



# A systematic approach to scale up FSM services

## Case of Government of Maharashtra

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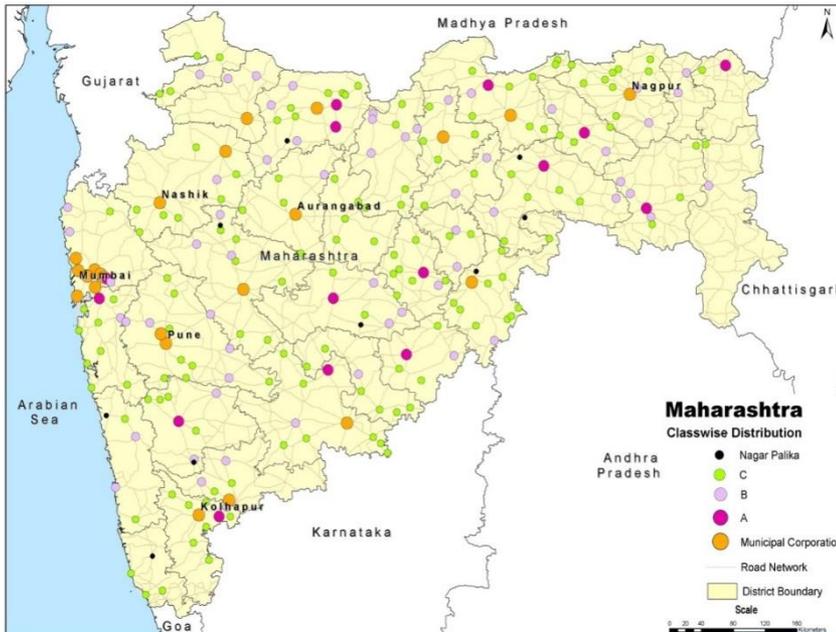
**All India Institute of Local Self Government, Mumbai**

**CEPT  
UNIVERSITY**



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

## Demography



| City Class   | Population definition | Nos. Cities | Urban Population (Millions) |
|--------------|-----------------------|-------------|-----------------------------|
| MC           | >300,000              | 26          | 38.2                        |
| Class A      | 100,000-300,000       | 12          | 2.1                         |
| Class B      | 40,000-100,000        | 59          | 4.4                         |
| Class C      | <40,000               | 147         | 4.3                         |
| NP           | As notified           | 15          | 0.4                         |
| <b>Total</b> |                       | <b>259</b>  | <b>49.4</b>                 |

Note: (1) Classification of cities: municipal corporation (>300,000), Municipal Councils: Class A (100,000-300,000), Class B (40,000-100,000), Class C (<40,000), NP (as notified)  
Source: PAS Project (2013-14)

## Sanitation status

**25%** URBAN HHs HAVE NO LATRINE FACILITY WITHIN PREMISES

**48%** OF URBAN HHs TOILETS HAVE ACCESS TO **PIPED SEWER SYSTEM**

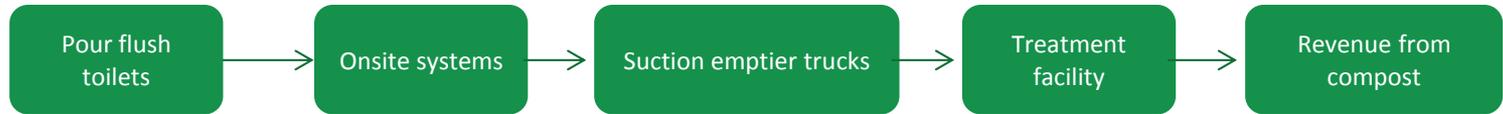
**52%** HHs TOILETS HAVE **ONSITE SYSTEM**

Source: PAS 2014-15

# End-to-end septage management solution – From red to green



- Current Situation**
- Lack of universal access to improved toilets
  - Lack of adequate **data base** on toilets for properties
  - Onsite system **lack manhole covers**
  - Onsite systems are **not of standard size**
  - No database** on Onsite system for properties
  - Only **2-4 % of onsite systems cleaned** annually
  - No facility** for septage treatment
  - Septage **disposed** off on dumping site **without treatment**



