



### **ABSTRACT**

Municipal Administration and Water Supply Department - In Principle approval for creation of 49 numbers of Faecal Sludge and Septage Management (FSSM) treatment facility to cover 51 Municipalities and 59 Town Panchayats - Orders - Issued.

### **MUNICIPAL ADMINISTRATION AND WATER SUPPLY (MA3) DEPARTMENT**

G.O.(Ms) No. 88

Dated : 31 .08.2018

திருவள்ளூர் ஆண்டு 2049

விளம்பி, ஆவணி 15

Read:

1. G.O. (Ms.) No.106, Municipal Administration and Water Supply (MA3) Department, dated 01.09.2014.
2. From the Commissioner of Municipal Administration Letter No.47718/UGSS-2 dated 4.07.2018.

### **ORDER:**

The Honourable Chief Minister has made an Announcement under rule 110 regarding creation of 49 numbers of Faecal Sludge and Septage Management treatment facility to cover 51 Municipalities and 59 Town Panchayats on 12.6.2018 as follows:-

“தமிழ்நாட்டில் உள்ள 135 நகர்புர உள்ளாட்சி அமைப்புகளில் (சென்னை தவிர) 35 நகர்புர உள்ளாட்சிகளில் பாதாள சாக்கடைத் திட்டம் முடிக்கப்பட்டு பயன்பாட்டில் உள்ளது. மேலும், 3 மாநகராட்சிகள், 25 நகராட்சிகளில் பாதாள சாக்கடை பணிகள் செயல்படுத்தப்பட்டு வருகின்றன. பாதாள சாக்கடை திட்டம் செயல்படுத்துவதில் எதிர்கொள்ளும் சிரமங்களைக் கருத்தில் கொண்டு, ஒரு மாற்று ஏற்பாடாக, கசடுக்கழிவு மேலாண்மைத் திட்டத்தினை செயல்படுத்த முடிவெடுத்து 51 நகராட்சிகள் மற்றும் 59 பேரூராட்சிகள் பயன்பெறும் வகையில் 49 நகரங்களில் கசடுக்கழிவு சுத்திகரிப்பு நிலையம் ரூ. 217 கோடி செலவில் அமைக்கப்படும்”.

2. Based on the National Sanitation Policy of Government of India, in the Government Order 1<sup>st</sup> read above, the Government have issued operative guidelines for septage management in Urban & Rural local bodies in Tamil Nadu. The key elements of septage management are:

1. Design and Construction of Septic Tanks
2. Septic Tank Pumping & De-Sludging
3. Septage Transportation
4. Treatment & Septage Disposal
5. Fees/Charges for collection, Transportation and Treatment
6. Information, Education and Communication
7. Record-keeping and Reporting (MIS)

3. The Commissioner of Municipal Administration, in his letter 2<sup>nd</sup> read above has stated as follows:-

- 35 clusters of Local Bodies have been identified based on the existing location of Sewerage Treatment Plants. The local bodies have been grouped in such a way that all collection points are situated approximately 18-20kms of radius of the designed Sewerage Treatment Plant. These clusters should be revised after establishing new Sewerage Treatment Plants.
- It is envisaged that the financing for first three items (i.e) Construction of Toilets, Construction of Septic Tanks & Engaging De-sludging Trucks will be primarily through the households, while the Government (state and Urban Local Bodies) will primarily need to invest for creation & maintenance of facilities for last two.
- During the advisory committee meeting as well as, the Asian Development Bank's fact finding mission wrap up meeting it was suggested, considering the huge cost and long gestation are taken for implementation of conventional Under Ground Sewerage Scheme, to explore the possibilities for establishing Faecal Sludge Treatment Plants to cater cluster of Municipalities, Town Panchayats & Possible rural local bodies. Three such plants have already been taken up on Pilot basis in the State. Based on the request Indian Institute of Human Settlement, Technical Supporting Unit of Bill & Melinda Gates Foundation has taken up a detailed study for establishing Faecal Sludge Treatment Plants and furnished the state investment plan for Faecal Septage Management.



