



# A systematic approach to scale up FSM services

## Case of Government of Maharashtra

**Dhruv Bhavsar**

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**CEPT University, Ahmedabad**

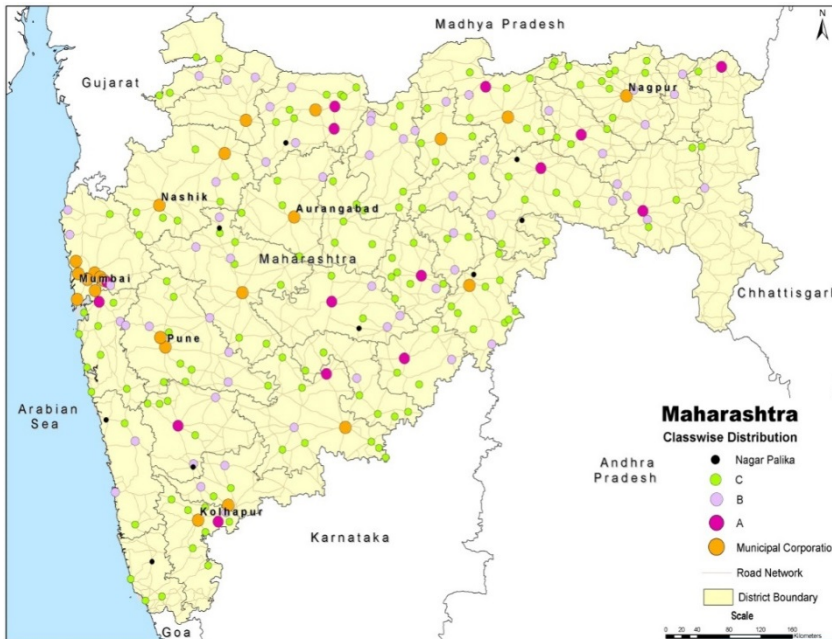
**All India Institute of Local Self Government, Mumbai**

**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>

## Sanitation status

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

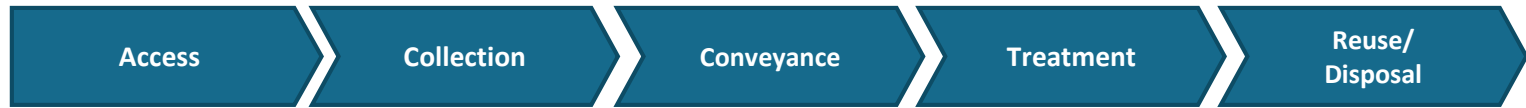
**48%** OF URBAN HHs TOILETS HAVE ACCESS TO **PIPED SEWER** SYSTEM

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

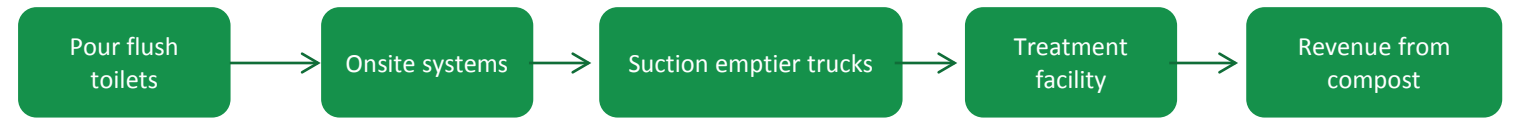
Source: PAS 2014-15

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)

# 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**



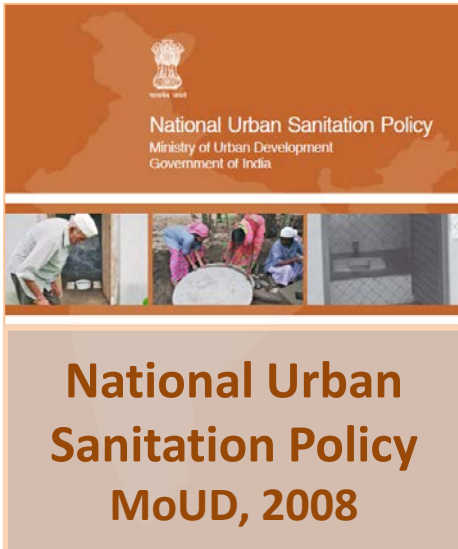
- Proposed Approach**
- Awareness generation and behavior change campaign for providing accessible onsite systems
  - Awareness generation for regular emptying
  - Awareness generation focusing on use of treated septage
  - Convert unimproved toilets to **improved**
  - Ensuring **100% access to toilets**
  - 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



