Harvesting structures in each and every premise in Chennai city and prepare an Aquifer Management Plan.
- Rejuvenate and restore urban water bodies.
- Recycle / reuse at least 20% of used water.
- Metering of all Water Treatment Plants / Water Distribution Stations and bulk consumers to reduce Non Revenue Water (NRW) losses to less than 15%.

- Provide UGSS to all added areas of Chennai city and sewer connection to every household in Chennai city.
- Prevent sewage outfalls into River Adyar, River Cooum and Buckingham canal and their associated drains through short term interception and diversion arrangements and long term infrastructure strengthening works.
- Build adequate sewage treatment capacity by constructing new STPs and enhancing the capacities of the existing STPs.

5.1 Water Supply Management

5.1.1 Sources of Water Supply

City's water requirement is met out by drawing water from surface sources, desalination plants and ground water sources.

(i) Surface Water Sources

Surface water is the main source of water supply to Chennai city. Water is drawn from lakes around Chennai city such as Poondi, Redhills, Cholavaram, Chembarambakkam, Kannankottai-Thervoy Kandigai and Veeranam lake in Cuddalore district besides water from the Kandaleru reservoir under Krishna Water Supply Project.

(ii) Ground Water Sources

About 15 MLD of ground water is drawn from the aquifers at Thamaraiakkam and Poondi and 20 MLD from own sources of added areas.

(iii) Desalination Plants

Chennai has no perennial water sources in the vicinity of the city and is dependent on rainfall mainly North East monsoon. Water shortage and droughts have always been a part

of Chennai's water history and the city water supply is impacted by the poor North East monsoon. As part of drought contingency measure, CMWSSB had to explore the possibility of augmenting the supply from both conventional and non-conventional sources. Taking into account the long term drinking water requirements of the city and to drought proof the Metropolis, Government has gone in for Desalination Plants.

a) Minjur Desalination Plant

The foundation stone for setting up of first desalination plant with a capacity of 100 MLD at Minjur on Design, Build, Own, Operate and Transfer Basis (DBOOT) was laid on 25.02.2007 by Hon'ble Chief Minister when he was Minister for Rural Development and Local Administration and the plant was inaugurated on 31.07.2010 by the then Chief Minister Dr.Kalaignar. This plant caters to the needs of the northern parts of

Chennai city viz., Manali, Madhavaram, Ennore, Kathivakkam, Thiruvottiyur, Tondiarpet and Vyasarpadi benefiting a population of about 12 lakh.

b) Nemmeli Desalination Plant

Another 100 MLD desalination plant has been constructed at Nemmeli at a cost of Rs.805.08 crore with full financial assistance from Government of India. The Hon'ble Chief Minister when he was Deputy Chief Minister and Minister for Local Administration, laid the foundation stone for the construction of this plant on 23.02.2010 and after completion, the plant is operational since 2013. 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 benefiting a population of about 10 lakh.

Desalination plants play a vital role in fulfilling city's water supply requirements.

(iv) Tertiary Treated Water

In order to meet water requirement of various industries in and around Chennai city, CMWSS Board have constructed 2 Tertiary Treatment Reverse Osmosis (TTRO) Plants of 45 MLD capacity each at Koyambedu and Kodungaiyur, including pipeline to supply water to the industries in Irungattukottai, Sriperumbudur and Oragadam and in Manali-Ennore Corridor & Manali-Minjur Corridor. Both the plants are in operation and at present 23 MLD of TTRO water is being supplied from Kodungaiyur and 15 MLD from Koyambedu TTRO plant.

5.1.2 Water Treatment Plants

Installed Water Treatment capacity of the CMWSS Board is 1,494 MLD as detailed in Table 5.1.

Table 5.1

Sl. No.	Location of the Plant	Capacity (MLD)	Year of Establishment
1	Kilpauk	270	1914
2	Redhills	300	1996
3	Veeranam	180	2004
4	Chembarambakkam	530	2008
5	Surapet	14	1965 (Taken over from TWAD Board in 2009)
6	Minjur Desalination Plant	100	2010
7	Nemmeli Desalination Plant	100	2013
	Total	1,494	

The first Water Treatment Plant located at Kilpauk installed in the year 1914 is functioning continuously for over 100 years and catering to the drinking water needs of citizens.

5.1.3 Water Distribution

Water is being distributed from 16 major Water Distribution Stations and 86 subsidiary head works through a pipeline network of 5,247 Km as given in Table 5.2.

Table 5.2

Sl. No	Name of the WDS	Quantity supplied (MLD)
1	Patel Nagar	30
2	Anna Poonga	22
3	Kannappar Thidal	22
4	Vyasarpadi	32
5	Kolathur	23
6	Kilpauk	90

Sl. No	Name of the WDS	Quantity supplied (MLD)
7	Choolaimedu	40
8	Triplicane	13
9	Southern Head works	50
10	ValluvarKottam	18
11	K.K.Nagar	32
12	Ekkattuthangal	7
13	Mylapore	25
14	Nandanam	15
15	Pallipattu	32
16	Velachery	32
17	Direct supply & other small head works	187
	Piped supply in core areas	670
18	Piped supply in Added areas	116
19	Through lorries (Core+Added areas)	30
20	Bulk consumers	12
	Total domestic supply	828
21	Industries	
	(i) Treated Water	25

Sl. No	Name of the WDS	Quantity supplied (MLD)
	(ii) Secondary treated used water	23
	(iii) TTRO Water	38
	Total supply to industries	86
	Total supply	914

5.1.4 Quality Assurance

Continuous surveillance, assessment and monitoring of the water quality is very critical to assure protected water supply. For this purpose, a separate Quality Assurance Wing is functioning in CMWSS Board. Water samples are collected from surface and ground water sources, treatment plants, desalination plants, water distribution stations, subsidiary head works, city distribution system and samples from private borewells are tested for physical, chemical and bacteriological parameters to ensure that water quality is conforming to the IS

Standard 10500-2012. Establishment of one more NABL accredited lab for testing water and sewage is under progress.

Special drive to check water quality

As a part of Rain Water Harvesting campaign and Water Safety Week, CMWSSB proposes to conduct door to door survey of water sources and the quality of water. The campaign will be conducted with the help of members of Women Self Help Groups to take sample from each and every household and to test the quality parameters like Residual Chlorine (RC) and Total Dissolved Solids (TDS). This will help in providing good quality of water to enhance the health and quality of life for the citizens in Greater Chennai.

5.2 Water Supply Schemes

5.2.1 Schemes under Implementation

(i) 150 MLD capacity Desalination Plant at Nemmeli and laying of product water pipeline from desalination plant to Pallavaram

To meet the water supply demand-supply gap in Chennai city, construction of 150 MLD capacity desalination plant has been taken up at Nemmeli along the East Coast Road at South of Chennai. Government of Tamil Nadu has accorded administrative sanction at a cost of Rs.1,259.38 crore to implement the project under AMRUT scheme and financial assistance from KfW (German Development Bank).

The construction of 150 MLD desalination plant at a cost of Rs.991.40 crore and operation & maintenance (O&M) cost of Rs.697.95 crore for 20 years is in progress. The work of laying of product water transmission main from desalination plant to Pallavaram at a

construction cost of Rs.281 crore and O&M cost of Rs.74.90 crore for 20 years is in progress.

The entire work is expected to be completed by April 2023 and put in to the beneficial use. Water produced from this plant will be supplied to the southern parts of Chennai viz. Velachery, Alandur, St.Thomas Mount, Medavakkam, Kovilambakkam, Nanmangalam, Keelkattalai, Moovarasampettai, Sholinganallur, Ullagaram- Puzhuthivakkam, Madipakkam and IT corridor areas benefiting nearly 9 lakh people.

(ii) Perur Desalination Plant (400 MLD Capacity)

Chennai city's present water demand is 1,400 MLD and there is a gap of 486 MLD. In order to bridge the gap between fresh water demand and supply, it is imperative to augment the water supply by identifying additional sources.

Therefore, a 400 MLD desalination plant at Perur along East Coast Road at south of Chennai city has been planned. Government has accorded administrative sanction for setting up of the desalination plant at a cost of Rs. 6,078.40 crore, with financial assistance from JICA, TNIDB & State budgetary support. The project is at bidding stage. Action will be taken to implement the project expeditiously.

On completion of the project, about 23 lakh people living in Chennai city and its surrounding areas like Tambaram, Pallavaram, Madambakkam, Sembakkam, Chitlapakkam, Peerkangaranai, Perungalathur, Thirneermalai, Kundrathur, Kattankulathur and Mangadu will get adequate water supply.

(iii) Water supply schemes under progress in added areas

Water Supply schemes are under progress at a cost of Rs.460.56 crore in the following 18 localities.

Name of the locality	Probable date of completion
Surapet, Kathirvedu, Puthagaram and Puzhal	October 2021
Edayanchavai, Sadayankuppam, Kadapakkam, Mathur, Jaladampettai and Nerkundram	December 2021
Madhavaram, Ramapuram, Manapakkam, Okkium-Thoraipakkam, Manali, Chinnasekadu, Madipakkam and Uthandi	June 2022

(iv) Water supply improvement scheme to Valasaravakkam

Valasaravakkam water supply improvement scheme is a pilot project taken up in divisions 149 and 152 to ensure 24X7 equitable water supply adopting District Metered Area (DMA) concept at a cost of Rs 69.64 crore. The work is in progress and is expected to be completed by March 2022.

5.2.2 Improvement to Existing Water Distribution Network to reduce Wastage

Most of the water distribution pipes in the core Chennai city are more than 30 years old.

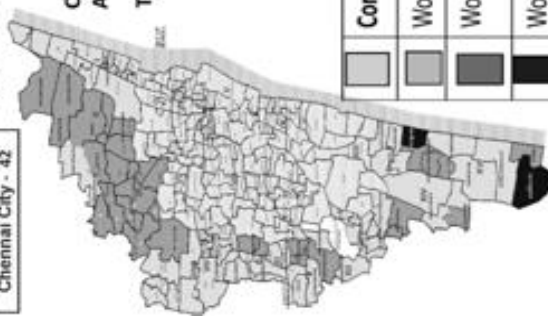
In order to ensure equitable water supply, the PMC is in the process of preparing the DPR for the improvement to existing water distribution network as part of 400 MLD desalination project. Replacement of old pipes in the core Chennai city, Providing supplementary pipes in uncovered streets, hydraulic reinforcement of the existing distribution network, storage reinforcement by constructing underground reservoir and elevated service reservoir, establishment of District Metered Areas, service connections and water meters are the components of this work.

5.2.3 Proposed Water Supply Schemes in Added Areas

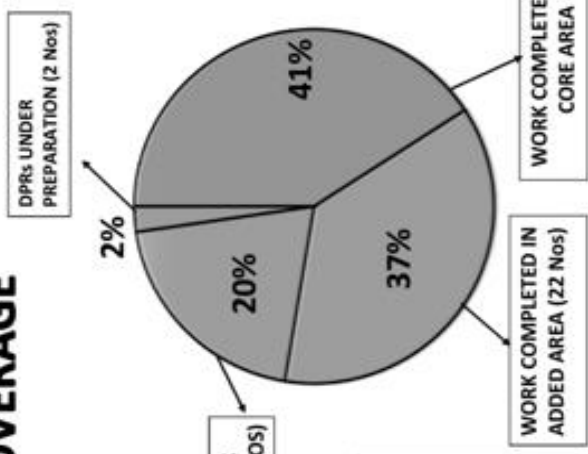
DPR for water supply schemes for Neelangarai and Semmenchery are under preparation. Work will be taken up after arranging financial tie up.

WATER SUPPLY COVERAGE

Areas in expanded Chennai City - 42



Core Area - 174 Sq.KM
 Added Area - 252 Sq.KM
 Total Area - 426 Sq. KM



Core City already in use	
Works completed	22
Works under Progress	18
Works to be taken up	02

5.2.4 Identification of Additional Water Sources

Drawl of 400 MLD water from Kazhuveli lake

Kazhuveli is one of the prioritized wetlands of Tamil Nadu situated near Marakanam, Villupuram District. The present capacity of lake is 1.5 TMC with spread area of 71 sq Km. However, at present the water is having excessive TDS and is not fit for potable purpose. Therefore, Public Works Department has taken certain works to improve the lake such as deepening and shutter repairing works. On completion of the work by PWD, the water quality is expected to improve. Thereafter feasibility study will be taken up for drawl of 400 MLD raw water from Kaluveli lake to Chembarambakkam WTP as an additional source of water to Chennai city.

5.2.5 Rain Water Harvesting

Tamil Nadu is a pioneer in implementing Rain Water Harvesting (RWH) programme in the country. Tamil Nadu is the first state in India to make installation of RWH structures mandatory for both old and new buildings.

A communication strategy was devised by CMWSSB to create awareness about the importance of Rain Water Harvesting and encourage consumers to build RWH structures. The Campaign is to target various stakeholders by using different communication methods. The campaign is carried out every year before the onset of monsoon by sensitizing the residents of Chennai city about rain water harvesting in order to reap maximum benefits during monsoon.

To implement the RWH structures in the buildings while availing 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 10.94 lakh buildings are in existence with nearly 8.86 lakh RWH structures. During the year 2020-21, over 10,600 rainwater harvesting structures were constructed while effecting new/ renewal of water and sewer connections. In order to assess the impact of installation of RWH structures, CMWSSB have installed Digital Water Level Recorders (DWLR) in all the 200 depots so as to monitor the ground water levels periodically. Readings are updated in CMWSSB website so that public can know the water levels. Observations show that there is a significant improvement in water levels and water quality after every monsoon. Recharge potential from RWH structures is nearly 3 TMC. Also, CMWSSB

have installed rain gauges in all the 15 areas for real time monitoring.

