



## INFRASTRUCTURE DEVELOPMENT THRO' TAMILNADU MUNICIPALITIES

**C. Deenathayalapandian**

*Ph.D, Research Scholar in History, Madurai Kamaraj  
University, Madurai – 21, Tamil Nadu, India*

### ABSTRACT

#### KEYWORDS:

*Commissionerate, Municipality,  
Corporations, Town & Village  
Panchayats*

*The state of Tamilnadu has a well-knit administrative machinery thro which essential vital services are being implemented thro scores of municipal establishments. Functioning under the coordination of the Commissionerate of Municipal administration, as of now there are 148 municipalities, 12 city corporations besides Town and Village Panchayats. A municipality in Tamilnadu is responsible to offer the following services. Water supply, Sewage collection and disposal, Refuse removal, Electricity and gas supply, Municipal health services, Municipal roads and storm water drainage, Street lighting, Municipal parks and recreation.*

#### INTRODUCTION

The implementation of 72nd constitutional amendment act of 1994 was a landmark in the development process of Indian Municipalities. Ever since then several development schemes are being implemented from time to time, funded or financed either by Central / State / International Funding Agencies. Open secret it is, that adequate infrastructural facilities are the desiderata - which determines the overall performance of the State and the Government. Any welfare measure / scheme has been aimed at enhancing the socio-economic status of not only the society but the state, as a whole too. Unless the needs of the public are properly addressed and their demands are adequately met with, the state machinery may confront general unrest, which will challenge the ease of governance and the functions of the government. Based on this concept of infrastructure development in Tamilnadu, this paper focuses on several key areas of developments - such as integrated urban development, providing adequate water supply, efficient water management system, implementation of Rain water harvesting, initiating measures to mitigate water scarcity, streamlining underground sewerage schemes, providing safe sanitation and garbage free environment, monitoring solid waste management programmes, augmenting the well-laid transport network for vehicular and pedestrian traffic. This paper attempts to analyse in a nutshell, such infrastructural developments as they have been implemented in city corporations, municipalities and Town Panchayats, across the state of Tamilnadu.

#### Administrative Units in Tamil Nadu

The Tamil Nadu State came into existence as a separate State on 01<sup>st</sup> March 1952. The Major administrative units of the State comprise of 32 Districts, with 12 City Corporations, 148 Municipalities, 561 Town Panchayats, 73 Revenue

Divisions, 215 Taluks, 1120 Firkas, 16563 Revenue Village and 12,618 Village Panchayats, Two Cantonment Boards, 376 Non-Statutory Towns, 374 Census Towns, two Townships and 385 Blocks<sup>1</sup>.

#### Defining Municipality and its Services

A municipality is usually a single urban or administrative division having corporate status and powers of self-government or jurisdiction as granted by national and state laws to which it is subordinate. The term municipality may also mean the governing or ruling body of a given municipality. A municipality in tamilnadu is responsible to offer the following services. Water supply, Sewage collection and disposal, Refuse removal, Electricity and gas supply, Municipal health services, Municipal roads and storm water drainage, Street lighting, Municipal parks and recreation.

#### Commissionerate of Municipal Administration

The Commissionerate of Municipal Administration is the nodal Department responsible for coordinating and supervising the functions of all Municipalities and Municipal Corporations in the State except the Corporation of Chennai. The Commissionerate of Municipal Administration is headed by the Commissioner of Municipal Administration and assisted by Joint Commissioners, Additional Directors, Joint Directors and 7 Regional Directors of Municipal Administration (one each for Chengalpattu, Vellore, Salem, Tiruppur, Thanjavur, Madurai and Tirunelveli regions). The population of the Corporations (except Chennai Corporation) as per census 2011, is 80,65,843 accounting for 11.18% of the total population of the State and 23.08% of the Urban population and the annual growth rate is 1.10%. The total area under the Corporations (except Chennai Corporation) is 1278.34 sq.km.

This constitutes 9.38 % of the total urban area of the State. The population of the Municipalities as per census 2011, is 90,18,646 accounting for 12.50% of the total population of the State and 25.80% of the urban population and the annual growth rate is 1.02%. The total area under the Municipalities is 2560.12 sq.km. which constitutes 18.78 % of the total urban area of the State.