National Urban Sanitation Policy  
Ministry of Urban Development  
Government of India



**National Urban Sanitation Policy**  
MoUD, 2008

Importance of safe and 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



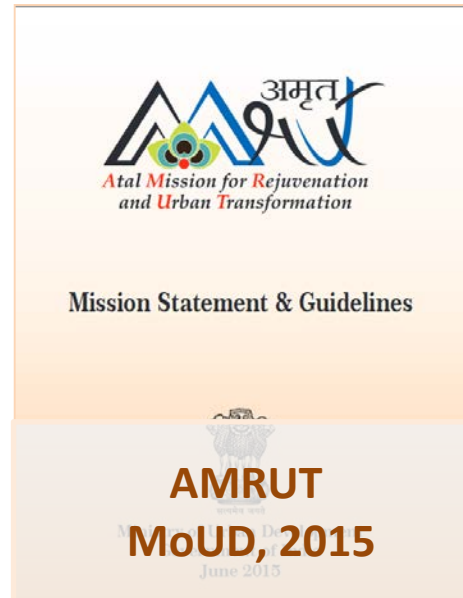
ADVISORY NOTE



SEPTAGE MANAGEMENT  
IN URBAN INDIA


**Advisory on Septage Management**  
MoUD, 2013

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



अमृत  
Atal Mission for Rejuvenation  
and Urban Transformation

Mission Statement & Guidelines



**AMRUT**  
MoUD, 2015  
June 2015

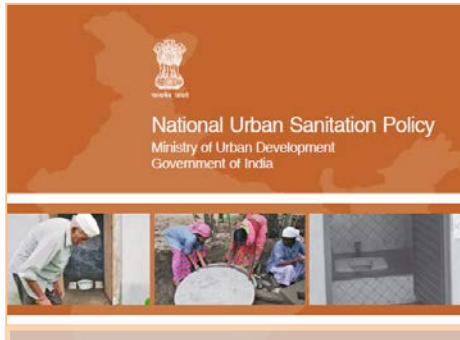
**FSM** in a cost-effective manner; Mechanical and biological **cleaning of sewers and septic tanks** and recovery of operational cost in full

**AMRUT Reform mandates state Govt. to issue FSM Policies**

**ODF definition advocates urgent need for FSM**



# 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  
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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

• सप्तपदी : 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

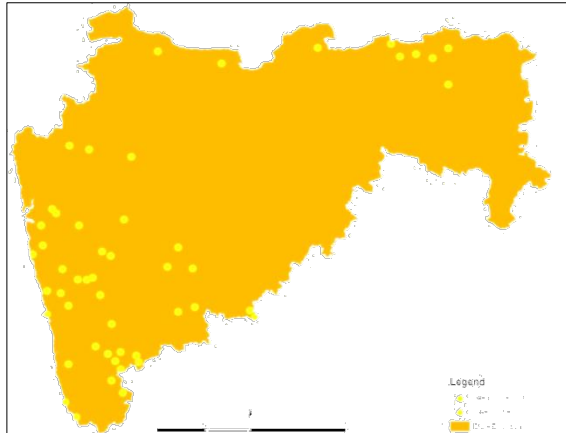
- Make and **sustain** cities to be ODF
- Move towards universal access to **individual toilets and ensure usage**
- Ensure **quality of construction** of toilets as a strategy for sustainability
- Move “beyond toilets” - Focus on **faecal waste management and liquid waste management**



