

Management Information System for Septage Management for the state of Tamil Nadu, India

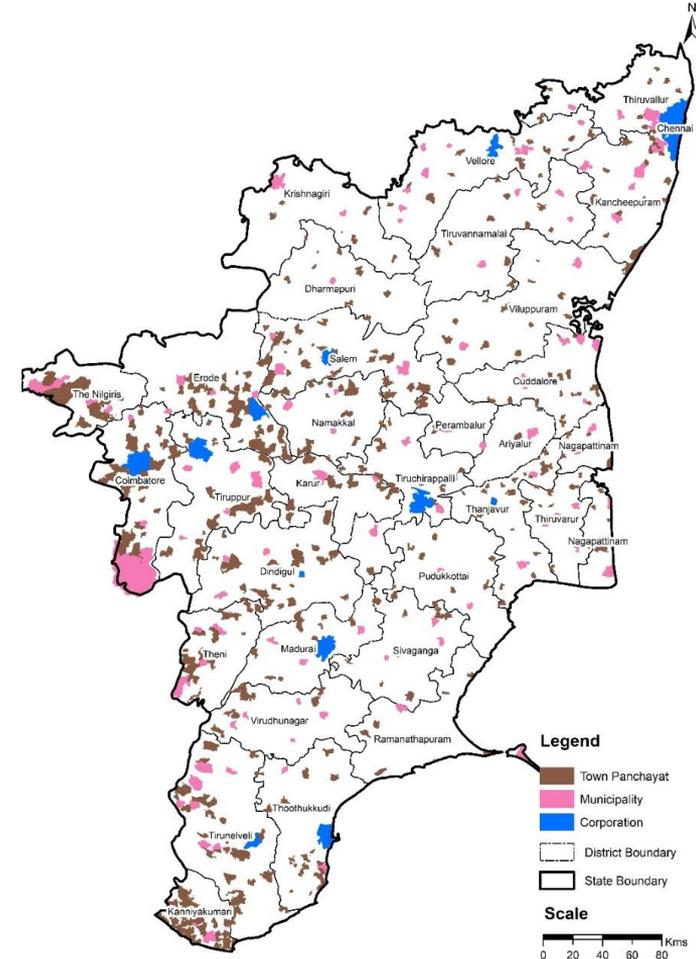
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Tamil Nadu Urban Sanitation Support Programme



Urban Tamil Nadu

Urbanisation Structure in Tamil Nadu				
No	Urban Local Bodies (ULBs)	No.	Population	% of Population
1	Corporations	12	13,428,002	43%
2	Municipalities	124	9,684,799	32%
3	Town Panchayats	528	8,090,847	25%
Total		664	31,203,648	100%

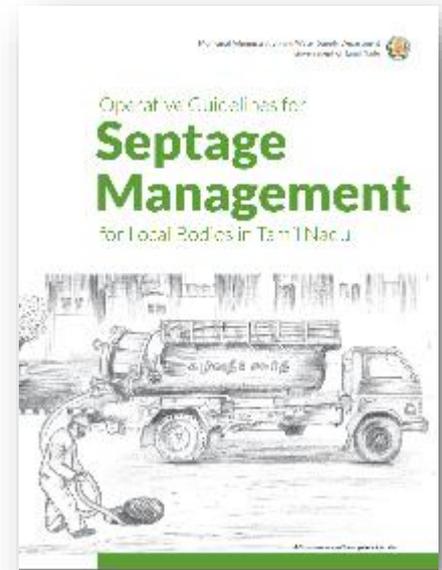
Source : Census 2011



“What gets measured, gets managed”

