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Compliance of OA 606/2018

SOLID WASTE & LIQUID WASTE MANAGEMENT STATUS

Government of Tamil Nadu

Solid Waste Management

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In Tamil Nadu, Municipal Administration and Water Supply Department has the administrative control over **649 ULBs** viz

- Greater Chennai Corporation
- Directorate of Municipal Administration (20 Corporation & 138 Municipalities)
- Directorate of Town Panchayat (490 TPs)

Details	Nov-22	Dec-23
Quantity of waste generated (TPD)	15,240	15,545
Quantity of Door-to-Door Collection (TPD)	14,788	15,234
Quantity of waste segregated at source (TPD)	12,954	13,213
Quantity of waste collected and transported (TPD)	15,240	15,545
Quantity of waste processed (TPD)	10,086 (66%)	11,177 (72%)

Status of Solid Waste Management in Tamil Nadu 2707

Description	November – 2022	December – 2023
Total Waste Generation (TPD)	15,240	15,545
Waste Processed (TPD)	10,086 (66%)	11,177 (72%)
Gap in TPD	5,154 (34%)	4,368 (28%)
Wet Waste		
Generation (TPD)	8,196	8,358
Processed (TPD)	6,188 (75%)	6,816 (82%)
Gap	2,008 (25%)	1,542 (18%)
Dry Waste		
Generation (TPD)	5,519	5,629
Processed (TPD)	2,973 (54%)	3,382 (60%)
Gap	2,546 (46%)	2,247 (40%)
Inert		
Generation (TPD)	1,525	1,558

Reference: Report Submitted on 26.01.2024, Pg. No 8-9, Table No - 6

Solid Waste Management - Wet Waste Processing ²⁷⁰⁸

Wet Waste Processing Facilities as on Nov - 2022

Sl.No.	Available wet waste processing facilities	No. of functional units	Processing Capacity (TPD)
1	Micro Composting Centres	998	3,589
2	Bio CNG plants	2	200
3	Garden waste and tender coconut shell processing plants	4	320
5	Onsite Composting Centres	907	350
6	Bio-methanation plants	107	259
7	Windrows and Vermi Composting centres	544	1,470
Total			6,188

Reference: Report Submitted on 17.11.2022, Pg. No 4, Table No - 3

Solid Waste Management - Wet Waste Processing ²⁷⁰⁹

Wet Waste Processing Facilities Completed/Operational after Nov - 2022

Sl. No.	Available waste processing facilities	No. of functional units	Processing Capacity (TPD)
1	Micro Composting Centres (MCC)	55*	214
2	Windrow Compost Plants	202**	164
3	Processed through Service provider (GCC)	-	250
Note:	Total	257	628

- * 8 Nos of units with total capacity of 40 MT completed in SBM 1.0. 47 MCCs with total capacity of 174 MT completed in SBM 2.0.
- ** 202 Nos of Windrow composting plants with total capacity of 327.5 MT are completed, of which 164 TPD of processing capacity is being utilized for processing of current waste generation in the respective ULBs.

The total wet waste processing capacity has increased from 6188 TPD to 6816 TPD as of December 2023.

Solid Waste Management - Wet Waste Processing ²⁷¹⁰

Approach to reduce gap in Wet Waste processing

Components	No of project ongoing	Capacity (TPD)	Estimated Amount (in Rs. cr.)	Status
MCC	80	350	40.50	Out of 80 works, 47 works completed and remaining are under various stages of implementation
Windrow	354	642	73.83	Out of 354 works, 202 works completed and remaining are under various stages of implementation
Compost Plant	2	1,000	80.50	<ul style="list-style-type: none"> Kodungaiyur – DFR approved by TNIDB, Council approved. RFP under preparation. Perungudi – DFR under preparation
Bio CNG	11	1595	347.10	<ul style="list-style-type: none"> 5 Nos in GCC are under Construction with capacity of 100 TPD each Chennai North: 1 Plant with capacity of 500TPD – DFR approved by TNIDB, Council approved. RFP under preparation. Chennai South: 1 Plant with capacity of 500TPD – DFR under preparation. 2 Plants: DFR under scrutiny by TNIDB 2 Plants: DFR under preparation
Bio CNG - Sanctioned	7	890	160.2	<ul style="list-style-type: none"> Sanctioned in 6th SHPC held on 08.02.2024 RFP is approved by TNIDB for 6 Nos of Bio CNG plants in 6 major cities with total capacity 690TPD, Notice Inviting Tender published on 29/02/2024 DFR approved for 1 No of Bio CNG plant with capacity of 200TPD, Land procurement under progress.
MCC – Sanctioned	29	156	17.94	<ul style="list-style-type: none"> Sanctioned in 6th SHPC held on 08.02.2024
Windrow – Sanctioned	5	11	1.27	
Total	488	4644	721.34	