- The Components of state investment plan are detailed below.

No.	Value Chain	Item	CAPEX	OPEX
1	Access	Construction of Toilets	Household, with support from Government.	Household
2	Safe Containment	Construction of Septic Tanks	Household with support from Government.	Household
3	Conveyance	De-sludging Trucks	Private Sector	Private Sector
4	Treatment	FSTPs	Government	Government / User
5	Treatment	Decanting stations	Government	Government / User
Source: TNUSSP Analysis, 2017				

## II. APPROACH AND METHODOLOGY FOR PHASING OF TREATMENT FACILITIES:

A cluster approach has been adopted to ensure optimum utilization of resources. The Urban Local Bodies have been clustered around existing treatment facilities or proposed facilities within a radius of 12 km. In addition, the phasing plan proposes initial clustering around existing Sewerage Treatment Plants, and then proposes addition of new treatment facilities.

1. The details of the phases are given below:

**Phase I and II: Provision of decanting stations in Sewerage Treatment Plant sites:** As a first step, since Sewerage Treatment Plants are larger in size and have excess capacity for handling the additional sludge, cities in and around 10kms radius have been clustered with Sewerage Treatment Plants as the centre point, such that the sludge generated is emptied in the Sewerage Treatment Plants where it can be further treated. Provision of decanting stations at all existing and proposed Sewerage Treatment Plants, and suitable pumping stations (existing and proposed) enables a wider coverage of households. A large percentage of population is covered through this step. There are no additional investments



for treatment in this case, other than provision of decanting station. While many of the Sewerage Treatment Plants have excess capacity for receiving the additional sludge, few of them have already reached their installed capacity. In such cases, customized solutions will be devised.

**2. Phase III Utilizing the Solid Waste Management Sites in Municipalities:** The Government had made it mandatory for Urban Local Bodies to possess Solid Waste Management sites for composting. Many of these lands are still under-utilized in terms of space. This space can be used for construction of Faecal Sludge Treatment Plants. Analysis reveal that about 75 per cent of the total urban population get covered after introducing Solid Waste Management sites for provision of FSTPs.

**3. Phase IV: Utilizing the Resource Recovery Parks of Town Panchayats:** Phase IV will utilise land available in Resource Recovery Parks in Town Panchayats the available lands in smaller cities are the Resource Revenue Parks (RRPs), that are identified for construction of Faecal Sludge Treatment Plants.

**4. Phase V: Stand Alone Cities:** Most of the cities have been clustered into the existing / greenfield sites. However, there are about 150 cities which have not been clustered, as they are outside the 10-km radius. Developing individual Faecal Sludge Treatment Plants sites may not be possible in all cases, as there are cities without land availability, and it is a costly affair to provide individual sites. However, other options need to be worked out to meet the scale of economy.

➤ The below table summarises the five phases.

<b>Population coverage towards Project Completion</b>							
<b>No.</b>	<b>Details</b>	<b>P1</b>	<b>P2</b>	<b>P3</b>	<b>P4</b>	<b>P5</b>	<b>Total</b>
1	No. of STP locations	41	34	49	78	157	<b>353</b>
2	<b>City Coverage-</b>						
2.1	Corporations	8	3	0	0	0	11
2.2	Municipalities	26	30	51	0	17	124
2.3	Town Panchayats	35	53	59	111	270	528
2.4	<b>Total cities covered</b>	<b>69</b>	<b>86</b>	<b>110</b>	<b>111</b>	<b>287</b>	<b>663</b>
3	<b>Households Coverage-</b>						
3.1	HH covered under UGSS	26,80,950	13,39,048	9,48,335	4,53,617	12,25,728	66,47,678
		8,46,610	1,95,131				10,41,741



3.2	HH covered under FSTP	18,34,340	11,43,917	9,48,335	4,53,617	10,56,512	54,36,721
	No. of persons/HH	3.86	3.82	3.89	3.86	3.87	
4	Population Coverage	103,48,467	51,15,163	36,89,023	17,50,962	47,47,182	256,50,797
5	Cumulative population coverage	40%	60%	75%	81%	100%	
Source: TNUSSP Analysis, 2017							