Peter Drucker

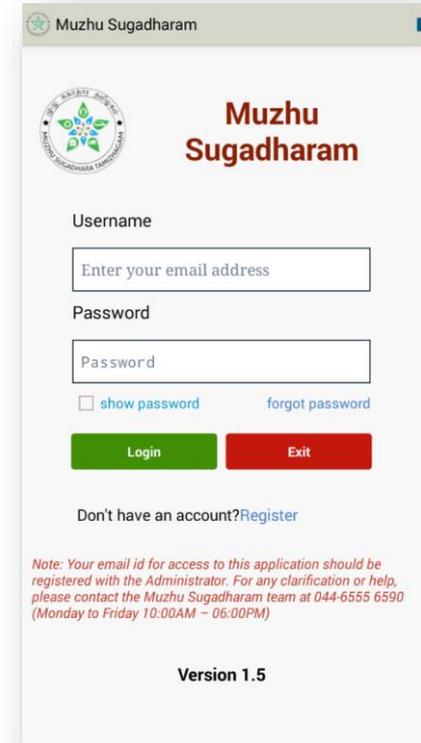
- Tamil Nadu – First state to issue Operative Guidelines (OG) for Septage Management in 2014
- OG seeks to track the status of ULBs on the OG
- Also, track progress across the sanitation chain over time
- MIS designed to collect data and also visually depict key indicators on a dashboard



“What gets measured, gets managed”

Peter Drucker

- Muzhusugadharam (MuSu) Application (App) is a state-wide initiative - led by the Municipal Administration and Water Supply (MAWS) Department, GoTN
- Help decision makers at the state level to monitor ULBs
- Novelty of the MuSu application - it captures details specific to the FSM chain, including conveyance and re-use



The screenshot shows the login interface for the Muzhu Sugadharam application. At the top, there is a header with the application name and a logo. Below the header, there are two input fields for 'Username' and 'Password'. The 'Username' field is labeled 'Enter your email address'. Below the password field, there are two links: 'show password' and 'forgot password'. There are two buttons: a green 'Login' button and a red 'Exit' button. At the bottom, there is a link for 'Don't have an account? Register' and a note about registration and contact information. The version number 'Version 1.5' is displayed at the very bottom.

Muzhu Sugadharam

Muzhu Sugadharam

Username

Enter your email address

Password

Password

show password [forgot password](#)

Login Exit

Don't have an account?[Register](#)

Note: Your email id for access to this application should be registered with the Administrator. For any clarification or help, please contact the Muzhu Sugadharam team at 044-6555 6590 (Monday to Friday 10:00AM – 06:00PM)