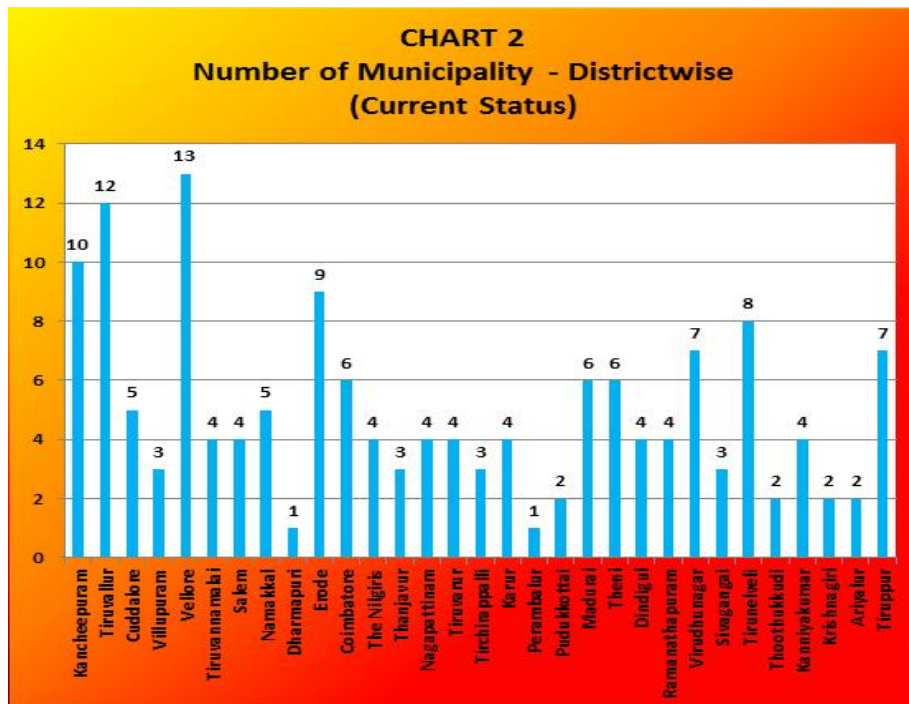
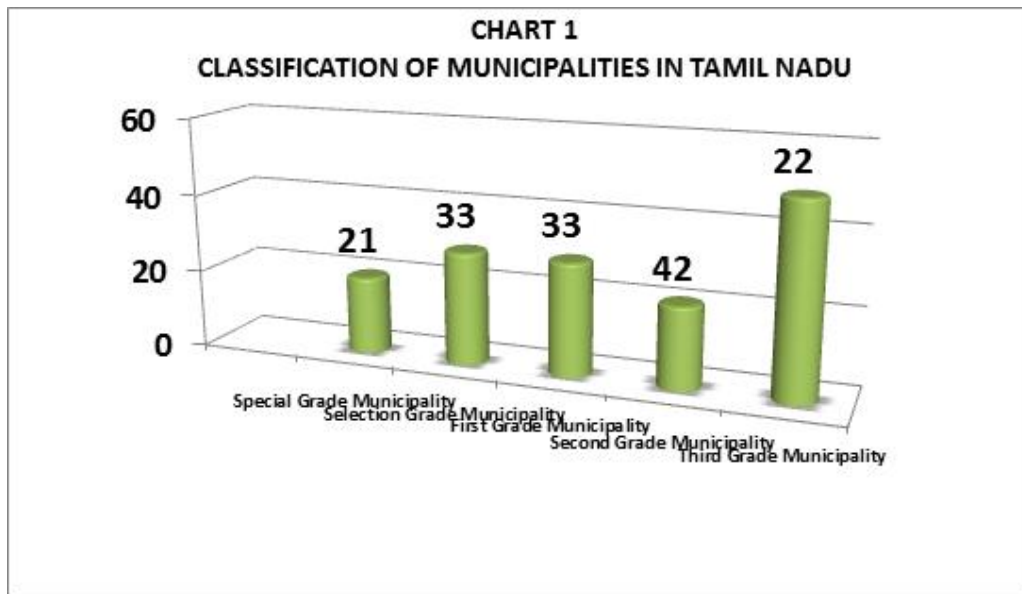
## MUNICIPALITIES IN TAMIL NADU

The Municipalities in Tamil Nadu have been classified into different Grades based on their annual income as provided in the following table.1.