City Aquifer Management Plan

Conjunctive use of water – harmonious use of surface water, groundwater and rain water is essential to ensure availability of water without disruption and also to optimize utilization of sources. Accordingly, CMWSSB is taking up the aquifer mapping of Chennai City on the following:

- Annual ground water use in the City
- Current and future availability of ground water
- Identification of over exploitation of ground water
- Water conservation and rooftop rainwater harvesting structures

By these measures an Urban Aquifer Management Plan will be evolved and Water

Balance Plan made available for Chennai City. In addition to this, Information, Education and Communication (IEC) campaign is proposed to spread awareness and sensitize the citizens about conservation of water.

5.3 Sewerage Management

Collection, treatment and safe disposal of the used water in Chennai city is one of the primary duties of CMWSS Board. The sewerage system in the core city was installed initially in 1917 and has been divided into 5 drainage zones. These zones of macro systems covering the entire city have independent zonal collections, conveyance, treatment and disposal facilities. The sewage generated is collected in 302 sewage pumping stations through an extensive network of 4,093 Km. From these pumping stations, the sewage is conveyed to

sewage treatment plants and disposed safely after treatment.

5.3.1 Sewage Treatment Plants

The present installed capacity of sewerage treatment in the city is 745 MLD as detailed in Table 5.3.

Table 5.3

Zone	Location	Existing Treatment Capacity (MLD)
I & II	Kodungaiyur (80+80+110)	270
III	Koyambedu (34+60+120)	214
IV	Nesapakkam (54+40+23)	117
V	Perungudi (60+54+12)	126
V	Sholinganallur - I	18
	Total	745

5.3.2 Operation and Maintenance of Sewerage System

Board has mechanized the operation and maintenance of the sewerage system in order to eradicate manual scavenging. Jet Rodding machines are used to remove the obstructions in the pipe line and super sucker machines and desilting machines are used to remove solid waste in the machine holes. At present 454 machines are being deployed to maintain the sewerage system as given in Table 5.4.

Table 5.4

Sl.No	Machinery Details	Numbers
1	Desilting Machines	258
2	Jet Rodding Machines (2KL, 6KL & 9KL)	114
3	Jetting cum Suction Machines	28
4	Super Sucker Machines	54
Total		454

Every year, procurement of additional machines and equipment are procured based on requirement to maintain the system without any hassle.

5.4 Sewerage Schemes

5.4.1 Schemes under progress in added areas

Schemes are under progress at a cost of Rs.525.77 crore in the following 8 areas.

Locality	Probable date of completion
Nerkundram	June 2022
Pallikaranai, Ramapuram, Manali, Chinnasekkadu, Manapakkam, Karambakkam and Mugalivakkam	November 2022

5.4.2 Construction of new STPs and Rejuvenation of existing STPs

The Central Pollution Control Board has prescribed revised discharge norms for discharging secondary treated effluent from

Sewage Treatment Plants vide Ministry of Environment and Forest notification dated 24.11.2015. CMWSSB has taken up construction of 4 new STPs viz. Kodungaiyur - I, Kodungaiyur- II, Perungudi and Nesapakkam and improvement works for existing STPs at a cost of Rs.811.40 crore to enhance treatment capacity and to achieve new disposal standards as given in Table 5.5.

Table 5.5

Construction of new STPs		Improvement to existing STPs	
Location	Capacity (MLD)	Location	Capacity (MLD)
Kodungaiyur Zone I	120	Kodungaiyur	110
Kodungaiyur Zone II	120	Koyambedu	120+60
Nesapakkam	50	Nesapakkam	40+54
Perungudi	60	Perungudi	60+54
Total	350		498

5.4.3 Construction of additional 54 MLD Sewage Treatment Plant at Sholinganallur

To treat the sewage generated from added areas located along East Coast Road and Old Mahabalipuram Road at the southern parts of Chennai, construction of a new 54 MLD Sewage Treatment Plant at Sholinganallur with Sequential Batch Reactor (SBR) technology along with provision for power generation in the 36 MLD unit has been taken up at a cost of Rs.72.54 crore. Work is under progress and is expected to be completed by December 2021.

5.4.4 Modular Sewage Treatment Plants

In order to prevent sewage outfalls into the water ways as a part of CRRT works, Modular STPs are under construction at Chetpet (1 MLD), Choolaimedu (1.2 MLD), Thadandar Nagar (4 MLD) and Kotturpuram (0.6 MLD).

On completion of the new STPs and modular STPs under construction, two very old STPs at Kodungaiyur which have completed the

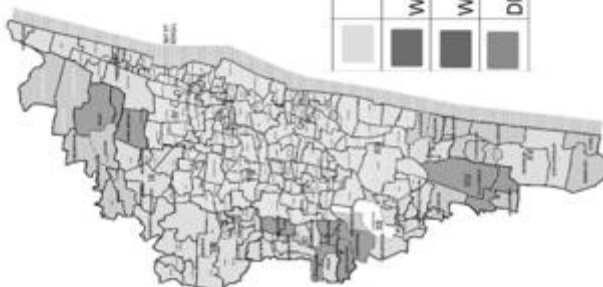
life (80+80 MLD) will be phased out and the total treatment capacity of the STPs will be enhanced to 1,057 MLD.

5.4.5 Proposed Sewerage schemes in added areas

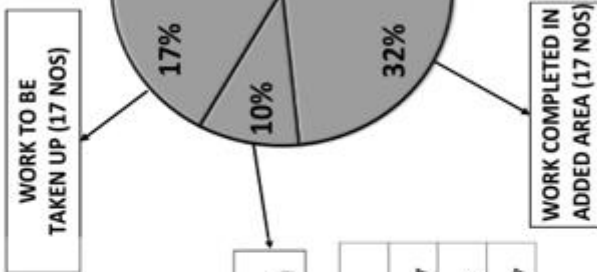
DPRs have been prepared at a project cost of Rs.750 crore for the following 5 areas viz. Injambakkam, Kottivakkam, Palavakkam, Neelangarai and Okkiyam-Thoraipakkam. DPRs have also been prepared for 9 areas viz. Jalladampettai, Nandhambakkam, Madipakkam, Puzhal, Mathur, Theeyambakkam, Vadaperumbakkam, Semmencherry, Uthandi and left out streets in Madhavaram and the estimated project cost is Rs.1,306 crore. DPR is under preparation for Edayanchavadi, Sadayankuppam and Kadapakkam. Work will be taken up after getting financial assistance.

Areas in expanded
Chennai City - 42

UNDER GROUND SEWERAGE SCHEME



Core Area - 174 Sq.KM
 Added Area - 252 Sq.KM
 Total Area - 426 Sq. KM



Category	Number of Works (NOS)
Core City already in use	17
Works Completed	8
Work under Progress	17
DPR Prepared	

5.4.6 Special works under Chennai Rivers Restoration Trust

The Government of Tamil Nadu has taken up the eco restoration plan for the Chennai waterways through Chennai Rivers Restoration Trust (CRRT). CMWSSB along with CRRT has taken up mitigation proposals for prevention of sewage outfalls into Cooum and Adyar rivers and Buckingham Canal. As part of the eco-restoration plan, CMWSSB has taken up mitigation measures for Cooum and Adyar rivers at a cost of Rs. 186.19 crore and Rs. 123.19 crore respectively.

The Government has given top priority for restoration of Chennai city waterways. Accordingly, CMWSSB has taken up the proposal of plugging of sewage outfalls in Adyar and Cooum rivers, associated drains of Cooum and Adyar, Buckingham Canal and its drains. The proposal includes interception and diversion

arrangements, strengthening / refurbishment of existing sewerage infrastructure.

Government has accorded in-principle approval for a total project cost of Rs.2,371 crore to carry out the mitigation proposals and have also accorded Administrative Sanction for Rs.1,001 crore under Phase-I to carry out the works. 34 works for a value of Rs.342.49 crore are under progress. Steps will be taken to complete the ongoing works early and commence the works for which AS has been accorded. Works were delayed for want of fund. Now, action has been taken up to get the required funds.

5.5 Recycle and Reuse

As per Central Public Health and Environmental Engineering Organisation (CPHEEO) norms, 10% of used water should be recycled and reused. Chennai is pioneer in

recycling and reuse of used water. Secondary treated sewage (23 MLD) is being supplied to the industries situated in Manali area as a part of water conservation measures. The secondary treated sewage is further treated by the industries through tertiary treatment and reverse osmosis and product water is used for industrial purposes. CMWSSB has also set up two TTRO plants for producing industrial grade water.

5.5.1 Tertiary Treatment Reverse Osmosis Plants

Two Tertiary Treatment Reverse Osmosis (TTRO) Plants of 45 MLD capacity each at Koyambedu and Kodungaiyur are operational and supplying TTRO water to industries. Recycle and reuse of used water by Tertiary Treatment Reverse Osmosis is a technology driven intervention to ensure uninterrupted supply of water to the industries. This ensures assured

and sustainable water supply to industries and reduced the fresh water supply to the industries. On the whole, 90 MLD of fresh water earlier supplied to the industries will be saved which will reduce the demand supply gap.

Water recycling offers resource and financial savings. This is a classic case of wealth creation from used water and illustration of circular economy of water. Chennai is the first Indian city to recycle and reuse 20% of its sewage, which will be the highest performance of any Indian city in that matter.

5.5.2 Tertiary Treatment Ultra Filtration Plants

To mitigate the water scarcity in Chennai city, through sustainable sources, three Tertiary Treatment Ultra Filtration (TTUF) plants of 10 MLD capacities each at Perungudi, Nesapakkam and Langs Garden are under progress. The product water will be used to

supplement the storage in Porur and Perungudi lakes. Further, the product water from Langs Garden plant will be used by Greater Chennai Corporation for gardening purpose.

Preparation of DPR for using 260 MLD of recycled used water for recharging of lakes in and around Chennai has been taken up in association with Indian Institute of Technology (IIT) and Department of Science and Technology (DST), Government of India. The Detailed Project Reports have been prepared for Perungudi and Nesapakkam in first phase. DPR has also been prepared for tertiary treatment of used water and recharging of nearby urbanised lakes.

5.6 Use of Information Technology

5.6.1 Geographical Information System (GIS)

The work of preparation of Assets and Utility Maps using Geospatial Techniques for CMWSSB under Asian Development Bank (ADB)

assisted Tamil Nadu Urban Flagship Investment Programme (TNUFIP) is being carried out through a consultant engaged by Tamil Nadu Urban Infrastructure Financial Services Limited (TNUIFSL).

Under this project all the underground and above ground assets and utilities are to be mapped in a GIS Platform for optimum management and maintenance of assets and better service delivery to the citizens. This project also covers capacity building program to the CMWSSB Engineers for managing the assets using GIS Platform in future.

5.6.2 Monitoring of Water Tankers using Global Positioning System (GPS)

To ensure equitable and regular water supply to slum areas, streets without water mains and for the streets with inadequate pressure, Board supplies water using hired water tankers. On an average around 3,800 trips are made by

the tankers and 30 MLD of water is being supplied. To ensure that water supplied through tankers is not diverted and to prevent pilferage and ensure timely delivery of water, GPS tracking of these privately hired water tankers is implemented by the Board.

5.6.3 Online Services

Consumers can avail the following online services through the Board's website www.chennaietrowater.tn.gov.in.

1. Public grievances and redressal system
2. Payment of water tax and charges
3. New water/sewer connection for residential premises (G+2 floor)
4. New water connection for industries
5. Azhaithal Inaippu
(Sewer connection- G+2 floor)
6. Booking water tanker
7. Booking for septic tank clearance
8. Provisions for ground water license

5.7 Monitoring Consumer Grievances

5.7.1. 24x7 Grievances' Redressal Cell

A 24x7 complaint cell is functioning at 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 (20 lines). The registered complaints are immediately transferred online and also by SMS to the respective Depot Engineers to rectify the defects. Accordingly, rectification of the defects is being done immediately.

5.7.2. 'Metro Water' App.

CMWSSB has introduced a mobile app '**Metro Water**' enabling the public/consumers to register their water related complaints to the concerned officers at any time, from any place through their smart mobile phones. '**Metro**

Water' app can be downloaded from Google Playstore.

Also, Public can register their details such as name, mobile number and e-mail address once and can send images / photographs related to water complaints, if any, through their smart mobile phones and inform the status. Consumers are requested to provide the details while registering their complaints. After that, an exclusive complaint no. is generated and sent to the public through SMS. Status of the complaints can also be viewed through this app.

5.7.3. Open House Meeting

To improve the service delivery to the consumers of Chennai city, 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. The senior officers of the Board preside over these meetings. The

complaints/ grievances/ suggestions received during these meetings are attended to immediately. Due to the spread of covid-19 pandemic, open house meeting could not be conducted for the past one and a half year. The Board will resume open house meetings from September, 2021 onwards by following COVID protocol.

5.8. Employee Welfare

The employees are the most important resource of the Board. Hence, the CMWSS Board gives top priority to their welfare.

In order to improve the personal hygiene among field workers, various welfare measures such as provision of uniform cloth with stitching charges, oil, bathing soaps, rain coats, shoes and safety gears are provided to the employees periodically.

In addition to the above, the following welfare measures are also provided to the employees for efficient service delivery to the consumers.

- A dispensary with a full time Medical Officer, Pharmacist and Lab Technician is functioning at the Head Office of the CMWSS Board to take care of the employees' health with primary medical equipment.
- Special medical health check-up/screening camps like eye, heart, ear and lungs etc., are conducted periodically at all levels.
- All loans and advances are settled to the eligible employees without delay.
- Special Conveyance Allowance sanctioned to all physically challenged employees of the Board as per rules.
- Retirement benefits are paid on the last day of every month.

- Death benefits are settled immediately to the legal heirs of the deceased employee, whenever the claim is received.
- All necessary safety equipment are provided to the field level workers.

5.9 Financial Position

The total revenue expenditure as per the Revised Estimate for the year 2020-21 (tentative) is Rs. 1,339 crore whereas the total income is Rs.986 crore.

The details of Income, Expenditure, Surplus/Deficit and Cumulative Deficit for the Year 2018-19 to 2020-21 are given in Table 5.6.