### Summary of Phases:

- More than 50 per cent population is covered, when the existing and proposed Sewerage Treatment Plant sites are provided with decanting stations and connected the uncovered households.
- Nearly 3/4<sup>th</sup> of the total population gets covered when the municipal sites are developed. This is due to higher density in bigger cities.
- While the Resource Recovery Parks reveal a minimal improvement in terms of coverage, it is imperative to find out a solution to the 150 left out cities, and pack them in one of these phases. Wherever land is available, they may proceed with developing their own Faecal Sludge Treatment Plants sites.
- The approximate cost for establishing Decanting facility in the existing pumping station / Sewerage Treatment Plants and creating a new ones based on the feasible cluster.

<b>Breakup of Project Cost for Phase 3</b>			
<b>Details</b>	<b>Basis</b>	<b>Probable Funding Source</b>	<b>Cost (Rs. Crores)</b>
Base Cost (not account for inflation across years)		Loan – Grant blend to ULBs	200.00
DPR Preparation	2% of project cost	Grants from Government of Tamil Nadu	4.00
Project Management	4% of project cost	Grants from Government of Tamil Nadu	8.00
IEC Activities	2.5% of	Grants	5.00

<b>Breakup of Project Cost for Phase 3</b>			
<b>Details</b>	<b>Basis</b>	<b>Probable Funding Source</b>	<b>Cost (Rs. Crores)</b>
	project cost		
<b>Total</b>			<b>217.00</b>
<i>Source: TNUSSP Analysis, 2017</i>			

➤ **Assumptions made in working out the proposal are given below**

A capital cost has been worked out for – (i) Construction of decanting facilities in Sewerage Treatment Plant sites; (ii) Construction of Faecal Sludge Treatment Plants sites; Brief assumptions are given below:

(i) Arriving at Faecal Sludge Treatment Plants Capacity

- a. Growth rate of households – based on the decadal population growth in districts as in census 2011
- b. Sludge accumulation rate – 230 litres per capita per year
- c. No. of days in a year – 300 days
- d. Frequency of cleaning – 3 years

(ii) Cost: Cost of construction of Faecal Sludge Treatment Plants is based on the recent bids received from PNP/NNP in Coimbatore. The bid cost works out to INR 414 per capita. This has been rounded off to a higher side of INR 550 per capita.

(iii) Soft components (are calculated as percentage of base costs): Other than the physical infrastructure, this project also requires support systems in the form of Detailed Project Report preparation, technical assistance during implementation (PMU type), awareness campaigning and communication to citizens. Normally, these are taken as a percentage of the base cost. The percentages vary with the type of projects.

- a. Technical Assistance
- b. Awareness & Communication
- c. Project Management expenses



- Eventhough it was suggested to take up implementation in 5 phases, in the first two phases, utilization of the functional Sewerage Treatment Plants for maximum extent can be taken up. Phase-3, i.e., creation of new Faecal Sludge Treatment Plants will be taken up simultaneously for implementation.

<b>Coverage under the phase 3 (Provision of FSTPs in SWM sites)</b>		
<b>S.No.</b>	<b>Details</b>	<b>P3</b>
1	No. of STP locations (Excludes Chennai)	49
2	<b>City Coverage-</b>	
2.1	Corporations	0
2.2	Municipalities	51
2.3	Town Panchayats	59
2.4	<b>Total cities covered</b>	<b>110</b>
3	<b>Households Coverage-</b>	<b>9,48,335</b>
3.1	HH covered under UGSS	0
3.2	HH covered under FSTP	9,48,335
	No.of persons/HH	3.89
4	<b>Population Coverage</b>	<b>36,90,113</b>
<i>Source: TNUSSP Analysis, 2017</i>		

<b>Capex under Phase 3</b>		
<b>No.</b>	<b>Item</b>	<b>P3</b>
2	Sludge generation	2,906 KLD
3	No. of FSTPs	49
4	Average FSTP Treatment Capacity	59 KLD
5	Total CAPEX (INR Crores)	200.00
<i>Source: TNUSSP Analysis, 2017</i>		

The proposed cost sharing of the implementation of this scheme is as detailed below.