Version 1.5

Our Approach

Consultative

Government of Tamil Nadu

- Choice of technology
- Finalise variables

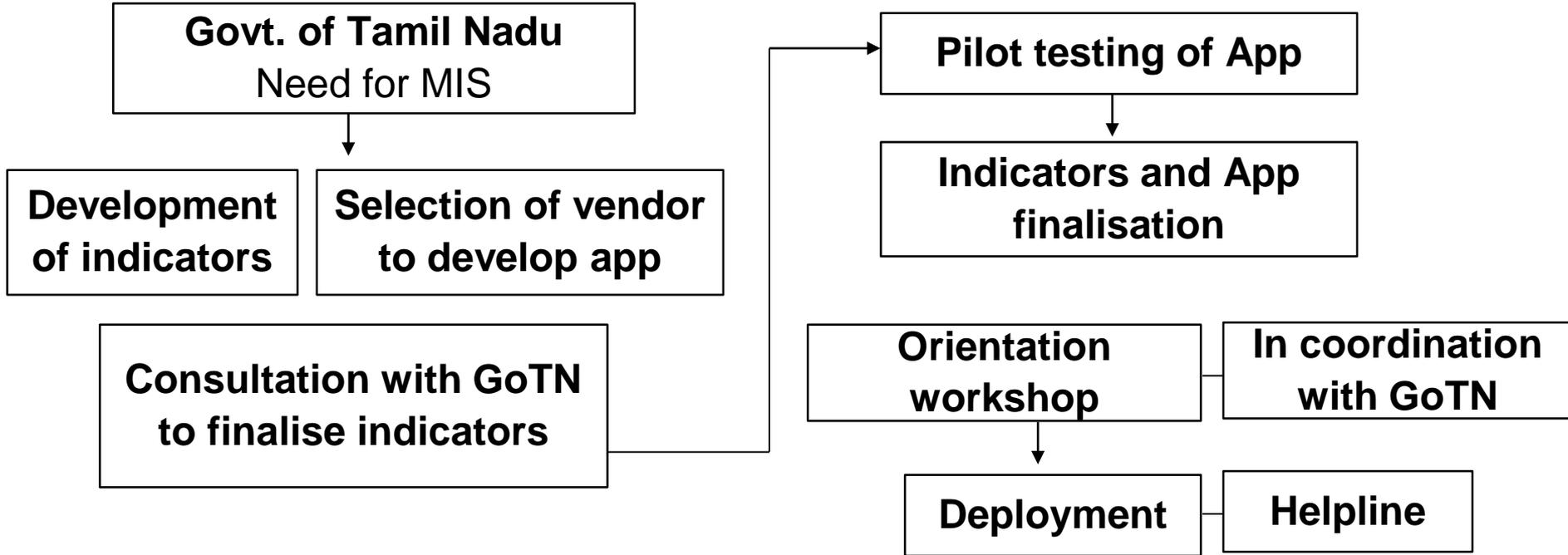
Systematic

App development and roll-out

Collaborative

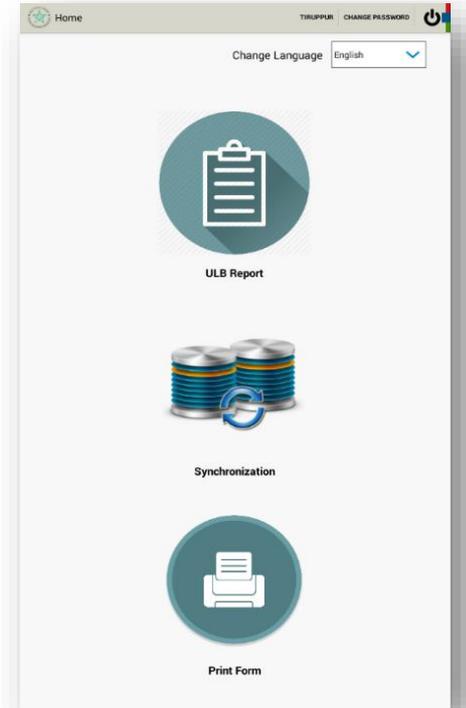
Government of Tamil Nadu + IIHS + Private vendor

Approach – Consultative and Systematic



MuSu App - Features

- Android and web-based
- Android version suitable for different interfaces
- User interfaces can be displayed in both Tamil and English
- User-friendly
- Pre-loaded with Census 2011 and treatment infrastructure data



SECTION 2.1: GENERAL INFORMATION

1. Total population
2. Total households
3. Total slum households
4. No. of wards
5. Area of ULB

SECTION 2.2: ACCESS TO SAFE CONTAINMENT



Access to
safe
containment

A. Toilets constructed under any scheme post 2011

* No. of toilets built upto date

Census 2011	As on (June, 2017)
0	600

* i) Toilets connected to sewer

Census 2011	As on (June, 2017)
0	150

* ii) Toilets connected to septic tanks

Census 2011	As on (June, 2017)
0	400

* iii) Toilets connected to pit latrines

Census 2011	As on (June, 2017)
0	50

Remarks : (including month/year of data reported)

Data for three schemes have been provided (up to 2016)

* 1. No. of households practicing open defecation

Census 2011	As on (June, 2017)
2381	952

* 2. No. of households using public or community toilets

Census 2011	As on (June, 2017)
27	12

* 3. No. of households connected to sewer

Census 2011	As on (June, 2017)
396	562

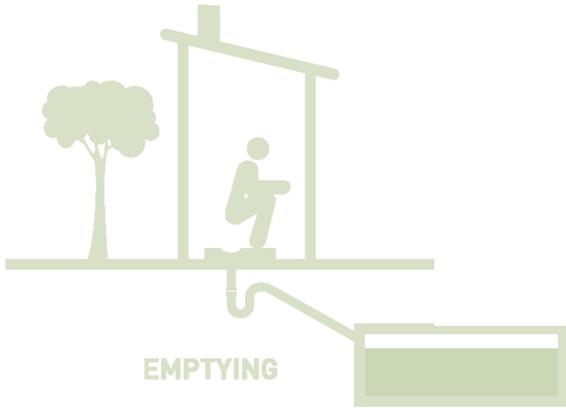
* 4. No. of households connected to septic tank