Table 5.6

		(Rs. crore)		
Sl. No.	Particulars	FY 2018-19	FY 2019-20	FY 2020-21
I.	<u>Revenue Income</u>			
1	Sale of Water	311	385	355

2	Water & Sewerage Tax	188	192	227
3	Sale of TTRO Water/Sewerage disposal charges	53	89	131
4	Other Income	56	53	49
5	Grants	258	372	224
	Total	866	1,091	986
II.	<u>Revenue Expenditure</u>			
1	Salary & Pension	264	282	268
2	O&M	348	322	286
3	Other Expenses (Power, Desal, R&M)	429	578	498
4	Interest	12	96	87
5	Depreciation	200	200	200
	Total	1,253	1,478	1,339
	Surplus/ Deficit	(387)	(387)	(353)
	Cumulative Deficit	(1,842)	(2,229)	(2,582)
	*These are tentative figures as the accounts are yet to be finalised			

The details of amount payable, receivable and outstanding loan as on 31.03.2021 are given in Table 5.7.

Table 5.7

		(Rs. crore)
Sl.No.	Particulars	Amount as on 31.03.2021 (Tentative)
I.	Payable	
1	CMWSSB – O&M Contractors.	110
2	Refundable Deposits	146
3	Contractors Payment (Scheme Funds)	86
	Total	342
II	Receivable (Water and Sewer Taxes & Charges)	
1	Local Bodies	22
2	Government Departments	53
3	Consumers	474
	Total	549
III	Outstanding of Loan	
	a) Principal (Including Govt Rs.1,522 Cr)	1861
	b) Interest	166
	Total	2,027

The total revenue expenditure as per the Budget Estimate for the year 2021-22 is Rs.1,364.65 crore. The total income of the Board as per the Budget Estimate is 1,081.42 crore.

Of this, the income from Water Supply and Sewerage Tax is Rs. 247.01 crore, water and sewerage charges is Rs.572.40 crore and other income is Rs. 49.38 crore. For purchase of desalinated water from Minjur (O&M) and other purposes, the Government of Tamil Nadu provides grants to the Board to the tune of Rs. 212.62 crore (B.E. 2021-22).

6. TAMIL NADU WATER SUPPLY AND DRAINAGE BOARD

The visionary, the then Hon'ble Chief Minister, Muthamizh Arignar Dr. Kalaignar, realized the importance of water supply and constituted Tamil Nadu Water Supply and Drainage Board (TWAD) through an Act of the State Legislative Assembly on 14.04.1971 as a statutory body to provide protected water supply to the people of Tamil Nadu and for implementing Under Ground Sewerage Schemes (UGSS).

TWAD Board has recently completed 50 years of its successful functioning. The Board has been performing its functions of providing protected water supply to the public and safe disposal of used water for the past 5 decades.

Board of Directors

CHAIRMAN	
1	Additional Chief Secretary to Government, Municipal Administration and Water Supply Department
DIRECTORS	
2	Additional Chief Secretary to Government, Public Works Department
3	Principal Secretary to Government, Health and Family Welfare Department
4	Principal Secretary to Government, Rural Development and Panchayat Raj Department
5	Managing Director, Chennai Metro Water Supply and Sewerage Board
6	Commissioner of Town Panchayats
7	Additional Secretary to Government, Finance Department
8	Director of Municipal Administration
9	Director of Rural Development and Panchayat Raj
10	Managing Director, TWAD Board
11	Joint Managing Director, TWAD Board
12	Finance Director, TWAD Board
13	Engineering Director, TWAD Board

TWAD Board is having Regional Offices at Vellore, Thanjavur, Coimbatore and Madurai, headed by a Chief Engineer. Under these Regions, 17 Circle Offices, 85 Divisional Offices and 259 Sub-Divisional Offices are functioning towards design, implementation of small and major Combined Water Supply Schemes (CWSS), urban stand-alone schemes and Under Ground Sewerage Schemes, besides maintenance of CWSS.

6.1 Activities of TWAD Board

- Planning and implementation of protected water supply schemes in rural and urban areas of Tamil Nadu.
- Planning and implementation of Under Ground Sewerage Schemes (UGSS) in urban areas.
- Operation and Maintenance (O&M) of CWSS.
- Testing and monitoring the quality of water supplied
- Implementing measures towards sustainability of drinking water sources.
- Research and training activities.

6.2 Vision of TWAD Board

- Implementation of stand-alone, combined water supply schemes for providing Functional house hold tap connections (FHTCs).
- Enhancing the present per capita water supply of 40 LPCD in rural areas to 55 LPCD in all the existing CWSS.
- Sustainability of the water supply schemes through strengthening of sources, recharge structures, check dams and reducing the wastage of water.

6.3 Water Supply Schemes

6.3.1 Operation and Maintenance of Combined Water Supply Schemes

Combined Water Supply Schemes (CWSS) covering more than one local body are being maintained by TWAD Board as per G.O. (Ms) No.84, Municipal Administration and Water Supply Department, dated 10.03.1994 and

adequate safe water is being supplied to the public.

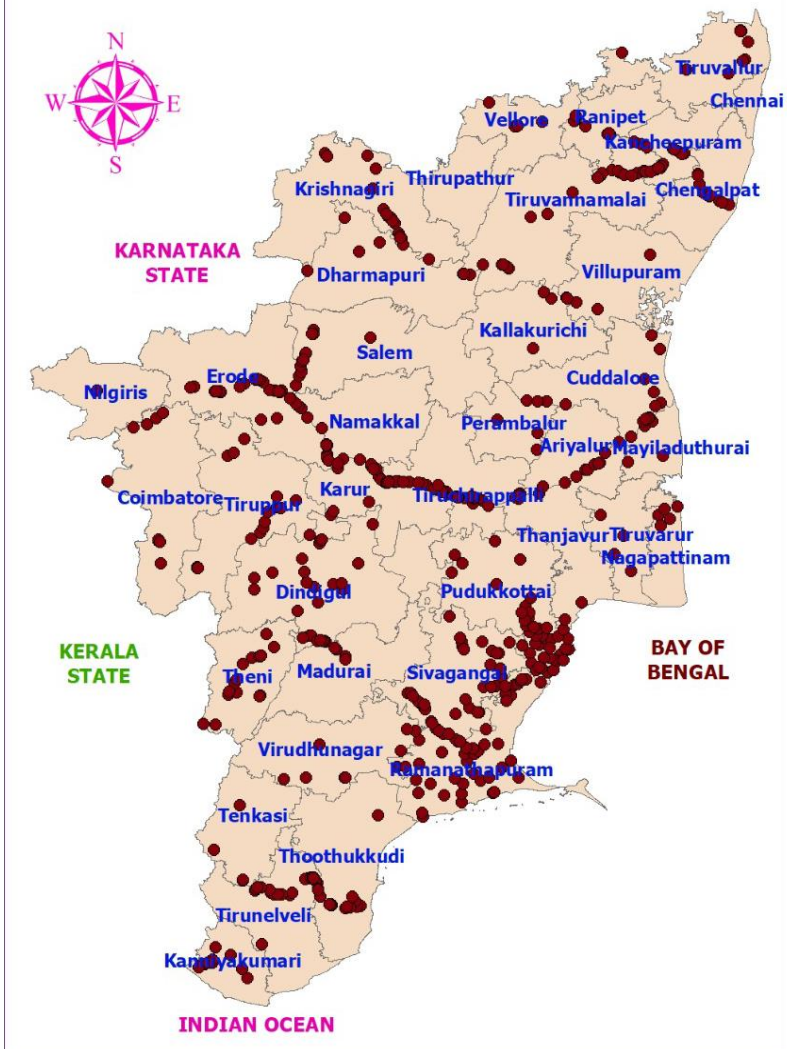
At present 558 CWSS covering 8 Corporations, 66 Municipalities, 337 Town Panchayats and 48,948 rural habitations are being maintained by TWAD Board.

On an average 1,935 million liters of water is supplied daily through the above 558 CWSS to a population of nearly 4.26 crore as detailed below in Table 6.1.

Table 6.1

Sl. No.	Beneficiaries/ Local Bodies	Nos.	Designed Quantity (MLD)	Average Supplied Quantity (MLD)
1	Corporations	8	308	254.82
2	Municipalities	66	292	252.20
3	Town Panchayats	337	390	331.14
4	Rural Habitations	48,948	1,100	1,041.50
5	Industries/Commercial Organizations	562	68	55.32
	Total	49,921	2,158	1,935 (90%)

● Maintenance of 558 CWSS by
TAMIL NADU WATER SUPPLY AND DRAINAGE BOARD



6.3.2 Special Schemes

- Based on the recommendations of the Fifth State Finance Commission (5th SFC) to rejuvenate the outlived Combined Water Supply Schemes (CWSS) to make them functional to their original capacity for atleast another 15 years, 130 CWSS were taken up for rejuvenation from 2017-18 to 2020-21 at an estimated cost of Rs. 290.80 crore under Capital Grant Fund (CGF), of which 117 works have been completed and the remaining 13 works will be completed shortly.
- 365 diesel generators are kept ready to manage any power supply failure during summer.
- Damages to pipeline and other appurtenances that occur in the CWSS due to natural calamities are rectified then and there and water supply to the public restored immediately.

6.3.3 Water Supply Schemes under Implementation

TWAD Board is implementing 53 water supply schemes with a designed quantity of 1,116.63 MLD to benefit 172.27 lakh population, of which 36 schemes are targeted for completion during 2021-22, 16 schemes during 2022-23 and one scheme during 2023-24 and bring them to the use of public.

(i) Atal Mission for Rejuvenation and Urban Transformation (AMRUT)

Under AMRUT scheme, 9 Water Supply Schemes were taken up for implementation of which, 4 schemes have been completed and 5 Water Supply Schemes for Rajapalayam Municipality, Nagercoil Corporation, Vellore Corporation, 8 Added Areas of Coimbatore Corporation and Water Supply Improvement Scheme to Coimbatore Corporation (Pillur – III) are at various stages of implementation.

(ii) Jal Jeevan Mission

Under Jal Jeevan Mission, 7 CWSS covering 2,312 rural habitations and 3 Town Panchayats in Erode, Karur, Tiruppathur, Thanjavur, Tirunelveli and Tenkasi Districts are under various stages of implementation at an estimated cost of Rs.1,347.05 crore. These schemes are designed to supply 65.73 MLD of water which will benefit 10.88 lakh population.

The details of the schemes are given below in Table 6.2.

Table 6.2

Sl. No.	District	Name of Scheme	Estimate Cost (Rs. crore)	Population (in lakh)	Water Supply (MLD)
1.	Thanjavur	CWSS to 67 rural habitations in Kumbakonam, Thirupanandal and Thiruvaidaimarudur Unions and 2 hamlets in Veppathur and	117.09	1.02	5.97

Sl. No.	District	Name of Scheme	Estimate Cost (Rs. crore)	Population (in lakh)	Water Supply (MLD)
		Thiruvudaimarudur Town Panchayats			
2.	Tenkasi and Tirunelveli	CWSS to 48 rural habitations in Alangulam and Pappakudi Unions in Tenkasi District and 1 hamlet in Mukkudal Town Panchayat	50.50	0.56	3.54
3.	Tiruppathur	CWSS to 759 rural habitations in Tiruppathur, Jolarpet Natrampalli & Kandhili Union of Tiruppathur District	182.09	2.91	13.99
4.	Karur	CWSS to 756 rural habitations in K.Paramathi and Aravakurichi Unions	440.63	2.09	16.29
5	Erode	CWSS to 442 rural habitations of Modakurichi Union	412.12	3.16	20.50
6	Erode	CWSS to 144 rural habitations of Kodumudi Union	87.68	0.50	3.13

Sl. No.	District	Name of Scheme	Estimate Cost (Rs. crore)	Population (in lakh)	Water Supply (MLD)
7	Erode	CWSS to 96 rural habitations in Gobichetipalayam and Nambiyur Unions	56.94	0.64	2.31
		Total	1,347.05	10.88	65.73

In addition to above, 2 CWSS covering 64 rural habitations in Erode and Salem Districts at an estimated cost of Rs. 26.46 crore to benefit a population of 0.73 lakh, are at tender stage.

(iii) Combined Water Supply Schemes

With an objective to provide Functional Household Tap Connections (FHTCs) to all the households in a phased manner, water supply schemes are being implemented to enhance per capita water supply from 40 LPCD to 55 LPCD in

rural areas and to provide 135 LPCD in Urban areas.

Several water supply schemes are implemented with financial assistance from Integrated Urban Development Mission (IUDM), Capital Grant Fund (CGF), World Bank assisted Tamil Nadu Sustainable Urban Development Project (TNSUDP), German Development Bank (KfW) assisted Sustainable Municipal Infrastructure Financing – Tamil Nadu (SMIF-TN-II-2), Housing Urban Development Corporation (HUDCO), Asian Development Bank (ADB), Minimum Needs Programme (MNP), National Bank for Agriculture and Rural Development (NABARD).

At present 30 CWSS covering 12 Municipalities, 49 Town Panchayats and 9,837 rural habitations in Tiruppur, Karur, Tirunelveli, Dindigul, Krishnagiri, Tiruchirapalli,

Coimbatore, Perambalur, Nagapattinam, Thanjavur, Cuddalore, Namakkal, Salem, Kanyakumari, Erode, Theni and Sivagangai Districts are at various stages of implementation at an estimated cost of Rs. 6,393.99 crore. The total designed capacity of these schemes is 538.24 MLD, which will benefit 91.17 lakh people.

