

*Operationalising Septage Management guidelines in  
Tamilnadu*

**Municipal Administration and Water Supply Department  
Government of Tamilnadu**

## Tamil Nadu – The most urbanized state in India

❖ TN Population	: 72 million (2011)
❖ Urban Population	: 35 million (48%)
❖ Total no. of ULB	: 664
❖ City Municipal Corporations	: 12
❖ Municipalities	: 124
❖ Town Panchayats	: 528

# Tamil Nadu Scenario

## Urban Population

- 3.49 Crores

## Waste Generation

- 2049 MLD

## UGD Coverage

- Completed - 35
- On going - 24
- Proposed - 16

## Total Installed Capacity of STP

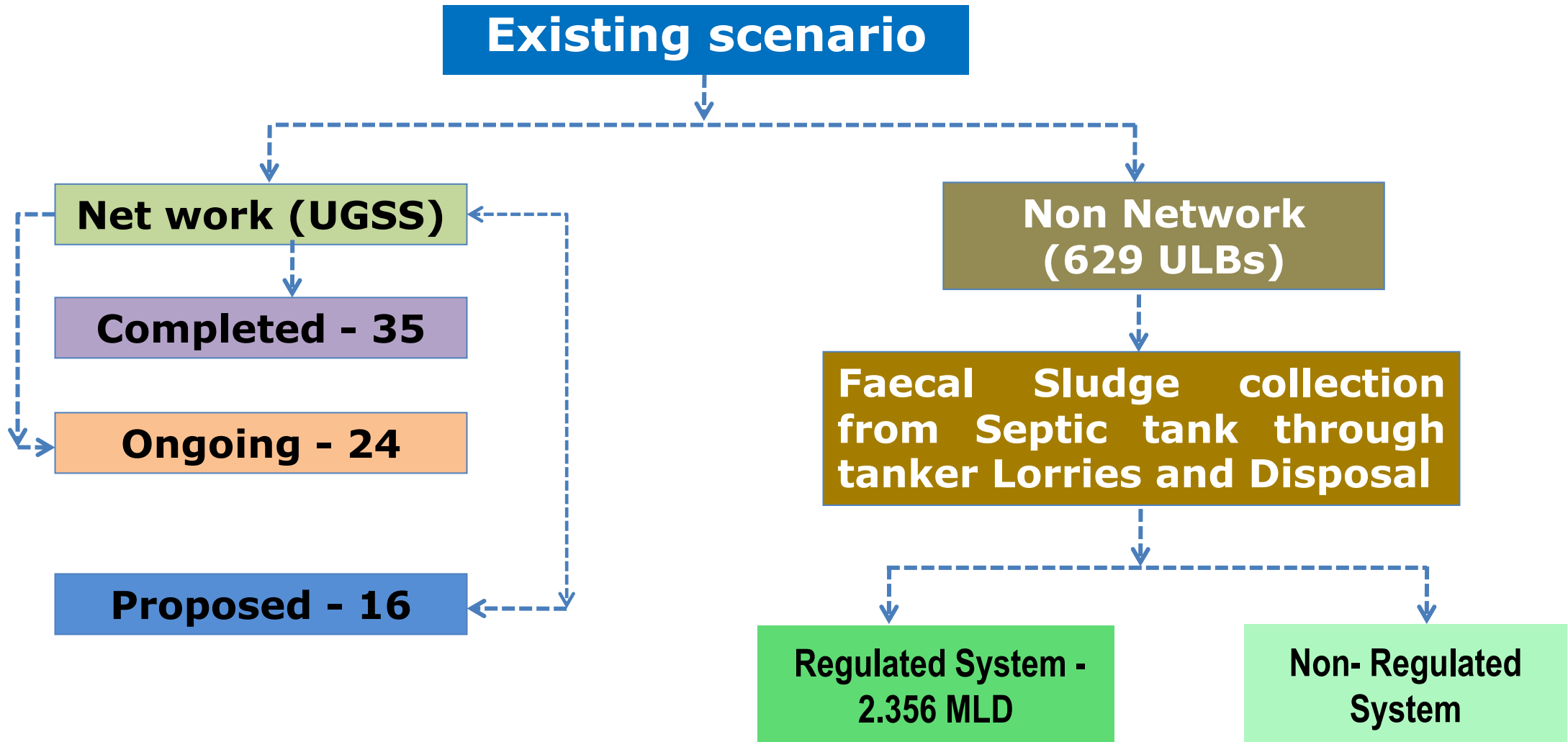
- 1280.25 MLD

## Utilization

- STP - 60% (Average)
- Capacity - 769.11 MLD



# Existing scenario in Tamil Nadu



- ❖ The strategy of the State is to provide conventional Under Ground Sewerage System in the areas with high population density and Septage Management in areas with low population density
- ❖ Even in ULBs where UGSS is available, as they cover only part of the ULBs, the remaining areas are covered by Septage Management.

