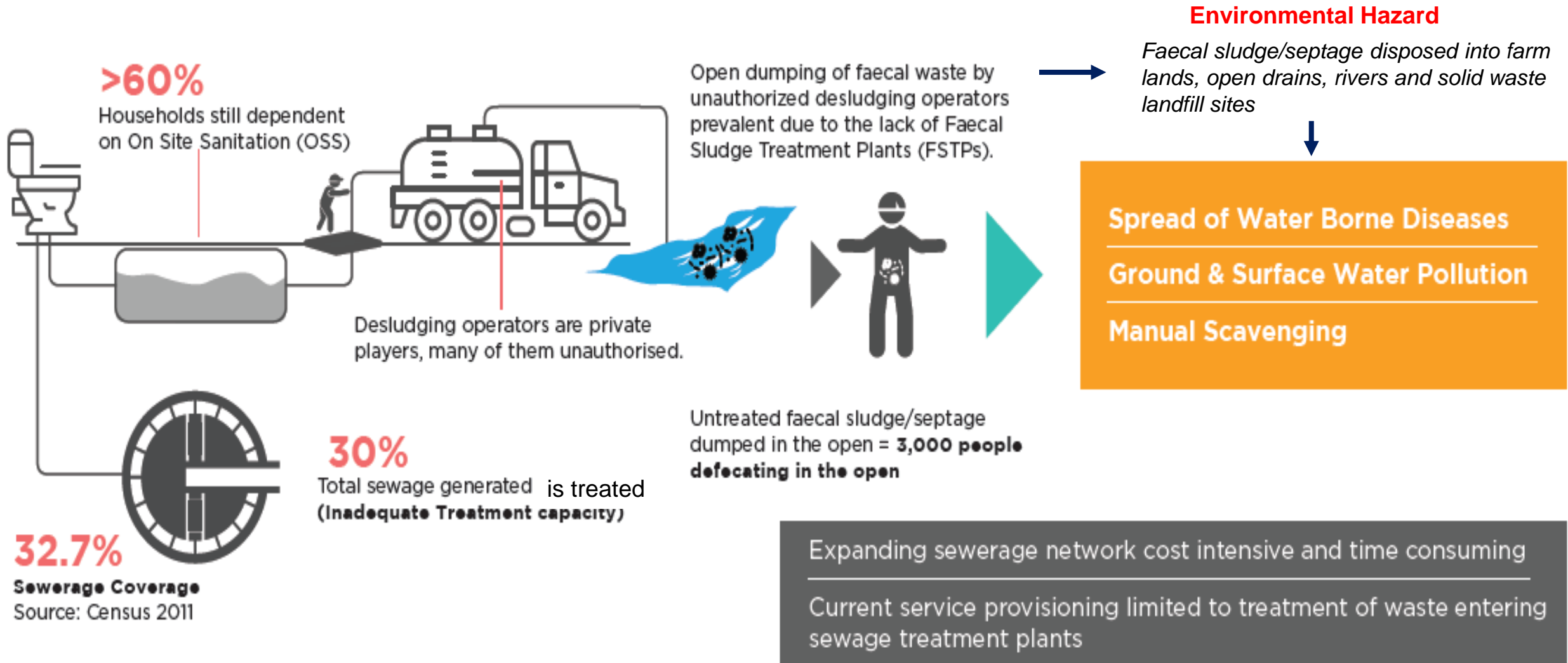




Integration opportunities for Urban and Rural FSSM

June 2020

A look at the current situation...