The details of these schemes are given in Table 6.3 below:

Table 6.3

Sl. No.	District	Name of Scheme	Estimate Cost (Rs. crore)	Population (lakh)	Water Supply (MLD)
1	Tiruchirapalli	CWSS to 293 rural habitations in Musiri, Thathaiyangarpetai, Thuraiyur and Uppiliyapuram Unions.	140.22	1.68	9.87

Sl. No.	District	Name of Scheme	Estimate Cost (Rs. crore)	Population (lakh)	Water Supply (MLD)
2	Sivagangai	CWSS to 8 Town Panchayats and 2452 rural habitations in 11 Unions with bulk provision to 3 Municipalities.	1,752.73	16.11	86.42
3	Tenkasi and Virudhunagar	CWSS to Sankarankoil, Puliyankudi Municipalities, Thiruvankadam Town Panchayat in Tenkasi District and Rajapalayam, Sivakasi, Thiruthangal Municipalities in Virudhunagar District.	543.20	6.20	61.98
4	Virudhunagar	CWSS to Aruppukottai, Sattur and Virudhunagar Municipalities.	444.71	2.60	26.94
5	Kanyakumari	CWSS to Eranial Town Panchayat and 319 rural habitations and improvements to	174.00	3.44	35.12

Sl. No.	District	Name of Scheme	Estimate Cost (Rs. crore)	Population (lakh)	Water Supply (MLD)
		Padmanabapuram CWSS and Kattathurai CWSS.			
6	Theni	CWSS to 250 rural habitations in Kadamalaikundu - Myladumparai, Andipatti and Theni Unions.	162.43	1.78	10.70
7	Cuddalore	CWSS to Thittakudi, Pennadam, Mangalampettai, Vadalur, Kurinjipadi and Gangaikondan Town Panchayats and 625 rural habitations in Mangalore, Nallur and Vridhachalam Unions in Cuddalore Districts	479.00	7.92	41.40
8	Salem	CWSS to Ilampillai, Attayampatti, Panamarathupatt	652.84	6.03	61.23

Sl. No.	District	Name of Scheme	Estimate Cost (Rs. crore)	Population (lakh)	Water Supply (MLD)
		i, Mallur and Edanganasalai Town Panchayats, 778 rural habitations in Veerapandy, Panamarathupatti and Salem Unions.			
9	Namakkal and Salem	CWSS to Sankari, Alampalayam, Padaveedu Town Panchayats and 669 rural habitations in Pallipalayam and Tiruchengode Unions.	399.46	6.61	32.65
10	Erode and Tiruppur	CWSS to Perundururai and 7 other Town Panchayats including 547 rural habitations.	224.00	5.47	25.39
11	Coimbatore and Tiruppur	CWSS to Annur, Mooperipalayam and Avinashi Town Panchayats and bulk provision to 155	241.00	1.26	16.70

Sl. No.	District	Name of Scheme	Estimate Cost (Rs. crore)	Population (lakh)	Water Supply (MLD)
		rural habitations in Palladam and Tiruppur Unions.			
12	Coimbatore and Tiruppur	Augmentation of water supply to 708 habitations in Annur, Avinashi and Suler Unions with bulk provision to 165 rural habitations in Tiruppur Union.	362.20	6.43	36.15
13	Tiruchirapalli	CWSS to 138 rural habitations in Thottiyam Union.	49.95	0.64	3.57
14	Thanjavur	CWSS to 134 rural habitations in Kumbakonam Union.	91.13	0.97	5.45
15	Nagapattinam	Source augmentation to existing CWSS to 893 habitations.	42.46	7.03	14.93
16	Perambalur	CWSS to 73 rural habitations in Veppur Union	22.84	0.87	4.05

Sl. No.	District	Name of Scheme	Estimate Cost (Rs. crore)	Population (lakh)	Water Supply (MLD)
17	Tirunelveli	CWSS to Keelapavoor Town Panchayat and 163 rural habitations in Pappakudi Kadayam and Keelapavoor Unions	46.55	2.00	9.27
18	Tirunelveli	CWSS to 170 rural habitations in Manur and Palayamkottai Unions	32.40	1.45	6.18
19	Krishnagiri	CWSS to Uthangarai Town Panchayat and 50 other rural habitations in Uthangarai Union	28.24	0.63	2.35
20	Krishnagiri	CWSS to Sigaralapalli and 143 rural habitations in Bargur Union	31.82	0.41	1.46
21	Krishnagiri	CWSS to Nagondapalli and 27 other	8.10	0.20	0.55

Sl. No.	District	Name of Scheme	Estimate Cost (Rs. crore)	Population (lakh)	Water Supply (MLD)
		habitations in Hosur Union			
22	Krishnagiri	CWSS to Rayakottai and 28 habitations in Kalamangalam Union	8.46	0.25	0.65
23	Krishnagiri	CWSS to Velagalahalli and 39 other rural habitations in Krishnagiri Union	9.90	0.12	0.41
24	Krishnagiri	CWSS to Ennegollu and 122 other rural habitations in Veppanapalli Union	31.00	0.54	2.44
25	Cuddalore	CWSS to 35 rural habitations in Panruti and Annagramam Unions	9.21	0.48	2.20
26	Karur	CWSS to 274 rural habitations in Thanthoni Union	81.41	0.86	5.31

Sl. No.	District	Name of Scheme	Estimate Cost (Rs. crore)	Population (lakh)	Water Supply (MLD)
27	Tiruppur	CWSS to 5 Town Panchayats and 318 rural habitations in Madathukkulam and Udumalpet Unions	85.75	4.07	8.83
28	Tiruppur	CWSS to 155 rural habitations in Palladam and Tiruppur Unions	99.24	2.94	15.42
29	Coimbatore	CWSS to 212 rural habitations in Pollachi (South), Pollachi (North) and Kinathukadavu Unions	69.31	0.85	4.92
30	Tiruppur	CWSS to 165 rural habitations in 10 village panchayats of Tiruppur Union	70.43	1.34	5.70
		Total	6,393.99	91.17	538.24

(iv) Urban Stand-alone Water Supply Schemes

TWAD Board is implementing stand-alone water supply schemes for Corporations, Municipalities and Town Panchayats as a project implementation agency. On completion, the schemes are handed over to the respective urban local bodies for operation and maintenance.

Presently, 11 Water Supply Improvement Schemes (WSIS) for 1 Corporation, 6 Municipalities and 3 Town Panchayats in Tirunelveli, Theni, Madurai, Kanyakumari, Dindigul, Thiruvallur, Namakkal and Erode Districts are at various stages of implementation at an estimate cost of Rs. 776.29 crore which on completion will supply 124.02 MLD of water to benefit a population of 12.96 lakh.

The details of the schemes are given in Table 6.4 below:

Table 6.4

Sl. No	District	Name of Scheme	Est. Cost (Rs. crore)	Population benefitted (in lakh)	Water Supply (MLD)
1.	Tirunelveli	WSIS to Tirunelveli Corporation	230.00	6.88	50.00
2.	Theni	WSIS to Bodinayakanur Municipality.	76.15	1.00	15.82
3.	Theni	Dedicated Water Supply Scheme to Bodinayakanur Municipality.	30.00		
4.	Theni	WSIS to Thenkarai Town Panchayat.	9.54	0.28	2.00
5.	Madurai	WSIS to Usilampatti Municipality.	73.03	0.64	9.98
6.	Madurai	WSIS to Anaiyur Municipality.	8.97	0.72	5.40
7.	Kanyakumari	WSIS to Kuzhithurai Municipality	30.94	0.31	4.83
8.	Dindigul	WSIS to Balasamudram Town Panchayat	9.62	0.18	1.92
9.	Thiruvallur	WSIS to Tiruthani Municipality	109.68	0.85	9.44

Sl. No	District	Name of Scheme	Est. Cost (Rs. crore)	Population benefitted (in lakh)	Water Supply (MLD)
10.	Namakkal	WSIS to Namakkal Municipality.	185.24	1.84	22.09
11.	Erode	WSIS to Sivagiri Town Panchayat	13.12	0.26	2.54
		Total	776.29	12.96	124.02

6.4 Under Ground Sewerage Schemes

Under Ground Sewerage Schemes are implemented by TWAD Board with financial assistance from Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Integrated Urban Development Mission (IUDM), Capital Grant Fund (CGF), German Development Bank (KfW) assisted Sustainable Municipal Infrastructure Financing–Tamil Nadu (SMIF-TN-II-2), Housing Urban Development Corporation (HUDCO), Tamil Nadu Urban Development Project–III (TNUDP-III), Tamil Nadu Urban Development Fund (TNUDF).

6.4.1 AMRUT

UGSS to Velankanni Town Panchayat in Nagapattinam District has been completed. Four Under Ground Sewerage Schemes, at an estimated cost of Rs.1,082.49 crore, to benefit a population of 9.63 lakh covering Coimbatore Corporation and 3 Municipalities are at various stages of implementation as given in Table 6.5.

Table 6.5

Sl. No.	District	Name of ULB	Estimate Cost (Rs. crore)	Beneficiary Population (lakh)	Treatment capacity (MLD)
1	Ramanathapuram	Rameshwaram Municipality	57.60	0.43	4.08
2	Tiruppathur	Ambur Municipality	182.55	1.83	16.71
3	Virudhunagar	Rajapalayam Municipality	251.20	2.20	21.85

Sl. No.	District	Name of ULB	Estimate Cost (Rs. crore)	Beneficiary Population (lakh)	Treatment capacity (MLD)
4	Coimbatore	Kurichi and Kuniyamuthur areas of Coimbatore Corporation	591.14	5.17	30.53
		Total	1,082.49	9.63	73.17

6.4.2 Under Ground Sewerage Schemes under Other Schemes

A total of 15 Under Ground Sewerage Schemes covering 2 Corporations, 6 Municipalities and 7 Town Panchayats are at various stages of implementation at an estimated cost of Rs.1,479.32 crore. On completion of these schemes, 124.73 MLD of used water will be collected and treated as per standards benefiting 11.50 lakh people.

The details of the schemes are as given in Table 6.6.

Table 6.6

Sl. No.	District	Name of ULB	Estimate Cost (Rs. crore)	Beneficiary Population (lakh)	Treatment capacity (in MLD)
1.	Tiruchirapalli	Manachanallur Town Panchayat	30.11	0.36	4.16
2.	Tiruchirapalli	S. Kannanur Town Panchayat	19.45	0.18	2.25
3.	Thanjavur	Vallam Town Panchayat	34.51	0.20	2.35
4.	Sivagangai	Karaikudi Municipality	140.53	1.39	16.00
5.	Kanyakumari	Nagercoil Corporation.	120.01	1.54	17.66
6.	Thoothukudi	Thoothukudi Corporation.	95.00	2.65	23.85
7.	Virudhunagar	Sattur Municipality	48.39	0.36	4.63
8.	Theni	Melachokkanathapuram Town Panchayat	41.72	0.22	1.90
9.	Villupuram	Villupuram Municipality (Part)	263.00	0.60	6.91
10.	Villupuram	Tindivanam Municipality	268.00	1.00	11.44
11.	Thiruvallur	Ponneri Town Panchayat	54.78	0.57	6.52

Sl. No.	District	Name of ULB	Estimate Cost (Rs. crore)	Beneficiary Population (lakh)	Treatment capacity (in MLD)
12.	Chengalpet	Thiruporur Town Panchayat	42.00	0.33	4.02
13.	Erode	Perundurai Town Panchayat	51.50	0.33	3.14
14.	Coimbatore	Mettupalayam Municipality	100.10	0.77	8.65
15.	Coimbatore	Pollachi Municipality	170.22	1.00	11.25
		Grand Total	1,479.32	11.50	124.73

6.5. Preparation of Detailed Project Reports and Investigation for New Schemes

6.5.1. Water Supply Schemes

During the year 2020-21 administrative approval has been accorded for the following two CWSS covering 3 Municipalities, 10 Town Panchayats and 979 rural habitations in Villupuram and Namakkal Districts at an estimated cost of Rs.2,435.52 crore as given in Table 6.7. Now, action is being taken to arrange funds for these schemes.

Table 6.7

Sl. No.	District	Name of scheme	Estimate Cost (Rs. crore)	Beneficiary Population (lakh)	Water Supply (MLD)
1	Namakkal	CWSS to Rasipuram Municipality, 8 Town Panchayats and 523 rural habitations in Rasipuram, Vennandur Namagiripettai and Puduchatram unions.	932.80	4.36	86.04
2	Villupuram	Setting up of 60 MLD capacity Desalination Plant at Koonimedu in Villupuram District and conveyance of product water to Villupuram, Tindivanam Municipalities, Marakanam, Vikravandi Town Panchayats and 456 rural habitations.	1,502.72	7.33	60.00

Detailed Project Reports have been prepared for 3 CWSS covering 1 Corporation, 2 Municipalities, 11 Town Panchayats and 1,796 rural habitations in Ramanathapuram, Thoothukudi, Dindigul and Pudukkottai Districts at an estimate cost of Rs.2,629.41 crore.

The Detailed Project Reports are under preparation for 12 CWSS covering 6 Municipalities, 33 Town Panchayats and 11,519 rural habitations in Thiruvarur, Tiruchirapalli, Thanjavur, Nagapattinam, Thiruvannamalai, Vellore, Tirupathur, Ranipet, Krishnagiri, Dindigul, Tiruppur, Madurai, Tirunelveli, Namakkal and Kallakurichi Districts.

6.5.2. Under Ground Sewerage Schemes

TWAD Board is implementing Under Ground Sewerage Schemes in selected towns based on the priority fixed by Director of

Municipal Administration and Commissioner of Town Panchayats.

Board has also prepared DPR for 3 UGSS covering 2 Corporations and 1 Municipality in Chengalpattu, Krishnagiri and Coimbatore Districts at a cost of Rs.920.14 crore. Further, the DPR for providing UGSS to Thoothukudi Corporation (part) is under preparation.

6.6 Research, Design, Training and Project Management Centre

The following tasks are carried out to reduce the cost in operation and maintenance of the CWSSs maintained by TWAD Board.

- Automation of the operation of 100 Pumpsets of upto 5 HP capacity has been carried out during 2020-21 resulting in an annual saving of Rs.174.50 lakh in the maintenance expenditure.