# Need for Faecal Sludge / Septage Management (FSM)

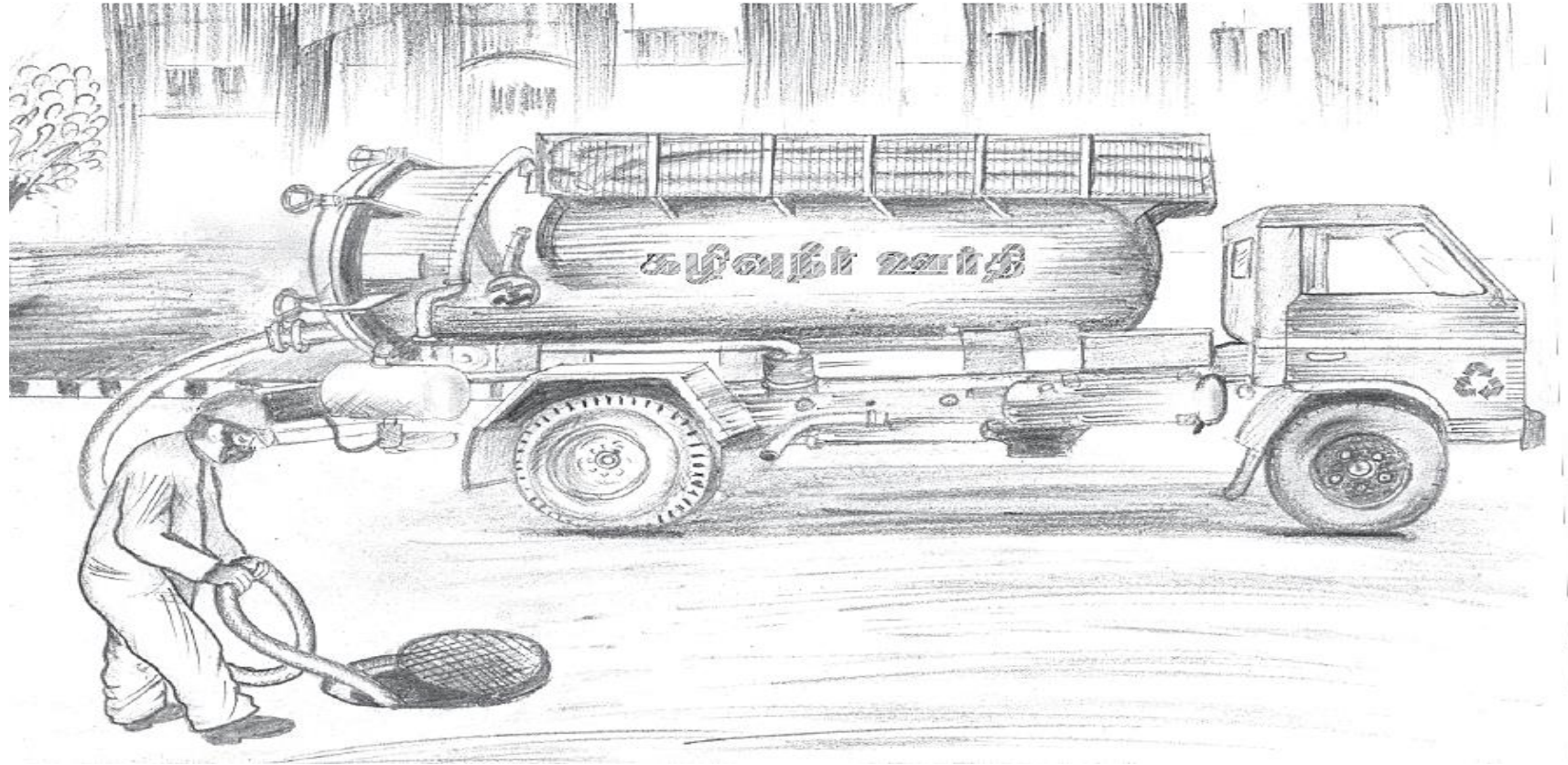
- ❖ Pollution of Ground water due to un planned disposal of Faecal sludge.
- ❖ Disposal of untreated waste water into water bodies resulting into faecal contamination
- ❖ No standardization of practises.
- ❖ Virtually all poor people use on-site sanitation or have no access to improved sanitation
- ❖ Septic tanks are not cleaned regularly and are draining out into the open storm water drains. In cases where septic tanks do not exist, the faecal matter is let out into the drains, Nallahs etc., leading to direct contamination.