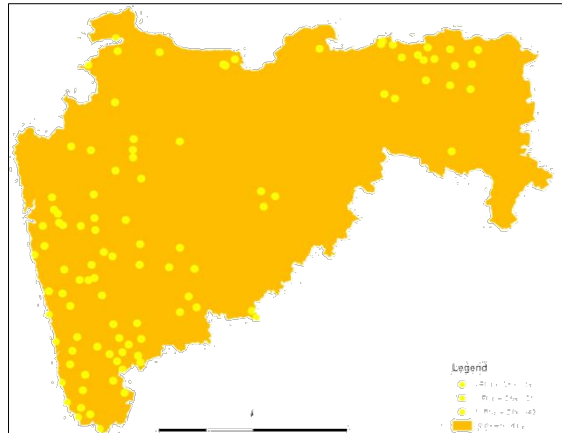
# Key Achievements

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

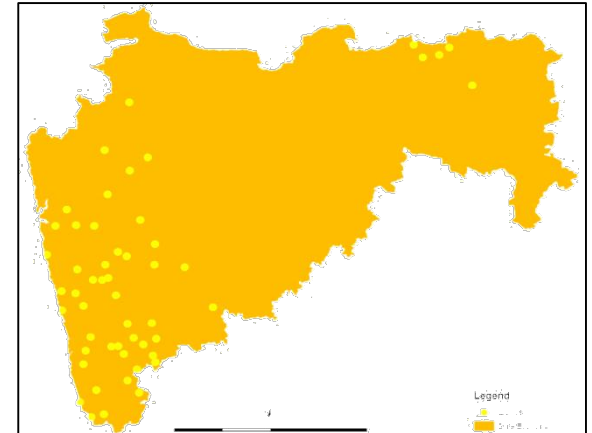
**52 councils and 1 Corporation** have become ODF on **31st Jan' 16**