- It is proposed to carry out automation of the operation of another 500 pumpsets at an estimated cost of Rs.10 crore which is expected to reduce the annual operation & maintenance cost by Rs.9.38 crore.
- A study is being carried out by an Energy Service Company (ESCO) for increasing the efficiency of pumpsets in Water Treatment Plant at Velliankadu in Pillur-I CWSS, which is expected to reduce the energy consumption.
- It is proposed to install sensors based on Internet of Things (IoT) for online monitoring the performance of two CWSS.

Training Activities

TWAD Board is having 4 training centers at Chennai, Coimbatore Tiruchirapalli and Madurai. Training and capacity building programmes are organized for the technical and other staff of the Board and Local Bodies through these centres.

During 2020-21, two training programmes were organized benefiting 200 personnel.

During 2021-22, it is proposed to conduct training for 1,100 field Engineers, Water Analysts and Hydro-geologists of TWAD Board and field Engineers of Rural Development Department under JJM support activities.

6.7. Material Quality Control Laboratory

Four Material Testing Laboratories are functioning at Madurai, Tiruchirapalli, Coimbatore and Tindivanam. Two of these laboratories namely Madurai and Coimbatore are NABL accredited.

The following materials are being tested in these Laboratories:

- Pipes - Poly Vinyl Chloride (PVC), High Density Poly Ethylene (HDPE), Galvanized Iron (GI), Ductile Iron (DI) and Stoneware

- Concrete design mix
- Construction material like cement, reinforcement steel, sand, coarse aggregates, bricks and concrete
- Filter media, hollow blocks, paver blocks
- Electric cables

During the year 2020-21, 10,669 samples were tested. It is proposed to test 11,000 samples during the current year 2021-22.

6.8. Hydro-geological Activities

Sustainable water sources are identified scientifically for various water supply schemes following geophysical survey method.

The remote sensing and Geographical Information Systems (GIS) are extensively utilized and District-wise Block ATLAS have been prepared and shared with all the local bodies for locating sustainable water sources.

Technical guidance is given to public and Government Organizations for water management and construction of Rain Water Harvesting (RWH) structures.

During the year 2020-21, 1,188 number of Geophysical Survey works were carried out and earned revenue of Rs. 35.47 lakh.

6.9 Rain Water Harvesting Structures

TWAD Board has taken up Sustainable Water Security Mission ("SuWaSeM") scheme at a cost of Rs. 20 crore to ensure water security by creating various RWH structures in urban areas. TWAD Board provides technical assistance and acts as a Nodal Agency for implementing this Project. This project is implemented through Directorate of Municipal Administration and Commissionerate of Town Panchayats.

TWAD Board also extends its technical support to rejuvenate the water bodies, install recharge structures and RWH structures in urban areas to make Water Resilient Cities as per the Vision of the MA&WS Department.

6.10. Water Quality Testing and Surveillance

To ensure protected water supply to public, TWAD Board has established one state level, 31 district level, 56 sub-district level and 25 block level laboratories. Through these laboratories, testing of basic chemical and bacteriological quality parameters and quality monitoring activities are carried out in rural and urban areas. The state level water testing laboratory of TWAD Board is a NABL accredited laboratory, which has been recognized as State Referral Institute for Tamil Nadu by the Union Government.

In 2020-21, 3,45,550 water samples were tested. Revenue of Rs. 7.38 lakh was realized through testing of water samples and sale of Field Water Testing Kits (FTKs).

During the year 2021-22, it has been proposed to test the quality of around 4,50,000 water samples in the state and district level laboratories with JJM and state funds. Further, it is proposed to give training for 63,000 grass-root level functionaries and Panchayat clerks for using Field Water Testing Kits.

It is also proposed to obtain NABL Accreditation for existing 31 District Laboratories and NABL Recognition for 56 Sub-Divisional laboratories and 25 Block level laboratories under JJM.

6.11 Financial Position

The total revenue expenditure as per the Revised Estimate for the year 2020-21

(Tentative) is Rs. 1,332.35 crore whereas the total income is Rs.942.18 crore.

The details of income, expenditure, surplus/deficit and cumulative deficit for the Year 2018-19 to 2020-21 are given in Table 6.8.

Table 6.8

(Rs. in crore)

Sl. No.	Particulars	FY 2018-19	FY 2019-20	FY * 2020-21 (Tentative)
I	<u>Revenue Income</u>			
1	Centage charges	167.57	182.47	199.02
2	Water charges	613.12	649.52	543.12
3	Other income	116.85	81.94	43.45
4	Grants	571.96	449.26	156.59
	Total	1,469.50	1,363.19	942.18

II.	<u>Revenue Expenditure</u>			
1	Salary	136.03	127.51	108.11
2	Pension and retirement benefits	357.09	412.07	309.70
3	Maintenance of CWSS	911.93	924.74	896.20
4	Other expenditure	26.19	25.61	18.34
	Total	1,431.24	1,489.93	1,332.35
	Surplus/ Deficit	38.26	(-)126.74	(-)390.17
	Cumulative Deficit	(2,183.89)	(2,310.63)	(2,700.80)

*Annual accounts for the year not yet finalized.

The details of amount payable, receivables and amount payable including outstanding of Loan as on 31.03.2021 are given below in Table 6.9.

Table 6.9

(Rs. in crore)

Sl.No	Particulars	Amount as on 31.03.2021 (Tentative)
I.	Payable	
1	TANGEDCO	1,518.59
2	Retirement benefits to the Board pensioners	182.40
3	CWSS – O&M contractors.	271.17
4	Contractors payment (Scheme funds)	522.46
5	Others	395.64
	Total	2,890.26*
II	Receivable (Water charges)	
1	Corporations	261.05
2	Municipalities	10.09
3	Town Panchayats	10.82
4	Village Panchayats	202.14
5	Private Beneficiaries	121.43
	Total	605.53*
III	Outstanding of LIC Loan	
	a) Principal	107.23
	b) Interest	1.59
	Total	108.82*
*Unaudited figures		

7. TAMIL NADU URBAN INFRASTRUCTURE FINANCIAL SERVICES LIMITED (TNUIFSL)

The Government of Tamil Nadu established Tamil Nadu Urban Infrastructure Financial Services Limited (TNUIFSL), in November 1996, as a Public Limited Company, with private sector participation from ICICI Bank Limited (ICICI), Housing Development Finance Corporation Limited (HDFC) and IL and FS Financial Services Limited (IL and FS). The authorized capital of the company is Rs.2.00 crore and the paid-up share capital is Rs.1.00 crore, of which a sum of Rs.49.00 lakh is contributed by the Government of Tamil Nadu.

Tamil Nadu Urban Development Fund, Water and Sanitation Pooled Fund and other Government Grant Funds are managed by TNUIFSL. The company provides a spectrum of solutions towards the development of urban infrastructure, right from concept to

commissioning of the projects. The main tasks of the company include project development, project appraisal, project structuring, resource mobilization and fund management. The company has been operating on profit since its establishment and dividends are declared and paid regularly.

7.1 Tamil Nadu Urban Development Fund (TNUDF)

The Government of Tamil Nadu established TNUDF, in November 1996, as a Trust, with private sector participation from ICICI, HDFC and IL and FS.

The objective of TNUDF is to be a sustainable financial intermediary that enhances the flow of private capital to urban sector in the State of Tamil Nadu and facilitates urban local bodies to become capable and sustainable

organizations, sensitive to stakeholders in providing the highest quality of urban services.

TNUDF has a mission “to contribute to the improvement in urban quality of life in Tamil Nadu by facilitating efficient urban infrastructure asset creation and provision of urban services through innovative project development, independent appraisal and sustainable financing”.

7.1.1 Objectives of TNUDF

The objectives of TNUDF are as follows:

- Finance urban infrastructure projects, which improve the living standards of the urban population.
- Facilitate private sector participation in infrastructure through joint ventures and public–private partnerships.

- Improve the financial management of urban local bodies and enable them to access debt finance from markets.

TNUDF provides financial assistance to Urban Local Bodies for implementation of basic service projects such as roads, bridges, storm water drains, sewerage and sanitation, water supply, solid waste management and commercially viable remunerative projects such as bus stands and market complexes.

TNUDF is managed by a corporate trustee viz., Tamil Nadu Urban Infrastructure Trustee Company Limited (TNUITCL). The fund is operated by a Fund Manager viz., the TNUIFSL.

The total corpus of the Fund is Rs.199.60 crore, of which a sum of Rs.142.91 crore has been contributed by Government of Tamil Nadu

and a sum of Rs.56.69 crore has been contributed by ICICI, HDFC and IL and FS.

7.2 Externally Aided Projects

TNUIFSL is operating three external lines of credit viz, the Sustainable Municipal Infrastructure Financing –Tamil Nadu (SMIF-TN) Programs (Phase-II-Part-1 and Part-2) assisted by German Development Bank (KfW), Tamil Nadu Sustainable Urban Development Project (TNSUDP) assisted by the World Bank and Tamil Nadu Urban Flagship Investment Program (TNUFIP) Phase-I and Phase-II assisted by Asian Development Bank. Funds totaling Rs.12,537.06 crore are available under the above three lines of credit. The details are furnished in Table 7.1.

Table 7.1

(Rs. in crore)

S I.	Components	TNSUDP	SMIF-TN		TNUFIP		Total
			Phase-II – Part 1	Phase-II – Part 2	Phase-I	Phase-II	
1	Loan to ULBs	1225.92	344.32	417.36	304.78	487.01	2779.39
2	Capital Grants to ULBs	1225.92	263.02	396.94	646.73	834.10	3366.71
3	Grant to Model Cities	389.48	0	0	0	0	389.48
4	Technical Assistance Grant / performance-based incentive	344.80	0	22.39	148.02	120.89	636.10
5	Incremental Administrative Cost and Tax	0	0	0	36.33	40.32	76.65
6	Bonds, Other Grants, ULB Contribution	644.88	0	40.70	1934.47	2668.68	5288.73
	Total	3831.00	607.34	877.39	3070.33	4151.00	12537.06

7.2.1 KfW (German Development Bank) assisted Sustainable Municipal Infrastructure Financing – Tamil Nadu (SMIF – TN) Program

The KfW, the German funding agency assisted SMIF–TN Program has been launched with the objective of contributing towards the improvement of environment, preservation of natural resources and the living conditions of the urban population. The Program has two phases (Phase-I and Phase-II). The Phase-I of the Program was completed in December 2015. The Phase–II Program has two parts i.e. Part-1 and 2.

The total outlay of SMIF–TN-Phase-II-Part-1 Program is Rs.607.34 crore (Euro 80 million). The project implementation period of the Program is between December 2012 and June 2018. However, considering the progress of sub-projects, the Program has been extended up to December 2021 by KfW. This assistance will be

provided both as loan and capital grant to the ULBs for implementing their urban infrastructure projects.

The total outlay of the SMIF–TN-Phase-II-Part-2 Program is Rs.877.39 crore (Euro 107.75 million), of which Rs.814.30 crore (Euro 100.00 million) will be provided both as loan and capital grant to ULBs for implementing their urban infrastructure projects. A sum of Rs.22.39 crore (Euro 2.75 million) has been allotted for enhancing the technical capabilities of the ULBs. A sum of Rs.40.70 crore (Euro 5.00 million) has been allotted as loan for Water and Sanitation Pooled Fund to facilitate the mobilization of resources from capital market by issue of Municipal Bonds. The project implementation period of the Program is between June 2014 and December 2019. However, considering the progress of sub-projects, the Program has been extended up to December 2022.

The funding assistance of Rs.1,424.11 crore has been committed for 35 sub-projects under the SMIF-TN-II-Part-1 and Part-2 Programs.

7.2.2 World Bank assisted Tamil Nadu Sustainable Urban Development Project (TNSUDP)

The World Bank assisted TNSUDP was launched with the objective of improving urban services in participating Urban Local Bodies in a financially sustainable manner and to pilot improved urban management practices in selected cities.

The total outlay of TNSUDP is Rs.3,831.00 crore (US \$ 600.00 million), of which the World Bank assistance is Rs.2,554.00 crore (US \$ 400.00 million). The contribution of the State Government and other sources being Rs.1,277.00 crore (US \$ 200 million). The project implementation period is between

June 2015 and March 2022. The TNSUDP has been proposed to restructure by reallocation of Rs.31.93 crore (US \$ 5.00 million) for COVID-19 care within the components of the project with a total outlay of Rs.3,888.47 crore (US \$ 609.00 million) of which World Bank assistance is Rs.2,554.00 crore (US \$ 400.00 million)

The funding assistance of Rs.2,644.49 crore has been committed for 30 sub-projects. Further, a sum of Rs.16.86 crore has been incurred for procurement of 2,000 units of Oxygen concentrators under TNSUDP.

7.2.3 Tamil Nadu Urban Flagship Investment Program (TNUFIP) assisted by Asian Development Bank (ADB)

The ADB assisted TNUFIP was launched with the objective of developing priority water supply, sewerage and drainage infrastructure located within strategic industrial corridors of Tamil Nadu, support innovative pilots, improve

urban governance and strengthen the capacity of State and local institutions to enhance environmental sustainability, climate resilience and urban livability.

TNUFIP has three phases (Phase-I, Phase-II and Phase-III). The assistance from ADB is US\$ 502 million for all the three phases.

The total outlay of Phase-I is Rs.3,070.33 crore (US \$ 477.50 million) with ADB assistance of Rs.1,099.53 crore (US \$ 171.00 million). The contribution of the State Government and other sources being Rs.1,970.80 crore (US \$ 306.50 million). The project implementation period is between November 2018 and June 2023. The funding assistance of Rs.951.51 crore has been committed for 9 sub-projects under TNUFIP Phase-I.

The total outlay of Phase-II is Rs. 4,151.00 crore (US \$ 593.00 million) with ADB assistance

of Rs.1,442.00 crore (US \$ 206.00 million). The contribution of the State Government and other sources being Rs.2,709.00 crore (US \$ 387.00 million). The project implementation period is between December 2019 and December 2025. The funding assistance of Rs.1,321.11 crore has been committed for 6 sub-projects under TNUFIP Phase-II.