# Need for Faecal Sludge / Septage Management (FSM)

- ❖ Inadequate formalized de-sludging services
- ❖ Legal Framework
- ❖ Smaller ULBs like Grade II Municipalities and Town Panchayats do not have the capacity to create and manage assets for treatment of liquid waste as it involves large investment on capital and the Operations & Maintenance and long gestation periods & under utilization of STP.

# Septage Management Operative Guidelines



*Tamil Nadu is the first State in the Country to issue the Operative Guidelines for Septage Management in a comprehensive manner.*



# Salient Features of Septage Management



Design &  
Construction of  
Septic Tanks



Septage  
Transportation



Fees/Charges for  
Collection,  
Transportation &  
Treatment



Septic Tank  
Pumping &  
De-Sludging



Treatment &  
Septage  
Disposal



Information  
Education &  
Communication



Record Keeping  
&  
Reporting (MIS)

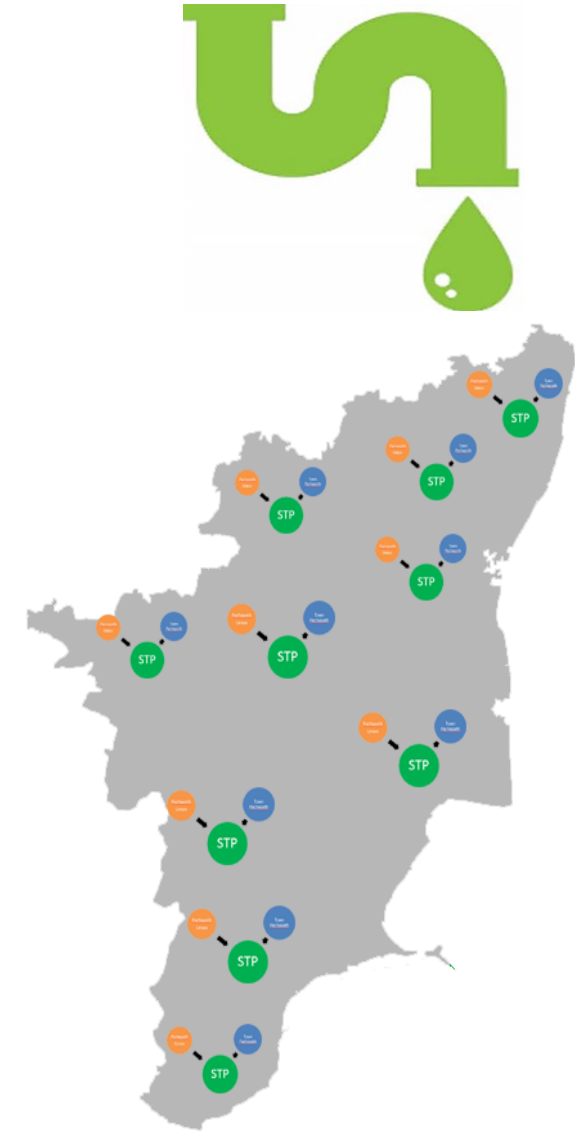
# Design and Construction of Septic Tanks

- Evaluate existing septic tank designs
- Survey of insanitary latrines
  - ✓ **As per Survey- 83196**
  - ✓ **No. of house holds notice issued- 83196**
  - ✓ **No. of Insanitary Latrines demolished- 10430**
- Converting them into sanitary latrines
  - ✓ **No. of Sanitary Latrines converted by UGSS/Septic tank - 67498**
  - ✓ **Balance to be converted- 12397**
- Conversion of septic tanks into standard septic tanks as per CPHEEO norms-
  - ✓ **This is a time consuming process to convince a public to convert the improperly designed septic tank in to proper one.**
  - ✓ **There is also the constrained of space availability. Considering common septic tanks for three or four houses if space available. Increasing the frequency of de-sludging.**
  - ✓ **The survey conducted at Namakkal Municipality and Erumapatti Town Panchayat will be the basis for the State to evolve the strategy for Conversion.**