**Table 1. Classification of Municipalities in Tamil Nadu**

SL.No	Grade	Annual Income (Rs. in Crore)	No. of Municipalities
1	Special Grade Municipality	Above 10.00	21
2	Selection Grade Municipality	6.00 - 10.00	33
3	First Grade Municipality	4.00 - 6.00	33
4	Second Grade Municipality	Below 4.00	42
5	Third Grade Municipality	Population Exceeding 30,000	22
	<b>Total</b>		<b>152</b>

Reference : Municipal Administration & Water Supply (Election), Department G.O. (Ms.) No.237, MAWS Dept dated 2.12.2008.



## INTEGRATED URBAN DEVELOPMENT MISSION<sup>2</sup>

The Integrated Urban Development Mission for all Corporations (except Chennai), Municipalities and Town Panchayats has given major thrust to the Infrastructure Development of the Urban Local Bodies in improving the basic standards of infrastructure like roads, drinking water supply, street lights, sewerage, storm water drains, sanitation,

solid waste management, improvement of bus stands, parks etc., in an integrated manner. During the last 3 years, 1665.80 crore has been infused for development of urban infrastructure. Out of 5598 works undertaken, 4932 have been completed, and the balance works are in various stages of implementation. The details relating to Integrated Urban Development Mission are provided in the following table 2.

**Table 2 Integrated Urban Development Mission**

Sl. No	Sector	No. of ULBs	Amount Sanctioned (in Crore)	No Sector Number of Works taken up	Completed	Works under progress
1	2	3	4	5	6	7
1.	Under ground Sewerage Scheme	26	125.52	27	0	27
2.	Water Supply	72	281.53	200	40	160
3.	Roads	55	172.97	303	92	211
4.	Storm Water Drains	9	39.55	67	3	64
5.	Solid Waste Management	20	16.74	20	0	20
6.	Street Lights	2	14.48	2	0	2
7.	Eradication of Open Construction of Toilets	77	12.50	88	4	85
<b>Total</b>		<b>261</b>	<b>663.29</b>	<b>707</b>	<b>139</b>	<b>568</b>

During 2014-15 an amount of <sup>1</sup> 500.00 crore has been sanctioned for continuing this scheme<sup>3</sup>.

## AUGMENTING WATER SUPPLY<sup>4</sup>

Norms prescribed by Central Public Health and Environmental Engineering Organization (CPHEEO) for drinking water supply in Corporations and Municipalities covered by underground sewerage system is 135 Litres Per Capita per Day (LPCD). For other cities not covered by underground sewerage system, it is 90 LPCD. The ULBs aim to implement water supply schemes with the objective of achieving these norms. Out of 11 Corporations (except Chennai), the present status of water supply in 5 Corporations is 110 LPCD and above and in 3 Corporations is in the range of 70–109 LPCD & 3 Corporations are in the range of less than 70 LPCD. Out of 124 Municipalities the present status of water supply in 42 Municipalities is 90 LPCD and above in 80 Municipalities in the range of 40 – 89 LPCD, 2 Municipalities are less than 40 LPCD. The Government has

accorded priority for the provision and access to safe and adequate drinking water to every household in the Urban Local Bodies. In order to improve the water supply situation, the government has taken up various water supply projects availing financial assistance from various external agencies as Japan International Cooperation Agency (JICA), German Development Bank (KfW), World Bank and under various schemes such as Integrated Urban Development Mission (IUDM) and Urban Infrastructure Development for Small and Medium Towns (UIDSSMT).

These schemes are being implemented by ULBs and in some cases by the para-statal agencies like Tamil Nadu Water Supply and Drainage Board (TWAD)<sup>5</sup> and the Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB). The water supply schemes under implementation with the financial assistance from different funding agencies are detailed below table 3.