**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

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



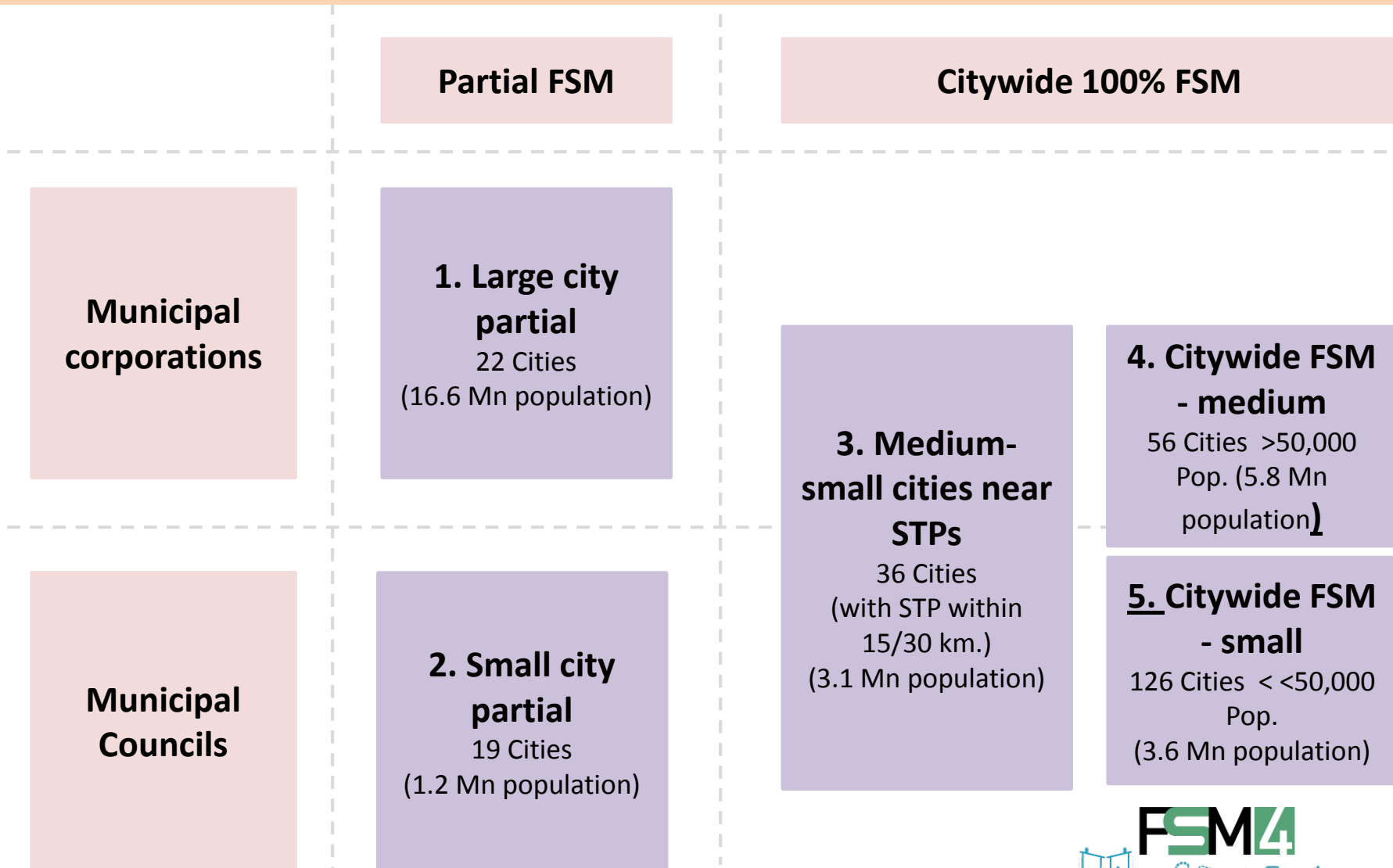
## Target

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



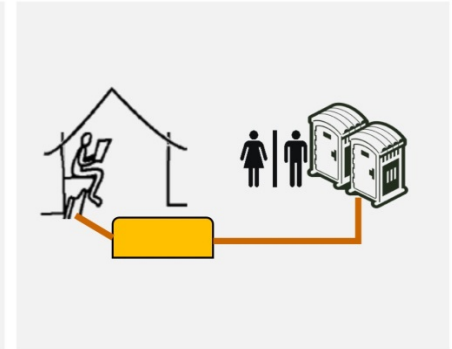
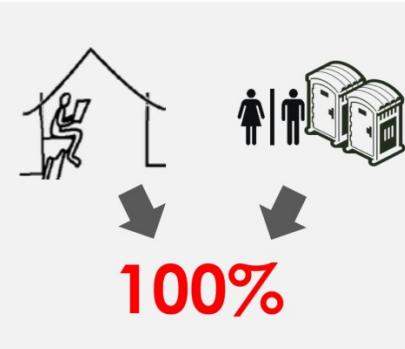
# FSM Landscape Assessment - Maharashtra

Total 259 Cities with 30.2 million population requiring FSM

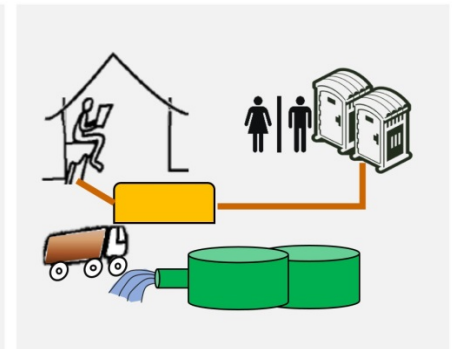
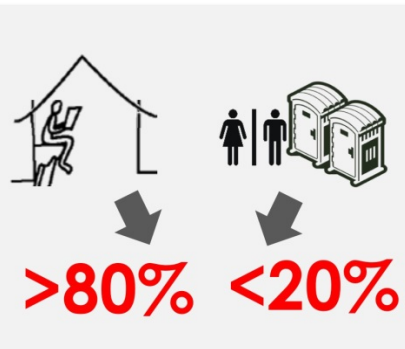


# Developed concept of ODF , ODF +, ODF ++

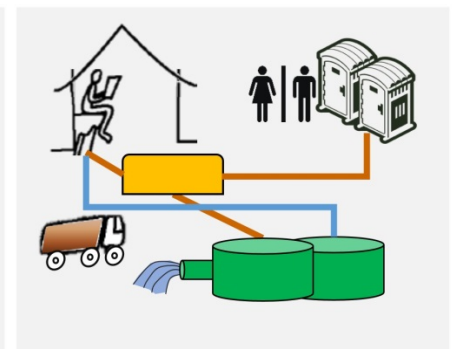
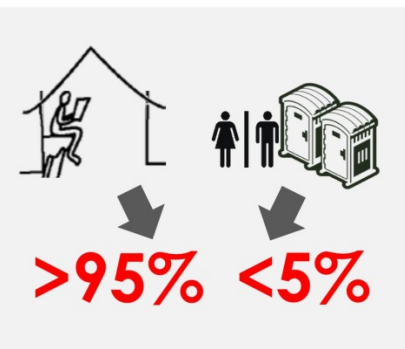
ODF