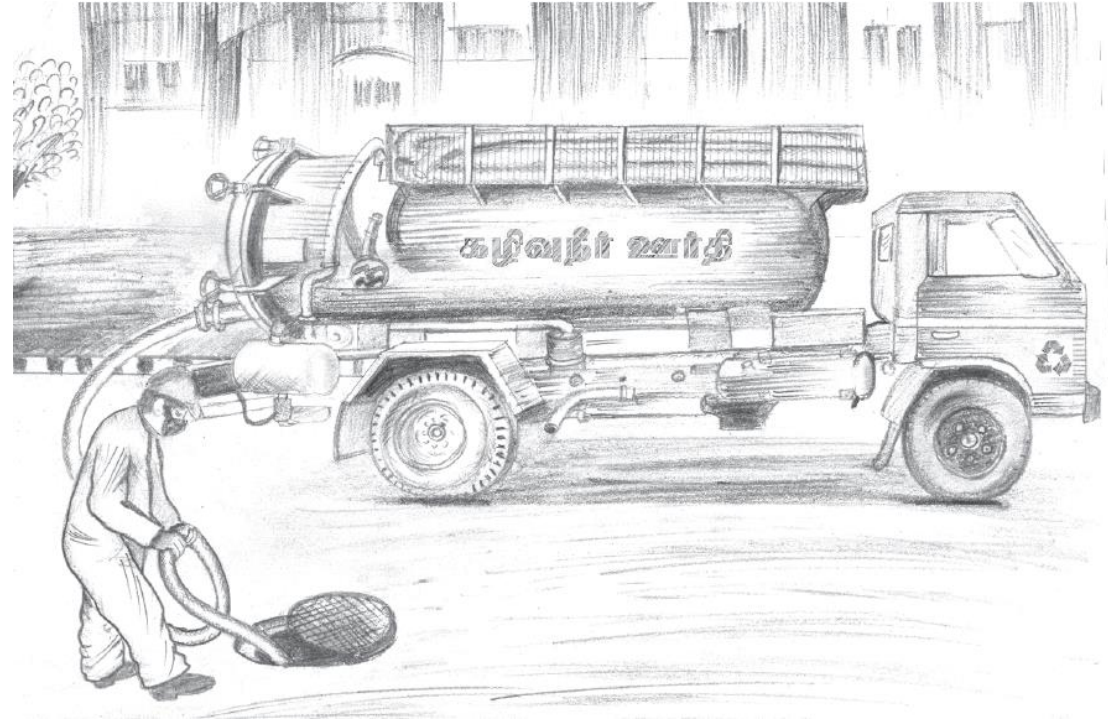
# Pumping and De-Sludging

- ❖ Periodic De-Sludging of septic tanks and their regulated transportation is Mandated for which 211 operators are registered in 32 local Bodies .
- ❖ the State intends to arrive at the calendar of de-sludging at the household level based on the pilot studies in Trichy and Periyannayan palayam



