A systematic approach to scale up FSM services
Case of Government of Maharashtra

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Maharashtra is one of the most urbanized states in India, with ~45% of its population living in urban centres

**Demography**

<table>
<thead>
<tr>
<th>City Class</th>
<th>Population definition</th>
<th>Nos. Cities</th>
<th>Urban Population (Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC</td>
<td>&gt;300,000</td>
<td>26</td>
<td>38.2</td>
</tr>
<tr>
<td>Class A</td>
<td>100,000-300,000</td>
<td>12</td>
<td>2.1</td>
</tr>
<tr>
<td>Class B</td>
<td>40,000-100,000</td>
<td>59</td>
<td>4.4</td>
</tr>
<tr>
<td>Class C</td>
<td>&lt;40,000</td>
<td>147</td>
<td>4.3</td>
</tr>
<tr>
<td>NP</td>
<td>As notified</td>
<td>15</td>
<td>0.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>259</strong></td>
<td><strong>49.4</strong></td>
</tr>
</tbody>
</table>

**Sanitation status**

- **25%** URBAN HHs HAVE NO LATRINE FACILITY WITHIN PREMISES
- **48%** OF URBAN HHs TOILETS HAVE ACCESS TO PIPED SEWER SYSTEM
- **52%** HHs TOILETS HAVE ONSITE SYSTEM

Source: PAS Project (2013-14)
End-to-end septage management solution – From red to green

**Current Situation**

- **Access**
  - Pour flush toilets
  - Lack of universal access to improved toilets
  - Lack of adequate data base on toilets for properties

- **Collection**
  - Onsite systems
  - Onsite system lack manhole covers
  - Onsite systems are not of standard size
  - No database on Onsite system for properties

- **Conveyance**
  - Suction emptier truck
  - Only 2-4 % of onsite systems cleaned annually

- **Treatment**
  - No treatment facility
  - No facility for septage treatment

- **Reuse/Disposal**
  - Disposed off on dumping site
  - Septage disposed off on dumping site without treatment

**Proposed Approach**

- **Awareness**
  - Convert unimproved toilets to improved
  - Ensuring 100% access to toilets
  - Data base on toilets for all properties

- **Infrastructure and Services**
  - Awareness generation and behavior change campaign for providing accessible onsite systems
  - Providing access manhole covers to onsite systems to allow regular cleaning
  - Data base of properties with onsite system

- **Policy & Regulations**
  - Enforcing regulations on onsite system design
  - Preparing a schedule for periodic cleaning of onsite systems, to ensure that all onsite systems are cleaned at least once in 2-3 years and procure trucks for the same

- **Financing**
  - Payment using local taxes /charges using escrow mechanisms
  - Exploring private sector participation
  - Training and capacity building of public and private entities

- **Training**
  - Enforcing regulations and penalties for periodicity of onsite system cleaning and safe handling of sludge
  - Exploring private sector participation
  - Training and capacity building of public and private entities

- **Revenue from compost**
  - Awareness generation focusing on use of treated septage
  - Safe dumping of treated septage and/or the sale of septage to nearby farms or agro-businesses
  - Enforcing regulation for reuse of only treated septage
  - Revenue from sale of treated septage
Emerging Recognition of FSM in India

Regulatory provisions will help create a demand for FSM services at State/City level

MoUD, 2013

- Recommends developing a Septage Management Plan (SMP) as a part of city sanitation plans (CSP)

AmrUT Reform

- FSM in a cost-effective manner; Mechanical and biological cleaning of sewers and septic tanks and recovery of operational cost in full

ODF definition advocates urgent need for FSM

hygienic facilities with proper disposal and proper disposal and treatment of sludge from on-site installations; Proper operations & maintenance (O&M) of all sanitary facilities
Government of Maharashtra envisages “ODF Communities” moving towards “ODF+ and ODF++ Communities” by addressing entire service chain of sanitation and not focusing only on number of toilets constructed.
GoM’s Vision & Objectives
Swachh Maharashtra Mission

• Make and **sustain** cities to be ODF

• Move towards universal access to **individual toilets** and ensure usage

• Ensure **quality of construction** of toilets as a strategy for sustainability

• Move “beyond toilets” - Focus on **faecal waste management and liquid waste management**
Key Achievements

At National Level, Maharashtra is 3rd in toilet construction

52 councils and 1 Corporation have become ODF on 31st Jan’ 16

100 cities have become ODF on 02nd Oct’ 16

86 cities certified ODF by MoUD through third party verification

Target
To become ODF Maharashtra by 2nd October 2017

Devendra Fadnavis
@Dev_Fadnavis

Good news!
Maharashtra ranks first again!
Out of total 118 ODF cities in India, Maharashtra has the highest i.e 52.
FSM Landscape Assessment - Maharashtra