Census 2011	As on (June, 2017)
3159	3598

* 5. Number of households connected to pit latrines

Census 2011	As on (June, 2017)
637	899

SECTION 2.3: DE-SLUDGING OPERATORS FUNCTIONAL IN THE ULB



Details on de-sludging operators functional in the ULB

* 1. Total no. of private de-sludging operators working in the ULB area

5

* 2. No. of private de-sludging operators registered by the ULB

1

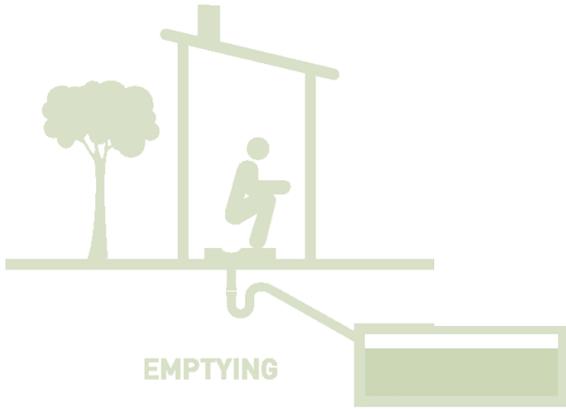
* 3. Number of de-sludging operators from neighboring ULBs operating in this ULB

1

Remarks :

De-sludging operator from neighbour ULB Polur working in our ULB

SECTION 2.4: COLLECTION AND CONVEYANCE OF SEPTAGE



Collection and conveyance of septage

* 1. No. of functional de-sludging suction trucks owned by this ULB

Below 5,000 Litres

1

5000-8000 Litres

0

Above 8000 Litres

0

Total

1

* 2. No. of privately owned functional de-sludging suction trucks

Below 5,000 Litres

7

5000-8000 Litres

0

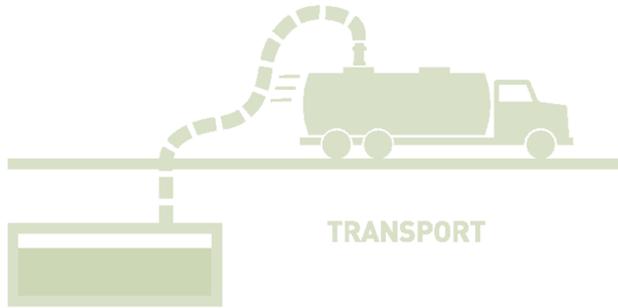
Above 8000 Litres

1

Total

8

SECTION 2.5: DETAILS OF DISPOSAL SITE/STP AND DISTANCE TO DISPOSAL SITE/STP



Details on disposal site/STP and distance to disposal site/STP

2.5 DETAILS OF DISPOSAL SITE/STP AND DISTANCE TO DISPOSAL SITE/STP

Note: "Distance to Disposal Site/STP" is to be estimated from center of Town/ULB

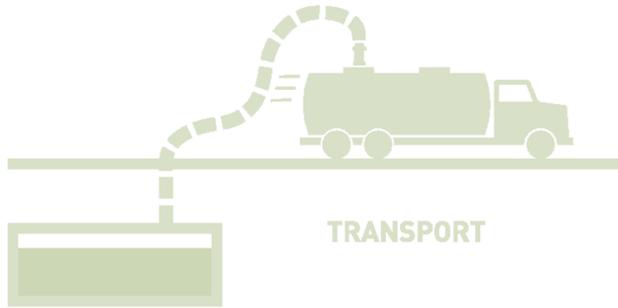
* De-Sludging Operators

* Disposal Site/STP

* Distance to Disposal Site/STP (in KM)

- De-Sludging Operators - 1
- De-Sludging Operators - 2
- De-Sludging Operators - 3
- De-Sludging Operators - 4
- De-Sludging Operators - 5
- De-Sludging Operators - 6