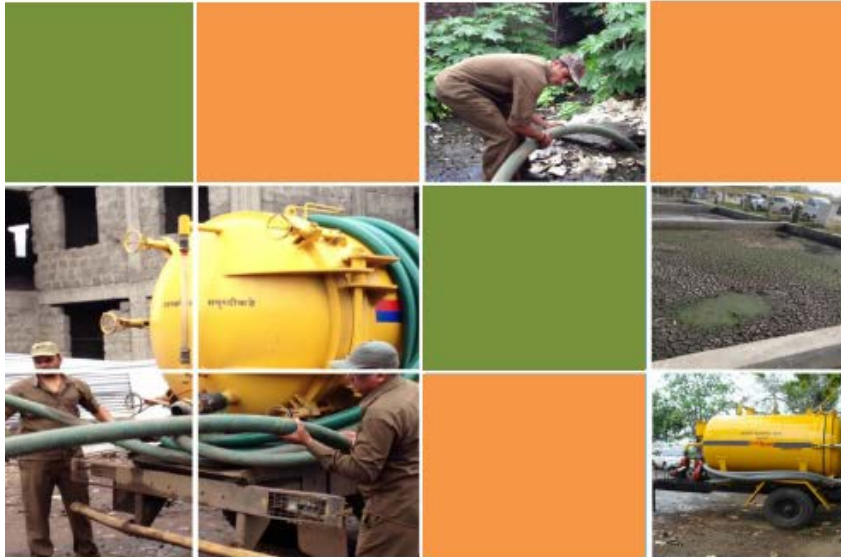
ODF+



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**



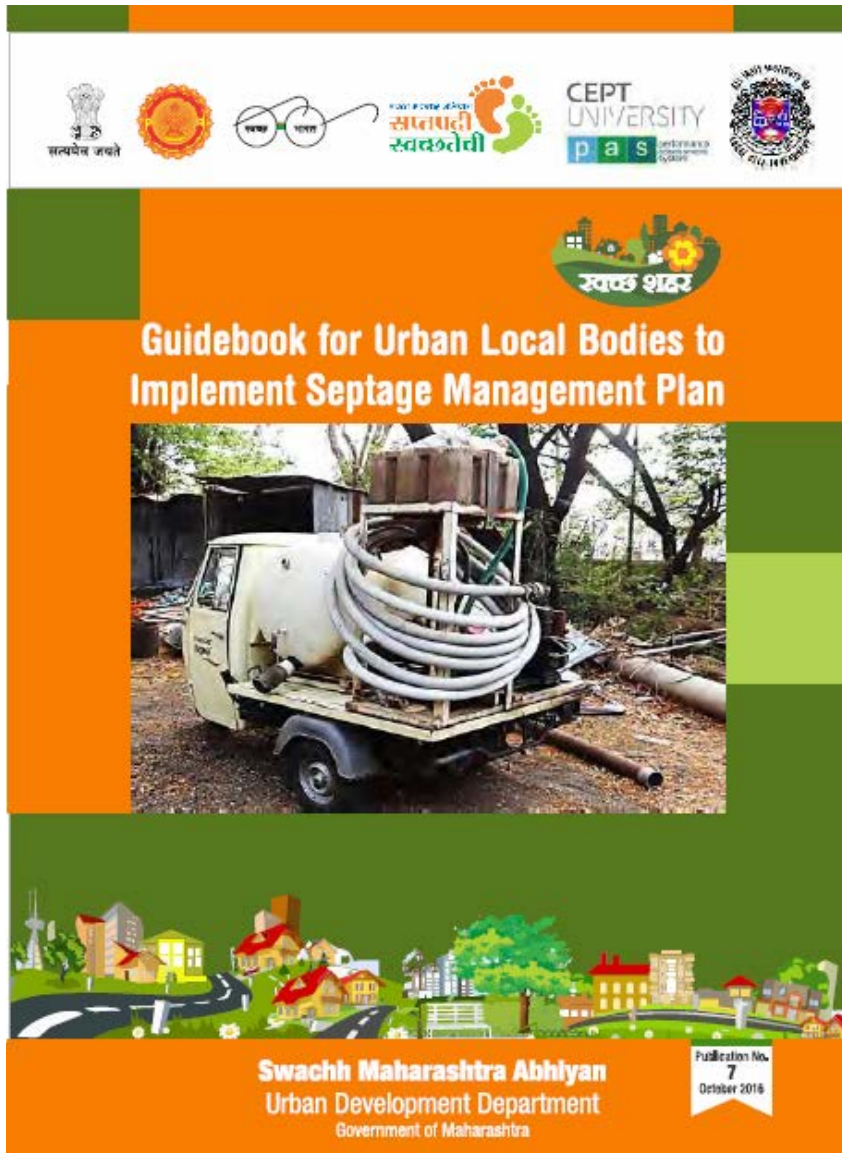
# FSM- PSP toolkit training for ULBs in Maharashtra