Solid Waste Management - Dry Waste Processing Facilities

Dry Waste Processing Facilities Status as on Nov - 2022

Sl.No.	Available dry waste processing facility	Processing Capacity (TPD)
1	Material Recovery Facilities/Resource Recovery Centres	<ul style="list-style-type: none"> From 439 plants 1,890 TPD of non-recyclable waste disposed to cement industries. 1,083 TPD of saleable/recyclable waste is sold to local vendors
Total		2,973

Reference: Report Submitted on 17.11.2022, Pg. No 5, Table No - 4

Dry Waste Processing Facilities Completed/Operational after Nov - 2022

Sl.No.	Available waste processing facilities	No. of functional units	Processing Capacity (TPD)
1	Dry Waste Facilities (MRF)	217	409*

The total wet waste processing capacity has increased from 2,973 TPD to 3,382 TPD as of December 2023.

Solid Waste Management- Dry Waste Processing Facilities ²⁷¹³

Approach to reduce gap in Dry Waste processing

Components	No of project ongoing	Capacity (TPD)	Estimated Amount (in Rs. cr.)	Status
Material Recovery Facilities - Ongoing works	418*	2,174	169.22	<ul style="list-style-type: none"> Out of 411 works, 217 works completed and remaining are in various stages of implementation. DFR is prepared for 7 cities and submitted to TNIDB for financial viability scrutiny.
MRF – Automated (GCC)	2	1,000	180.00	<ul style="list-style-type: none"> Kodungaiyur – Council approval obtained, RFP under preparation Perungudi – DFR under preparation
Waste to Energy (GCC)	1	1,500	270.00	<ul style="list-style-type: none"> Kodungaiyur – DFR approved by TNIDB, Council approved and RFP under preparation
MRF – Manual: Sanctioned	49	349	29.66	<ul style="list-style-type: none"> Sanctioned in 6th SHPC held on 08.02.2024
Total	470	5,023	648.88	

*Earlier committed no. of works were 392 which have increased to 418 due to land constraints. However earlier committed capacity 2174 MT remains same.

Dry Waste Processing facilities constructed after November 2022

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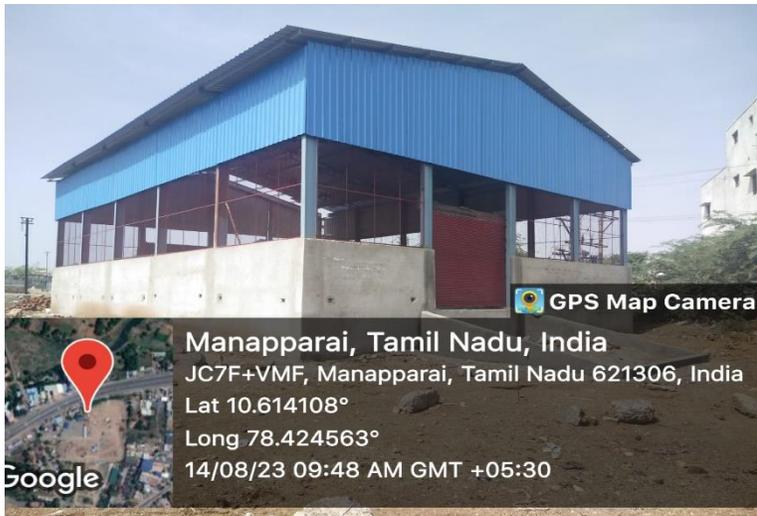
Vedaranyam -MRF



Salem -MRF



Vickramasingapuram -MRF



Manapparai -MRF



Thuraiyur -MRF



Namakkal -MRF

Legacy Waste - Biomining

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Status as on Nov - 2022

No. of locations	Quantity in lakh cu.m	100% Completed		In progress		Total legacy waste cleared so far in lakh cu.m	Balance quantity to be cleared cu.m	Funds committed	
		Locations	Qty in lakh cu.m	Locations	Cleared Qty in lakh cu.m			Cost in Rs. Cr	Source
269	207	91	43.40	178	42.19	85.59* (41.3%)	121.41	1,066.94	SBM 2.0

*- 43.40 lakh cu.m is cleared from 91 locations where 100% work completed and 42.19 lakh cu.m is cleared from 178 locations where work is in progress.