**Table 3 Water Supply**

Sl.No.	Name of Scheme	Number of Projects	Project Cost (crore)
1.	Tamil Nadu Urban Development Project III	19	630.99
2.	Urban Infrastructure & Governance (JNNURM)	9	589.27
3.	Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT)	40	736.40
4.	Tamil Nadu Urban Infrastructure Programme (JICA)	9	663.68
5.	Sustainable Municipal Infrastructure Financing (KfW)	9	417.55
<b>Total</b>		<b>86</b>	<b>3037.89</b>

Under TNUDP III<sup>6</sup>, nineteen Water Supply Schemes were taken up at a cost of 630.99 crore, of which, 15 schemes have been completed. The dedicated water supply scheme in Salem Corporation is under trial run. Water Supply Improvement Schemes to Pallavapuram, Pammal and Theni Allinagaram Municipalities taken up at a cost of 211.88 crore are under progress. Under Urban Infrastructure & Governance (JNNURM), 9 water supply improvement schemes (WSIS) have been taken up at an estimated cost of ₹589.27 crore, of which 5 works have been completed. Balance 4 projects (Avadi, Thirumangalam and Water Supply Schemes for added areas of Coimbatore and Madurai Corporation) are in various stages of implementation. Under Urban Infrastructure Development Scheme for Small and Medium Towns (JnNURM)<sup>7</sup>, 40 Water Supply Improvement schemes (WSIS) were taken up, at a cost of 736.40 crore of which, 22 schemes have been completed. In Palladam, Mettur, Chidambaram, Dharapuram, Tiruchengode, Attur, Kayalpattinam, Cumbum, Kovilpatti, Karaikudi, Vandavasi, Vellakoil and Kangeyam Municipalities, the works are in various stages of implementation. In respect of Periyakulam, Thiruvathipuram, Tindivanam and Arani Municipalities, administrative sanction has been accorded and TWAD Board is implementing the projects. Water Supply Improvement Scheme work for Kodaikanal Municipality is under consideration by Government of Tamil Nadu. With the financial assistance of JICA, 9 water supply improvement schemes have been taken in Tiruchirappalli and Thoothukudi Corporations, Palani, Coonoor, Edappadi and Devakottai Municipalities at a cost of 663.68 crore. The projects in Tiruchirappalli Corporation and Devakottai Municipality are completed and remaining is under progress. Dindigul, Mettupalayam and Udumalpet Municipalities are in Tender stage. The Hogenakkal Water Supply and Fluorosis Mitigation Project has been completed at an estimated cost of 1928.80 crore which benefited Dharmapuri, Krishnagiri and Hosur Municipalities. The water supply scheme in Thoothukudi Corporation has been taken up under JICA fund at an estimated cost of 282.44 crore and the work is under progress. Under KfW fund, out of 9 works were taken up, at a cost of ₹417.55 Crores, the works in Tirunelveli Corporation, Kadayannallur and Thiruvannamalai Municipalities have been completed at a total estimated cost of ₹80.30 crore. Works in Karur, Udhamandalam, Thanthoni, Inamkarur, and Pallipalayam Municipalities are being implemented by TWAD board. New Scheme for improvement of source and distribution system in Tirunelveli Corporation is being implemented at a total estimated cost of ₹230.00 crore by the ULB.

### **TWAD BOARD PROJECTS**

Apart from the above major projects, the TWAD Board is also implementing the following Water Supply Projects: Vellore Combined Water Supply Scheme (CWSS) at an estimated cost of ₹1295.00 crore for Vellore Corporation and Ambur, Arcot, Arakkonam, Gudiyatham, Ranipet, Tirupattur, Vaniyambadi, Walajapet, Jolarpet, Melvisharam and Peranampet Municipalities. CWSS to Attur and Narasingapuram Municipalities taken up for implementation at an estimated cost of ₹270.00 crore. CWSS to Melur Municipality has been taken up at an estimated cost of ₹23.80 crore<sup>8</sup>.

## **EFFICIENT WATER MANAGEMENT SYSTEM**

The Government have given priority to the improvement of Water Management Systems in Corporations and Municipalities. The following measures have been taken: Replacing inefficient motors and pumps to improve the efficiency of the pumping system. Revamping the existing water supply network to ensure equitable distribution of water. Implementation of the Supervisory Control and Data Acquisition (SCADA) system to continuously monitor the transfer of data on water flow, performance and efficiency of pumps and motors, physical and chemical quality parameters of water, etc. have been taken up in the water supply scheme in Corporations and Municipalities. In Coimbatore Corporation, SCADA implementation has been completed by TWAD Board. For Pilur-II, DPR is under preparation. SCADA system has been partially implemented in the Corporations of Tirunelveli, Tiruppur and Madurai. In Tiruchirappalli Corporation, implementation is under progress. In Rasipuram, Komarapalayam, Tiruchengode, and Narasingapuram Municipalities, SCADA works are at Tender stage<sup>9</sup>.