Total 259 Cities with 30.2 million population requiring FSM

- Municipal corporations
  - Partial FSM
    - 1. Large city partial
      - 22 Cities
      - (16.6 Mn population)
    - 2. Small city partial
      - 19 Cities
      - (1.2 Mn population)
  - Citywide 100% FSM
    - 3. Medium-small cities near STPs
      - 36 Cities
      - (with STP within 15/30 km.)
      - (3.1 Mn population)
    - 4. Citywide FSM - medium
      - 56 Cities
      - (>50,000 Pop. (5.8 Mn population)
    - 5. Citywide FSM - small
      - 126 Cities
      - (<50,000 Pop.
      - (3.6 Mn population)
Developed concept of ODF, ODF +, ODF ++
Maharashtra: Septage management guidelines

- Directs cities to take up citywide FSM services
- Advocates scheduled emptying services
- Implement septage treatment facility
- Robust taxation structure for sanitation
- Monitoring framework for emptying and treatment
Training to ULBs for septage management

Training of 100+ ODF cities in Maharashtra for implementing Septage Management Plan and moving toward ODF + and ODF ++ concept
FSM- PSP toolkit training for ULBs in Maharashtra

Training of 100+ ODF cities in Maharashtra for involving PRIVATE SECTOR in FSM activities
Step by step Guidebook for ULBs
Workshop on Septage Treatment Technology

• Case study discussions with experts

• Explore possible options for septage treatment for small towns
Financing for FSM services

• **Earmarked 50%** funds for Sanitation under **14th Finance Commission**

• Allocation under GoI’s **AMRUT programme** to implement **septage management plan**

• **Incentive scheme** for ODF cities – To move towards ODF+

<table>
<thead>
<tr>
<th>Incentive Scheme</th>
<th>A Class</th>
<th>B Class</th>
<th>C Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>ODF Cities</td>
<td>300,000 USD</td>
<td>225,000 USD</td>
<td>150,000 USD</td>
</tr>
</tbody>
</table>
Monitoring On-Site Sanitation system

Recognition of Properly managed onsite sanitation system as “Safe Sanitation” (NUSP, CPHEEO, USEPA, WHO, IWA)

“San-Benchmark” to measure service level for On-site sanitation

Rolled out San-Benchmark framework in Maharashtra

Revised SLB Monitoring framework (San-Benchmark) for onsite sanitation system adopted in draft national policy on FSM
State Level Sanitation Assessment

Sanitation assessment using existing and revised indicators - urban Maharashtra (2015-16)

- Only **36 ULBs** has **partial** underground sewer network and **23 ULBs** has **sewerage treatment plant in Maharashtra**

- Revised indicators show better performance for coverage of adequate sanitation system, collection efficiency, adequacy of treatment capacity and quality of treatment
Summary

• Enabling ecosystem for cities to implement FSM plan

• Pilot project demonstration of FSM plan in cities of Maharashtra

• ODF+ cities action plan

• Model procurement procedure and contract documents for FSM services at state level

• Capacity building and training workshop

• Investment plan for FSM services at state level
## SAN Benchmarks

Citywide assessment of sanitation service delivery including on-site sanitation

### Revised Sanitation Indicators

(Sewerage system + Onsite systems)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
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<tbody>
<tr>
<td>1. Coverage of toilets</td>
<td>Percentage of properties with access to toilet facility in the city</td>
</tr>
<tr>
<td>2. Coverage of adequate sanitation system</td>
<td>Percentage of households with individual toilets connected with adequate sanitation systems (sewer network/ septic tank / double pit system) to total households in the city.</td>
</tr>
<tr>
<td>3. Collection efficiency of sanitation system</td>
<td>Weighted average of collection efficiency of each sanitation system, weighted by share of households dependent on each sanitation system.</td>
</tr>
<tr>
<td>4. Adequacy of treatment capacity of Sanitation System</td>
<td>Weighted average of adequacy of treatment plant capacity available for each sanitation system, weighted by share of households dependent on each sanitation system.</td>
</tr>
<tr>
<td>5. Quality of treatment of sanitation system</td>
<td>Weighted average of quality of treatment of each sanitation system, weighted by share of households dependent on each sanitation system.</td>
</tr>
<tr>
<td>6. Extent of reuse and recycling in sanitation system</td>
<td>Weighted average of extent of reuse of treated wastewater and sludge after adequate treatment as a percentage of wastewater and sludge received at the treatment plant, weighted by share of household dependent on each sanitation system.</td>
</tr>
</tbody>
</table>