Fecal Sludge and Septage Management (FSSM) as a solution



End products may be reused in form of compost

Effective in planned and unplanned areas

Good solution in absence of a universal sewerage system

Simple technology, plant can be operated by an unskilled operator

Can work with existing sewerage systems

Co-treatment with STPs allows Co-processing of septage

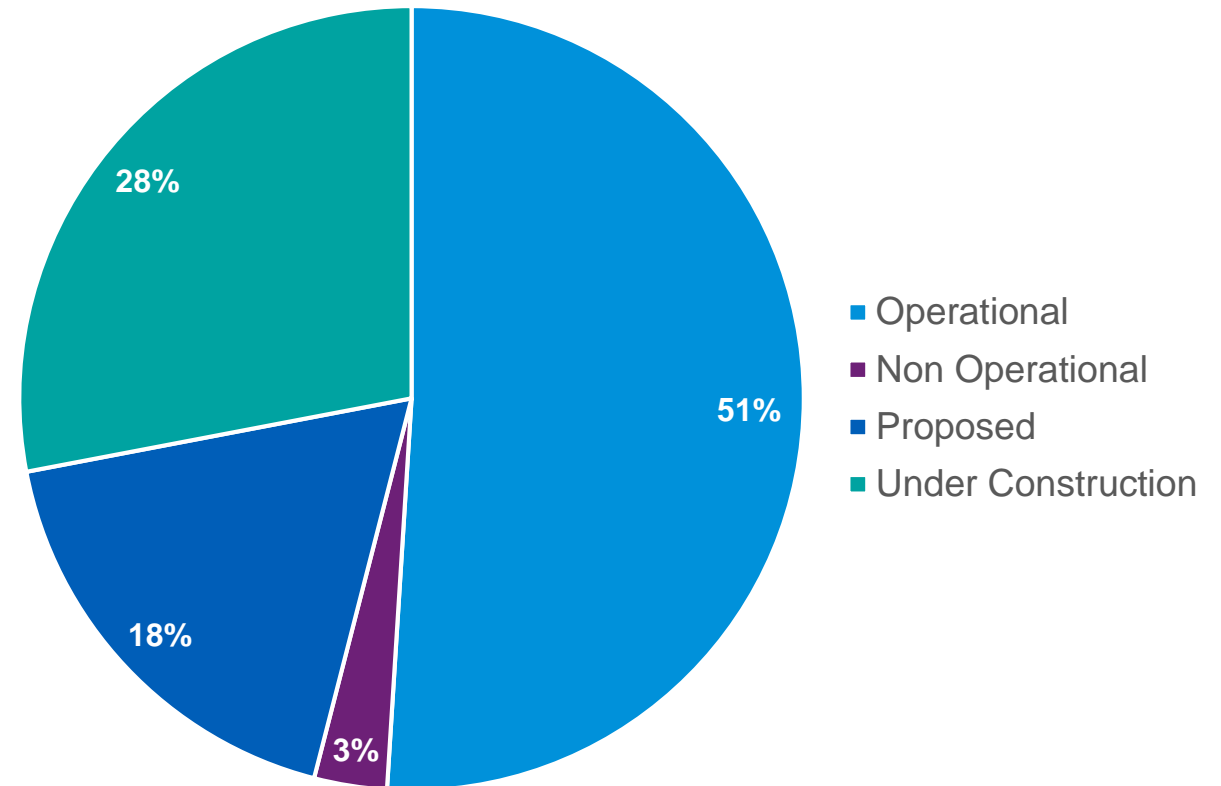
There are 1200 Sewage Treatment Plants (STPs) at various stages across all states/UTs in India.

At the National Level

Status of STP*	Count	Percentage
Operational	612	51%
Under Construction	333	28%
Proposed	217	18%
Non-operational	38	3%
Total	1200	

*While conducting the analysis, data was mapped against CPCB 2015 report which reported 816 STPs, whereas the current data set contains data for existing 650 STPs, indicating under-reporting of data for around **200 STPs**

