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

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Tamil Nadu Urban Sanitation Support Programme
## Urbanisation Structure in Tamil Nadu

<table>
<thead>
<tr>
<th>No</th>
<th>Urban Local Bodies (ULBs)</th>
<th>No.</th>
<th>Population</th>
<th>% of Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Corporations</td>
<td>12</td>
<td>13,428,002</td>
<td>43%</td>
</tr>
<tr>
<td>2</td>
<td>Municipalities</td>
<td>124</td>
<td>9,684,799</td>
<td>32%</td>
</tr>
<tr>
<td>3</td>
<td>Town Panchayats</td>
<td>528</td>
<td>8,090,847</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>664</td>
<td><strong>31,203,648</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Source: Census 2011

Legend:
- Town Panchayat
- Municipality
- Corporation
- District Boundary
- State Boundary

Scale

0 20 40 60 80
“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
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

- Govt. of Tamil Nadu
  - Need for MIS

- Development of indicators
  - Selection of vendor to develop app

- Consultation with GoTN to finalise indicators

- Pilot testing of App
- Indicators and App finalisation

- Orientation workshop
- In coordination with GoTN

- Deployment
- Helpline
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

<table>
<thead>
<tr>
<th>Description</th>
<th>Census 2011</th>
<th>As on (June, 2017)</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) Toilets connected to sewer</td>
<td>0</td>
<td>600</td>
</tr>
<tr>
<td>ii) Toilets connected to septic tanks</td>
<td>0</td>
<td>150</td>
</tr>
<tr>
<td>iii) Toilets connected to pit latrines</td>
<td>0</td>
<td>400</td>
</tr>
</tbody>
</table>

**Remarks:** (including month/year of data reported)

Data for three schemes have been provided (up to 2016)
SECTION 2.3: DE-SLUDGING OPERATORS FUNCTIONAL IN THE ULB

Details on de-sludging operators functional in the ULB
SECTION 2.4: COLLECTION AND CONVEYANCE OF SEPTAGE

Collection and conveyance of septage

<table>
<thead>
<tr>
<th>No. of functional de-sludging suction trucks owned by this ULB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 5,000 Litres</td>
</tr>
<tr>
<td>5000-8000 Litres</td>
</tr>
<tr>
<td>Above 8000 Litres</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No. of privately owned functional de-sludging suction trucks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 5,000 Litres</td>
</tr>
<tr>
<td>5000-8000 Litres</td>
</tr>
<tr>
<td>Above 8000 Litres</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>
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
SECTION 2.6: ESTIMATE OF SEPTAGE AND SEWAGE GENERATION IN THE ULB

Estimate of septage and sewage generation in the ULB
SECTION 2.6: ESTIMATE OF SEPTAGE AND SEWAGE GENERATION IN THE ULB

<table>
<thead>
<tr>
<th>SEPTAGE ESTIMATE CALCULATION SHEET</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong></td>
</tr>
<tr>
<td>Operator 1</td>
</tr>
</tbody>
</table>

1. **NUMBER OF SEPTIC TANKS OR PITS EMPTIED IN A MONTH (AVERAGE)**

2. **VARIATION OF GENERALLY MONTHLY AVERAGE (IN %)**
   - 10%

3. **NUMBER OF MONTHS WITH VARIATION MENTIONED ABOVE (IN NUMBER)**
   - 3

4. **NUMBER OF SEPTIC TANKS AND PITS EMPTIED IN A YEAR**
   - -

5. **AVERAGE VOLUME OF SEPTIC TANKS ASSUMED EMMPTED (IN LITRES)**
   - 4000

6. **TOTAL EMMPTING VOLUME IN A YEAR (IN LITRES)**
   - -

7. **ESTIMATED GENERATION OF SEPTAGE (FROM SEPTIC TANKS/PITS) PER YEAR (MILLION LITRES)**
   - -

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 APP**
SECTION 2.7: ESTIMATE OF SEPTAGE RECEIVED FOR 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

Details on decanting and pumping stations
SECTION 2.8: DECANTING AND PUMPING STATIONS

Details on treatment of septage
Dashboard

Municipal Corporations: 10  Number registered: 10  Number reported: 0
Municipalities: 123  Number registered: 110  Number reported: 15
Town Panchayats: 532  Number registered: 137  Number reported: 35

TOTAL POPULATION: 101,762,028
- Municipal Corporation: 0
- Municipality: 1,274,041
- Town Panchayat: 100,487,987

TOTAL HOUSEHOLD: 462,081
- Municipal Corporation: 0
- Municipality: 345,271
- Town Panchayat: 136,810

TOTAL SLUM HOUSEHOLD: 11,121,043
- Municipal Corporation: 0
- Municipality: 66,384
- Town Panchayat: 11,034,659
Orientation to all ULBs

Orientation on MuSu application completed for all ULBs

<table>
<thead>
<tr>
<th>ULBs</th>
<th>No of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commissionerate of Municipal Administration (CMA)</td>
<td>516</td>
</tr>
<tr>
<td>Directorate of Town Panchayat (DTP)</td>
<td>1,432</td>
</tr>
<tr>
<td>Chennai Corporation</td>
<td>2</td>
</tr>
<tr>
<td>Chennai Metropolitan Water Supply and Sewerage Board</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,952</strong></td>
</tr>
</tbody>
</table>
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