

# Performance Based Contracting for FSM in Maharashtra - A case of Wai and scaleup

**Aasim Mansuri**

Senior Program Lead

On behalf of Center for Water and Sanitation (CWAS) Team

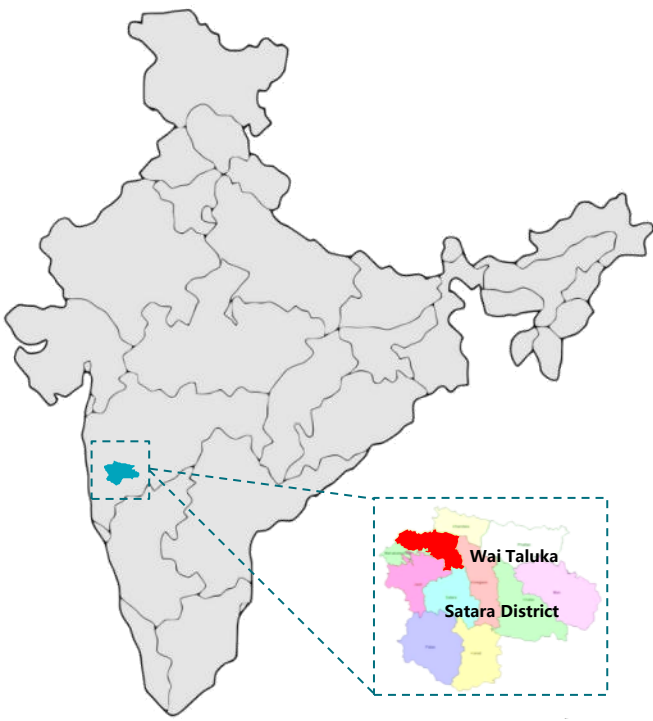
24<sup>th</sup> April, 2025

Learning Session on Building Successful PBCs for ETOs: Practical Lessons from Bangladesh and India  
CWAS-GWSC-WSUP



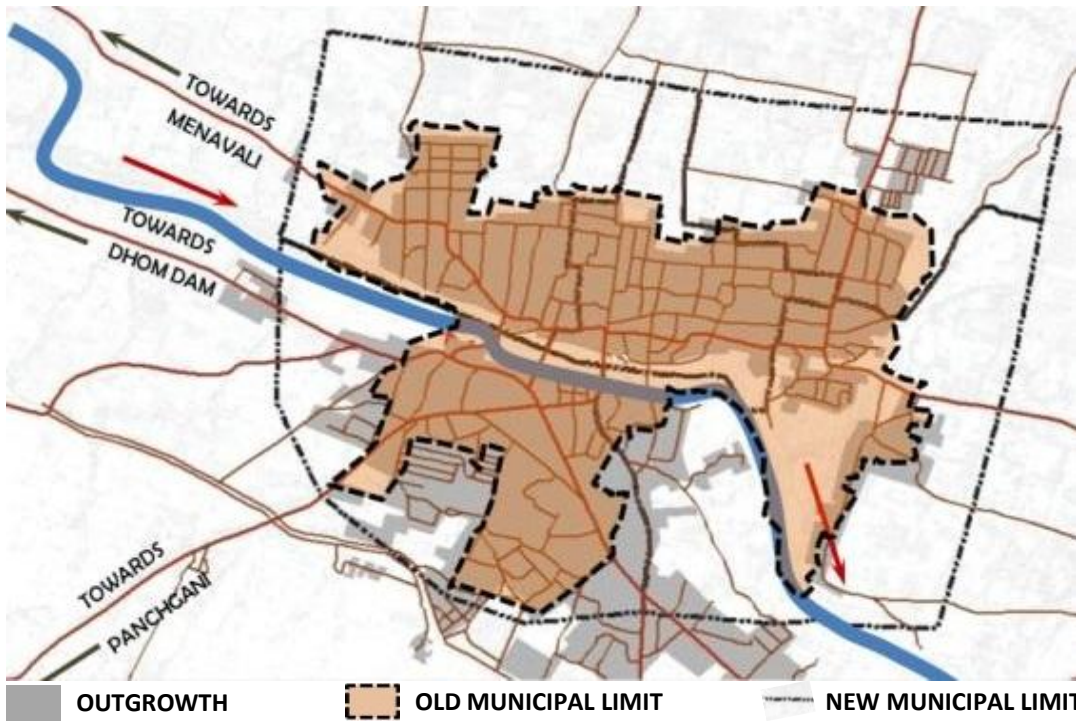
# WAI CITY....

A city moving towards universal access to sanitation



C Class Municipal Council	
District	Satara
Location	95km south of Pune; 35km from Satara
Area	3.54 sqkm
Population	43,000
Households	8,991
Slum population	4%

Administrative Map, Wai

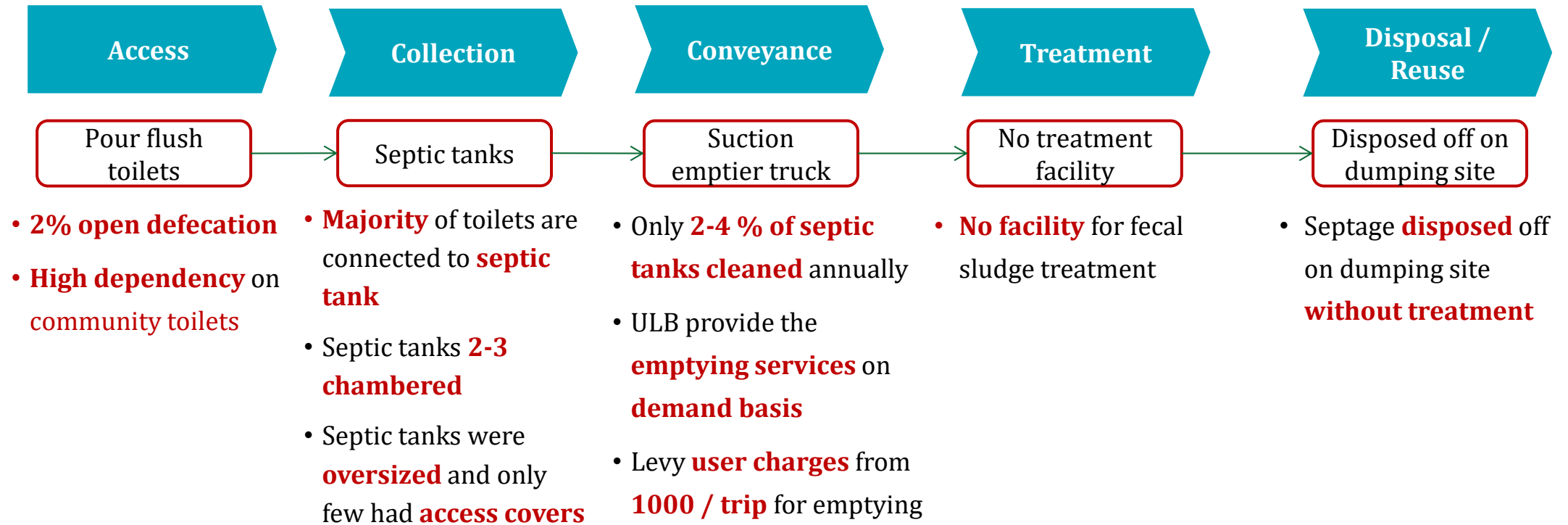


- The town is known in Maharashtra for its **Ghats** on the **banks of River Krishna** and around **250 temples**.
- This **city is representative of 4000+ small and medium cities** of India.