Status as on Dec- 2023

No. of locations	Quantity in lakh cu.m	100% Completed		In progress		Total legacy waste cleared so far in lakh cu.m	Balance quantity to be cleared cu.m	Amount	
		Locations	Qty in lakh cu.m	Locations	Cleared Qty in lakh cu.m			Cost in Rs. Cr	Source
289	224	151	73.99	138	43.23	117.22* (52.3%)	106.78	1,108.2**	SBM 2.0

*- 73.99 lakh cu.m is cleared from 151 locations where 100% work completed and 863 acres of land has been reclaimed. 43.23 lakh cu.m is cleared from 138 locations where work is in progress.

** Actual cost subject to change based upon the actual assessed quantity

Legacy Waste - Biomining

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Remediated Legacy Waste Fraction Details

S. No	No. of ULBs completed	Quantity Remediated (Cu.m)	Fine soil Qty (Cu.m)	Inert/Course soil and Stone (Cu.m)	RDF recovered (Cu.m)	Other Fractions (Cu.m)	RDF disposed
1	151	73,99,505	31,80,836	23,50,899	14,87,490	3,80,280	Cement industries

Reference: Report Submitted on 26.01.2024, Pg. No 12, Table No - 12

Abstract of Biomining Works

Sl.No	Progress in Percentage	No. of locations	Total quantity in lakhs Cu.m	Legacy waste cleared in lakhs Cu.m	Balance legacy waste to be cleared in lakh cu.m
1	100%	151	73.99	73.99	0
2	> 75%	24	10.93	10.14	0.79
3	50 - 75%	29	45.64	30.14	15.54
4	25 - 50%	22	5.00	1.82	3.18
5	0 - 25%	63	88.41	1.13	87.27
Total		289	223.97	117.22	106.78

Reference: Report Submitted on 26.01.2024, Pg. No 13, Table No - 13

2717 Legacy Waste - Biomining Snapshots



Before



After

Sembakkam



Before



After

Tenkarai TP



Before



After

Poonamalle



Before

Before



After

After

Erode

Liquid Waste Management

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Department	Quantity of sewage generation (MLD)	Treatment capacity (MLD) Nov 2022	Treatment capacity (MLD) Dec 2023	Treatment Capacity added after Nov.2022 (MLD)
Directorate of Municipal Administration	1,698.73	1,229.07	1,235.86	6.79
Directorate of Town Panchayat (DTP)	429.29	42.29	83.60	41.31
Chennai city-CMWSSB	743	912.80	1,082.80	170
Directorate of Rural Development and Panchayat Raj (DRD&PR)	1130	954.88	1,056.26	101.38
Total	4,001.02	3,139.04	3,458.52	319.48

Reference: Report Submitted on 26.01.2024, Pg. No 17, Table No - 15

DMA - Completed or operationalized after Nov - 2022

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Sl. No.	Category	No. of ULBs	Capacity of the plant (MLD)
1	STP with UGSS	1	6.62
2	FSTP	6	0.17
Total		7	6.79

DMA - Existing Facility

Sl. No.	Category	No. of ULBs	Capacity of the plant (MLD)
1	STP with UGSS	69	1235.0
2	FSTP	29	0.86
Total		98	1235.86

DMA - Approach to reduce the Gap ²⁷²⁰

Sl. No.	Category	Capacity of the plant (MLD)	Cost in Rs. Cr	Status
1	STPs with UGSS (7 Locations)	120.31	205.42	Under construction
2	STPs with UGSS (6 Locations)	274.57	778	4 locations tender under evaluation, 2 locations tender document is under preparation
3	STPs with UGSS (13 locations)	221.03	507.08	4 locations tender under evaluation, 1 ULB tender due on 05.03.2024, 7 locations DPR under appraisal
4	FSTPs (9 locations)	0.23	28.03	Under construction
5	STP cum FSTP (11 Locations)	33.80	108.93	Under construction
6	STP/STP cum FSTP (27 Locations)	147.87	256.30	Land Identified and DPR under preparation
Total		797.81	1,883.76	