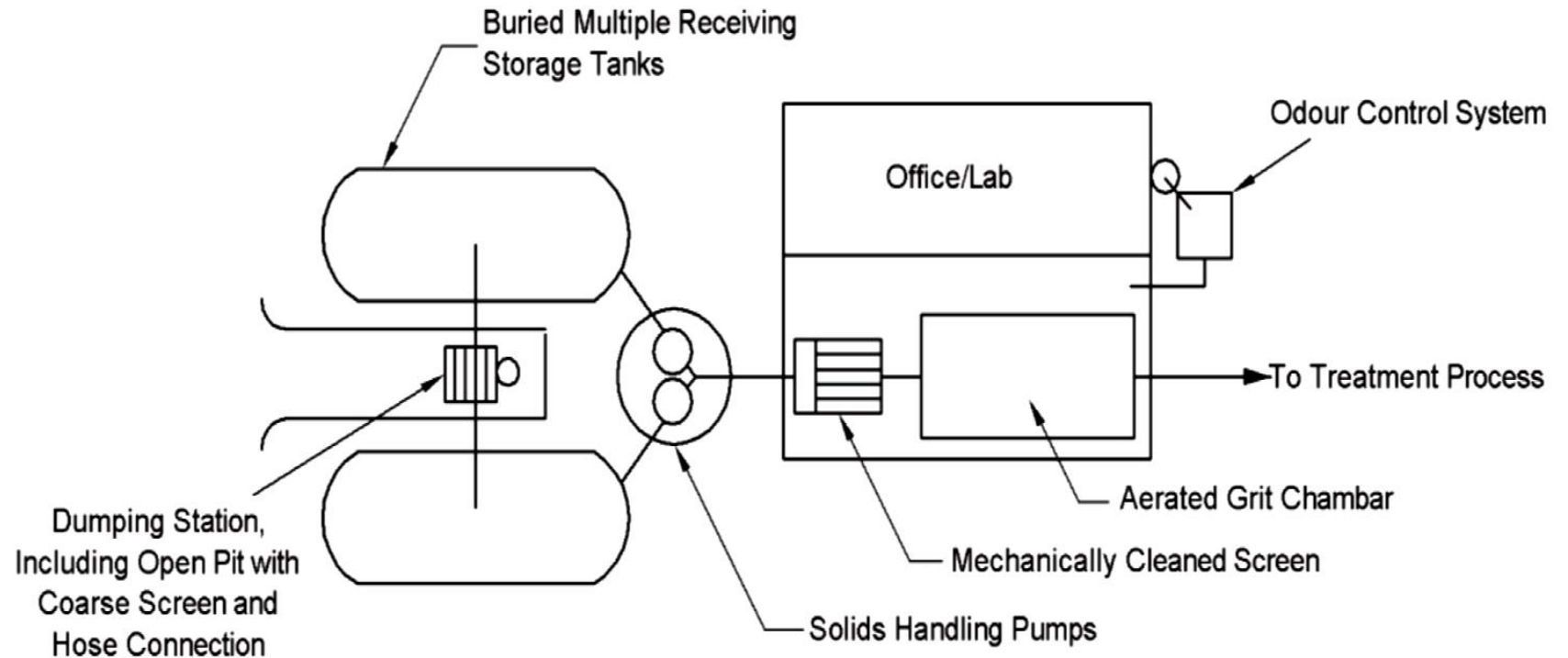
# Septage Transportation

- Selection Process
- Licensing the operator
- Training in operation and safety procedure
- Operator Permit
- 211 Nos. of operators registered so far



# Treatment & Final Disposal

- Decanting facility design based on expected volume of cluster of ULBs
- Quality checks for input sewage
- Planning for next 5 years



# Arrangement of Treatment of Faecal sludge Generated from Non network area

Collection system for cluster Local Bodies.