# Sanitation Situation – in 2013, when we began work

When work started





# Government Ownership : Wai resolved to implement FSM plan in their cities through a council resolution ...

वाई नगरपरिषद सर्वसाधारण सभा ठराव क्रमांक ४ दिनांक १८-०४-२०१५  
ठराव क्रमांक ४

**विषय -** मैला व्यवस्थापन आराखडा तयार करून त्याची अंमलबजावणी करणे आणि हुडको कर्पोलयाकडे निर्धी मंजूरीसाठी प्रस्ताव सादर करणे याबत निर्णय घेणे.

**ठराव -** २०११ च्या जनगणनेनुसार ८,००० कुटुंबांपैकी ५,१४५ कुटुंबांचे वैयक्तिक सोपानचे असून त्यातील ४,४२९ कुटुंबांची सोपानचे ही सेंटिक टॅक्सना जोडलेली आहेत. वाई नगरपालिकेने केलेल्या विविधवारंवार्याने असे लक्षात आले की, कुटुंब स्तरावरील बहुसंख्य सेंटिक टॅक्स हे आयएस नियमावली आणि सीपीएचडीसी माहितीनुसितता यांनी सुचित केलेल्या आराखडा नियमानुसार नाहीत. बहुसंख्य सेंटिक टॅक्स हे सोप्या आकाराचे होते ज्यामुळे ते सुमारे ८-१० वर्षां काळावधीनेचा अधिक पडताले तरी स्वच्छ केले जात आहेत किंवा ते काहीच स्वच्छ केलेले नाहीत. यामुळे सेंटिक टॅक्समध्ये घम पडतो ज्या होताना आणि सेंटिक टॅक्सची प्रक्रिया कायदाबजात / अमला कमी होते. असा सेंटिक टॅक्समधून येणा-या सांख्यिक्यात बीबीडीचे प्रमाण अधिक असते ज्यामुळे याच्या सोप्यात येणा-या व्यक्तींच्या आरोग्यावर त्याचा परिणाम होऊ शकतो. तसेच, असा प्रक्रिया न केलेल्या मैलापाण्याची रस्त्याच्या काटेच्या वटारांमार्फत कुठला नवीत पाटांद्वारे वेत विस्तृतवाटही जावची जाते.

सद्यस्थितीत, नगरपालिका ही कुटुंबांना सेंटिक टॅक्स स्वच्छ करण्याची सेवा स. १००० प्रति खेप देवकरा मुल्यामध्ये मागणीनुसार पुरविते आणि त्यातील येत्याची प्रक्रिया न करताच घनकचरा ज्या कारणाच्या ठिकाणी (इमिंग साईटवर) त्याची विस्तृतवाट लावली जाते. पर्यावरण तसेच मनुष्य / प्राणी यांच्या आरोग्यावर याचे परिणाम होताना, सेंटिक टॅक्सची अधिक नियमित स्वच्छता करण्यासाठी आणि प्रक्रिया न केलेला मैला त्याच ठाकणे टाळण्यासाठी नियमित सेंटिक टॅक्स स्वच्छ करण्याच्या तसेच तसेच मैलाप्रक्रिया प्रकल्पाची योजना आखणे आवश्यक आहे. मागील विचार मंचावयाच्या तशीत मैला व्यवस्थापनविषयक सल्लामार समितीने शिफारस केली आहे की, सेंटिक टॅक्स दर तीन वर्षांच्या काळावधीने स्वच्छ केले पाहिजेत, त्या सेवावर प्रक्रिया केली गेली पाहिजे व घम त्याचा गुलबंदीवर केला गेला पाहिजे. हे करण्याचे पायले म्हणजे - अधिक काळावधीनंतर सेंटिक टॅक्स स्वच्छ करण्याच्या खजान्याने सेंटिक टॅक्सची प्रक्रिया कायदाबजात / अमला कायदाबजात जाणार नाही, योजनाबद्ध रितीने सेंटिक टॅक्स स्वच्छ केले जातील, सेंटिक टॅक्स स्वच्छ करण्यातून विविध मनुष्यांचा जोय मुक्त होईल आणि प्रक्रिया केलेल्या मैलाची विक्री करता येईल. म्हणून नगरपालिकेने वाईसाठी तशीतील मैला व्यवस्थापन योजना कायदाबजात करणे आवश्यक आहे.

या ठरावानुसार असा निर्णय घेतला येत आहे की, सेंटिक टॅक्स योजनाबद्ध रितीने नियमितपणे स्वच्छ करण्याची सेवा पुरविल्याचा आणि सर्व्हे नंबर २३८ (मुला) / २५९ (नवीन) येथील घनकचरा टाकण्याच्या ठिकाणी (इमिंग साईटवर) मैलाप्रक्रिया सुविधा/ प्रकल्प ठरावकाचा निर्णय नगरपालिकेने घेतला आहे. सेंटिक टॅक्स स्वच्छ करण्याची सेवा पुरविले (दुक घेणे व कायदिले) व मैलाप्रक्रिया प्रकल्प चालविले हे खाजगी संस्था/ संस्थांमार्फत केले जाईल. मैला व्यवस्थापनामध्ये खाजगी संस्थांचा हा सहाय्य करवता/ टिकवून ठेवण्यासाठी, मावसता/ मिळकतीवर कर त्यावेत यात. तसेच सर्व जाणवता धारकांनी नगरपालिकेने ठरवून दिलेल्या वेळापत्रकाप्रमाणे त्यांचे सेंटिक टॅक्स तीन वर्षांतून एकदा स्वच्छ करून घेणे बंधनकारक राहील. सेंटिक टॅक्स नियमितपणे स्वच्छ करून येण्यासाठी त्यांना साकप उपचला येणाऱ्या लोकासकुळांची (manholes) ठरवून करून येण्याची व लोकांसकुळांची योग्य असा योजनेच रस्ता ठेवण्याची जबाबदारी मानवता धारकाची राहील. "Onsite Sanitation" व्यवस्था राखविल्यासाठी तशीत नियमावली व bye-laws चालविल्यात यावेत.