The appraisal for the Phase-III of the program is under progress by ADB.

7.2.4. Externally Aided Projects under preparation

The Government has accorded in-principle approval for initiating the preparations for KfW assisted SMIF–TN-III Program with an outlay of Euro 450.00 million (about Rs.3,960.00 crore) with KfW’s assistance of Euro 300.00 million (about Rs.2,640.00 crore) and counterpart funding from Government of Tamil Nadu of Euro

150.00 million (about Rs.1,320.00 crore). In this regard, KfW has appointed consultant for scoping a new Phase of financing.

Further, the Government has accorded in-principle approval for initiating the preparations for availing KfW Grant of Euro 20.00 million (about Rs.176.00 crore). In this regard, KfW has appointed consultant for preparation of list of project ideas / proposals for availing Grants from KfW.

7.3 Water and Sanitation Pooled Fund (WSPF)

The Government of Tamil Nadu has created WSPF as a Trust to cater to civic infrastructure needs like water and sanitation in small and medium towns by raising resources from capital markets. This Trust has been created as a not-for-profit entity.

The objectives of WSPF are:

- To provide financial assistance for setting up infrastructure projects,
- To mobilize resources from the capital market under pooled finance structure,
- To facilitate the participation of private sector in water and used water sectors through direct investment and public private partnership,
- To enable urban local bodies to access debt finance from markets and
- To act as the Nodal Agency on behalf of Union and / or State Government for water, sanitation and / or any other infrastructure projects.

A sum of Rs.302.30 crore has been mobilized via taxable bonds and tax-free bonds by WSPF. Of the above, bonds of Rs.222.30 crore have been fully redeemed.

A sum of Rs.300.00 crore has been availed as loan from Housing and Urban Development Corporation Limited (HUDCO) for on-lending to 12 beneficiary ULBs for implementing Vellore Combined Water Supply Improvement Scheme. Further, it is proposed to avail loan assistance of Rs.692.99 crore (Rs.355.21 crore for Arupukottai Combined Water Supply Scheme, Rs.174.20 crore for Tindivanam Under Ground Sewerage Scheme and Rs.163.58 crore for Villupuram Under Ground Sewerage Scheme) from HUDCO.

7.4 Chennai Mega City Development Mission (CMCDM)

The Government has launched the CMCDM to provide funds to Greater Chennai Corporation and Chennai Metropolitan Water Supply and Sewerage Board to implement various urban infrastructure and basic services projects like roads, storm water drains, street lighting, water

supply and sanitation in Chennai and its suburban areas. The fund is provided through budgetary provision every year by the Government. The TNUIFSL has been designated as the Nodal Agency for CMCDM. A sum of Rs.2,500.00 crore has been allotted to implement the scheme from 2011-12 to 2015-16. The scheme has been re-launched in the year 2018 and a sum of Rs.1,500.00 crore has been allotted to implement the scheme from 2018-19 to 2020-21.

The capital grant assistance of Rs.3,991.73 crore as well as the technical grant assistance of Rs.7.90 crore have been committed under this mission, to implement projects costing Rs.9,054.38 crore. A sum of Rs.2,962.47 crore has so far been disbursed.

8. CHENNAI RIVERS RESTORATION TRUST

The Government of Tamil Nadu envisions providing clean, green and sustainable healthy environment for all in urban areas. To achieve this vision, the Chennai Rivers Restoration Trust (CRRT) is set up by the Government to enhance the ecological conditions of rivers, water bodies, creek and estuarine eco-system.

Further, CRRT is directed to carry out the primary functions of planning, coordinating and monitoring activities for the environmental restoration of rivers and water bodies, viz., Cooum, Adyar, Kosasthalaiyar Rivers, Buckingham Canal along with other canals, drains, estuaries and creeks in the Chennai Metropolitan Area.

In this direction, CRRT has undertaken various initiatives to improve ecology of the city

by engaging various line departments in its eco-restoration projects.

8.1. Completed Eco-Restoration Projects

8.1.1. Tholkappia Poonga - Eco-Restoration of Adyar Creek (58 acres)

The Government of Tamil Nadu have accorded administrative sanction of Rs.100.00 crore for the restoration of 358 acres of the Adyar Creek and Estuary area located in the eastern side of Thiru. Vi. Ka bridge vide G.O. (Ms.) No.117, Municipal Administration and Water Supply (MC1) Dept., dated: 11.10.2006. Under Phase I Government of Tamil Nadu initiated the ecological restoration of Adyar Creek with an extent of 58 acres.

Adyar creek and estuarine ecosystem was degraded due to infestation of *Prosopis juliflora*, indiscriminate disposal of sewage, solid waste and debris which subsequently resulted in the

shrinking of water spread area, reduced tidal interaction and degradation of biodiversity.

Under Phase-I, the Eco-Restoration works of Adyar Creek (58 acres) commenced in 2008. The major restoration activities undertaken in Adyar Creek were increasing the water spread and tidal interaction area, plantation of native plants such as Tropical Dry Evergreen Forest species, mangroves and its associates, reeds, etc., and landscaping for interactive environmental programmes.

Tholkappia Poonga is now functioning as a centre for Environmental Education and Research. Regular environmental education programmes are being conducted for students of school and colleges. So far, 97,595 students and 4,710 teachers from 1,166 schools have visited the eco-park and have been sensitized on the

significance of restoration and protection of urban wetlands.

Interested general public are allowed to visit the Tholkappia Poonga on Tuesdays, Thursdays and Saturdays to understand the efforts taken up by the Government in the restoration of coastal estuarine eco-system. Thus far, a total of 16,704 people have visited the Poonga.

All restoration activities were completed in 2011 and continuous maintenance is being carried out. Tholkappia Poonga is now standing as a landmark of urban coastal wetland ecological restoration initiative of the Government.

8.1.2. Eco-Restoration of Adyar Estuary (300 acres)

In continuation of the eco-restoration of Adyar creek in 58 acres, an extent of 300 acres

of Adyar creek, estuary, islets, mudflats and surrounding areas was taken up for restoration under Phase-II. The Government of Tamil Nadu have sanctioned Rs.24.93 crore for the Eco-Restoration of Adyar creek and estuary.

Under Phase-II an extent of 300 acres of Adyar creek, estuary, islets and mudflats was taken up for restoration with components of bund stabilization, removal of debris and plastics and removal of invasive species of *Prosopis juliflora*, which has now enhanced the tidal interaction and increased the water spread in the creek and estuary. To rejuvenate and enhance the biodiversity of riverine ecosystem, mangroves and native river in vegetation were planted.

A recent faunal survey in Tholkappia Poonga and Adyar estuary reported around 410 species of animals such as molluscans, crabs,

dragonflies, butterflies, fishes, amphibian, reptiles, birds and mammals. This figure stood at 141 before the restoration activity.

All envisaged restoration works have been completed and continuous maintenance is being carried out. The restored Adyar creek and estuary is functioning as an urban wetland biodiversity hub.

8.2. Ongoing Restoration Projects

As part of the initiatives taken up by the Government to enhance the ecological condition of city waterways, the Integrated Cooum River Eco-Restoration Project (ICRERP) and Adyar River Restoration Project (ARRP) are being implemented under the aegis of CRRT.

Under the eco-restoration project, various sub-projects are being implemented by concerned line departments viz., desilting works,

formation of baby canal and construction of flood protection wall by Public Works Department / Water Resources Department; Solid waste removal, fencing, beautification of bridges, boom deployment and riverfront development by Greater Chennai Corporation; Removal of solid waste and fencing along the banks by Directorate of Municipal Administration, Commissionerate of Town Panchayats and Directorate of Rural Development and Panchayat Raj in their respective areas, Laying interceptor pipelines, installing modular sewage treatment plants and underground sewerage system by Chennai Metropolitan Water Supply and Sewerage Board; Resettlement and Rehabilitation of Project Affected Families by Tamil Nadu Slum Clearance Board. Plantation of native species of riverine and mangrove vegetation to enhance the biodiversity along Adyar and Cooum river will be taken up by

respective implementing agencies under this project.

8.2.1. Integrated Cooum River Eco-Restoration Project (ICRERP)

The Cooum River originates from the surplus course of Cooum tank in Tiruvallur district. It runs east for a distance of about 70 km and confluences with the Bay of Bengal, south of Fort St. George just downstream of Napier Bridge.

The eco-restoration plan was prepared for the stretch from Paruthipattu check dam to the river mouth in the Bay of Bengal for a length of 32 km with the major components being, interception and diversion of wastewater, solid waste management, river channel improvement, rehabilitation and resettlement, biodiversity management and riverfront development.

The Government of Tamil Nadu have accorded administrative sanction of Rs.646.77 crore for the implementation of various sub-projects under ICRERP.

Regular and periodical community education programmes are being conducted by CRRT to ensure the participation of all concerned stakeholders.

All restoration works are expected to be completed by December, 2022. Thus far, Rs.308.64 crore has been disbursed to implementing agencies based on the work progress.

8.2.2. Adyar River Restoration Project (ARRP)

The Government have initiated the eco-restoration of Adyar river from its origin at Adhanur lake to the river mouth for a distance of 42 km with the major components viz., sewage management, solid waste management, river channel improvement, rehabilitation and

resettlement, biodiversity management and riverfront development.

The Government of Tamil Nadu have accorded administrative sanction of Rs.555.46 crore for the implementation of Adyar river restoration from origin to the river mouth.

The on-going eco-restoration activities are under various stages of implementation by concerned line departments and are expected to be completed by May, 2023. So far, Rs.102.06 crore has been disbursed to implementing agencies based on the work progress.

8.3. Projects set to Commence

8.3.1. Restoration of Buckingham Canal and its associated Drains and Drains of Adyar and Coom River

To ensure a holistic restoration and rejuvenation of city waterways, the Government have sanctioned Rs.1,281.88 crore for the restoration of Buckingham Canal and its

associated drains and Major drains draining into Adyar and Cooum river.

8.3.2. Eco-Restoration of Ennore Creek

In order to rejuvenate the creek eco-system, the Government have accorded administrative sanction of Rs.189.38 crore for the Eco-restoration of Ennore Creek.

9. TAMIL NADU URBAN FINANCE AND INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (TUFIDCO)

The state of infrastructure in India has been a source of interest in tapping its potential as a business destination. To cope up with the urban demand, improve the quality of urban life and to fulfill the need of infrastructure, the Government of Tamil Nadu created a specialized agency, Tamil Nadu Urban Finance and Infrastructure Development Corporation Limited (TUFIDCO) on 21.03.1990. This was incorporated as a Government Company under the Companies Act, 1956.

The vision of TUFIDCO is “to develop basic infrastructure in urban local bodies to the satisfactory level of inhabitants with sustainable facilities that attracts investments for the growth of the urban local bodies”.

9.1 The objectives of TUFIDCO

- Promote financial assistance for developmental schemes to urban local bodies / parastatal agencies
- Undertake developmental schemes in collaboration with local bodies or with Government.
- Finance schemes that is a combination of basic services and asset creation and poverty alleviation leading to a better standard of living and such other projects for development of urban areas.

TUFIDCO is the Mission Directorate / Nodal Agency for the following Union and State Government schemes:

- (i) Smart Cities Mission
- (ii) Atal Mission for Rejuvenation and Urban Transformation (AMRUT)

(iii) Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT) – Revolving Fund

(iv) Metropolitan Infrastructure Development Fund (MIDF)

(v) Integrated Urban Development Mission (IUDM)

(vi) TUFIDCO Infrastructure Funding Scheme (TIFS)

(vii) Special Roads Programme (SRP)

(viii) Fund manager for the State Government funds namely Capital Grant Fund (CGF) and Operation and Maintenance Gap Filling Fund (O&MGFF)

The details of the above schemes are given as follows:

9.2 Smart Cities Mission

The Smart Cities Mission is a flagship programme of Union Government, launched

during June 2015. The objective of the mission is to promote sustainable and inclusive cities that provide core infrastructure and give a decent quality of life to its citizens, a clean and sustainable environment and application of 'Smart' Solutions. The Union Government has selected 100 cities throughout India for developing as 'Smart Cities'. In Tamil Nadu, 11 cities namely Chennai, Coimbatore, Madurai, Thanjavur, Salem, Vellore, Tiruppur, Thoothukudi, Tirunelveli, Tiruchirappalli and Erode were selected under the Mission. Tamil Nadu has succeeded to get sanctioning of higher number of cities among the states in India under Smart Cities Mission.

As per the Smart Cities Mission guidelines, the above 11 cities have formed Special Purpose Vehicles (SPVs) in their respective cities and implementing the following Smart City projects through the Union Government allocation of

Rs.500 crore per city and the State Government allocation of Rs.500 crore per city (totally Rs.1,000 crore per city).

Under Smart Cities Mission, a total of 599 (Table 9.1) projects at a cost of Rs.10,538.18 crore have been sanctioned of which, 218 projects at a cost of Rs.2,093.54 crore have been completed, 368 projects at a cost of Rs.8,199.09 crore are being executed and the remaining 13 projects are under various stages of implementation.

Table 9.1

Sl No.	City	No. of Projects	Project Cost (Rs. in crore)
1	Chennai	49	960.22
2	Coimbatore	45	998.49
3	Madurai	14	974.38

Sl No.	City	No. of	Project
4	Thanjavur	88	967.78
5	Salem	81	965.87
6	Vellore	38	960.45
7	Tiruppur	26	975.76
8	Tirunelveli	76	895.52
9	Thoothukudi	66	974.42
10	Tiruchirappalli	74	932.19
11	Erode	42	933.10
	Total	599	10,538.18

9.3 Atal Mission for Rejuvenation and Urban Transformation (AMRUT)

In order to achieve a) every household have access to a tap with assured supply of water and a sewerage connection, b) increasing the amenity value of cities by developing greenery and well maintained open spaces (e.g. parks), and c) reducing pollution by switching to public transport or constructing facilities for non-motorized transport (e.g. walking and cycling), the Union Government has launched its flagship programme namely Atal Mission for

Rejuvenation and Urban Transformation (AMRUT) during June 2015.