SECTION 2.6: ESTIMATE OF SEPTAGE AND SEWAGE GENERATION IN THE ULB



Estimate of septage
and sewage
generation in the ULB

1. Per capita drinking water supply in the ULB (litres per capita per day - lpcd)

1. Estimated septage (from septic tank) received for treatment per year (Million Litres) 

SECTION 2.6: ESTIMATE OF SEPTAGE AND SEWAGE GENERATION IN THE ULB

1	SEPTAGE ESTIMATE CALCULATION SHEET	A	B	C	D	E	F	G	H	I	J	TOTAL
		Operator 1	Operator 2	Operator 3	Operator 4	Operator 5	Operator 6	Operator 7	Operator 8	Operator 9	Operator 10	
2												
3	1 NUMBER OF SEPTIC TANKS OR PITS EMPTIED IN A MONTH (AVERAGE)											
4	ARE THERE ANY SEASONAL VARIATIONS? FOR EXAMPLE, DURING RAINY SEASON (OCTOBER - DECEMBER) THERE MIGHT BE MORE TANKS BEING EMPTIED COMPARED TO MONTHLY AVERAGE MENTIONED ABOVE. IF THERE IS ANY PERIOD WITH SUCH VARIATIONS, MENTION THE PERCENTAGE IN SECOND ROW AND THE NUMBER OF MONTHS THAT HAVE THIS VARIATION IN THE THIRD ROW. USE MINUS SIGN TO ENTER VALUES OF NEGATIVE VARIATION. FOR THE EXAMPLE QUOTED OF RAINY SEASON, YOU WOULD ENTER +25% (IF THAT IS THE INCREASE REPORTED) IN THE SECOND ROW (NUMBER OF MONTHS OCT-DEC) IN THIRD ROW											
5	2 VARIATION OF GENERALLY MONTHLY AVERAGE (IN +/-%)	10%										
6	3 NUMBER OF MONTHS WITH VARIATION MENTIONED ABOVE (IN NUMBER)	3										
7	4 NUMBER OF SEPTIC TANKS AND PITS EMPTIED IN A YEAR	.	.	.	.	.	.	.	.	.	.	.
8	5 AVERAGE VOLUME OF SEPTIC TANK/PITS ASSUMED EMPTIED (IN LITRES)	4000										
9	6 TOTAL EMPTYING VOLUME IN A YEAR (IN LITRES)	.	.	.	.	.	.	.	.	.	.	.
10	7 ESTIMATED GENERATION OF SEPTAGE (FROM SEPTIC TANK/PITS) PER YEAR (MILLION LITRES)	.	.	.	.	.	.	.	.	.	.	.
11												
12	CELLS FOR VALUES TO BE ENTERED											
13	CELLS WITH FORMULA FOR REFERENCE NOT TO BE CHANGED											
14	VALUE TO BE USED IN MuSu APP											
15												
16	COPY FORMULA IF USING ADDITIONAL COLUMNS											
17	1 CU.M = 1000 L											
18												
19												

ENTER THIS VALUE IN THE MuSu APP

SECTION 2.7: ESTIMATE OF SEPTAGE RECEIVED FOR TREATMENT



TREATMENT

Estimate of septage
received for treatment
at the STP

1. Estimated septage (from septic tank)
received for treatment per year (Million Litres)



SECTION 2.8: DECANTING AND PUMPING STATIONS



TREATMENT

Details on decanting
and pumping stations

*** 1. To be filled in by all ULBs**

1a Does the ULB have a plant **dedicated** for treating Septage?

*** 1. To be filled in by all ULBs**

1a No

1b No

Plant dedicated for treating Septage details

* Name of Treatment Plants

* Technology

* Capacity (MLD)

* Utilization (MLD)

Note: Dedic...