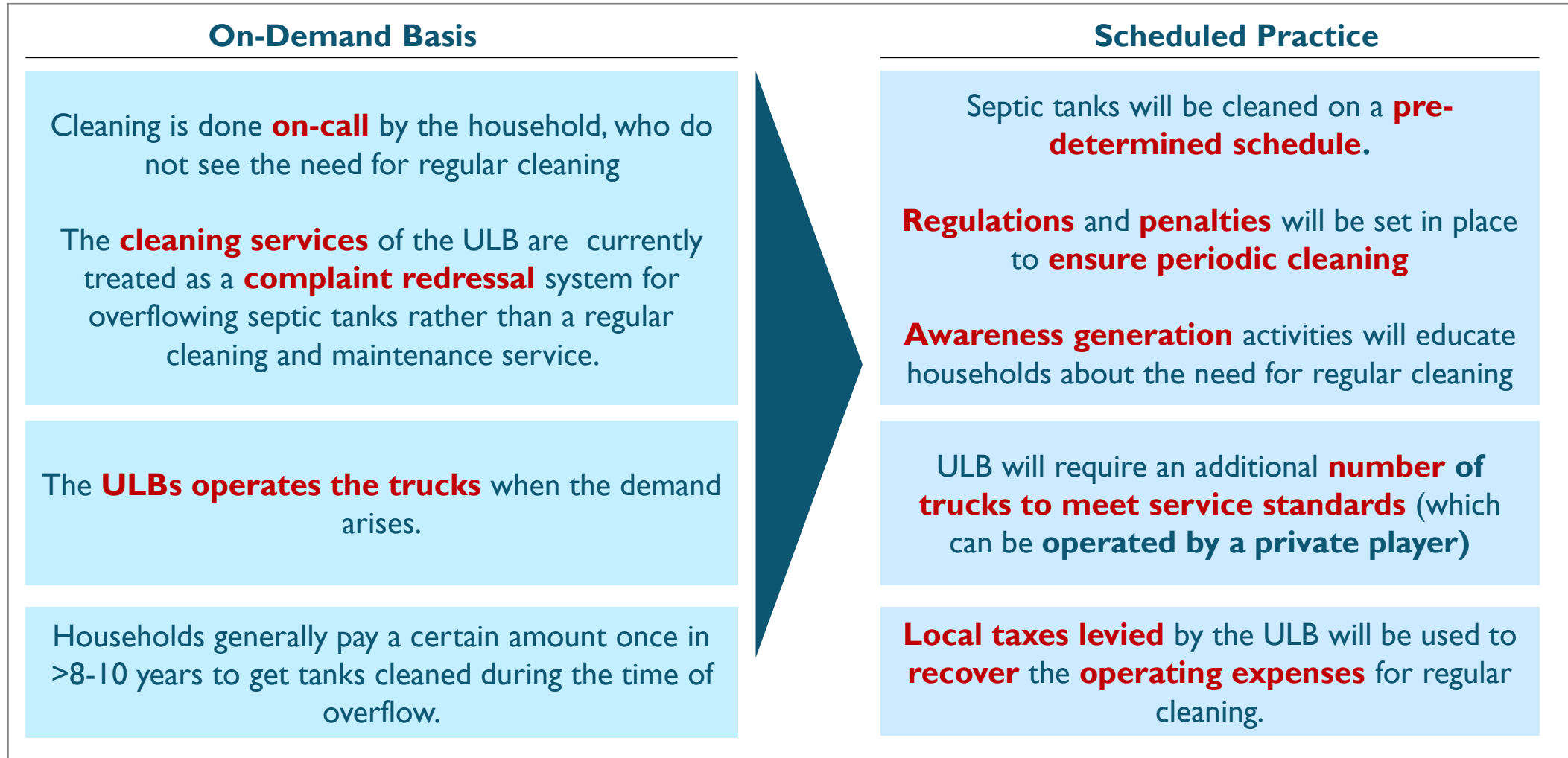
या ठरावानुसार असा निर्णय घेतला येत आहे की, खाजगी संस्थांच्या सहाय्यातून संबंधीत मैला व्यवस्थापनाची कायदाबजात करण्यासाठी व त्याच्या यत्नांची अंमलबजावणीसाठी योग्य असे कर, निवडावली व जबाबेदा लागू करण्यात मंडुटी वेळान येत आहे. तसेच सादर मैलाप्रक्रिया प्रकल्पाचा 'नविलार प्रकल्प आराखडा' बनवून निर्धी प्रांतीसाठी HUDCO या संस्थेकडे सादर करण्याचेही या ठरावाद्वारे देणेत येत आहे.

सुचक - मा.सौ. सुरेखा विजयनाथ जतन सही XXX  
अनुमोदक - मा.सौ. जयिना दिव्य डी.कु. सही XXX  
ठ.स.मंजूर सत्यप्रत  
सही XXX  
अध्यक्ष मुख्याधिकारी  
वाई नगरपरिषद वाई वाई नगरपरिषद वाई

- The resolution covers aspects like:
- ❑ Citywide FSM
  - ❑ Involving Private sector
  - ❑ Scheduled cleaning
  - ❑ Land for treatment facility
  - ❑ Taxes to be levied

1<sup>st</sup> City in INDIA  
to have passed such a resolution ...

# The idea was to move from a consumer complaint redressal system to a scheduled service ...



# Benefits of Scheduled Emptying ...



**Equitable and inclusive services** - all households / properties are covered by services. The payment is linked to property tax.



**No manual labour** - Removal of need for manual labour due to regular emptying



**Pricing** – Services are offered at lower prices, due to efficiency gains and the pricing is much less than the distress fee that households had to pay previously



**Infrastructure optimization** – Planned schedule and frequency for all. Clustered service visits. More predictable loads for treatment facility and route optimization of trucks



**Behavior change** - Contribution to ODF sustainability as toilet usage can increase



**Environmental benefits** - Likely reduction in BOD in septic tank effluent, as well as lower likelihood of septic tank overflows