## **IMPROVEMENT OF DISTRIBUTION SYSTEM**

In order to improve the distribution system in 42 ULBs, Detailed Project Reports (DPRs) have been prepared for 31 ULBs at a project cost of 695.76 crore, of which, 11 works amounting to ₹161.04 crore are being taken up under various schemes like TNUIP<sup>10</sup>, UIDSSMT<sup>11</sup>, UIG and IUDM<sup>12</sup>. DPRs are under preparation and action is being taken up to have financial tie up for the balance ULBs<sup>13</sup>.

## **RAIN WATER HARVESTING**

The path-breaking Rain Water Harvesting (RWH) Programme was launched in 2001 under the visionary leadership of the Hon'ble Chief Minister of Tamil Nadu. The vigorous implementation of this scheme during 2001-2006 has reaped rich dividends in enhancing ground water table. On the directions of the Hon'ble Chief Minister, necessary amendments were made in the Tamil Nadu District Municipalities Act, 1920, the Tamil Nadu District Municipalities Building Rules, 1972, the Multi- Storied and Public Buildings Rules, 1973 and the Madurai City Municipal Corporation Building (Water Conservation) Rules, 2002 to make rain water harvesting structures in all buildings mandatory while issuing Building Plan approval. The rain water harvesting structures created throughout the State have helped to raise the ground water table substantially. The awareness programme for Rain Water Harvesting is also being continued in all the ULBs. Upto June 2014, out of 40.99 lakh buildings in Corporations and Municipalities, 30.64 lakh buildings (20,000 Government buildings and 30.44 lakh Private buildings) have been provided with RWH structures. Rain water harvesting in the water bodies in ULBs have also been given major thrust. Out of 1478 Ponds and temple tanks, 585 have already been provided with RWH structures. With this drive, 74.75% of Buildings and 40% of Ponds and Tanks have been covered up to June 2014. The harvestable rain water from buildings and water bodies is calculated at TMC which may be recharged into the ground water (Source: TWAD). ULBs are taking effective steps to revive and rejuvenate RWH structures and to install new structures in the remaining water

bodies. During the year 2014-15, RWH structures will be taken up in remaining Buildings and 177 Ponds and Tanks in the ULBs<sup>14</sup>.

### WATER SCARCITY MITIGATION MEASURES DURING SUMMER

In order to tackle the water scarcity situation in the summer, Water Scarcity Mitigation Measures in 3 Corporations and 40 Municipalities in 11 Districts comprising severe rainfall deficit districts, have been taken up at - an estimated cost of ₹67.80 crore, of which ₹50.87 crore has been released as grant. Remaining ULBs in other 20 districts have taken up Summer Management works at an estimated cost of ₹77.22 crore. In 31 Districts, 2335 works such as rejuvenation of sources, creation of new sources, replacement of pipelines, and supply through lorries are being undertaken and 1850 works have been completed and the balance works are in progress. These works have proved to be of immense help in tackling the shortage of water in rainfall deficit districts.<sup>15</sup>

### UNDER GROUND SEWERAGE SCHEME

As per the policy decision of the Government, the implementation of UGSS<sup>16</sup> to all the Urban Local Bodies will be taken up in a phased manner. The Detailed Project Reports for 117 Municipalities and three Corporations, namely Tiruchirappalli, Coimbatore and Thoothukudi, for an estimated project cost of 8670 crore have been prepared. These DPRs have been prepared by CMWSSB, TWAD Board, and the ULBs. The implementation will be taken up in a phased manner after necessary financial tie up<sup>17</sup>.