SECTION 2.8: DECANTING AND PUMPING STATIONS



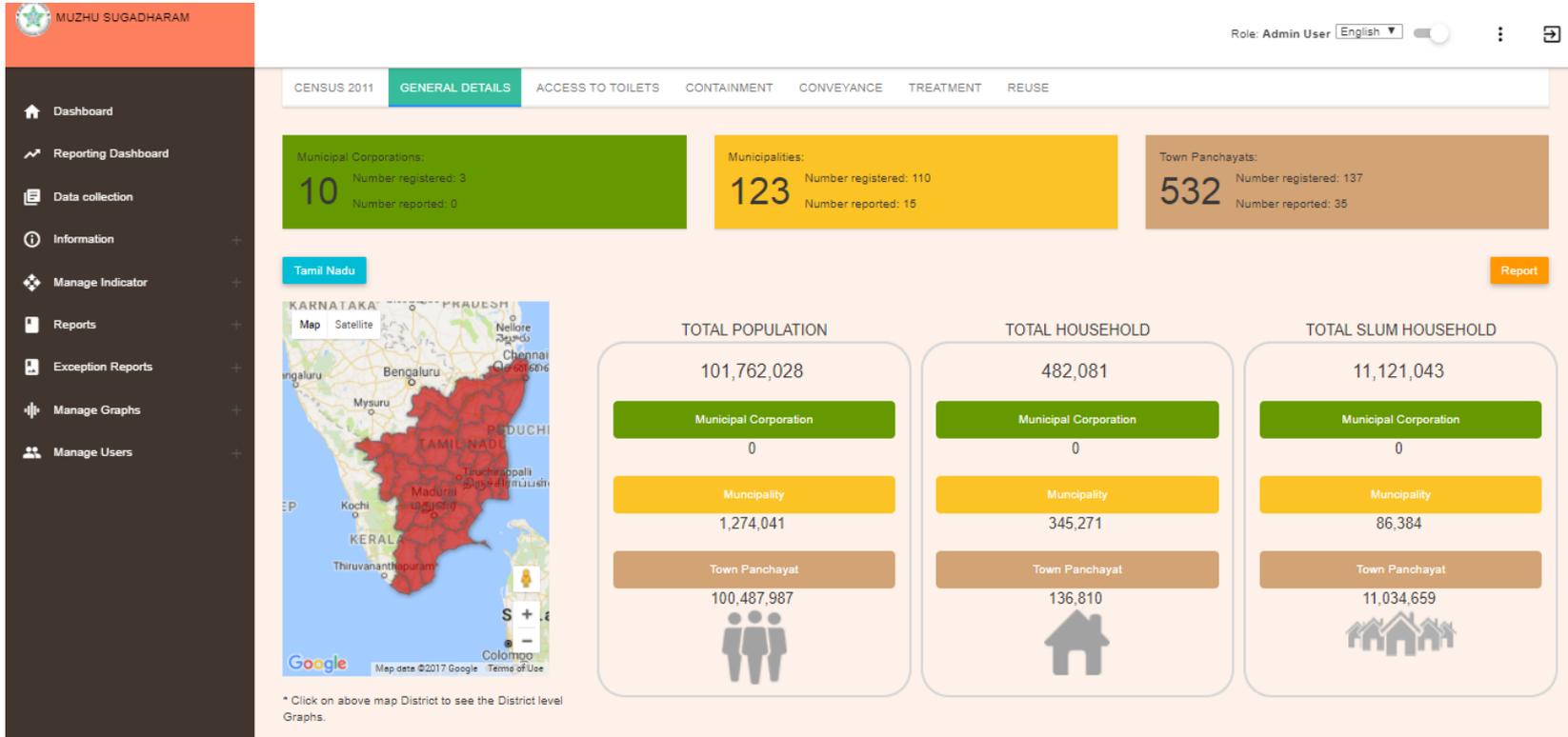
TREATMENT

Details on treatment of
septage

2. To be filled in by ULBs with UGSS/STPs only

No.	Name of Treatment Plants	Technology	Capacity (M)
1	Mukthapudupet	<u>CASP</u>	4.0
2	Paruthipattu	SBR	36.0

Dashboard



Orientation to all ULBs

Orientation on MuSu application completed for all ULBs

ULBs	No of Participants
Commissionerate of Municipal Administration (CMA)	516
Directorate of Town Panchayat (DTP)	1,432
Chennai Corporation	2
Chennai Metropolitan Water Supply and Sewerage Board	2
Total	1,952



Support system

- Helpline setup at TNUSSP office to support ULBs for registration and submission of reports
- Prepared video tutorial and user manual to guide ULBs for registration and data reporting.
- A letter from CMA & DTP sent to all ULBs for registration and submission of reports

Challenges

- Android App compatibility issues
- Multiplicity of data sources from which information had to be collected.
- Shortage of human resources at the ULB level to collate and report the data.
- Staff shortage, an underlying problem at the ULB level delayed reporting

Achievements and Way Forward

Achievements:

- Accomplished its objective by setting up **a system which tracks and monitors** the progress of ULBs in implementing the OG
- Facilitated an organised **reporting structure** that provides Government officers and policy-makers information on septage management at both the state and ULB level
- Analysis revealed critical gaps in conveyance and disposal - Enables GoTN to prioritise ULBs and ensure the effective implementation of septage management practice

Way Forward

- Third party – validation checks

Thank You