



Scheduled Desludging of Septic Tanks in Wai and Sinar

Concept of scheduled desludging -

Moving from a complaint redressal system of demand based emptying to a regular service oriented emptying system. Septic tanks are regularly cleaned on a pre-determined schedule as per the recommended desludging cycle of 3 years.

All septic tanks in the city are visited once over a 3 year schedule. This schedule is worked out based on zoning of the city, jointly decided by the local government and service provider.

Scheduled emptying could be fully financed by private sector and repaid through levying a tax or surcharge on water.



On-Demand complaint redressal

On-demand emptying done when septic tank overflows. This leads to a low desludging frequency of 8-10 years.

Low frequency of desludging results in poor efficiency of tank and low quality effluent. Overflow before emptying also pollutes environment.

Not all households covered. User charges for emptying often very high as operators lack economies of scale.

No monitoring mechanism and regulation of private informal providers. Manual labour is needed as sludge hardens in tank due to not being emptied for a long time.

Scheduled Emptying

Desludging frequency

With scheduled emptying, compulsory desludging on a fixed cycle and predetermined schedule.

Environmental benefits

Likely reduction in BOD and coliform in septic tank effluent. Avoids solid overflow

Equity and affordability

All properties covered. Lower prices due to trip optimization and assured business. Tax, if levied could be graded to make it affordable

Regulation and monitoring

Regulated and monitored by ULB. Removes need for manual labour due to regular emptying

City of Wai and Sinnar



Wai is 200 km from Mumbai. Known for riverside “ghats” and temples



Sinnar is one of the major industrial zones of Malegaon (MIDC) built around the city of Nashik



Population of Wai: 43,000
Area of Wai: 3.64 sq km



Population of Sinnar: 72,000
Area of Sinnar: 51.2 sq km



Toilets connected to septic tanks.
Govt. owned suction truck for on-call desludging - Very low desludging frequency before



Poor quality / untreated effluent from septic tanks draining in river.
Desludged septage disposed off on open ground



City government resolution for FSSM intervention

Scheduled emptying of all septic tanks

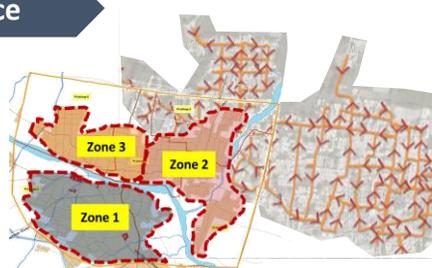
Engaging private sector to provide service

Treatment facility

Sanitation Tax to fund O&M

Designing a scheduled desludging service

- Fixed cycle of 3 years - each property to be covered once
- City divided into 3 zones to be covered each year
- Property tax data used as a baseline
- Route mapping for first year
- Requirement of trucks identified



Preparation and Implementation



1. Property tax data as baseline. All properties surveyed for sanitation database



2. Households informed 1 day earlier, to open cover of their tank



3. Independent mason to open access cover to support households



4. Long pipe and smaller truck brought in to reach inner city areas



4. Households visited as per route plan between 7am - 5pm



5. Form signed by households after emptying



6. Separate Survey form to build onsite system database



7. GPS tracking of trucks



8. Septage carried to treatment plant and receipt form signed

Engaging the private sector and opportunities for all stakeholders

- A private facilities management company from Pune was awarded contract for the first cycle.
- Tendering was a transparent and competitive bidding process done through online government platform.
- The model tender was vetted by top legal firms in the country.
- Performance linked payments – Payment linked to achieving targeted number of septic tanks desludgings and compliance to standards such as use of appropriate PPE, cleaning of spillage, disposal at designated site etc

Facility Management Companies for desludging, transport of septage

Technology providers and developers for monitoring systems such as GPS devices, mobile app development, septage testing etc

Community based organizations, NGOs, SHGs for awareness generation

Vacuum Truck Manufacturers and Leasing Companies

Financial management

Performance Linked Annuity Model (PLAM)

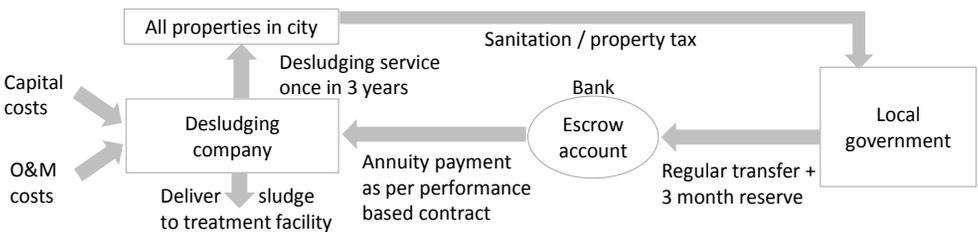
Monthly payments done to private company linked to performance

Sanitation tax

No fee at time of desludging. Instead, a small 'sanitation tax' levied on all properties in the city This fund used to pay the private company.

Escrow mechanism for payments

Payments through escrow account. City government maintains 3 months' payment in account. Protects operator against late payments



Awareness generation to ensure success

Household visits, pamphlets for do's and don'ts wall paintings and banners across city, video circulated through Whatsapp, intimation SMS



Positive results !

- ✓ Scheduled emptying started in Wai in June 2018 and in Sinnar in March 2019
- ✓ 7-8 septic tanks desludged per day as compared to 7-8 per month desludged when demand desludging was happening.
- ✓ Around 5 million liters and 2 million liters of septage delivered at Wai and Sinnar FSTP
- ✓ 90%+ acceptance rate from HHS for scheduled service
- ✓ Sanitation workers now wear safety gear regularly
- ✓ Households pay sanitation tax instead of high user charges for desludging



IT enabled monitoring

- Using survey app to create database of onsite systems
- Photo-, time- and geo-stamping
- E-form also records service details like property status, use of PPE, status of access cover etc
- Creating a unique database!
- Dashboard developed for real time tracking
- Next step to develop an integrated GIS monitoring system



How can other cities implement Scheduled Emptying?

PLAN

- ✓ Assess current sanitation situation.
- ✓ Decide model of operations (Local Govt. or Private)
- ✓ Identify source of financing
- ✓ Pass city level resolution for scheduled emptying
- ✓ Adapt model contract for emptying service and selection of private operator

IMPLEMENT

- ✓ Prepare zoning and route plan
- ✓ Conduct awareness programs
- ✓ Set up monitoring mechanisms

Tools available

Model contracts

Toolkit for private sector engagement

SaniTab and SaniTrack- survey and monitoring tool

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