STPs in India



Co-treatment with urban FSTPs is a rapid treatment solution

There are 32 operational and 32 under construction FSTPs

Approaches for Urban Rural Convergence

Operational Tie-Up with existing FSTPs/STPs

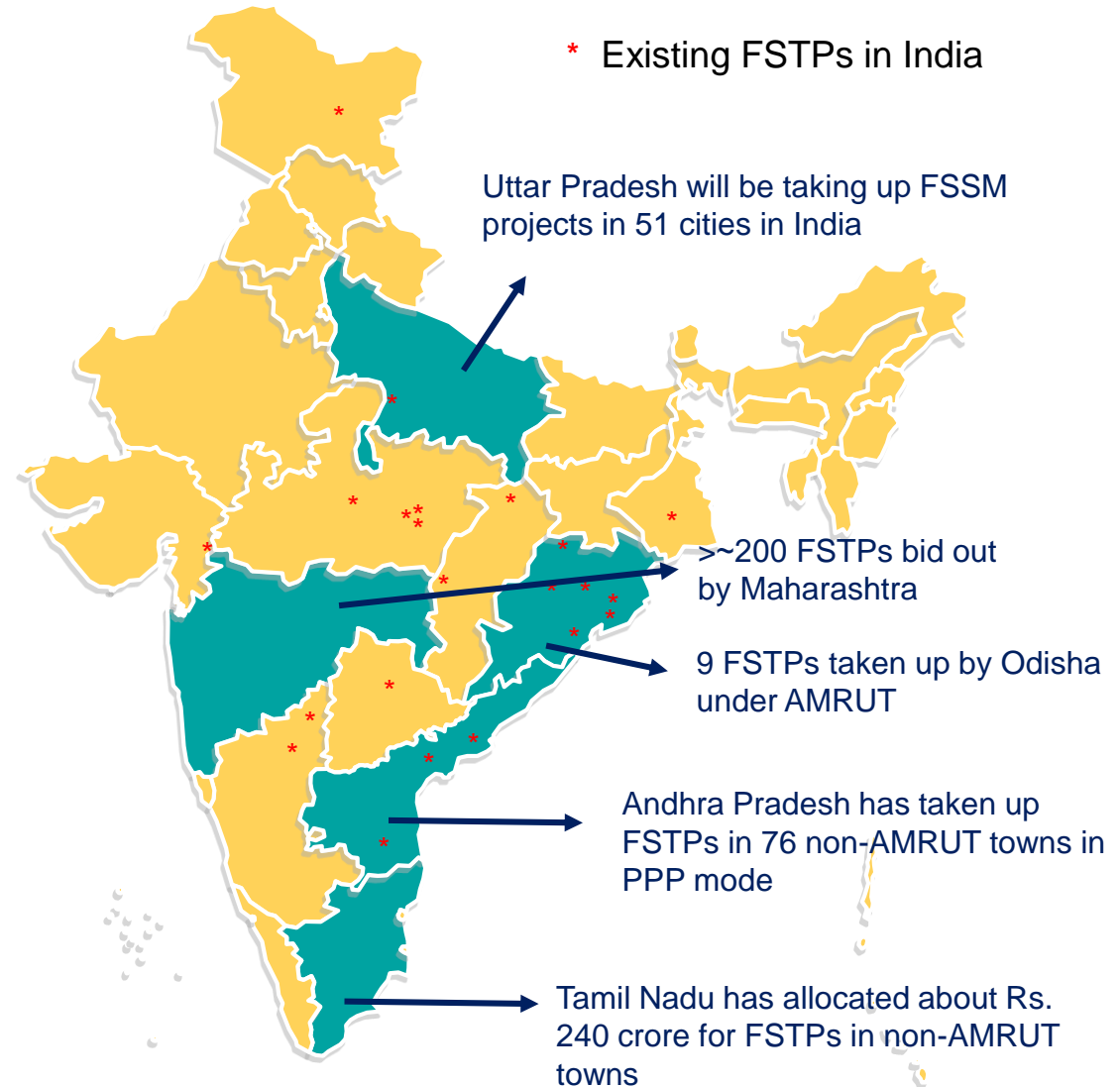
New Capex shared with nearest ULB (in ratio of operating load)

Capex by ULB, Opex shared by GPs in catchment

Capex by ULB, land by GPs in catchment area, Opex shared in ratio of operating load

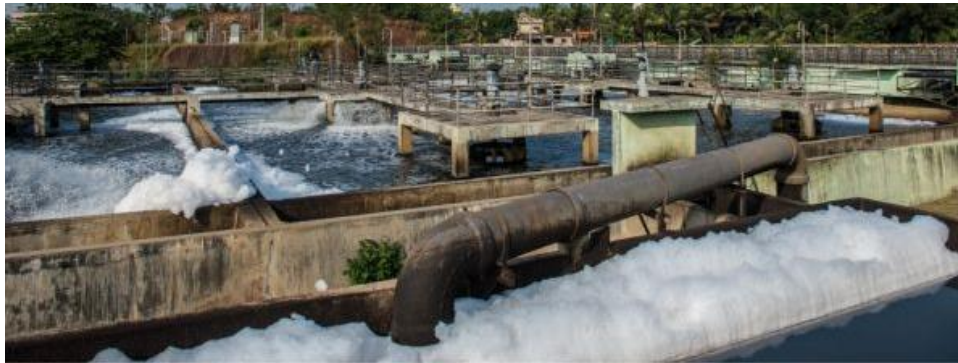
Capex and Opex shared by ULB/GPs to parastatal, which constructs and operates (either by self or through private partner)

Community owned projects (Odisha example) – capex shared, opex through revenue + deficit financing



MoU may be signed with ULBs for treating the fecal matter in co-treatment with existing operational STPs/ FSTPs