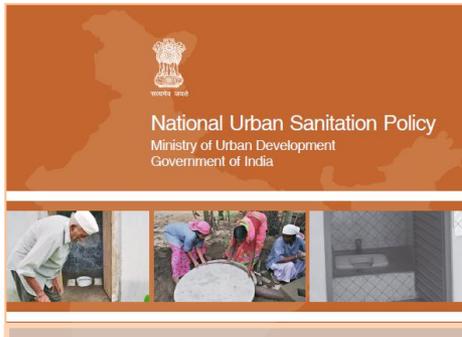
- Proposed Approach**
- Awareness generation and behavior change campaign for providing accessible onsite systems
  - Awareness generation for regular emptying
  - Awareness generation focusing on use of treated septage
  - Convert unimproved toilets to **improved**
  - Ensuring **100% access to toilets**
  - Data base** on toilets for all properties
  - Providing **access manhole covers** to onsite systems to allow regular cleaning
  - Data base** of properties with onsite system
  - 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
  - Installing treatment facility** for the treatment of septage
  - Safe dumping** of treated septage and/or the **sale of septage** to nearby farms or agro-businesses
  - Enforcing regulations** on onsite system design
  - Enforcing regulations and penalties** for periodicity of onsite system cleaning and safe handling of sludge
  - Enforcing regulation** for reuse of only **treated septage**
  - Payment using local taxes /charges** using escrow mechanisms
  - Payment using local taxes /charges**
  - Revenue** from **sale of treated septage**
  - Exploring private sector** participation
  - Exploring private sector** participation
  - Training and capacity building of **public** and **private** entities
  - Training and capacity building of **public** and **private** entities

**Current Situation**

**Proposed Approach**

- Awareness**
- Infrastructure and Services**
- Policy & Regulations**
- Financing**
- Training**

# Emerging Recognition of FSM in India



**AMRUT  
Reform**

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

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

### MoUD, 2013

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

### AMRUT MoUD, 2015 June 2015

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**



# Launch of Swachh Maharashtra Mission (U)



SWACHH MAHARASHTRA MISSION  
Urban Development Department



|      |            |                |                     |                 |           |                               |           |            |         |              |
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भारत सरकारचा पुढाकार  
स्वच्छ महाराष्ट्र करू साकार



## संकल्प स्वच्छतेचा

- सहभागाचा ठाम निर्धार
- व्यापक लोकसहभाग मिळवणार
- १०० टक्के शौचालयाचाच वापर करण्यासाठी प्रवृत्त करणार
- कचऱ्याचे संकलन, वर्गीकरण, वाहतूक करणार
- कचऱ्यावर शास्त्रोक्त प्रक्रिया करणार
- सांडपाण्यावर प्रक्रिया करणार
- स्वच्छ व हरित महाराष्ट्र साकारणार

• साप्तपदी : स्वच्छ व हरित महाराष्ट्रासाठी ...

Latest Updates | 14 Declared OD Free Cities By Hon. Shri Devendra Fadnavis, Chief Minister of Maharashtra under Swachh Maharashtra Mission



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

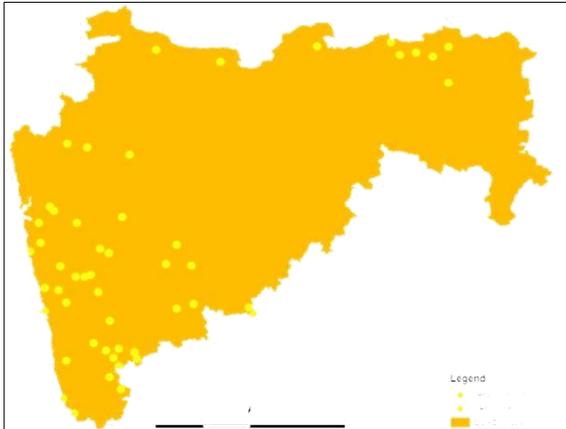
- Make and **sustain** cities to be ODF
- Move towards universal access to **individual toilets and ensure usage**
- Ensure **quality of construction** of toilets as a strategy for sustainability
- Move “beyond toilets” - Focus on **faecal waste management and liquid waste management**