# Plan for Scheduled desludging in WAI in **consultation with Sanitation Department ...**

## 1. Zones of Emptying cycle

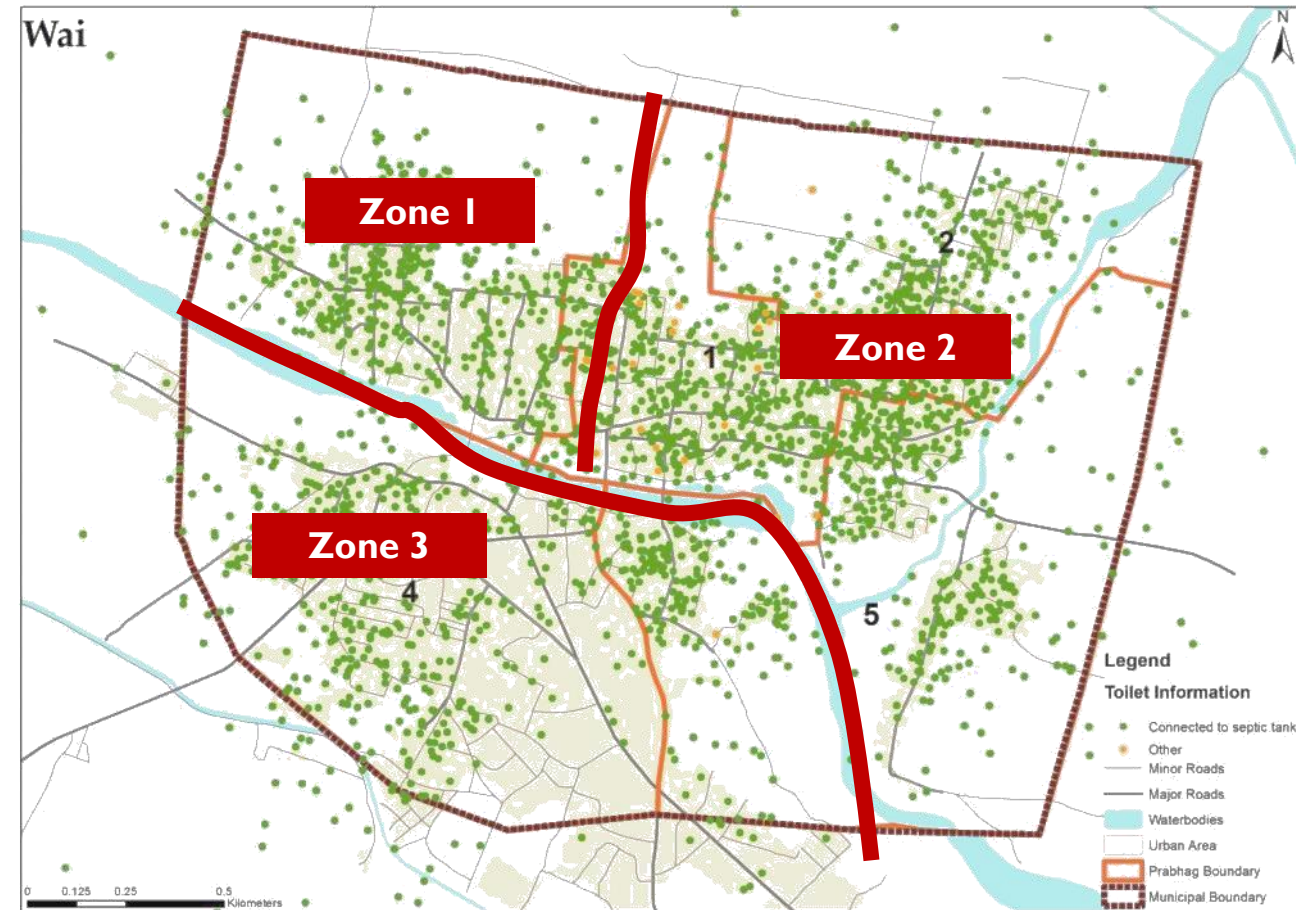
- The city was divided into 3 zones as per the citywide database on toilets and septic tanks.

## 2. Emptying Truck: Number and capacity

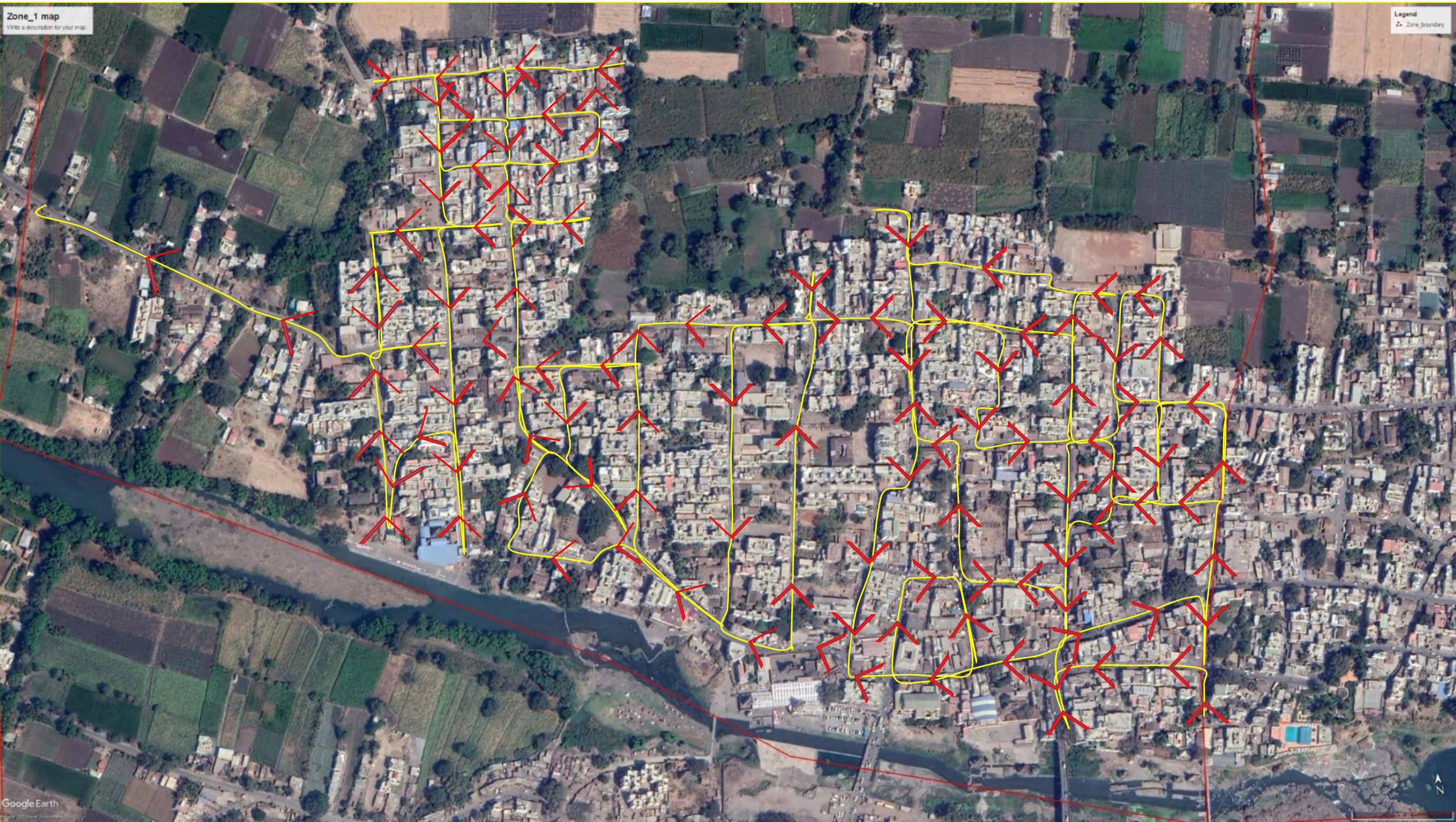
- Number and capacity of vehicles required for desludging operations.