STPs



1. **Robust Centralized/Decentralized system with high level of process control. Allows Co-processing of septage.**
2. **Black and Grey water are treated**
3. **Process results in the complete elimination of pathogens**
4. **Most suited for densely populated areas**
5. **If the Sewage Treatment Plants (STP) are not designed to deal with the septage, the plants can increase their aeration capacity and in some cases also expand their facility to cater to the excess waste**

FSTPs



1. **Decentralized system to receive high concentration septage**
2. **Process requires additional DEWATS for complete elimination of pathogens**
3. **By-products of FSTP may be used for agricultural purposes**
4. **Suited for less dense population areas**

Example - FSSM Wai City, Maharashtra



Location: 95 Km south of the city of Pune in Maharashtra
Population: ~ 43,000 (36,025 in Census 2011)
Area: 3.6 sq. km

Private Sector Participation

- For scheduled emptying a private operator was engaged
- A tender was floated on
- MahaTenders website and transparent bidding process
- An Escrow account was created for payments to remove late payment risk

Financing through sanitation Tax

- A small Sanitation Tax was levied for financing scheduled emptying operations.
- This amount was less than each cleaning amount
- Surplus from property collection tax also used

Citizen awareness

- Awareness activities carried out for ensuring success of operations – Pamphlet distribution, Whatsapp video, door to door visits

Digital innovation - GPS enabled FSSM and tracking through mobile app.

FSSM Tracker

- Facilitation of GPS enabled truck monitoring and trucks carrying IEC messages
- FSSM tracker app for tracking data of each HH and dashboard for district level
- Treatment at nearest STP or FSTP

FSSM Tracker | Dashboard | FSM Operations | FSM Reports | Users | Logout

Dashboard

- Empanelled Operators: 3
- Registered Trucks: 8
- Requests Received: 6
- Requests Addressed: 1025
- Requests Pending: 0

[Download Excel](#)

Name	Truckid	Truck DriverName	Operator Id	Operator Name	Aadhar Number	Email	Mobile no	Booking Date	HouseNO	Area	City	Type of Containment	Quantity Of Sludge Collected
sh	100B	Narasimha Rao	1000B	Mr Dilly Sampath Rao			9347272469	19/02/2018	2-6-1529	Srinivas colony	Hanamkonda	Double Chamber	Less than 3 kl
hiah	100B	Narasimha Rao	1000B	Mr Dilly Sampath Rao			9347242769	19/02/2018	2-6-1529	Srinivas colony	Hanamkonda	Double Chamber	Less than 3 kl
	100B	Narasimha Rao	1000B	Mr Dilly Sampath Rao			9959291742	18/02/2018	1-1-232/1/1	Prashant nagar	Kazipet	Double Chamber	Less than 3 kl
ih	100B	Narasimha Rao	1000B	Mr Dilly Sampath Rao			9391116709	18/02/2018	1-1-232/1	Prashant nagar	Kazipet	Single Chamber	Less than 3 kl
	1006	Srinivas	1000B	Mr Dilly Sampath Rao			9848934307	16/02/2018	2-10-304	Teachers colony 2	Hanamkonda	Single Pit	Less than 3 kl
	1006	Srinivas	1000B	Mr Dilly Sampath Rao			9963059952	16/02/2018	1-9-1051	Postal colony	Hanamkonda	Double Chamber	3kl to 5 kl
athireddy	100B	Narasimha Rao	1000B	Mr Dilly Sampath Rao			9985089351	16/02/2018	2-9-223	Vikasnagar	Hanamkonda	Double Chamber	3kl to 5 kl

FSSM TRACKER

Truck Id / ట్రక్ ఐడి : AP28U2420

Reports / నివేదికలు

Type of Establishment : House Hold
 Name : Sudharshan
 Aadhar Number :-
 Email :-
 House Number : 2-10-391/2
 Area : Teachers colony
 Type of Containment : Double Chamber
 Quantity of Sludge Collected : Less than 3 kl
 Next Date of Desludging : 2/20/2021
Booking Date : 2/21/2018
Lat / Long : 17.9905178 / 79.5906214

Type of Establishment : House Hold
 Name : Uma
 Aadhar Number :-
 Email :-
 House Number : 1-9-1433/2
 Area : Deendayal nagar
 Type of Containment : Single Pit
 Quantity of Sludge Collected : Less than 3 kl
 Next Date of Desludging : 2/20/2021
 Booking Date : 2/21/2018
 Lat / Long : 17.9905192 / 79.590621



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