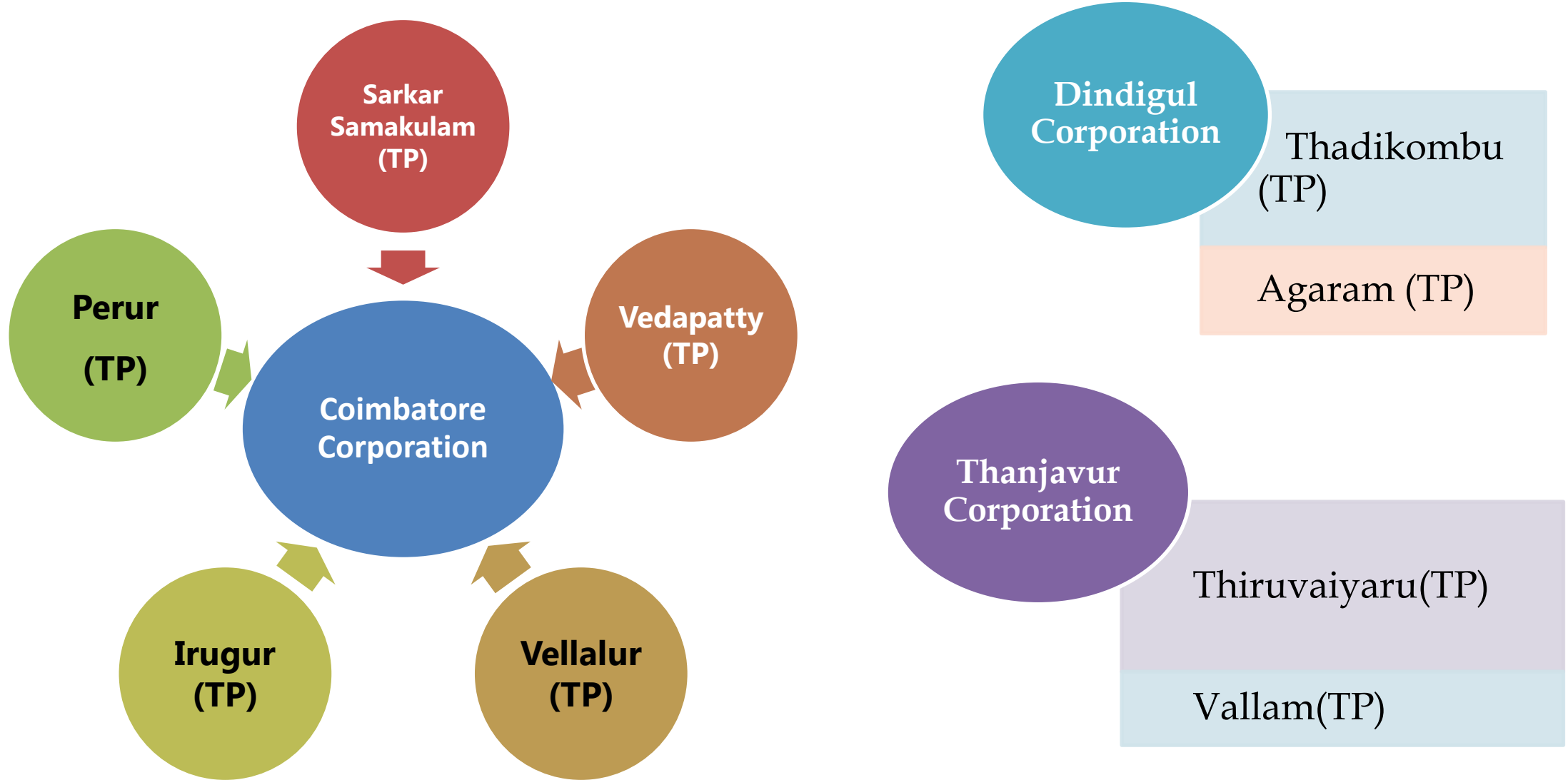
- No .of Clusters :31

No. of Local Bodies covered

- Corporation :10
- Municipalities :35
- Town Panchayats :30
- Union of Villages :55