## 3. Route planning

- Deciding the truck movement within the zone





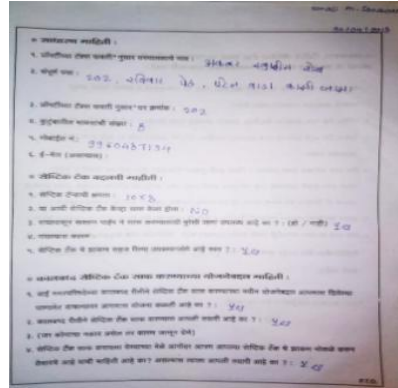




# Systematic emptying process followed in Wai



1. Property tax data was used as a baseline. All properties in the city surveyed to collect sanitation data



2. City divided into 3 zones. Route plan prepared for scheduled emptying for zone I



3. Households informed about the visit a day earlier, to open cover of their septic tank



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



5. Form signed by household once the tank is emptied and checked

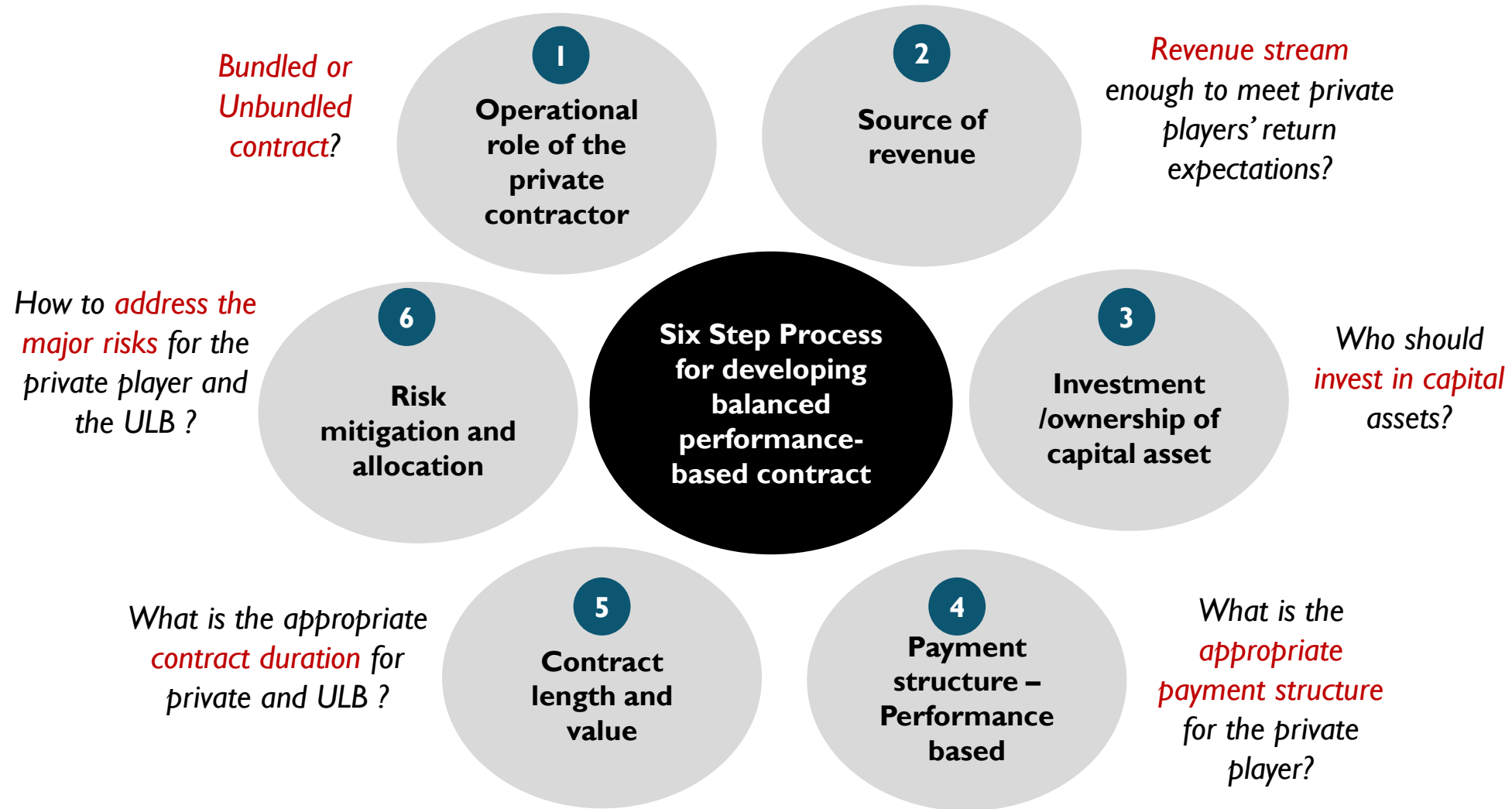


6. Septage carried to treatment plant and record maintained



# Development of Balanced Performance based Contract

(for private sector engagement) ...





# **Understanding perspectives and concerns of all stakeholders :**

## Wai council decided to involve private sector for Scheduled desludging ...

**Preliminary discussions with potential private providers to assess interest, concerns**

### **Ownership of assets**

The private party brings their own trucks for emptying and operate them for 3 years.

### **Performance linked payments**

Payments based on achieving agreed targets of septic tanks emptied

Clauses to ensure safety standards - use of PPE and vigilance against manual scavenging

Fines on non-achievement of targets

### **Escrow mechanism – reducing late payment risk**

An Escrow account is held by a third party bank.