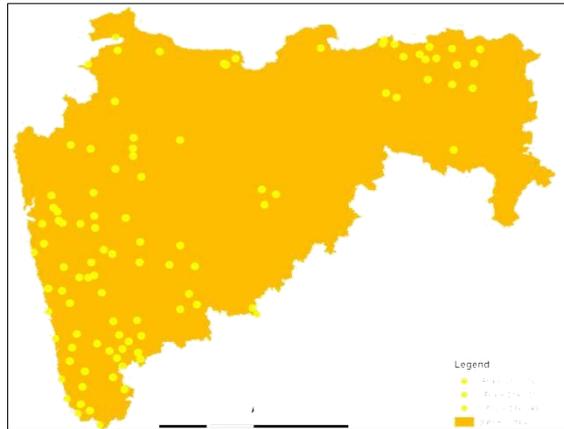
# Key Achievements

At National Level, Maharashtra is 3<sup>rd</sup> in toilet construction

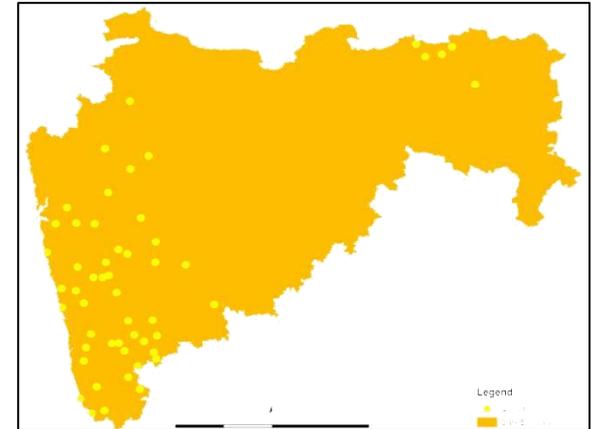
52 councils and 1 Corporation  
have become ODF on 31st Jan' 16



100 cities have become ODF on  
02nd Oct' 16



86 cities certified ODF by MoUD  
through third party verification



**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.

RETWEETS 337 LIKES 846



11:30 AM - 13 Oct 2016

67 337 846

Swachh Maharashtra  
@SwachhMaha

Let's make Maharashtra free of open defecation by next year:CM @Dev\_Fadnavis #MyCleanIndia indianexpress.com/article/india/ ...

A photograph showing Devendra Fadnavis and other officials participating in a Swachh Maharashtra activity. They are gathered around a large woven basket filled with organic waste, and one person is using a green bin to collect it.

Target

To become ODF  
Maharashtra  
by  
2<sup>nd</sup> October  
2017

# FSM Landscape Assessment - Maharashtra

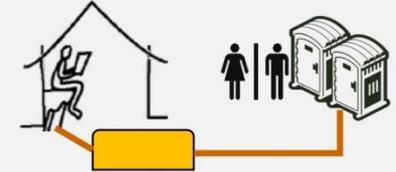
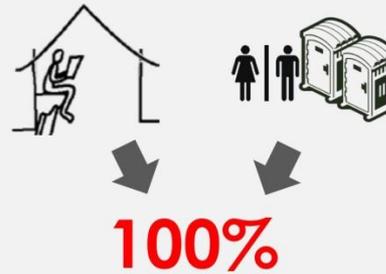
Total 259 Cities with 30.2 million population requiring FSM

|                        | Partial FSM                                                       | Citywide 100% FSM                                                                                                                                                  |
|------------------------|-------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Municipal corporations | <b>1. Large city partial</b><br>22 Cities<br>(16.6 Mn population) | <b>3. Medium-small cities near STPs</b><br>36 Cities<br>(with STP within 15/30 km.)<br>(3.1 Mn population)                                                         |
| Municipal Councils     | <b>2. Small city partial</b><br>19 Cities<br>(1.2 Mn population)  | <b>4. Citywide FSM - medium</b><br>56 Cities >50,000 Pop. (5.8 Mn population)<br><b>5. Citywide FSM - small</b><br>126 Cities <<50,000 Pop.<br>(3.6 Mn population) |

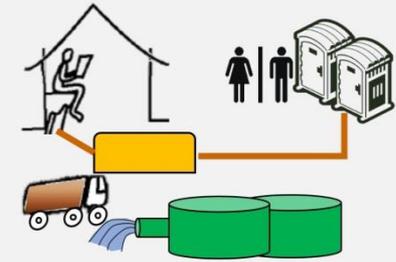


# Developed **concept** of ODF , **ODF +** , **ODF ++**

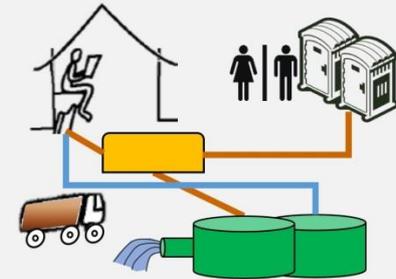
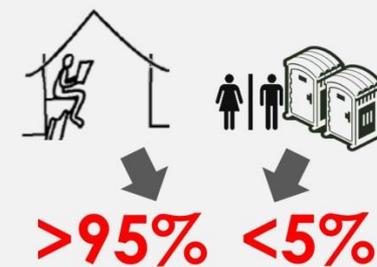
ODF