The following 28 Urban Local Bodies including 15 Municipal Corporations, 12 Municipalities and 1 Town Panchayat have been selected for implementation of AMRUT in Tamil Nadu.

1.	Greater Chennai Corporation	15.	Avadi Corporation
2.	Coimbatore Corporation	16.	Pallavapuram Municipality
3.	Madurai Corporation	17.	Tambaram Municipality
4.	Tiruchirappalli Corporation	18.	Cuddalore Municipality
5.	Salem Corporation	19.	Kancheepuram Municipality
6.	Tirunelveli Corporation	20.	Tiruvannamalai Municipality
7.	Tiruppur Corporation	21.	Kumbakonam Municipality
8.	Thoothukudi Corporation	22.	Rajapalayam Municipality
9.	Thanjavur Corporation	23.	Pudukottai Municipality
10.	Erode Corporation	24.	Ambur Municipality

11.	Vellore Corporation	25.	Karaikudi Municipality
12.	Dindigul Corporation	26.	Nagapattinam Municipality
13.	Nagercoil Corporation	27.	Rameswaram Municipality
14.	Hosur Corporation	28.	Velankanni Town Panchayat

The fund contribution ratio of the Union & State Governments and the concerned ULBs for implementation of AMRUT projects laid out in AMRUT guidelines is given in Table 9.2.

Table 9.2

Sl No	Population	Govt. of India Share – Grant	State Govt. Share – Grant	ULB's share
1	Cities with more than 10 lakh population	33.33%	20%	46.67%
2	Cities with below 10 lakh population	50%	20%	30%
3	Green space (all AMRUT cities)	50%	20%	30%

9.3.1 Details of AMRUT projects

The AMRUT projects are implemented in AMRUT cities / towns based on the approval of Union Government on the State Annual Action Plans (I, II & III). Tamil Nadu has one of the highest allocation of funds among the states in the country, with a total of 445 AMRUT projects sanctioned at a cost of Rs.11441.42 crore as given in Table 9.3.

Table 9.3

(Rs. in crore)

SAAP	Total No of projects sanctioned	Approved cost	GOI share	GoTN Share	ULB share
SAAP I	111	3,245.51	1,355.29	649.10	1,241.10
SAAP II	171	3,700.45	1,531.47	740.09	1,428.90
SAAP III	163	4,495.46	1,854.39	899.08	1,742.00
Total	445	11,441.42	4,741.15	2,288.27	4,412.00

Out of a total of 445 projects, 420 projects at a cost of Rs.1,920.79 crore have been completed and the remaining 25 projects at a cost of Rs.9,520.62 crore are under implementation as given in Table 9.4.

Table 9.4

Sl. No.	Name of the Project	Project Cost (Rs crore)	Date of completion as per Agreement	Expected Date of completion
1	CMWSSB- 150 MLD SWRO Desalination Plant - NEMMELI	954.00	Dec-21	Apr-23
2	Providing Comprehensive Underground sewerage scheme to Manali, Chinnasekkadu, Karambakkam and Manapakkam in Chennai	223.00	Dec-21	Jun-22
3	CMWSSB- Improvement and Modification works of STPs in Chennai	576.76	Feb-22	Feb-22
4	CMWSSB- Valasaravakkam- Water Supply	67.74	Nov-20	Mar-23

Sl. No.	Name of the Project	Project Cost (Rs crore)	Date of completion as per Agreement	Expected Date of completion
5	CMWWSB - Desalination Pipeline	125.89	Mar-22	Jul-22
6	CMWSSB- Providing Comprehensive Water Supply Scheme to Mathur, Madipakkam, Jalladampettai and Uthandi in Chennai City	184.11	Jan-21	Aug-21
7	Coimbatore Pillur – III – Water supply	649.30	Aug-22	Aug-22
8	Implementation of 24x7 Water Supply System in the erstwhile Coimbatore Corporation	506.04	Aug-23	Aug-24
9	Coimbatore –UGSS	442.00	Oct-21	Jan-22
10	Improvement of Water Supply Distribution System to Extended 8 Added areas of Coimbatore Corporation	395.41	Feb-21	Sep-21
11	Dedicated Water Supply Scheme to Madurai Corporation from Mullai Periyar River at Lower Camp.	1020.00	May-23	May-24

Sl. No.	Name of the Project	Project Cost (Rs crore)	Date of completion as per Agreement	Expected Date of completion
12	Trichy – UGSS - Phase III	264.12	Apr-23	Apr-23
13	Trichy – UGSS - Phase II	344.00	Jan-22	Apr-22
14	Tirunelveli UGSS – Phase – III	381.86	Dec-21	Jan-23
15	Tirunelveli UGSS – Phase – II	289.01	Jul-21	Jul-22
16	Tiruppur – Water Supply	992.94	Sep-22	Sep-22
17	Tiruppur- UGSS	525.92	Jul-23	Jul-23
18	Vellore – UGSS – Phase - II	343.69	Jan-22	Jun-22
19	Vellore – UGSS – Phase – III	248.26	Mar-22	Sep-22
20	Vellore Corporation - Water Supply Improvement Scheme	234.93	Feb-21	Aug-21
21	Rameswaram UGSS	40.33	Aug-21	Mar-22
22	Ambur – UGSS	129.07	Oct-21	Collection system-Oct - 2021; STP-03/2023
23	Rajapalayam – UGSS	178.75	Mar-22	Mar-22

Sl. No.	Name of the Project	Project Cost (Rs crore)	Date of completion as per Agreement	Expected Date of completion
24	Nagercoil – Water Supply	223.44	May-21	Feb-22
25	Rajapalayam Water Supply Improvement Scheme	180.05	Feb-21	Nov-21

9.4 Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT) - Revolving Fund

TUFIDCO has created a Revolving Fund as mandated in the UIDSSMT guidelines. Under the UIDSSMT – Revolving fund, interest free loan was sanctioned to 99 ULBs for provision of internal plumbing to Water Supply and UGSS projects as given in Table 9.5.

Table 9.5 (Rs in crore)

Sl.No.	Sector	No. of Municipalities / Corporations	Amount sanctioned
1.	Water Supply	73	169.58
2.	UGSS	26	193.22
	Total	99	362.80

The projects are under various stages of execution.

9.5 Metropolitan Infrastructure Development Fund (MIDF)

Based on the guidelines of Mega City programme of Government of India, a Revolving Fund namely Metropolitan Infrastructure Development Fund (MIDF) was created to provide financial assistance to Urban Local Bodies for sanction of projects in Chennai Metropolitan Area on sustainable basis.

Under MIDF, funds have been sanctioned as soft loan to the Urban Local bodies / Parastatal Agencies for implementation of 34 projects at a cost of Rs. 4,342.65 crore, with the MIDF contribution is Rs.1,156.47 crore.

Out of 34 projects sanctioned, 29 projects have already been completed and the remaining 5 projects are under various stages of implementation.

9.6 Integrated Urban Development Mission (IUDM) Phase I (2011-16)

Integrated Urban Development Mission Phase-I, was implemented in Tamil Nadu from the financial year 2011-12 to 2016-17 (5 years). Basic infrastructure facilities such as roads, drinking water supply, streetlights, sewerage, storm water drains, sanitation, solid waste management, improvement of bus stands and parks are being implemented in all the Municipal Corporations (except Chennai), Municipalities and Town Panchayats, under this scheme.

Under IUDM-I, a total of 13,257 projects at a cost of Rs 10,773.22 crore (fully funded / partly funded) are sanctioned of which, 13,220 projects have been completed and 37 projects are under implementation.

IUDM - Phase II (FY 2018-19 – 2020-21)

Subsequent to the completion of IUDM –I Scheme, the State Government has re-launched

IUDM II during the year 2018-19 with the fund allocation of Rs.750 crore per year. Under IUDM II, the following urban infrastructure projects, as given in Table 9.6. are taken up in Urban Local Bodies (except Chennai) as per the sanctions obtained during the year 2018-19, 2019-20 and 2020-21.

Table 9.6

(Rs in Crore)

Sl. No	Sector	No. of works	Project cost	IUDM Share			
				2018-19	2019-20	2020-21	2021-22
1	Road	1,500	1,215.19	292.77	409.26	285.76	
2	Drainage	769	263.70	94.51	51.13	86.42	
3	Water Supply	89	2,650.66	225.45	335.53	80.96	67.62
4	UGD	67	703.97	121.87	94.68	238.24	
5	Park	3	9.50	-	8.53	-	

6	Shandy	2	8.40	-	1.12	4.20	
7	Bridges	3	20.15	-	4.04	12.08	
8	Bus stand	4	12.84	-	-	10.27	
9	Street Lights	12	3.81	-	-	3.04	
10	Septage	11	31.17	11.00	20.17	-	
11	Solid Waste Management	1	8.57	-	7.71	-	
12	Others	10	9.80	4.40	5.12	-	
Total		2,471	4,937.76	750.00	937.28	720.97	67.62

Out of the sanctioned 2,471 projects, 1,495 projects have been completed and the remaining 969 projects are under implementation, one project to be taken up and 6 projects are dropped.

9.7 TUFIDCO Infrastructure Funding Scheme (TIFS)

In order to provide necessary financial assistance to Urban Local Bodies and Parastatal Agencies for implementation of projects, TUFIDCO has created the TUFIDCO Infrastructure Funding Scheme (TIFS). The source of funding under this scheme is share capital, reserves & surplus and loans from Banks. The loan repayment period under TIFS is limited to 10 years.

9.8 Special Roads Programme (SRP)

The Government has accorded approval for taking up urgently required road works for a value of Rs.1,000 crore through pooled financing raised as a loan through TUFIDCO from Banks / Financial Institutions on behalf of Urban Local Bodies. Accordingly, the Greater Chennai

Corporation, Commissioner of Town Panchayats and Director of Municipal Administration have proposed to take up the following road projects, as given in Table 9.7 under Special Roads Programme for the year 2020-2021.

Table 9.7

(Rs. in crore)

Sl. No	ULBs	No. of ULBs	Length in Km	Estimated cost	Proposed allocation - Loan	ULB Contribution
1	Greater Chennai Corporation	1	256.01	150.11	150.00	0.11
2.	Directorate of Municipal Administration	102	1,349.05	804.19	700.00	104.19
3.	Commissionerate of Town Panchayats	183	302.28	150.00	150.00	0
	Total	286	1,907.34	1,104.30	1,000.00	104.30

All the projects are in various stages of implementation.

9.9 Fund Manager for the State Government Schemes

TUFIDCO is the Fund Manager for Capital Grant Fund (CGF) and Operation and Maintenance Gap Filling Fund (O&MGFF) of Government of Tamil Nadu created with the focus of enhancing the Infrastructure facilities in Urban Local Bodies.

Based on the Government sanctions, an amount of Rs.246.66 crore and Rs.85.47 crore (totally Rs.332.13 crore) have been released under CGF and O&MGFF respectively, during the year 2020-21.

10. NEW TIRUPPUR AREA DEVELOPMENT CORPORATION LIMITED

The New Tiruppur Area Development Corporation Limited was incorporated in the year 1995 as a joint stock company with participation by Government of Tamil Nadu (GoTN) through the erstwhile Tamil Nadu Corporation for Infrastructure Development (TACID) to meet the water supply and sewerage infrastructure needs of Tiruppur municipality (now Corporation) and surrounding areas of Tiruppur. Later in June 2002, it was reorganized through Tamil Nadu Water Investment Company Limited (TWIC) as promoter in which Infrastructure Leasing & Financial Services (IL&FS) owning 54% equity and GoTN owning 46% equity. This Special Purpose Vehicle (SPV) was created as first Public Private Partnership (PPP) in Water Supply and Sewerage sector in India.

A Concession agreement was signed between the Government of Tamil Nadu, Tiruppur Municipality (now Corporation) and New Tiruppur Area Development Corporation Limited (NTADCL) to implement a 185 million litre per day (MLD) water supply, expandable upto 250 MLD and 15 MLD Sewage Treatment Plant (STP), expandable upto 30 MLD. The project was completed at a cost of Rs.1023 crore with 15 institutions and private equity investors contributing Rs.322.70 crore as an equity and 19 banks & financial institutions contributing senior debt of Rs.613.80 crore and the promoters, TWIC and IL&FS, have contributed subordinate debt of Rs.86.50 crore.

The project now supplies 38.957 MLD of drinking water to Tiruppur Corporation (TCMC) and 18.26 MLD to 8 Village Panchayats and over 600 wayside rural habitations in 5 Panchayat Unions. The project also meets water supply

needs of number of hosiery and allied dyeing and processing enterprises in and around Tiruppur. A sewerage system with a capacity of 15 MLD has been constructed and currently operating at the capacity of 8 MLD of sewage collected from 15,246 households. The Low Cost Sanitation facilities through 31 sanitary complexes have also been provided for the urban poor.

The project's cross-subsidization concept was badly harmed by closure of dyeing and bleaching companies as a result of Hon'ble Madras High Court Order dated 30.01.2011, and the introduction of Common Effluent Treatment Plants (CETPs) has resulted in significant reduction of industrial demand for water in Tiruppur. This has affected NTADCL's revenue significantly making it extremely difficult for the company to service its debt obligations to banks and financial institutions. In order to address

NTADCL's bad financial position caused due to lower off take by the industries, a Corporate Debt Restructuring (CDR) package was formulated by lenders in FY 2011-12. Under the CDR, the lender restructured the loan, reduced the interest rate and converted 15% debt into equity. The GoTN also invested Rs.150 crore as equity share capital, assured additional water off take up to 100 MLD in addition to the concession agreed quantity and expanded NTADCL's operation area beyond Tiruppur Local Planning Area (TLPA). Currently, TCMC is drawing around 65 MLD of water and 10 MLD by wayside Villages for domestic use.