ULB needs to maintain a fixed balance in it = 3 months of payment

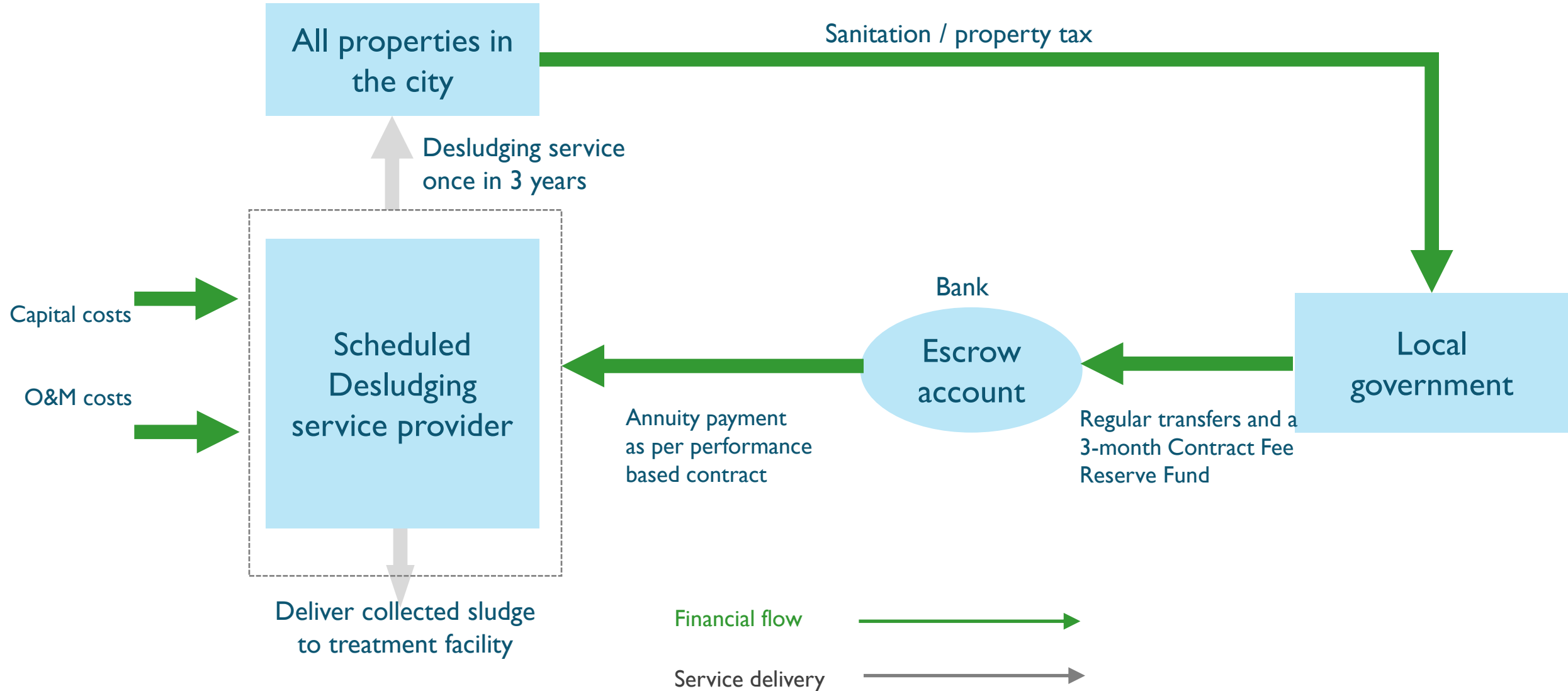
**Transparent bidding process through government approved process and websites**

**Awareness activities to be done by private contractor**

**Emergency emptying also included in contract**



# Financial Sustainability : Performance Linked Annuity Model (PLAM) for scheduled desludging





# Financial Sustainability : Levied differential tax on all properties for sustainably financing FSM services...

## City level resolution for taxation

### Differential taxation rates

Residential Properties **with / without toilets**—  
\$ 3 / annum

Non Residential Properties **with toilets** —  
\$ 3 / toilet seat

**Non-residential** properties **without toilets**—  
\$ 1 / annum

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 पुनःरचना करणेबाबत चर्चा करून निर्णय घेणे.

प्रस्तावाचा मजकूर - कार्यालयीन टिपणीचे सभागृहात चर्चा होवुन सिन्नर नगरपरिषदे तर्फे सद्या आकारण्यात येणारे विशेष स्वच्छता कर, विशेष घनकचरा कर व मैला व्यवस्थापन कर यांची पुनःरचना करून यापुढे सन २०१७-१८ या आर्थिक वर्षापासुन खालील प्रमाणे मैला व्यवस्थापन कर व घनकचरा कर म्हणुन आकारण्यात यावेत व त्याप्रमाणे दिल तयार करून मालमत्ता धारकांना देण्यात यावेत.  
वार्षिक कराचे दर (रुपये)

अ.क्र.	कराचे नांव	निवासी मालमत्ता		बिगर 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	बिगर 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. चोथवे प्र.झु.  
ठराव सर्वानुमते मंजूर



  
अध्यक्ष,  
सिन्नर नगरपरिषद, सिन्नर

# Escrow Mechanism for payment to contractor ...

## Key Clauses :

- WMC will put funds in the Escrow Account to create a **Contract Fees Reserve Fund (CFRF)** at the start of the Escrow arrangement.
- **Minimum balance of three months** payment to the Contractor
- **Transfers from property tax and sanitation tax** every month to pay to the contractor

The image shows a 100 Rupee Indian Non-Judicial stamp and a Maharashtra Escrow Account Agreement form. The stamp is pink and purple, featuring the Indian emblem and the text 'भारतीय गैर न्यायिक', 'एके सौ रुपये', 'Rs. 100', 'ONE HUNDRED RUPEES', 'भारत INDIA', and 'INDIA NON JUDICIAL'. The form is titled 'महाराष्ट्र MAHARASHTRA' and 'ESCROW ACCOUNT AGREEMENT'. It is dated '6 JUN 2017' and has a stamp from 'SUS TREASURY OFFICE SINNAR' dated '9 JUN 2017'. The form contains handwritten details of the parties involved: Sinner Municipal Council (Sinnar) and Sumeet Facilities Pvt. Ltd. The agreement text states: 'This Agreement is made and entered into at Sinnar, on this 16th day of June 2017 between: Sinnar Municipal council, having their address at Sinnar Municipal council office, Sinnar (hereinafter referred to the SMC) which expression shall, unless repugnant to the context, include its respective successors and assigns) of the First Part; AND Sumeet Facilities Pvt. Ltd, a Company incorporated under Companies Act having its registered office at Summit House, 1st floor Plot No. 64/21, D - II Block, MIDC Chinchwad, Pune (hereinafter referred to the Contractor which expression shall, unless repugnant to the context, include its respective successors and assigns) of the Second Part; AND AXIS BANK LTD., a banking company incorporated under the Companies Act 1956 and carrying on the banking business in terms of the Banking Regulation Act, 1949 and having its Registered For SUMEET FACILITIES PVT. LTD. The form is signed by the representatives of both parties.