ODF+



ODF++



# Maharashtra: Septage management guidelines



Guidelines for Septage Management in Maharashtra

February, 2016

- 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

Swachh Maharashtra Mission (Urban)

Urban Development Department, Government of Maharashtra



# Training to ULBs for septage management



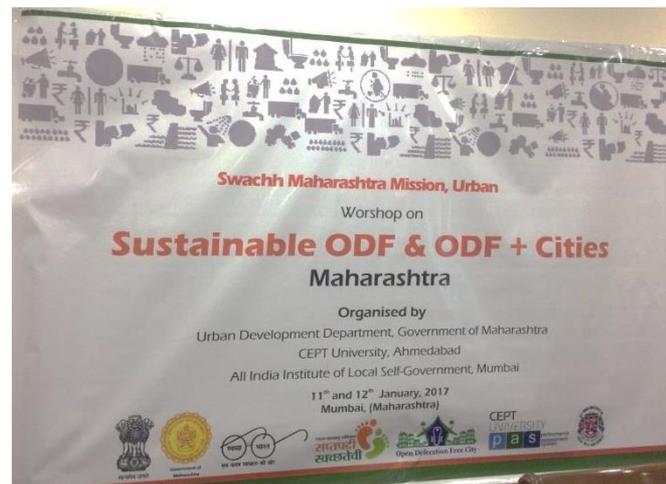
**Training of 100+ ODF cities in Maharashtra for implementing Septage Management Plan and moving toward ODF + and ODF ++ concept**



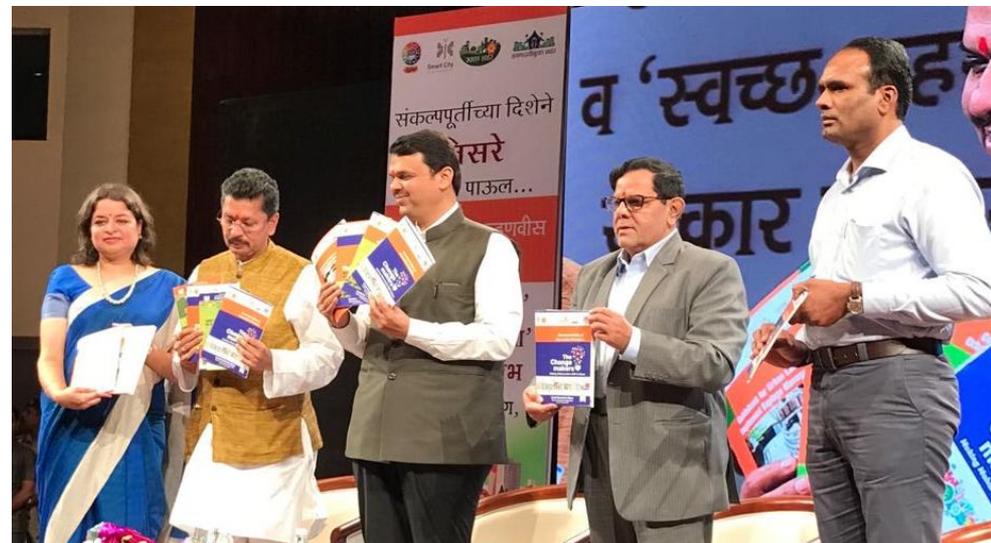
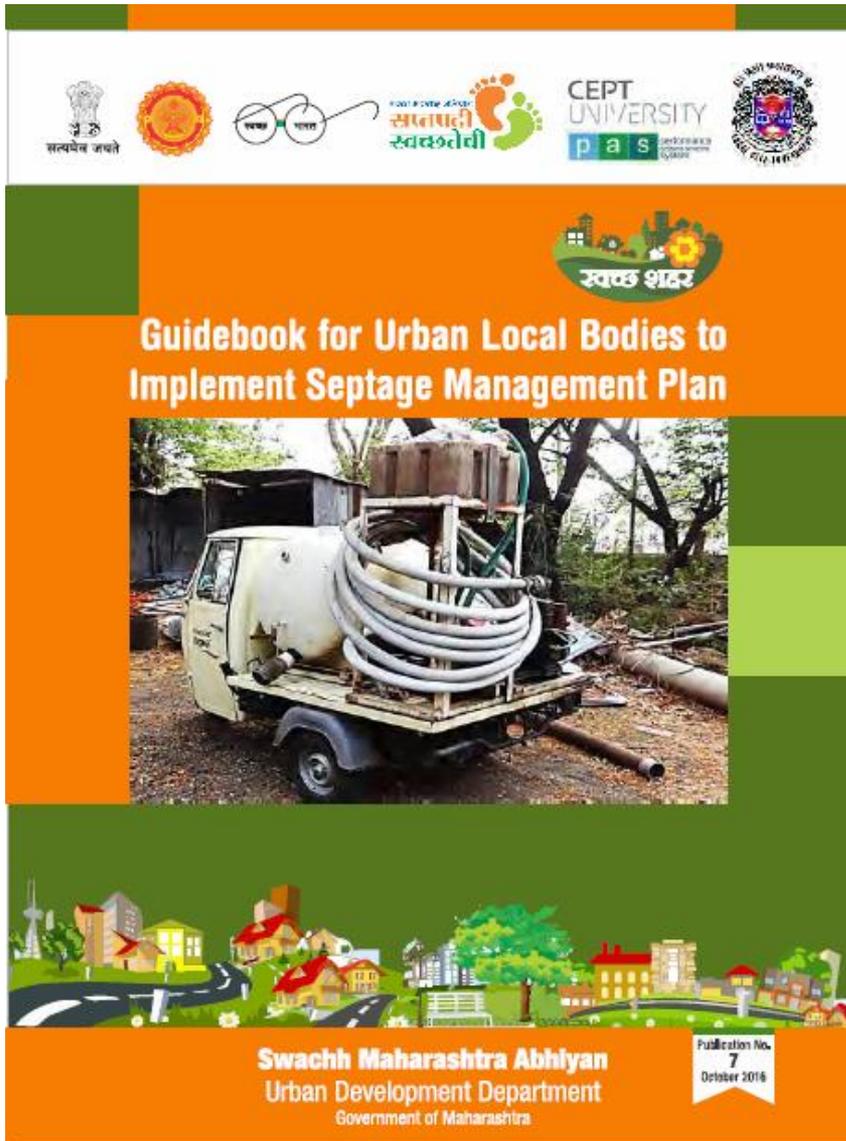
# FSM- PSP toolkit training for ULBs in Maharashtra



