

Inclusive Faecal Sludge and Septage Management Business Model

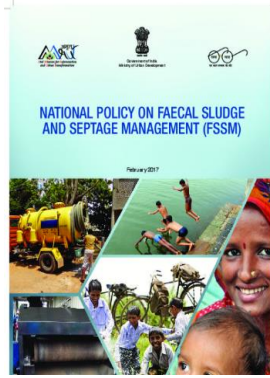
A Case of Maharashtra State, India

Arwa Bharmal, Dhruv Bhavsar and Aasim Mansuri
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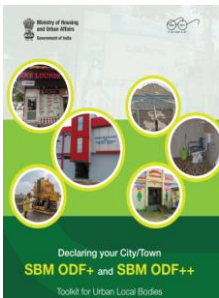
Emerging emphasis on FSSM in India



SDG 6



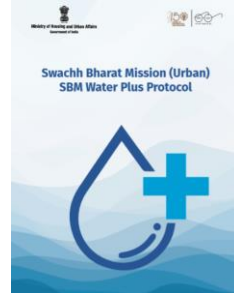
National policy on FSSM



National ODF+ and ODF++ protocol

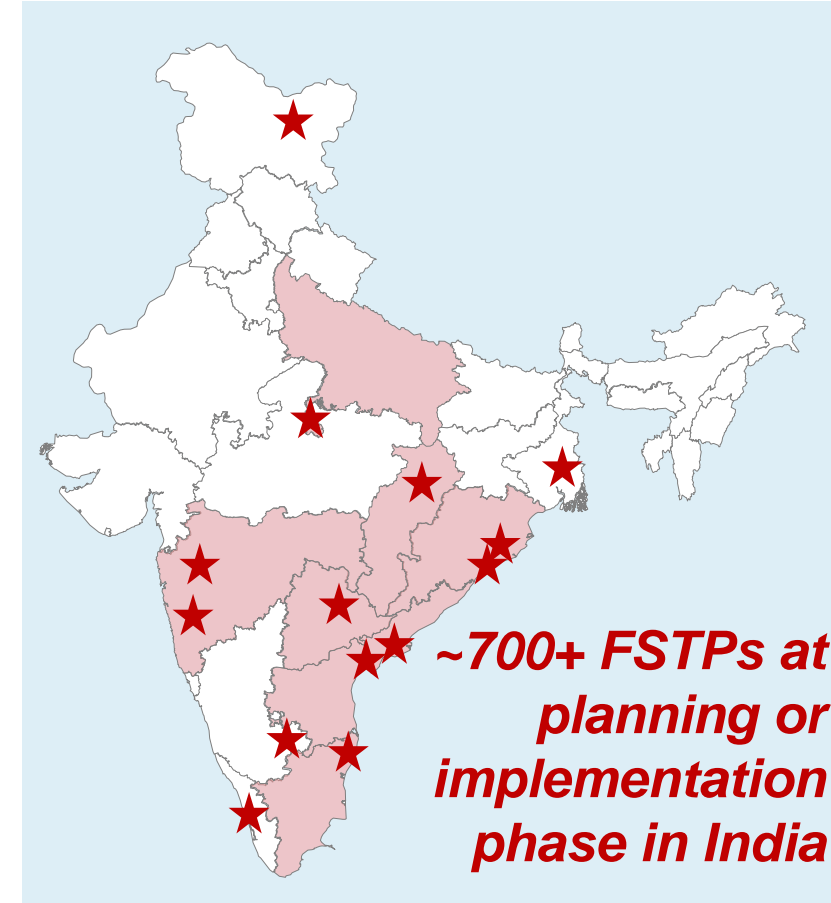


Swachh Survekshan



Water Plus

- ~Two-thirds of urban population in India are dependent on FSSM
- Over the past three years FSSM has received increasing attention and a national FSSM policy has been adopted.
- Government of India has undertaken several policy and programme initiatives like SBM, AMRUT, JJM.



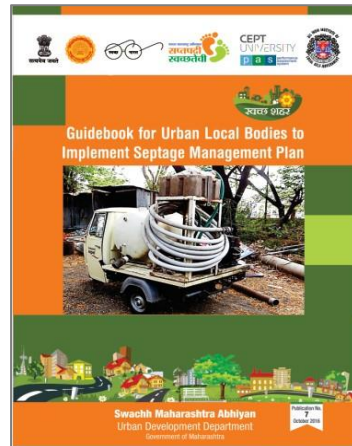
Government of Maharashtra has taken up FSSM expansively

Increased focus on moving cities towards ODF+ / ++ (FSSM) after declaring Urban Maharashtra ODF on 2nd Oct. 2017