# **Operations Sustainability** : Solar FSTP setup in the city to treat the septage and treated WW reused for urban forest and landscaping ...



**Wai, Maharashtra**



**Capacity: 70 KLD**  
**Land: 1200 sq mt**

**Funded : BMGF**  
**Commissioned - 2018**

**30+ ML septage delivered** to the treatment facility

# Accountability at all levels : Performance linked Monitoring Mechanism ...


Daily report on septic tanks emptied by Sumeet team to council

This is a scanned copy of a 'Collection and transport record form' from Wai Municipality. It is a white form with black text and a grid for recording data. The form is titled 'सेप्टिक टैंक साफ केव्वाचा फॉर्म' (Septic Tank Cleaning Form) and includes fields for 'Name', 'Address', 'Phone Number', 'Property Tax Number', and 'Type of building'. It also has a section for 'Volume' and 'Type' of septic tank, and a section for 'Septic tank cover placed back on Septic tank: Yes / No'. The form is numbered 101.

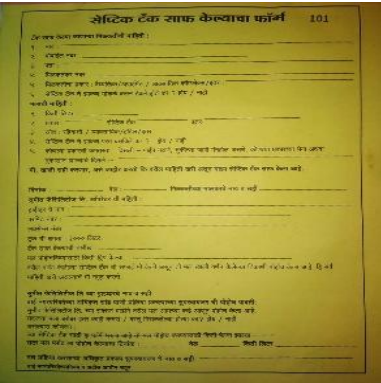
WMC's copy

This is a scanned copy of the same 'Collection and transport record form' from Wai Municipality, but it is the property holder's copy. It is a white form with black text and a grid for recording data. The form is titled 'सेप्टिक टैंक साफ केव्वाचा फॉर्म' (Septic Tank Cleaning Form) and includes fields for 'Name', 'Address', 'Phone Number', 'Property Tax Number', and 'Type of building'. It also has a section for 'Volume' and 'Type' of septic tank, and a section for 'Septic tank cover placed back on Septic tank: Yes / No'. The form is numbered 101.

Property holder's copy

This is a scanned copy of the same 'Collection and transport record form' from Wai Municipality, but it is the treatment plant's copy. It is a white form with black text and a grid for recording data. The form is titled 'सेप्टिक टैंक साफ केव्वाचा फॉर्म' (Septic Tank Cleaning Form) and includes fields for 'Name', 'Address', 'Phone Number', 'Property Tax Number', and 'Type of building'. It also has a section for 'Volume' and 'Type' of septic tank, and a section for 'Septic tank cover placed back on Septic tank: Yes / No'. The form is numbered 101.

Treatment plant's copy

This is a scanned copy of the same 'Collection and transport record form' from Wai Municipality, but it is the Sumeet team's copy. It is a white form with black text and a grid for recording data. The form is titled 'सेप्टिक टैंक साफ केव्वाचा फॉर्म' (Septic Tank Cleaning Form) and includes fields for 'Name', 'Address', 'Phone Number', 'Property Tax Number', and 'Type of building'. It also has a section for 'Volume' and 'Type' of septic tank, and a section for 'Septic tank cover placed back on Septic tank: Yes / No'. The form is numbered 101.

Sumeet team's copy

**Collection and transport record form** Serial No: \_\_\_\_\_

**i. Details of Waste Generator**

a) Name : \_\_\_\_\_  
b) Phone Number: \_\_\_\_\_  
c) Address : \_\_\_\_\_  
d) Property Tax Number : \_\_\_\_\_  
e) Type of building : Individual house / Apartment / Commercial complex / Other (specify) \_\_\_\_\_  
f) Was the Septic tank cover open ( Yes / No ) \_\_\_\_\_

**ii. Identification of Waste:**

a) Volume : \_\_\_\_\_ liters  
b) Type : \_\_\_\_\_ Septic Tank \_\_\_\_\_ Others \_\_\_\_\_  
c) Source : Residential/Commercial/Restaurant/Others \_\_\_\_\_  
d) Septic tank cover placed back on Septic tank : Yes / No \_\_\_\_\_  
e) Septic tank emptied : Yes / No \_\_\_\_\_  
f) Any kind of deficiencies, missing pipes or fittings, improper manholes or access covers, any other cracks or damage observed : \_\_\_\_\_

The undersigned being duly authorized does hereby certify to the accuracy of the source and type of Fecal Sludge and septage collected and transported.

Date: \_\_\_\_\_, Time: \_\_\_\_\_, Name and Signature – Property owner: \_\_\_\_\_

**iii) Details of Sumeet Facilities Operator**

a) Name of Driver : \_\_\_\_\_  
b) Permit : \_\_\_\_\_  
c) Vehicle License no : \_\_\_\_\_  
d) Truck Capacity : \_\_\_\_\_  
e) Pump Out Date : \_\_\_\_\_  
f) No. of trips taken to empty the septic tank: \_\_\_\_\_

The above described wastewater was picked up and hauled by me to the disposal facility named below and was discharged. I certify that the foregoing is true and correct:

Name and Signature of authorized transport agent and title: \_\_\_\_\_

**iv) Acceptance by Wai Municipality's authorized FSTP**

The above transporter delivered the described Fecal sludge and Septage to this treatment facility and it was accepted.

The waste was contaminated with solid waste or other kinds of waste: YES / No \_\_\_\_\_

Details (If yes): \_\_\_\_\_

No of trips received at the FSTP for this form: \_\_\_\_\_

Septage received at treatment plant: Date: \_\_\_\_\_, Time : \_\_\_\_\_, Volume : \_\_\_\_\_ liters

Name and Signature of authorized treatment plant operator signatory and title: \_\_\_\_\_