### IMPLEMENTATION OF UNDER GROUND SEWERAGE SCHEMES

Under the Tamil Nadu Urban Development Project-III, UGSS have been taken up in 22 Towns for implementation at a total cost of ₹928.31 crore, of which the UGSS in Udthagamandalam, Chinnamanur, Namakkal, Dharmapuri, Perambalur, Dindigul(part), Thiruvannamalai, Kancheepuram, Ramanathapuram and Pallavapuram Municipalities have been completed at a cost of ₹368.26 crore. Under the Urban Infrastructure and Governance component of JnNURM, UGSS in in 4 Towns (Madurai and Coimbatore Corporations, Avadi and Tambaram Municipalities) were taken up at a total cost of ₹925.49 crore and the works are at various stages of implementation. Under the Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT) component of JnNURM, UGSS in 3 Towns (Maraimalai Nagar, Ariyalur and Udumalipet) were taken up at a total cost of ₹86.32 crore. UGSS in Maraimalai Nagar has been completed. The projects are in advanced stages of implementation in Ariyalur and Udumalipet. Upto June 2014, 2,51,981 House Service Connections have been effected in 20 ULBs (viz.Coimbatore, Dharmapuri, Thiruvannamalai, Dindigul, Pallavapuram, Maraimalainagar, Chinnamanur, Kancheepuram, Tirunelveli, Tiruchirappalli, Madurai, Udthagamandalam, Namakkal, Karur, Mayiladuthurai, Kumbakonam, Thanjavur, Tiruppur, Perambalur and Ramanathapuram) in which the Under Ground Sewerage Scheme is completed. Out of the 22 ULBs for which UGSS has been announced during the budget session of 2012-13, works are in progress in 4 ULBs (Perambalur, Ariyalur, Trichy – Srirangam and Nagercoil (Phase-I). For 17 ULBs financial closure has been achieved. The details are as following table 4.

Implementation of Under Ground Sewerage Schemes

Sl.No	Name of the Town	Source of funding	Estimated Cost(Crore)
1.	Mettur	UIDSSMT	73.09
2.	Tirupattur	UIDSSMT	104.01
3.	Arakkonam	UIDSSMT	95.52
4.	Jolarpet	UIDSSMT	79.00
5.	Sattur	UIDSSMT	37.66
6.	Periyakulam	UIDSSMT	26.60
7.	Chidambaram	UIDSSMT	75.62
8.	Pollachi	KfW	144.20
9.	Karaikudi	KfW	111.41
10.	Kodaikanal	IUDM	140.00
11.	Palani	IUDM	98.30
12.	Sathyamangalam	IUDM	54.26
13.	Rasipuram	IUDM	55.42
14.	Rameswaram	IUDM	38.94
15.	Bodinayakanur	IUDM	60.60
16.	Kumarapalayam	IUDM	107.81
17.	Bhavani	IUDM	54.55
	<b>Total</b>		<b>1356.99</b>

For Hosur Municipality Financial tie-up is being arranged under TNSUDP. The advanced techniques like trenchless technology for laying of sewer line, usage of prefabricated manholes, HDPE pipes and other modern technologies for treatment of sewage etc., are being explored<sup>18</sup>.

### SANITATION

With a vision to ensure that the towns are sanitized, healthy and liveable and sustain public health for all the citizens, the Government have brought to focus, access to safe sanitation including open defecation free and garbage free environment as priority areas<sup>19</sup>.

## ERADICATION OF OPEN DEFECATION<sup>20</sup>

Recognizing the absence of adequate number of toilets linked to Under Ground sewerage scheme, absence of sufficient and well maintained public / community toilets and the age old practice of open defecation posing serious sanitation problems and health hazards, the Government has announced the total elimination of open defecation by 2015. Necessary Guidelines and instructions were issued to the Urban Local Bodies and suitable sites have been identified for construction of toilets. A massive awareness campaign has been launched to create awareness on health hazards of open defecation and need for behavioural change. A detailed survey has been taken up by the ULBs in coordination with NGO's, to identify the locations where open defecation is still practiced. Based on the Survey, 3024 number of public toilets improvements and construction of new toilets have been contemplated by 2015-16 to eradicate open defecation. In the last 3 years, construction of 809 new toilets and rehabilitation of 1298 existing toilets have been taken up at a cost of ₹ 114.30 crore, out of which construction of 259 new toilets and rehabilitation of 1273 existing toilets has been completed and remaining are in various stages of progress. With a view to improve the usability by different types of user groups, such as Men, Women, Children, Elders, Differently Aabled, a "Universal Design Toilet-Namma Toilet" has been developed by the Commissionerate of Municipal Administration. It is being implemented in various ULBs and has received a positive feedback from all the users. On the same lines of Universal Access and Design, retrofitting manual

for Municipal Engineers for improving the existing toilets has been prepared. During 2014-15 an amount of ₹72.60 crore has been sanctioned for construction of toilets in needy places<sup>21</sup>.