Project Cost	: Rs.200.00 Crore
SBM Share 33%	: Rs.66.00 Crore
IUDM 2018-19	: Rs.67.00 Crore
IUDM 2019-20	: Rs.67.00 Crore

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<b>Total</b>	<b>:Rs.200.00 Crore</b>
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(The list of FSTP Locations with Population, Households and Towns covered and FSTP Capacity are annexed to this order).

4. In view of the above, taking into consideration of the announcement made by the Honourable Chief Minister under rule 110 on the floor of the Assembly, the Commissioner of Municipal Administration has requested necessary orders of the Government for Creation of 49 numbers of Faecal Sludge and Septage Management treatment facility to cover 51 Municipalities and 59 Town Panchayats at an estimated cost of Rs.200.00 Crore with the above funding pattern.

5. The Government, after careful examination of the proposal of the Commissioner of Municipal Administration, accord in principle approval for creation of 49 numbers of Faecal Sludge and Septage Management treatment facility to cover 51 Municipalities and 59 Town Panchayats at an estimated cost of Rs.200.00 crore (Rupees Two Hundred Crore only) with funding pattern as mentioned in para 3 above.

6. The Commissioner of Municipal Administration is instructed to prepare detailed guidelines regarding mechanism of sludge / septage clearance, role of Urban Local Bodies etc. in consultation with Government.

7. This order issues with the concurrence of the Finance Department vide it's U.O.No. 288/ADS (PK)/ Fin. MAWS/2018, dated 30.08.2018

**(By Order of the Governor)**

**HARMANDER SINGH,  
PRINCIPAL SECRETARY TO GOVERNMENT.**

To

The Commissioner of Municipal Administration, Chennai - 5.

The Managing Director, Tamil Nadu Water Supply and Drainage Board, Chennai.5

**Copy to:**The Finance (MAWS/ BG-I/BG-II) Department, Chennai - 9.

The Hon'ble Chief Minister's Office, Chennai - 9.



The Hon'ble Deputy Chief Minister's Office, Chennai – 9.

The Senior Personal Assistant to the Hon. Minister (MA,RD,SIP.), Chennai – 9.

The Principal Private Secretary to Additional Chief Secretary to Government, Finance Department, Chennai.9

The Principal Private Secretary to Chief Secretary to Government, Chennai.9

✓ The Private Secretary to Principal Secretary to Government, Municipal Administration & Water Supply Department, Chennai – 9.

The Municipal Administration & Water Supply (OP.II) Department, Chennai – 9.  
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31/8/2018  
Section Officer.  