Septage Management Guidelines



Step by Step Guide for ODF+



Government Resolutions

ODF, ODF+ and ODF++ framework

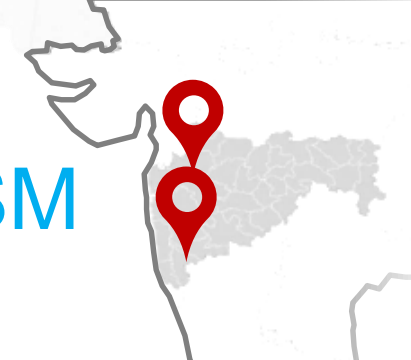
Utilizing Incentive grants and 14th FC funds for sanitation/ ODF+ / ++ activities

70+ cities Co-treating of FS at own or nearby STP

311 independent FSTPs Construction

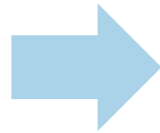


Maharashtra began with Citywide inclusive FSSM services in two cities in 2014



Small & Medium towns in Maharashtra	Population Wai ~43,000 Sinnar ~72,000 ,	Declared ODF in 2016 - 2017	Declared ODF++ 2018-2019
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Comprehensive City Sanitation planning and municipal council resolution for FSSM



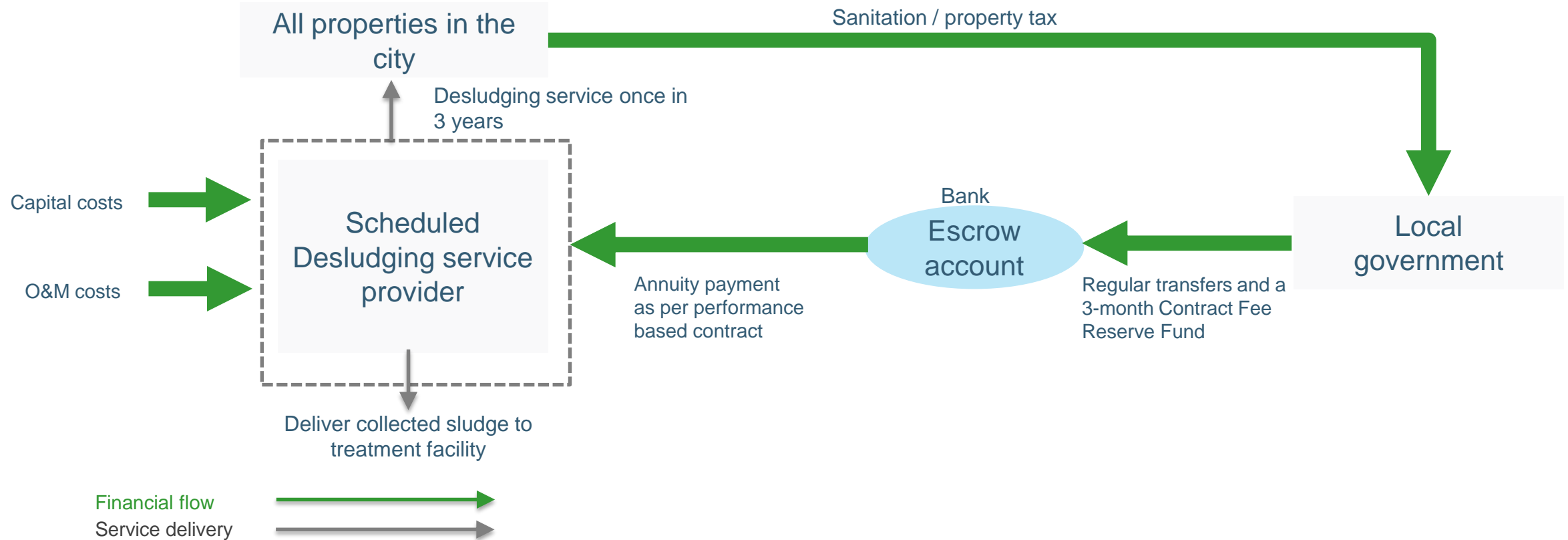
1st cities in India to implement citywide scheduled emptying of septic tanks



- | | | | | | | | |
|---|---|---|---|---|--|---|---|
| 1 | Scheduled emptying of septic tanks | 2 | Involving Private sector for emptying operations | 3 | Levying a Sanitation tax to support operations | 4 | Faecal Sludge and Septage treatment facility (FSTP) |
| 5 | Use of Own (DBO) / Philanthropy funds for FSTPs | 6 | Online monitoring systems for FSSM – emptying and treatment | 7 | Reuse of treated Waste Water | 8 | Municipal council commitment and leadership |

From URBAN LABORATORIES to LIGHT HOUSE cities . . . !!!