## ANIMAL BIRTH CONTROL (ABC) PROGRAMME<sup>22</sup>

The Animal Birth Control (ABC) Programme is part of the Public Health function of Corporations and Municipalities. To implement the Animal Birth Control Programme in a humane manner, sanitary workers and municipal staff have been provided with training from reputed NGOs. ULBs have been provided with 60 improved vehicles at the cost of ₹3 crore for humane and painless catching of dogs. 80 Shelters for pre and post-operative care and also for mortally wounded and terminally ill dogs have been sanctioned at the cost of 2.4 crore. A survey was conducted and stray dogs in all the Corporations (other than Chennai) and Municipalities were estimated as 2,90,116. Out of which, 71,985 dogs were sterilised till June 2014. Further, action is being taken to sterilize the remaining dogs in a phased manner<sup>23</sup>.

## SOLID WASTE MANAGEMENT<sup>24</sup>

In Tamil Nadu about 7297 MT of Municipal Solid Waste is being generated daily in 11 Corporations and 124 Municipalities. The Government has given a major thrust to Solid Waste Management. To strengthen primary collection and transportation of Municipal Solid Waste, the following vehicles and equipments have been procured the details are as following table 5.

**Table 5 Solid Waste Management**

Sl.No	Details	Nos	Cost in Lakhs
1.	Push carts	4535	453.50
2.	Tricycles	857	128.55
3.	Mini Autorickshaws	84	487.20
4.	Tipper lorries	115	1725.00
5.	Dumper Placer Lorries	175	3500.00
6.	Compactor Vehicles	71	1278.00
7.	Front End Loaders	58	1392.00
8.	Tractors	6	36.00
9.	Dumper Placer Bins	4479	2239.50
10.	Street Bins	3004	540.72
11.	Compactor Bins	2938	1127.75
	<b>Total</b>	<b>16322</b>	<b>12908.22</b>

The Government had announced Waste to Energy Project for Tirunelveli Corporation at an estimated project cost of 55.00 crore which is under implementation. Transaction Advisor has been appointed for the implementation of Municipal Solid Waste Management Projects in 6 identified clusters namely, Tiruchirappalli, Tiruppur, Tirunelveli, Thoothukudi, Vellore Corporation and Nagercoil Municipality. Detailed Project Report has been prepared and is being posed for financial tie up. As per the direction of the Hon'ble Chief Minister, a Special Solid Waste Management (SWM) Fund has been constituted with a sum of ₹100.00 crore for financing projects to weaker Urban Local Bodies during 2013-14. Under this fund the following amount has been sanctioned:

- ✓ 4.00 crore for implementation of Waste to Energy Project in Tirunelveli Corporation. 6.53 crore for Scientific Closure of existing dump site at Ramayanpatti in Tirunelveli Corporation. 0.45 crore

for construction of 5 TPD capacity Biomethanation cum Power Plant in Tambaram Municipality. The SWM Fund has been enhanced to 133.00 crore for the year 2014-15<sup>25</sup>.

## BIOMETHANATION PLANTS<sup>26</sup>

Municipal Solid Waste consists of 50-60% of bio-degradable matter and the rest is recyclables and inserts. Of the total bio-degradable waste generated, approximately 20%-25% of waste comes from bulk waste generators viz. Hotels, Restaurants, Marriage Halls, Vegetable markets, Slaughter houses etc. In order to reduce and utilize Bio-Degradable waste from the Bulk Waste Generators, a Biomethanation pilot project of capacity 3 MT was established at Arcot Municipality. The plant produces approximately 240 Units of electric energy per day which is utilized for energizing 500 No's of 40 watts street lights. Based on its success, 29 more Biomethanation power plants of 3-5 MT capacities are under construction in 5 Corporations and 24 Municipalities at an

estimated cost of ₹28.30 crore with the financial assistance through IUDM Scheme, Part II scheme and SWM Fund. After establishment of all the Biomethanation plants, the projected generation (net) of electric energy per year will be 48,18,000 and the projected Emission Reductions will be 4,095 tonnes Co2 per year. About 56,940 tonnes of waste per annum will be reduced as a result of this initiative<sup>27</sup>.