**ANNEXURE to GO.(MS)No. 88 Municipal Administration and Water Supply  
(MA3) Department, Dated 31.8.18.**

**The Locations of Proposed FSTPs**

<i>FSTP Locations with Population, Households and Towns covered and FSTP capacity</i>						
District	FSTP Location	Towns Covered	ULB Status	Population	Beneficiary Households	FSTP Capacity (in KLD)
Ariyalur	Jayamkondam	Jayamkondam	M	33,945	8,664	35
		Udayarpalayam	TP	12,688	3,155	-
				46,633	11,819	35
Cuddalore	Nellikuppam	Melpattampakkam	TP	6,887	1,603	37
		Nellikuppam	M	46,678	10,763	-
	Panruti	Panruti	M	60,323	14,170	48
		Thorapadi	TP	7,659	1,882	-
	Virudachalam	Virudhachalam	M	73,585	18,209	54
				1,95,132	46,627	139
Erode				-	-	-
Kanniyakumari	Colachel	Colachel	M	23,227	5,205	124
		Kallukuttam	TP	19,093	4,815	-
		Kappiyarai	TP	15,998	4,045	-
		Karungal	TP	16,691	4,368	-
		Manavalakurichi	TP	10,969	2,636	-
		Mandaikadu	TP	13,317	3,444	-
		Neyyoor	TP	12,917	3,430	-
		Palappallam	TP	18,589	4,842	-
		Reethapuram	TP	21,177	5,210	-
		Thingalnagar	TP	13,567	3,538	-
	Kuzhithurai	Athur	TP	11,910	3,047	229
		Kaliyakkavilai	TP	15,625	3,892	-
		Killiyoor	TP	20,938	5,479	-
		Kulasekaram	TP	17,267	4,421	-
		Kuzhithurai	M	21,307	5,519	-
		Nalloor	TP	17,989	4,480	-
		Pacode	TP	24,050	6,237	-
		Puthukkadai	TP	9,909	2,537	-
		Thiruvattar	TP	18,985	4,836	-
		Unnamalaikadai	TP	23,656	5,969	-
		Valvaithankoshtam	TP	16,965	4,406	-
	Padmanabhapuram	Eraniel	TP	10,375	2,681	115
		Kothanallur	TP	17,662	4,514	-
		Kumarapuram	TP	14,728	3,653	-
		Mulagumudu	TP	19,538	5,041	-

**FSTP Locations with Population, Households and Towns covered and FSTP capacity**

District	FSTP Location	Towns Covered	ULB Status	Population	Beneficiary Households	FSTP Capacity (in KLD)
		Padmanabhapuram	M	21,342	5,549	-
		Thiruvithancode	TP	18,723	4,469	-
		Verkilambi	TP	19,730	5,044	-
		Vilavur	TP	14,320	3,725	-
		Villukuri	TP	15,304	4,037	-
				5,15,868	1,31,069	468
Karur	Kulithalai	Kulithalai	M	27,910	7,374	31
		Marudur	TP	10,925	2,850	-
				38,835	10,224	31
Madurai	Melur	A.Vellalapatti	TP	8,325	1,981	35
		Melur	M	40,017	9,872	-
	Tirumangalam	Thirumangalam	M	51,194	13,564	40
	Usilampatti	Usilampatti	M	35,219	9,101	27
				1,34,755	34,518	103
Nagapattinam	Sirkali	Sirkali	M	34,927	8,756	32
		Vaitheeswarankoil	TP	7,676	1,972	-
	Vedharanyam	Vedaranyam	M	34,266	8,665	26
				76,869	19,393	58
Namakkal	Tiruchengode	Tiruchengode	M	95,335	26,508	79
				95,335	26,508	79
Pudukkottai	Aranthangi	Aranthangi	M	40,814	10,130	30
				40,814	10,130	30
Ramanathapuram	Keelakarai	Keelakarai	M	38,355	7,448	22
	Paramakudi	Paramakudi	M	95,579	23,504	70
				1,33,934	30,952	92
Salem	Attur	Attur	M	61,793	16,371	81
		Narasingapuram	M	23,084	6,230	-
		Pethanaickenpalayam	TP	17,678	4,611	-
	Idappadi	Arasiramani	TP	14,834	3,970	71
		Edappadi	M	54,823	14,560	-
		Konganapuram	TP	9,286	2,614	-
		Poolampatti	TP	9,477	2,698	-
				1,90,975	51,054	152
Thanjavur	Pattukottai	Pattukottai	M	73,135	18,437	55
				73,135	18,437	55
The Nilgiris	Coonoor	Coonoor	M	45,494	12,384	68
		Jagathala	TP	14,383	4,099	-
		Kethi	TP	23,229	6,397	-
				83,106	22,880	68