**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 **14<sup>th</sup> Finance Commission**
- Allocation under GoI's **AMRUT programme** to implement **septage management plan**
- **Incentive scheme** for ODF cities – To move towards ODF+

Incentive Scheme

|            | A Class     | B Class     | C Class     |
|------------|-------------|-------------|-------------|
| ODF Cities | 300,000 USD | 225,000 USD | 150,000 USD |

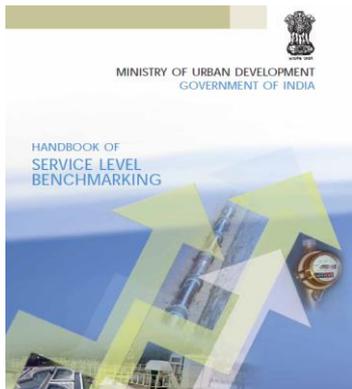


# Monitoring On-Site Sanitation system

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

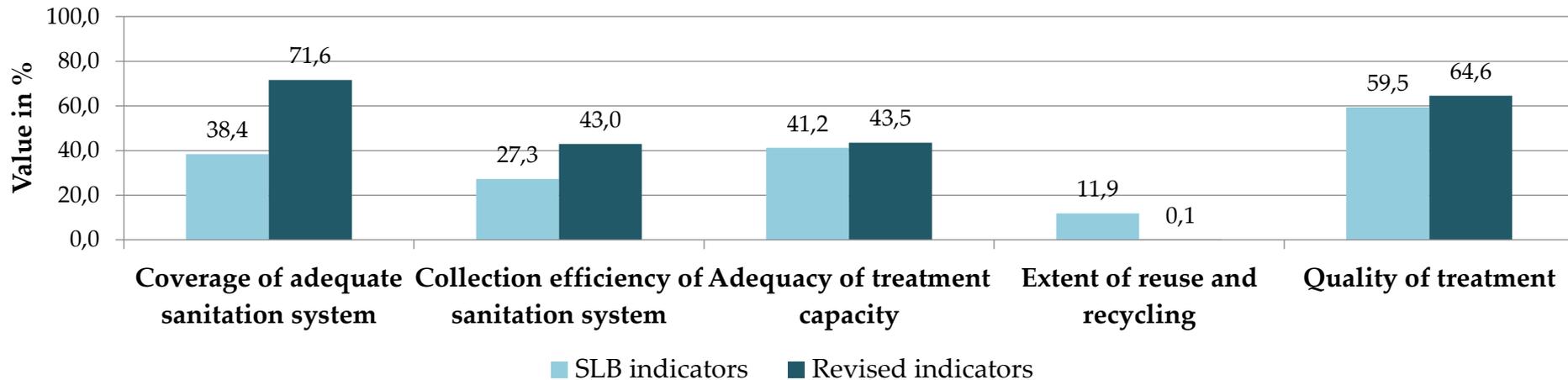


**Revised SLB Monitoring framework (San-Benchmark) for onsite sanitation system adopted in draft national policy on FSM**



# State Level Sanitation Assessment

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



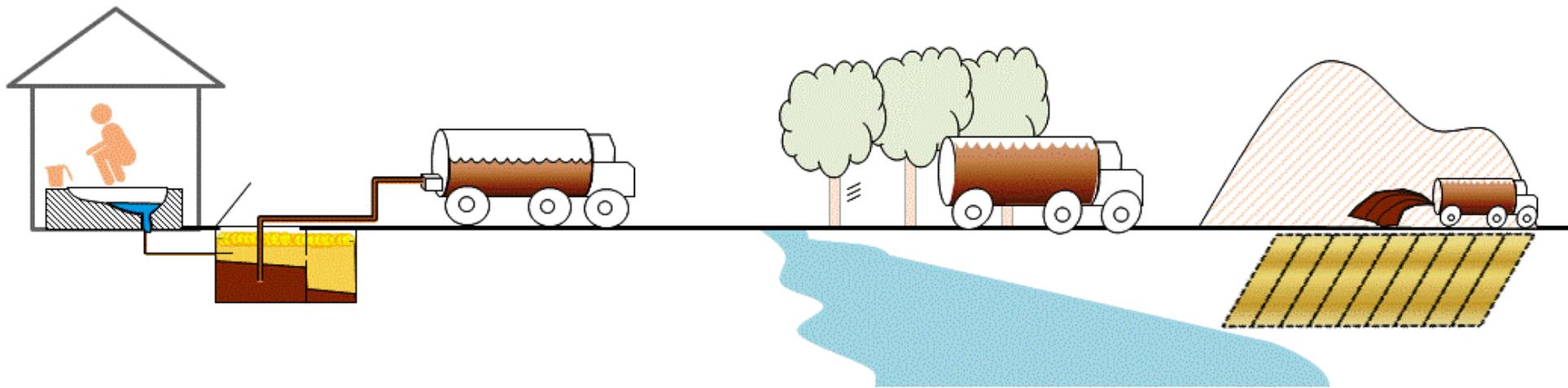
- Only **36 ULBs** has **partial** underground sewer network and **23 ULBs** has **sewerage treatment plant in Maharashtra**

**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





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# SAN Benchmarks

## Citywide assessment of sanitation service delivery Including on-site sanitation

### Revised Sanitation Indicators (Sewerage system + Onsite systems)

|                                                               |                                                                                                                                                                                                                                             |
|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1. Coverage of toilets</b>                                 | Percentage of properties with access to toilet facility in the city                                                                                                                                                                         |
| <b>2. Coverage of adequate sanitation system</b>              | Percentage of households with individual toilets connected with adequate sanitation systems (sewer network/ septic tank / double pit system) to total households in the city.                                                               |
| <b>3. Collection efficiency of sanitation system</b>          | Weighted average of collection efficiency of each sanitation system, weighted by share of households dependent on each sanitation system.                                                                                                   |
| <b>4. Adequacy of treatment capacity of Sanitation System</b> | Weighted average of adequacy of treatment plant capacity available for each sanitation system, weighted by share of households dependent on each sanitation system.                                                                         |
| <b>5. Quality of treatment of sanitation system</b>           | Weighted average of quality of treatment of each sanitation system, weighted by share of households dependent on each sanitation system.                                                                                                    |
| <b>6. Extent of reuse and recycling in sanitation system</b>  | 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. |