## ROADS

Roads form the backbone of the Urban Infrastructure development. This Government endeavours to provide motor able roads that are designed and built for the primary use for vehicular and pedestrian traffic. Roads are designed for an intended span of life and are laid based on Ministry of Road Transport and Highways (MORTH) specifications taking into consideration of their cost effectiveness.

The Corporations (except Chennai) and Municipalities maintain a total road length of 23349.93 km of which 5055.15 km are cement concrete roads, 14797.719 km are black topped roads, 1068.249 km are WBM roads, 2138.599 km are Earthen roads and 290.213 km are other roads like cut stone pavement, paver block etc. The maintenance of roads, restoring and relaying the damaged roads due to implementation of water supply schemes, under-ground sewerage schemes and natural calamities is supported under various schemes as detailed below<sup>28</sup>.

## CONCLUSION

To conclude, despite meticulous planning, massive fund allocation, financial support from several funding agencies, when it comes to the stage of implementation, most of the welfare measures, receives a severe Jolt, due to political intervention, which Rampers the actual benefit meant for the welfare of the society. Unless these serious drawbacks are set right, on a war footing, nothing substantial could be achieved.

## NOTES AND REFERENCES

1. *The major administrative units of the state constitute 32 districts, 76 revenue divisions, 220 taluks, 12 municipal corporations, 148 municipalities, 385 panchayat unions (blocks), 561 town panchayats and 12,524 village panchayats. Government of Tamil Nadu*
2. *G.O.Ms.No.76, Municipal Administration and water supply (MA2) Dept 8.8.2012, also G.O.MS.No.6 (17.1.2012), G.O.Ms.No.60, MAWS Department, 15.06.2012.*
3. *MAWS Department Policy Note - 2014-2015. Pp. 18-20*
4. *CPHEEO Manual on Water Supply and Treatment (04.07.2015)*
5. *TWAD BOARD Policy Note for years 2005 to 2017.*
6. *Project ID PO 8370 was approved on 5th, July 2015. It was closed on 31st March 2014. Total cost project was 435 million US Dollars. It is a World Bank Project which launched on 19th Oct 2005 - www.tnuifsl.com.*
7. *Jawaharlal Nehru National Urban Renewal Mission. For further details visit., cma.tn.gov.in. Also Refer UIG Project implementation in States : TN (May 2012).*
8. *MAWS Department Policy Note - 2014-2015. Pp. 18-27*
9. *Ibid - 2014-2015. ., Pp. 28-29*
10. *Tamilnadu Urban Infrastructure Project was launched on 25th march 2008.*
11. *UIDSSMT - Urban infrastructure development scheme for small and medium towns, was launched on 03.12.2005 (tcpomud.gov.in)*
12. *Integrated urban development mission (IUDM), Go. (Ms) No.78, (08.08.2012).*
13. *MAWS Department Policy Note - 2014-2015. ., Pp. 29-30*
14. *Ibid - 2014-2015. ., Pp. 30-32*
15. *Ibid - 2014-2015. ., Pp. 32-33*
16. *For details of projects and schemes involving estimate cost, population benefited and programs. Vide TWAD Board www.twardboard.gov.in between 2011 - 2016.*
17. *MAWS Department Policy Note - 2014-2015. ., Pp. 33-34*
18. *Ibid - 2014-2015. ., Pp. 34-37*
19. *Ibid - 2014-2015. ., P.37*
20. *GO. (Ms) No.27, dated 13.04.2017.*
21. *MAWS Department Policy Note - 2014-2015. ., Pp. 37-40*
22. *GO. Ms No : 10 (18.01.2007) - Details of Corporations and Municipalities where this programme is implemented.*
23. *MAWS Department Policy Note - 2014-2015. ., Pp. 40-41*
24. *Vide GO (Ms) No.5, dated 25.01.2017. For media reports, The Hindu, 04.07.2008.*
25. *MAWS Department Policy Note - 2014-2015. ., Pp. 41-43*
26. *Biomethanation plant commissioned, 'The Hindu', ERODE:, January 30, 2016.*
27. *MAWS Department Policy Note - 2014-2015. ., Pp. 43-45*
28. *Ibid - 2014-2015. ., Pp. 45-46*