**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



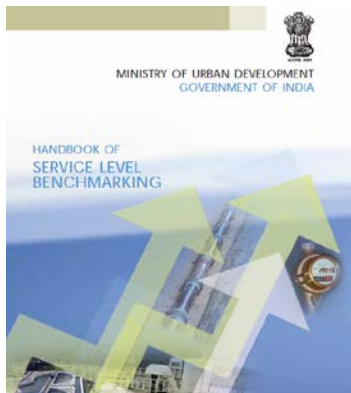


# Monitoring On-Site Sanitation system

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

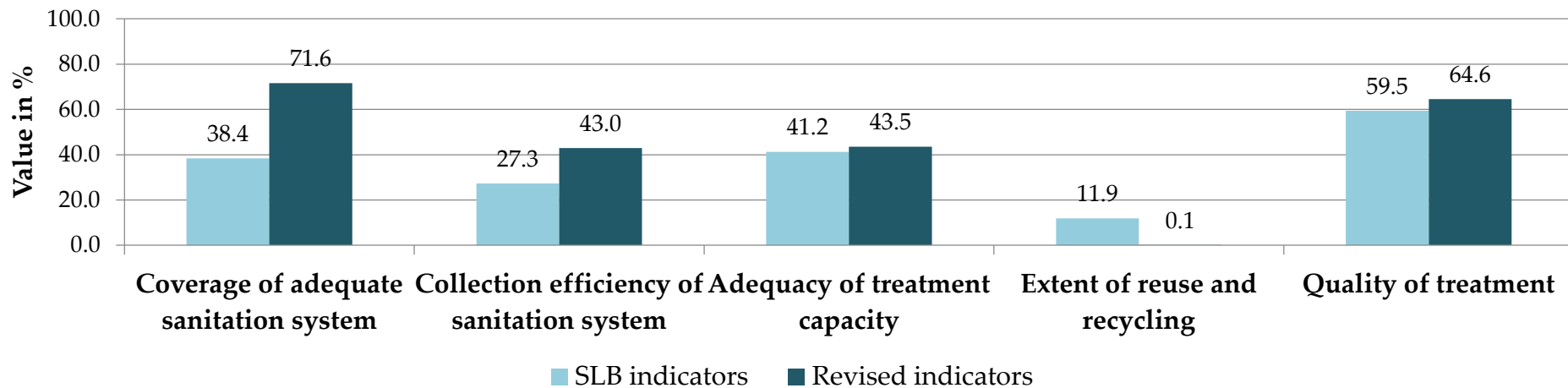


**Revised SLB Monitoring framework (San-Benchmark) for onsite sanitation system adopted in draft national policy on FSM**



# State Level Sanitation Assessment

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



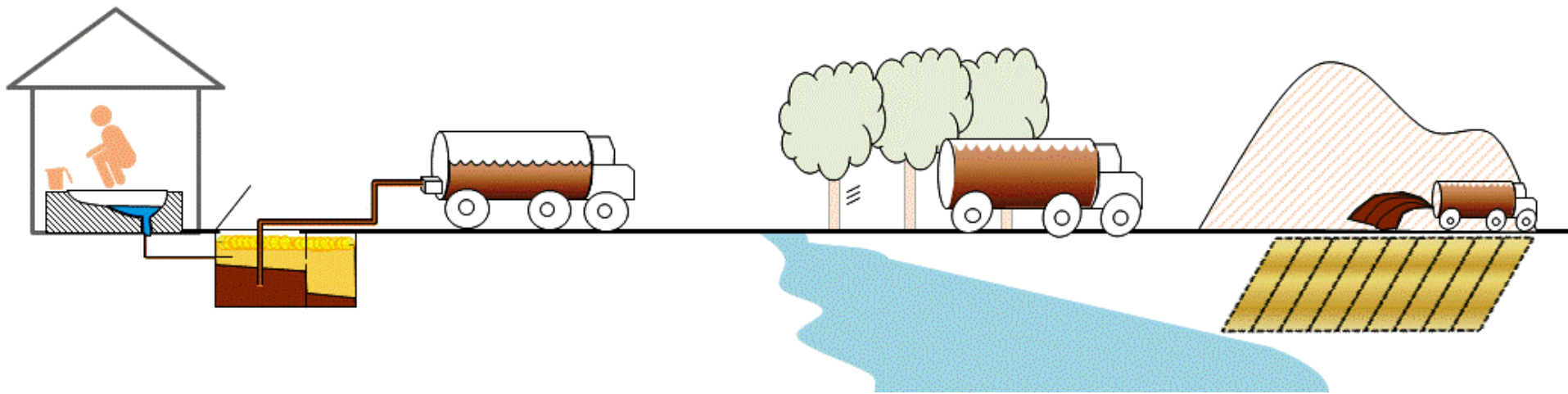
- Only **36 ULBs** has **partial** underground sewer network and **23 ULBs** has **sewerage treatment plant in Maharashtra**

**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.