DTP - Completed or Operationalized after Nov 2022

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Sl. No.	Category	Location	Capacity of the plant (MLD)
1	UGSS	Sulur	2.17
2	UGSS	Cheranmahadevi	1.97
3	UGSS	Pathamadai	1.61
4	Individual Soak Pits	51 Locations	34.72
5	Community Soak Pits	8 Locations	0.77
5	Community Soak Pits*	1 Location	0.07
Total			41.31

* Constructed after December 2023

DTP - Existing Facilities

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Sl. No.	Category	Capacity of the plant (MLD)
1	UGSS/STP (15 Locations)	44.94
2	FSTP (10 Locations)	0.17
3	On-site Treatment (12 Locations)	3.00
4	Individual Soak Pits (51 Locations)	34.72
5	Community Soak Pits (8 Locations)	0.77
Total		83.60

DTP-Approach to reduce the Gap **2723**

Sl. No.	Category	Capacity of the plant (MLD)	Cost in Rs. Cr	Fund Source	Status
1	STP cum FSTP (137 Locations)	277.6	748.82	SBM 2.0	Land identification is in progress and the DO letter is communicated to Collectors for the same
2	Grey water treatment units along Polluted River Stretches (6 Locations)	9.32	5.47	SBM 2.0	Under Construction
3	Grey water Treatment (272 Locations)	481	1,311.47	SBM 2.0	In situ treatment facility to be created for grey water
Total		767.92	2,065.76		

CMWSSB Completed STP after Nov 2022 **2724**

Sl. No.	Location	Capacity of the plant in MLD	Fund Sanctioned In Rs. Crore	Sanction Order and funding pattern
1	Kodungaiyur STP Zone – I	120	211.66	G.O.(Ms) No. 103, Dated 16.09.2020 AMRUT – Rs.89.87 Cr., TNIPP Phase II – Rs.43.35 cr., CMCDM 2019-20 – Rs.28.93 cr., CMCDM 2020-21 Rs.13.04 cr., CMWSSB Share – Rs.36.47 cr
2	Nesapakkam STP Zone – IV	50	86.94	G.O.(Ms) No. 103, Dated 16.09.2020 AMRUT – Rs.37.68 Cr., TNIPP Phase II – Rs.15.30 cr., CMCDM2019-20 – Rs.11.88 cr., CMCDM 2020-21 Rs.5.36 cr., CMWSSB Share – Rs.16.72 cr
Total Capacity Added		170	298.60	

CMWSSB Existing facilities

Sl. No.	Category	No. of locations	Capacity of the plant (MLD)
1	STP	22	1082.80
Total		22	1082.80

DRD - Completed or Operationalized after Nov 2022

Sl. No.	Category	Available Nos	Capacity (MLD)
1	Individual Soak Pits	2,46,242	36.94
2	Vertical Filters	43,298	17.32
3	Community Soak Pits	4,437	22.19
4	Horizontal filter	2,206	13.24
5	Any other GWM system	117	11.70
Total		2,96,300	101.38

DRD - Existing infrastructures

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Sl. No.	Category	Available Nos	Capacity (MLD)
1	Kitchen Garden	30,80,271	616.05
2	Individual Soak Pits	13,85,320	207.80
3	Community Soak Pits	74,460	29.78
4	Vertical Filters	8,976	44.88
5	Horizontal Filters	4,706	28.24
6	Other Grey Water Management Facilities	1,295	129.50
Total		45,55,028	1,056.26

DRD-Approach to reduce the Gap 2727

Sl. No.	Category	Capacity (MLD)	Cost in Rs. Cr	Fund Source	Status
1	Individual Soak Pits (4,33,419 Nos)	65.01	589.75	MGNREGS	Projects under various stages of Implementation
2	Community Soak Pits (72,715 Nos)	29.09	120.12	SBM (G) / 15 th FC / MGNREGS	
3	Vertical Filters (4,381 Nos)	21.91	66.51	SBM (G) / 15 th FC / MGNREGS	
4	Horizontal Filters (5,254 Nos)	31.52	99.28	SBM (G) / 15 th FC / MGNREGS	
5	Other Grey Water Management Facilities (124 Locations)	12.40	5.57	SBM (G) / 15 th FC	
Total		159.92	881.22		