As a result of GoTN permitting the Company to expand its water supply infrastructure in selected areas outside (TLPA), the Company could identify customers in Palladam in Tiruppur district and Perundurai in Erode district. Apart from this, TWAD Board has implemented three

schemes to cover 461 habitations under 68 Village Panchayats in Erode, Perundurai, Chennimalai and Uthukuli Panchayat Unions of Erode and Tiruppur Districts. The expanded schemes are implemented in Konavaikal, Gangapuram, Vavikadai, Saralai, Perundurai, Vijayamangalam, Pallagoundanpalayam, Chengappalli, Sarkarperiapalayam and Agarharaperiapalayam resulting in additional domestic consumption of around 10 MLD.

Currently, the Company is supplying 39 MLD to Tiruppur Corporation, 18 MLD to wayside villages as concession quantity and 65 MLD to TCMC and 10 MLD to wayside villages as additional quantity under CDR. The water supply to industries is around 40 MLD, which is less by 10 MLD than earmarked 50 MLD due to COVID-19 pandemic. However, short supply of 10 MLD is diverted to domestic consumption.

Sustainable Development Goals (SDGs)

The following are the list of Sustainable Development Goals (SDGs) of Government of Tamil Nadu. NTADCL is in the continuous process of fulfilling the goals set out by GoTN:

No.	Goal
6.1	By 2030, achieve universal and equitable access to safe and affordable drinking water for all
6.1.3	Percentage of rural habitations with access to adequate quantity of potable water
6.2	By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
6.2.1(b)	Percentage of households with individual household latrines

NTADCL was able to turnaround as a result of CDR and the assistance provided by GoTN. The purchase of additional quantity by TCMC and other local bodies and allowing the company to expand beyond TLPA, has also contributed to

improved financial health of the Company. NTADCL is making better cash accruals thereby able to service the debts two years and seven months in advance.

NTADCL has assisted Tiruppur Corporation in preparing a Detailed Project Report (DPR) to further augment the water supply and sewerage facilities in Tiruppur Corporation and these DPRs have been sanctioned as part of the AMRUT Scheme. Further, TCMC has engaged NTADCL as "Construction, Management and Supervision Consultant".

11. TAMIL NADU WATER INVESTMENT COMPANY LIMITED

Tamil Nadu Water Investment Company Limited (TWIC) was established in the year 2000, jointly by Government of Tamil Nadu and Infrastructure Leasing and Financial Services Ltd. (IL&FS) as a special purpose vehicle under Companies Act 1956. TWIC is an investment company and promoted New Tiruppur Area Development Corporation Ltd. (NTADCL), which has implemented first Public Private Partnership in water sector in India namely New Tiruppur Area Water Project with a capacity of 185 MLD and a cost of Rs.1,023 crore.

TWIC has been actively involved in developing and implementing projects across several sectors and has expertise in water and sewerage systems, recycling, desalination, industrial effluent management and developing projects from concepts to implementation

through a model aimed at reducing life cycle costs with a sustainable framework.

TWIC provides advisory, Project Management Consultancy (PMC) and Operation and Maintenance (O&M) services in the following fields:

1. Urban Water and Sewerage Systems with focus on water reuse.
2. Desalination.
3. Industrial Effluent Management and Recycling including Zero Liquid Discharge (ZLD).
4. Lake and River Pollution Abatement.
5. Capacity building and Training.

TWIC has expertise in preparation of Detailed Project Reports, Bid Management, Project Management and O&M of various facilities in water and sewerage sector.

Government of Tamil Nadu has nominated the Additional Chief Secretary, Municipal Administration and Water Supply Department, as Ex-Officio Chairman of this company. Senior officials representing Finance; Environment, Forests & Climate Change and Industries Departments are nominated as directors of this Company.

The Board currently comprises of 10 directors of which 4 are from Government of Tamil Nadu, 3 from IL&FS, and 3 are independent directors. The day to day affairs of the company are managed by Chief Executive Officer.

11.1 Noteworthy projects executed

11.1.1 Urban Water and Used water

1. Advisory for Comprehensive Water Supply Schemes and District Metered Area (DMA)

to ULBs in Tamil Nadu under AMRUT and Smart Cities Mission.

2. Advisory for UGSS and STPs to Thoothukudi and Visakhapatnam Corporations, Pammal and Anakaputhur Municipalities.
3. Advisory for demand study and preparation of water reuse grid and Water Reuse Policy for the state of Tamil Nadu.
4. Project Management Agency (PMA) for water supply and UGSS under AMRUT / Smart Cities Mission to Thanjavur, Kumbakonam, Thoothukudi.
5. Advisory for Smart City Projects in T-Nagar area of Chennai Corporation.
6. PMA for Tertiary Treated Reverse Osmosis (TTRO) project for used water reuse for 45 MLD capacity plant at Koyambedu, Chennai.

11.1.2 CETPs with Zero Liquid Discharge (ZLD)

1. PMA services for the development of 9 Textile CETPs with ZLD in Tiruppur with the capacity ranging from 3 MLD to 11 MLD at a cost of Rs. 540 crore.
2. PMA services for upgradation of ZLD system in 8 CETPs through interest free loan from GoTN. On completion of the projects, TWIC is looking after O&M of these CETPs.
3. PMA services for five tannery CETPs, two at Ambur and one each at Vaniyambadi, Pallavaram and Melvisharam with a combined capacity of 11.55 MLD at cost of Rs. 143 Crore.
4. TWIC currently is an independent O&M operator for 5 Textile CETPs in Tiruppur.

11.1.3 Sea Water Desalination

TWIC has extended Advisory Services for 15 sea water desalination plants with the capacity ranging from 0.5 MLD to 100 MLD (8 in Gujarat, 6 in Tamil Nadu and 1 in Odisha).

11.1.4 Restoration and Rejuvenation of Water Bodies

1. DPR for 60 water bodies in Greater Chennai Corporation area.
2. Feasibility Report and proof checking for rejuvenation of Ooty lake.
3. PMC for Zamin Pallavaram Periya Eri and Keelkattalai Eri in Pallavaram Municipality.
4. DPR and PMA for Mudasarlova lake catchment in Greater Visakhapatnam Municipal Corporation.

11.2 Ongoing Schemes

1. Ministry of Textile, Government of India has sanctioned 50% grant for the following projects under Integrated Processing Development Scheme (IPDS):
 - i. PMC for Textile Processing Park with ZLD CETP at Southern District Textile Processing Cluster at Virudhunagar.
 - ii. PMA for CETP at Sree Bhavani Dyeing cluster Development Ltd. in Erode district.
 - iii. PMA for Textile Processing Park with ZLD CETP Kumarapalyam Green Kavery Dyeing Cluster and CETP at Green Environmental Association in Namakkal District.
 - iv. PMC for CETP at NextGen Textile Park at Pali, Rajasthan.

- v. PMC for CETP at Kakatiya Mega Textiles Park at Warangal, Telangana.
- vi. TWIC has prepared DPRs for implementation of ZLD CETPs under the scheme for Rejuvenation of Cauvery and its Tributaries (Proposal stage). Under the above scheme, implementation of Sree Bhavani Dyeing Cluster, Kadayampatti Dyeing Cluster and Kumarapalayam Green Kavery Cluster projects at cost of about Rs.487 crore under Phase I is proposed to be implemented by availing financial assistance under IPDS of Ministry of Textiles-GoI. For the projects, TWIC is also extending PMA services.

11.3 Major ongoing Projects

1. PMA for 20 MLD CETP for Jajmau Tannery Cluster, Kanpur- funded by National Mission for Clean Ganga, Government of India.

2. Advisory Services to Director of Municipal Administration and Commissioner of Town Panchayats for preparation of DPRs for Pollution Abatement works for the selected 27 river stretches in Tamil Nadu (DPR Stage).

3. Sea Water Desalination Projects:
 - i. PMC services to CMWSSB for 150 MLD capacity plant at Nemmeli.
 - ii. DPR and PMC for 100 MLD capacity plant at GIDC, Dahej, Gujarat.

- iii. DPR and PMC for 60 MLD capacity plant proposed by TWAD Board at Marakkanam in Villupuram district.
 - iv. DPR and PMC for 60 MLD capacity plant proposed by SIPCOT, at Mullakadu in Thoothukudi district.
 - v. DPR and PMC for 60 MLD capacity plant proposed by TWAD Board at Kuthiraimozhi in Ramanathapuram district.
 - vi. DPR and PMC for 20 MLD capacity plant proposed by SIPCOT at Cuddalore.
 - vii. DPR and PMC for 10 MLD Capacity plant at Paradeep Port Trust, Odisha.
4. Consultancy for preparation of DPR for improving the existing water supply distribution system based on District

Metered Area (DMA) in Idappadi Municipality.

5. Consultancy for preparation of DPR for providing underground sewerage scheme for left out areas in Avadi Corporation.
6. PMC services for setting up 45 MLD capacity Tertiary Treatment Reverse Osmosis (TTRO) Plant at Kodungaiyur, Chennai.
7. PMC services for implementation of Water Supply Improvement Scheme and Underground Sewerage Scheme for Kumbakonam Municipality under AMRUT and for Thanjavur Corporation under Smart Cities Mission.
8. PMC services for implementation of 28 MLD STP for Thoothukudi Corporation under Smart Cities Mission.

9. The R&D projects through grant from Indo-German Science and Technology Centre (IGSTC):
 - i. Smart and reliable water and used water infrastructure systems for the future cities of India and Germany (SMART and WISE).
 - ii. Effect based monitoring demonstrates efficiency of electrically driven water treatment processes to remove salts and micro pollutants from process water.

11.4 Awards received

1. Global Water Intelligence (GWI) Award 2014 - The Industrial Water Project of the year.

2. Water Reuse Industrial Project for the Year 2014 by the Water Reuse Association, USA.
3. The 2030 WRG Corporate Water Stewardship Award for the year 2015 by GWI, UK.

11.5 Assignments for Government of Tamil Nadu

1. Government of Tamil Nadu has nominated TWIC as Project Management Agency (PMA) for future projects relating to development and operation and maintenance of CETPs and industrial water supply through reuse of sewage water and desalination plants.
2. TWIC has also been nominated as the Project Management Agency for the Textile CETPs in Tiruppur by the Handlooms, Handicrafts, Textiles and Khadi Department.

3. The Government of Tamil Nadu, Environment, Forests & Climate Change Department has nominated TWIC for carrying out the diagnostic study, preparation of DPR, facilitating financial closure and advisory on PMC and O&M for Micro, Small, Medium Bleaching and Dyeing units in the districts of Namakkal, Erode, Salem and Karur.
4. TWIC has been nominated as “One City One Operator” for all the 18 CETPs in Tiruppur cluster by Handlooms, Handicrafts, Textiles and Khadi Department.

11.6 Assignments for Government of India

TWIC is partnering with Government of India in various projects and schemes, such as

1. TWIC's technology for ZLD has been recognized by the Ministry of Textiles and has been evaluated and accepted by the Department of Science and Technology (DST).
2. TWIC is extending PMC services to Ministry of Textiles for Integrated Processing Development Scheme for implementation of Textile based CETPs in India.
3. TWIC is consultant to National Mission for Clean Ganga (NMCG) for preparation of DPR for setting up of CETPs for various industrial clusters. TWIC is also a Project Engineer for setting up of the Jajmau Tannery CETP in Kanpur.
4. TWIC is Joint Venture partner of National Institute of Ocean Technology for providing consultancy services for implementation of Sea Water Reverse Osmosis desalination plants for ports.

11.7 Financials of the Company

The turnover of the company for the year 2020-2021 is Rs.31.26 crore as against Rs.49.64 crore in 2019-20. TWIC has paid Rs.7.50 crore during 2020-21 to Government of Tamil Nadu towards interest against loans.

11.8 Corporate Social Responsibility

TWIC as a part of Corporate Social Responsibility has provided Rs.6.18 lakh financial assistance to Greater Chennai Corporation to refurbish the shelter run for men with psycho social needs and homeless in Zone 9 and Rs.15 lakh to the State Disaster Management Authority during the year 2020 - 2021.

12. SUSTAINABLE DEVELOPMENT GOALS

The holistic development of all citizens without compromising the needs of future generations, is the broad objective of Sustainable Development. The Vision of the Government for next 10 years coincides with achieving the targets set under SDG by 2030.

Municipal Administration and Water Supply Department has a vital role in achieving the Sustainable Development Goals in the sectors relating to providing clean water, safe disposal of solid and liquid waste, creating more green spaces and affordable housing.

- This department particularly focuses on increasing the percentage of population provided with safe and adequate drinking water within their premises.
- Providing accessible toilet-facilities to all citizens, preferably individual household

toilets and thus improve sanitation in the cities.

- To have balanced approach in withdrawal of ground water against the water availability.
- Recycling and reuse of used water.
- Provision of sewerage and septage management network including treatment plants in all urban areas.
- Increasing the number of green spaces in all Urban Local Bodies.
- Providing livable houses to all in the urban areas without compromising on their livelihood.

Municipal Administration and Water Supply Department will take every possible step for achieving Sustainable Development Goals.

WAY FORWARD

Functional water tap connection to all households; water balance plan for all cities; access to toilet for all; making all cities and towns truly open defecation free; litter free, clean and green cities; providing urban services in user friendly manner without any hurdle; rejuvenating water bodies; recharge ground water and providing world class infrastructure in all cities and towns etc., among other things, is the vision of Municipal Administration and Water Supply Department. The Government intends to achieve the aforesaid vision by preparing a well laid action plan with promise to implement it in a time bound manner.

Under the dynamic and visionary leadership of Hon'ble Chief Minister, Municipal Administration and Water Supply department strives to provide quality life to all people of Tamil Nadu.

K.N. NEHRU
Minister for Municipal
Administration