Performance Linked Annuity Model (PLAM) for Scheduled Desludging is adopted in these two cities



Key inclusive aspects covered under PLAM



Coverage of all properties with septic tank



Safe and Regular desludging for all



IT enabled monitoring for inclusive service delivery



Equitable and affordable tax based charges



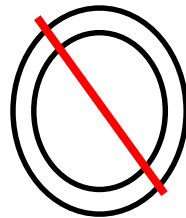
Regular use of safety gear by Sanitation workers



Empowering women and vulnerable groups for inclusive FSSM services



Escrow mechanism – reducing late payment risk



Eliminated manual scavenging through use of mechanization



Awareness generation

All properties are covered for desludging under this approach- including vulnerable and slum households

- Wai and Sinnar LG decided to involve private sector for providing inclusive scheduled desludging services
- All HHs/Properties with septic tanks whether in slum/non-slum area are covered under this contract
- Apart from slums, all other vulnerable properties/households are also covered under this service. BPL Card Holders, households with low income and expenditure, households dependent on community toilets, etc. fall under the vulnerable household category
- The contract included awareness to be performed by private service provider, to ensure all the properties avail this service.
- All vulnerable properties covered.

Map showing coverage of scheduled desludging service in Wai



All vulnerable properties in vulnerable areas have been covered under scheduled desludging

Dedicated and equitable source of Revenue : Sanitation Tax

Differential taxation rates

Residential Properties **with / without toilets—**
\$ 4 / annum

Non Residential Properties **with toilets –**
\$ 4 / toilet seat

Non-residential properties **without toilets—**
\$ 1.5 / annum

LG resolution for taxation

सिन्नर नगरपरिषद, सिन्नर मे.विशेष सभा
ठराव क्रमांक ६१ दिनांक २४/०३/२०१७

विषय क्रमांक ५) सिन्नर नगरपरिषद तर्फे आकारण्यात येणारा स्वच्छता कर, घनकचरा व्यवस्थापन कर व मैला व्यवस्थापन कर यांची पुर्न-रचना करणेबाबत चर्चा करून निर्णय घेणे.

प्रस्तावाचा मजकूर - कार्यालयीन टिपणीचे समागुहात चर्चा होयुन सिन्नर नगरपरिषदे तर्फे सद्या आकारण्यात येणारे विशेष स्वच्छता कर, विशेष घनकचरा कर व मैला व्यवस्थापन कर यांची पुर्न-रचना करून यापुढे सन २०१७-१८ या आर्थिक वर्षापासुन खालील प्रमाणे मैला व्यवस्थापन कर व घनकचरा कर म्हणुन आकारण्यात यावेत व त्याप्रमाणे बिल तयार करुन मालमत्ता धारकांना देण्यात यावेत.

वार्षिक कराचे दर (रुपये)


अ.क्र.	कराचे नांव	निवासी मालमत्ता		विगर निवासी मालमत्ता	
		शौचालय असलेले	शौचालय नसलेले	शौचालय असलेले	शौचालय नसलेले
१.	मैला व्यवस्थापन कर	३००/- (प्रति सिट)	३००/-	३००/- (प्रति सिट)	१००/-

वार्षिक कराचे दर (रुपये)

अ.क्र.	कराचे नांव	निवासी	विगर निवासी
१	घनकचरा व्यवस्थापन कर	१००/-	३००/-

वरीलप्रमाणे कर आकारणी करणेस सदरची सभा सर्वानुमते मान्यता देत आहेत. त्याप्रमाणे प्रशासकीय कार्यवाही करण्यात यावी.

सुचक :- श्री. लोखंडे गो.वि.
अनुमोदन :- श्री. चोथडे प्र.झुं.
ठराव सर्वानुमते मंजूर

 १८६०
अध्यक्ष,
सिन्नर नगरपरिषद, सिन्नर

Now moving towards levying **Sanitation tax as a percentage of property tax** to make it more equitable. . .

Women are getting involved in the process of desludging and FSTP operations

- Building capacities of **Elected Women Representatives (EWRs)** for effective functioning and participation in local governance focusing on FSSM.
- Involving **women SHGs** in landscaping and urban forestry work which uses FSTP's treated resources.
- Sensitizing **women at household level** regarding the process of desludging.
- Celebrating **Women Sanitation champions** in cities and acknowledging their participation.