2728 Faecal Sludge Treatment Plants



Chengalpattu-FSTP



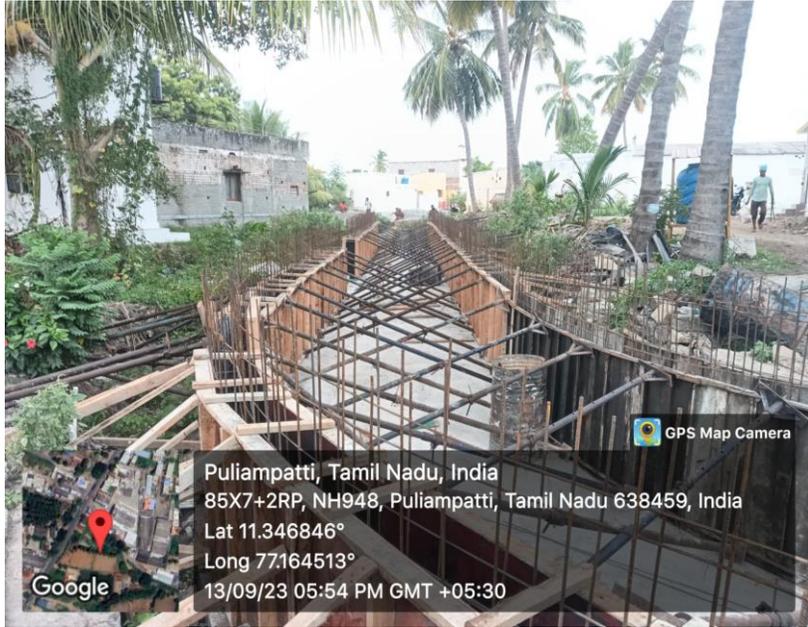
Kulithalai-FSTP

2729 Faecal Sludge Treatment Plants



Attur-FSTP

UWM Works ²⁷³⁰ Snapshots



Status of Amount Earmarked

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Rs. In crore

Component	Committed Works on Nov 2022		Works Completed after Nov 2022		Works Under Implementation		Projects Sanctioned in 6 th SHPC held on 08.02.2024		Projects ready to be placed for sanction		Balance to be taken up
	Capacity	Project Cost	Capacity	Project Cost	Capacity	Project Cost	Capacity	Project Cost	Capacity	Project Cost	Project Cost
Solid Waste Management	9,066 TPD	1,222.05	1,037 TPD	106.98	1,663 TPD	263.87	1,406 TPD	214.53	-	-	Rs.636.67 – fund tied up under SBM 2.0
Legacy Waste	207 lakh cum	1,066.94	73.99 lakh cum	381.05	133.01 lakh cum	685.89	-	-	-	-	Fulfilled the committed capacity and cost
Liquid Waste Management	1,623.07 MLD	4,200.07	443.07 MLD	701.91	301.24 MLD	586.13	105.13 MLD	306.80	-	-	772.93 MLD/ Rs.2,605.23 crore – fund tied up under SBM 2.0, EAP, KFW, AMRUT 2.0
Under Ground Sewerage system	-	8,930.65	-	-	-	2,684.98	-	-	-	6,326.28*	Fulfilled the committed capacity and cost
Total		15,419.71	-	1,189.94	-	4,220.87	-	521.33		6,326.28*	3,241.90

* Sanctioned project cost exceeded over and above the committed project cost by 80.61 crore

Reference: Report Submitted on 26.01.2024, Pg. No 25, Table No - 21

TNPCB Analysis - STPs

TNPCB has categorized the Tamil Nadu State into 8 Zones comprising of total 38 districts, Below is the inference of the samples tested by TNPCB

S. No	Zones	District	No. of STPs	Inference of RoA of the treated sewage samples
1	Chennai Zone	4	20	<ul style="list-style-type: none"> Parameters of the tested treated sewage samples satisfy pH, BOD and TSS standards as per TNPCB norms. For 80 STPs treated wastewater parameters were tested and for 11 STPs parameters were found to be below standards. These 11 STP operators were instructed to operate & maintain the STPs continuously and efficiently in order to maintain treated wastewater parameters as per TNPCB standards.
2	Coimbatore Zone	3	9	
3	Cuddalore Zone	4	6	
4	Madurai Zone	5	9	
5	Salem Zone	4	10	
6	Tirunelveli Zone	3	8	
7	Trichy Zone	7	09	
8	Vellore Zone	8	09	
	Total	38	80	

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Thank you