# Cluster Example



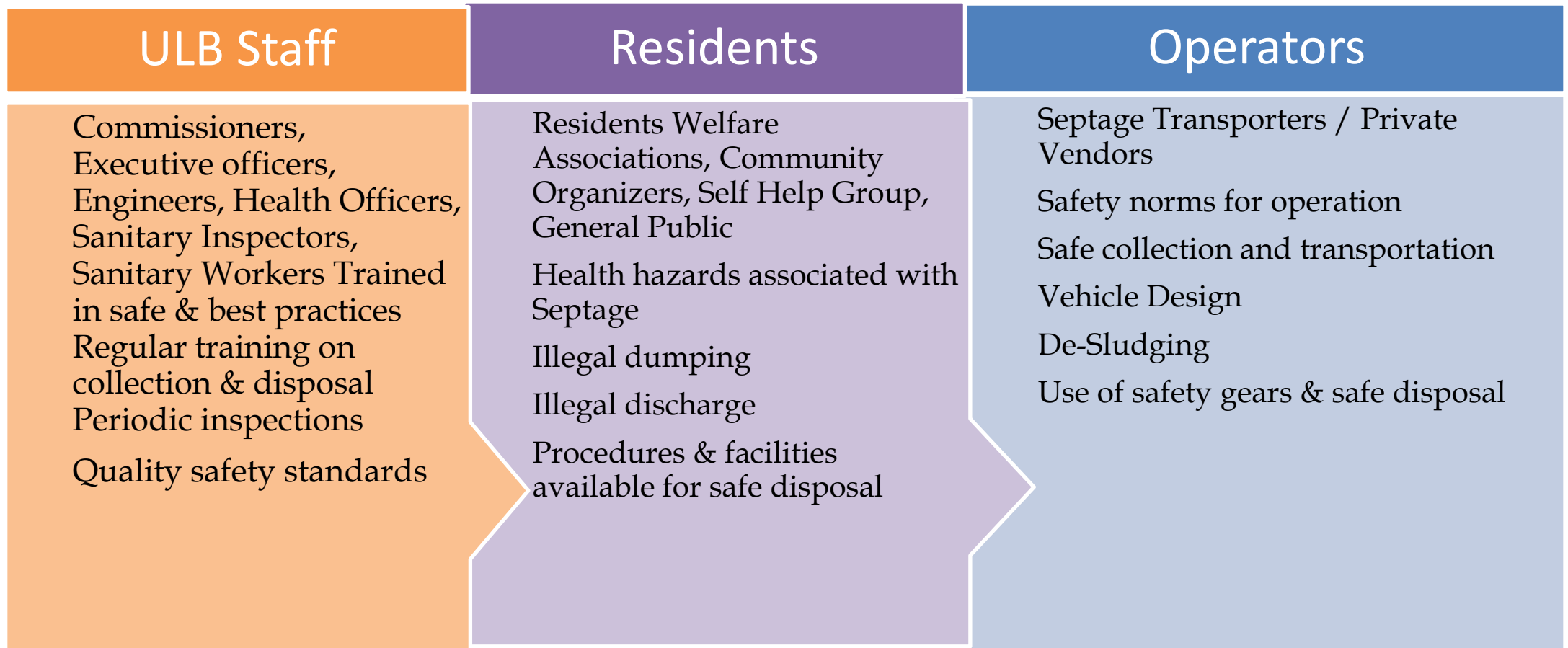




# Decanting arrangement at Anna Stadium Pumping Station in Trichy Corporation Snap Shot







# Status of Implementation of Septage Management with Existing STPs

Septage Management					
S.No	Name of the ULB	No of Sewerage Collection Tankers available	Capacity of tank in Lit	No of Trips/Day	Remarks
1	Kancheepuram	8	9000	2	Discharged in the ULB's STP
2	Maraimalai Nagar	6	9000	2	Discharged in the ULB's STP
3	Chengalpattu	4	3000	3	Maraimalainagar STP
4	Cuddalore	5	6000	3	Discharged in the ULB's STP
5	Nellikuppam	1	4000	2	Cudalore STP
6	Pallavaram	1	6000	3	Perungudi STP
7	Tambaram	3	12000	3	Perungudi STP
8	Anakaputhur	1	6000	1	Perungudi STP
9	Pammal	2	6000	4	Perungudi STP
10	Sembakkam	2	7500	2	Perungudi STP
11	Avadi	8	8000	2	Koyembedu STP
12	Poonammallee	8	6000	9	Koyembedu STP
13	Tiruvannamalai	5	3000	2	Discharged in the ULBs' STP
14	Villupuram	3	6000	3	



# Status of Implementation of Septage Management with Existing STPs

## Septage Management

S.No	Name of the ULB	No of Sewerage Collection Tankers available	Capacity of tank in Lit	No of Trips/Day	Remarks
15	Ramanathapuram	2	5000	2	Discharged in the Respective ULBs' STP
16	Kumbakonam	3	6000	3	
17	Mayiladuthurai	1	5000	6	
18	Tiruvarur	1	6000	2	
19	Pudukkottai	1	9000	4	
		9	5000	4	
20	Perambalur	4	5000	8	
21	Namakkal	3	4000	5	
22	Dharmapuri	2	5000	2	
23	Udumalaipet	2	5000	2	
24	Udhagamandalam	4	3000	1	
25	Madurai	6	9000	2	
26	Coimbatore	6	9000	2	
27	Tiruchirappalli	5	9000	2	
28	Tiruppur	7	9000	2	
29	Dindigul	4	5000	2	
30	Vellore	4	5000	2	
31	Virudhunagar	3	5000	-	
32	Krishnagiri	8/10	5000/3000	-	



# Fees/Charges for De-Sludging, Transportation & Treatment

- Fees for De-Sludging to be collected from residents.
- Transport charges should be determined based on market rates. –
  - ✓ **Right now being charged by operators.**
  - ✓ **The operators doing regularly de-sludging activities without any problem in that area.**
  - ✓ **If any Gap identified, the study will be done for arriving appropriate solution.**
- For treatment, the on-going rate of Rs.150-200 can be charged for 9000 liters of waste collected.
- Periodic revisions for the charges to be effected based on revisions in costs involved.



# Record Keeping & MIS

- Information Related to Septage Generation
- Insanitary Latrines
- Septic Tanks
- Disposal
- Vehicle Tracking with GIS
- Web and Mobile Applications



Muzhu Sugatharam KUNDRATHUR Muzhu Sugatharam KUNDRATHUR Muzhu Sugatharam KUNDRATHUR

2017/01 Kundrathur 2017/01 Kundrathur 2017/01 Kundrathur

### 2.1 General Information

1. Total population of the ULB

Source:  Data:

2. No. of households of the ULB

Source:  Data:

3. Have the boundaries changed post 2011?

Source:  Data:

What is the last revision of boundaries?

4. Whether the number of wards have changed post 2011?

Source:  Data:

What is the old number?