<b>FSTP Locations with Population, Households and Towns covered and FSTP capacity</b>						
<b>District</b>	<b>FSTP Location</b>	<b>Towns Covered</b>	<b>ULB Status</b>	<b>Population</b>	<b>Beneficiary Households</b>	<b>FSTP Capacity (in KLD)</b>
Theni	Cumbum	Kamayagoundanpatti	TP	16,134	4,725	79
		Kambam	M	68,090	18,567	-
		Pudupatti	TP	11,511	3,249	-
	Gudalur	Gudalur	M	41,915	12,001	36
				1,37,650	38,542	115
Thoothukkudi	Kovilpatti	Kovilpatti	M	95,057	25,099	75
				95,057	25,099	75
Tiruchirappalli	Manapparai	Manapparai	M	40,510	9,934	30
	Thuraiyur	Thuraiyur	M	32,439	8,674	26
				72,949	18,608	56
Tirunelveli	Amba samudiram	Amba samudram	M	35,645	9,845	61
		Kalladaikurichi	TP	26,398	7,364	-
		Manimutharu	TP	11,323	3,085	-
	Kadayanallur	Kadayanallur	M	90,364	21,076	63
	Puliangudi	Puliankudi	M	66,034	17,209	69
		Vasudevanallur	TP	21,361	5,833	-
	Sankarankoil	Sankarankoil	M	57,277	14,536	43
	Shenkottai	Courtalam	TP	2,089	556	41
		Ilanji	TP	10,282	2,823	-
		Pudur	TP	12,457	3,322	-
		Shenkottai	M	26,823	7,146	-
	Tenkasi	Achampudur	TP	13,566	3,563	111
		Aygudi	TP	15,129	4,088	-
		Melagaram	TP	14,535	4,018	-
		Panpoli	TP	9,313	2,619	-
		Tenkasi	M	70,545	17,887	-
		VadakaraiKeezhpadugai	TP	20,821	5,047	-
	Vickrama singapuram	Alwarkurichi	TP	10,045	2,793	49
		Vikramasingapuram	M	47,241	13,558	-
				5,61,248	1,46,368	437
Tiruppur	Dharapuram	Dharapuram	M	56,007	15,842	64
		Kolathupalayam	TP	17,819	5,457	-
	Kangayam	Kangeyam	M	32,147	9,449	28
				-	-	-
				1,05,973	30,748	92
Tiruvalluvar				-	-	-
Tiruvannamalai	Vandavasi	Vandavasi	M	31,320	7,326	22
				31,320	7,326	22
Tiruvarur	Koothanallur	Koradacheri	TP	6,450	1,661	23

<b>FSTP Locations with Population, Households and Towns covered and FSTP capacity</b>						
District	FSTP Location	Towns Covered	ULB Status	Population	Beneficiary Households	FSTP Capacity (in KLD)
		Kuthanallur	M	25,423	6,025	-
	Mannargudi	Mannargudi	M	66,999	17,372	52
	Thiruhurai poondi	Thiruthuraipoondi	M	24,404	6,263	19
				1,23,276	31,321	93
Vellore	Ambur	Ambur	M	1,14,608	25,009	75
	Arcot	Arcot	M	55,955	13,605	73
		Melvisharam	M	44,786	8,906	-
		Vilapakkam	TP	8,174	1,941	-
	Gudiyatham	Gudiyatham	M	91,558	21,363	64
	Ranipet	Ranipettai	M	50,764	11,764	35
	Walajapet	Ammoor	TP	12,513	2,972	43
		Walajapet (M + OG)	M	47,498	11,289	-
Viluppuram				4,25,856	96,849	289
				-	-	-
	Tindivanam	Tindivanam	M	72,796	17,088	51
Virudhunagar				72,796	17,088	51
	Aruppukottai	Aruppukottai	M	87,722	23,803	71
	Rajapalayam	Mamsapuram	TP	18,635	5,388	129
		Rajapalayam	M	1,30,442	37,797	-
	Sivakasi	Sivakasi	M	71,040	18,952	103
		Thiruthangal	TP	55,362	15,424	-
	Srivilliputhur	Srivilliputhur	M	75,396	21,411	64
All districts				4,38,597	1,22,775	366
				36,90,113	9,48,335	2,906
Source: TNUSSP Analysis, 2018						

**HARMANDER SINGH,  
PRINCIPAL SECRETARY TO GOVERNMENT.**

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 31/8/2018.  
 Section Officer.