IT enabled monitoring systems for FSSM, especially to monitor safe and inclusive service delivery

“Real time” monitoring
No need to process data for results



Easy to Operate,
Reduce paper work,
Minimize human error



Monitors performance of FSSM services



Photo stamping,
Geo stamping,
Signatures



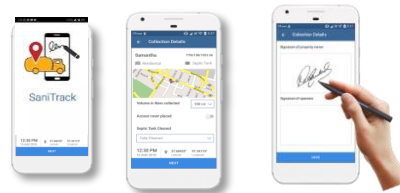
Unique database



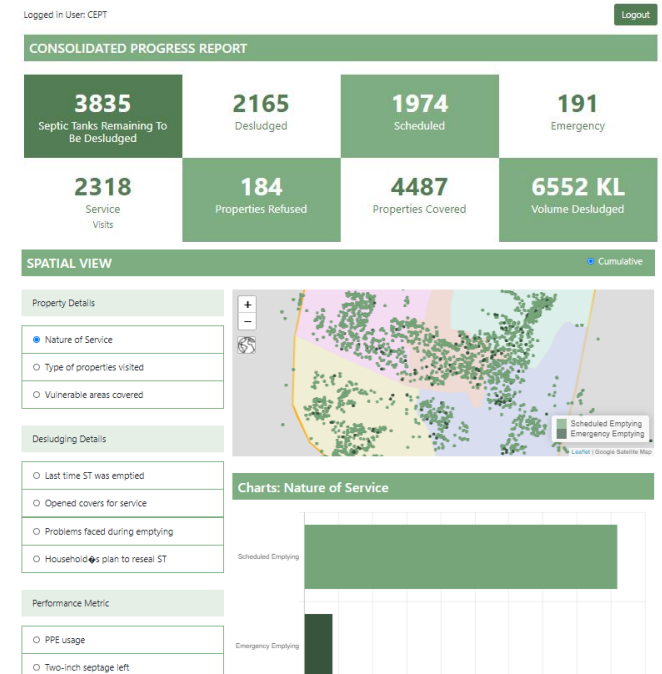
SaniTab



SaniTrack



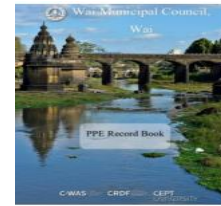
SanQ



Through these systems, we are able to map whether the vulnerable areas have been serviced and whether the FS is safely discharged and treated at FSTP . . .

Sanitation workers safety ensured under these services . . .

- Registers for PPE usage and replacement
- Council has introduced clauses related to provision, usage and monitoring of PPEs in all their upcoming contracts for Sanitation based on experience of this scheduled desludging contract
- SaniTab / SaniTrack dashboard monitors the PPE usage of desludgers on daily basis.
- PPE flyer has been prepared for various sanitation activities and shared with stakeholders
- Training workshop along with a health camp was organized for all Sanitation workers. Also PPEs were distributed during this event.



Name of the worker: _____							Remark	Sign
Helmet	Safety goggles	Nose Mask	Hand Gloves	Jacket	Safety Shoes	Gum-boots		
Date	Date	Date	Date	Date	Date	Date	PPE set given	Sign
			Date				Hand gloves are torn.	Sign

Sample of formats prepared for capturing replacement and distribution of PPE in the PPE record book.

PERSONAL PROTECTIVE EQUIPMENT for sanitation workplace safety

Advised PPE for different type of work

- Cleaning of toilets**
 - Face mask
 - Rubber gloves
 - Apron/Uniform
 - Gumboots
- Septic tank desludging**
 - Face mask, breath mask
 - Rubber gloves
 - Uniform
 - Safety helmet
 - Safety goggles
 - Tools
- Road sweeping and Driv cleaning**
 - Face mask
 - Goggles
 - Uniform
 - Shoes, Gumboots
 - Reflective vest
- Solid Waste Handling**
 - Face mask
 - Goggles, Heavy duty gloves
 - Uniform
 - Shoes, Gumboots
- Treatment plant operation**
 - Face mask, Respirator
 - Goggles, Heat resistant gloves, Breath mask
 - Uniform
 - Safety shoes
 - Gumboots
 - Safety helmet
 - Face shield
 - Safety goggles
- Sewer cleaning**
 - Breath mask
 - Rubber gloves
 - Coveralls
 - Gumboots
 - Safety helmet
 - Safety goggles
 - Tools
 - Trivet and harness
 - Earplugs
 - Ear plugs



FSM6 What has been achieved after implementing citywide inclusive FSSM services in Wai and Sinnar....

- 4200+ septic tanks desludged by scheduled desludging services in both these cities covering 7400+ properties
- Vulnerable properties are being serviced through scheduled desludging services
- 90-95% acceptance rate from HHs for scheduled service
- 28+ million litre septage delivered to both the treatment facilities
- Households pay sanitation tax instead of high user charges for desludging
- Sanitation workers now wear safety gear regularly
- Women being empowered for providing FSSM services
- Both cities have been declared ODF++ by MoHUA, Govt. of India



Thank you

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About us

The Center for Water and Sanitation (CWAS) at CEPT University carries out various activities – action research, training, advocacy to enable state and local governments to improve delivery of services.



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