5. Current status of slums

Source:

1. Number of slums

Notified slums	Non-notified slums
<input type="text"/>	<input type="text" value="6"/>
Total	
<input type="text" value="6"/>	

2. Number of slum households

Notified slums	Non-notified slums
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Total	
<input type="text" value="6"/>	

2. Number of slum households

Notified slums	Non-notified slums
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Total	
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Remarks :

Add Source Delete Source Save Close Add Source Delete Source Save Close Add Source Delete Source Save Close

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# Plan of Action

#	Key Tasks	M1	M2	M3	M4	M5	M6
1	<b>Design and Construction of Septic Tanks</b>	█	█	█			
	Evaluate Existing Septic Tank Design	█	█				
	Modify septic tanks based on design	█	█	█			
	Issue notices under Tamil Nadu Public Health Act, 1939		█				
2	<b>Pumping and De-Sludging</b>		█	█			
	Identify Locations where sewerage water is getting mixed with water bodies or storm water drains			█			
	Create facility to collect sullage water			█			
3	<b>Septage Transportation</b>	█	█	█	█	█	█
	Grant Licenses to Operators	█	█	█			
	Ensure appropriate tankers with staff equipped with safety and other protective gear		█	█	█		
	Ensure collection efficiency is increased by 10% every 6 months						█
4	<b>Treatment and Final Disposal</b>	█	█	█	█	█	█
	Design of decant facility as per CPHEEO norms	█	█	█			
	Input quality of sewage to be tested and periodically reported	█	█	█	█	█	█
	Increase utilization of STP by 10% every 6 months	█	█	█	█	█	█
5	<b>IEC Activity</b>	█	█	█	█	█	█
	One training session every 3 months to Local Body staff	█	█	█	█	█	█
	Monthly engagement with residents	█	█	█	█	█	█
	Orientation session for Septage Operators			█	█	█	█
6	<b>Record Keeping</b>				█	█	█





# Salient Features of Draft Bye-Laws

- Designed as a template for ULBs to adopt and enact
- Covers various aspects of the Septage Management
- Salient Features

## Responsibility of the residents

- Conversion to Sanitary Latrines
- Maintain Septic Tanks
- Allow inspections at reasonable times

## Responsibility of ULBs

- Undertake survey and inspections
- Issue notices
- Implement and Supervise implementation of the bye-laws
- Conduct IEC campaigns
- Undertake investigations and levy penalties



# Salient Features of Draft Bye-Laws

## Selection & Responsibilities of Operators

- As per Tender Transparency Act
- Operators to comply with all applicable legislations
- Not to transport industrial waste
- Employ only trained personnel
- Responsible for safe disposal of Septage at specified locations

## Penalties & Appeals

- Owner / Occupier: Rs. 5,000 in the first instance upto 25,000
- Operator: Rs. 50,000 and upto Rs. 2,00,000 | Cancellation of License
- ULB to constitute an Appellate body
- Right to appeal within 30 days

## Standard Formats provided for Licenses to be issued

# Way Forward

- **Micro Level Planning**
  - ✓ CSP – Will be addressing the periodicity matrix and till the final disposal.
  - ✓ Pilot Execution – Currently being done in Trichy Corporation, Karunguzhi and Periyayanayakanpallayam Town Panchayats
- **Capacity Building**
  - ✓ ULB Staff
  - ✓ Operators
- **Customizing IEC Program**

# Technical Partnership to achieve Total Sanitation:

- MOC Signed with Bill and Melinda Gates foundation(BMGF) on 04.08.2015.
- BMGF will support Government of Tamilnadu for total sanitation.
- Appointment of TSU to provide support for improved sanitation through the following program components that will be implemented at the State level and in at least two cities.
  - 1. Improved enabling environment and governance:**
  - 2. Engineering and Planning:**
  - 3. Implementation Support:**
  - 4. Behavior Change and Communication:**
  - 5. Enterprise Development:**
  - 6. Capacity Building and Training:**
  - 7. Knowledge Management:**
  - 8. Monitoring, Learning and Evaluation**

# Septage Management Improvement Plans and Strategy

- Draft Recommendations for changes in building rules.
- Draft framework for pilots in three Urban Locations Trichy Corporation, Karunguzhi and Periyayanayakanpallayam Town Panchayats, for improved de-Sludging and safe disposal.
- Identification of Vulnerable areas in respect of ground water
- Treatment of Grey water and safe disposal.
- Behavior change and Communication.



# Thank You