NOTE: SUBJECT TO THE TERMS AND CONDITIONS OF WAI MUNICIPALITY

Add-on online monitoring system added to paper-based monitoring system



# Accountability strengthened through IT enabled monitoring systems for FSM ...

**"Real time" monitoring**  
No need to process data for results



**Easy to Operate,**  
Reduce paper work,  
Minimize human error



**Monitors performance**  
of FSM services



**Photo stamping,**  
**Geo stamping,**  
**Signatures**



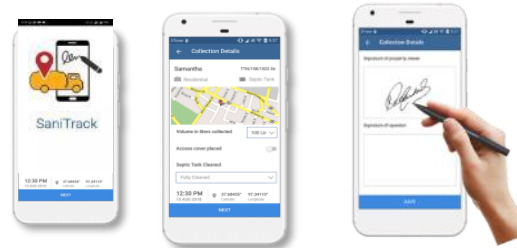
**Unique database**



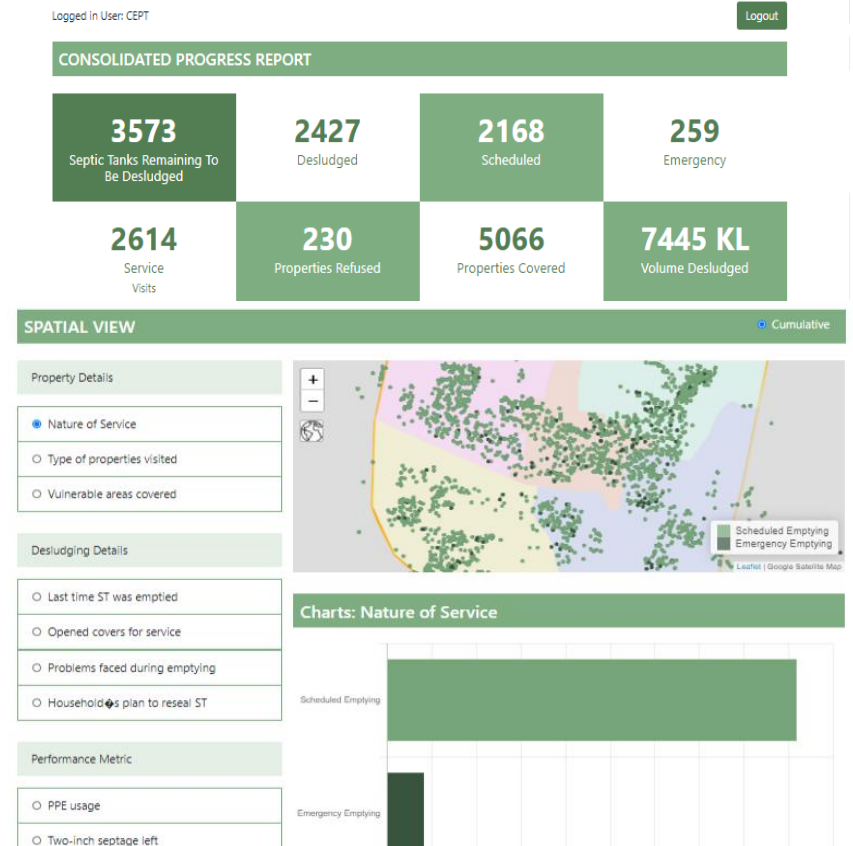
## SaniTab



## SaniTrack



## SanQ



# Acceptance of services by community : Awareness generation a key feature for success of high uptake of FSM services ...

Paintings / banners in the city by WMC



Household visits by desludger with info. leaflets



Cities circulated small videos

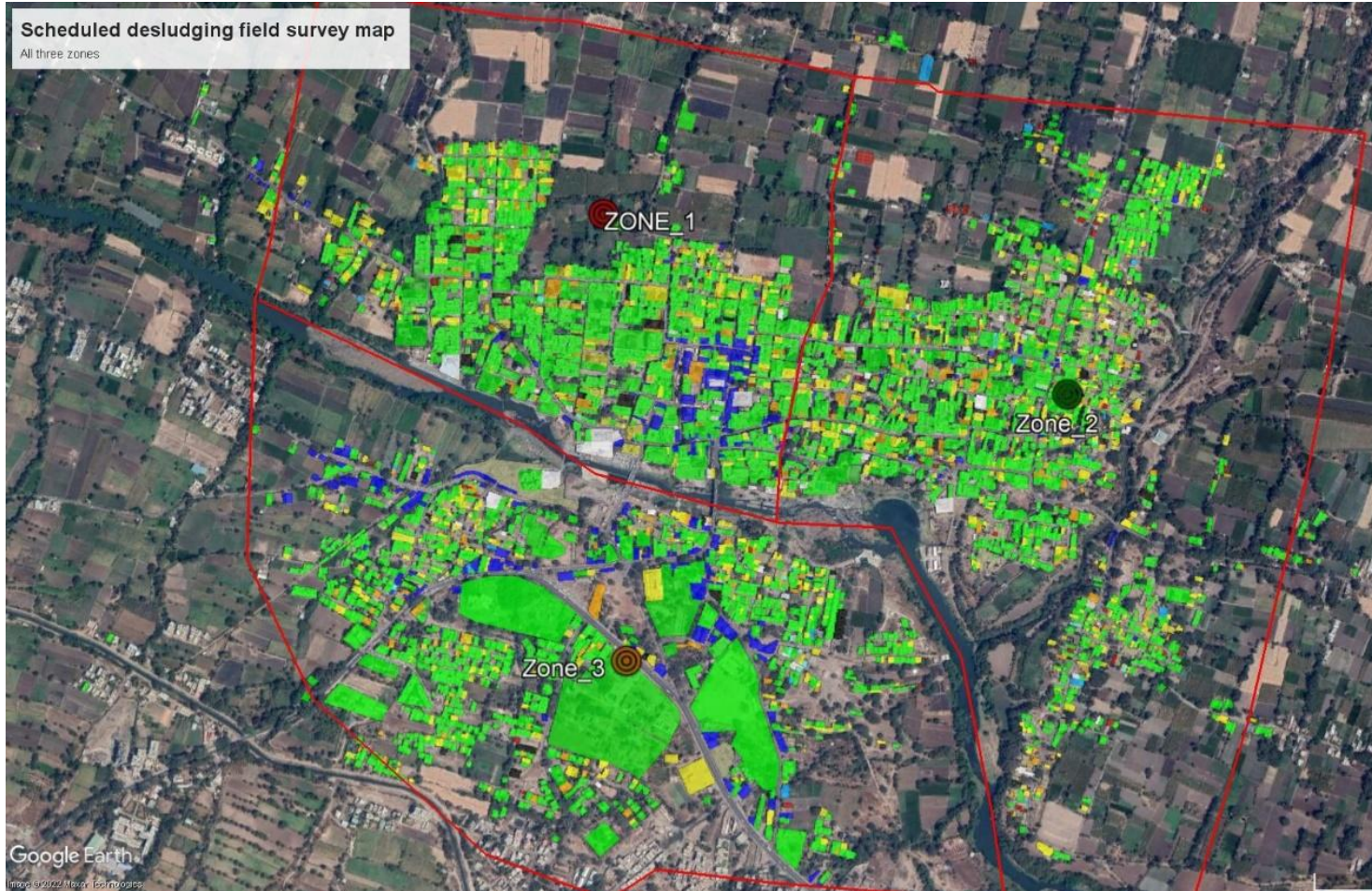


Intimation through SMS





# Citywide FSM as a “public service” of WMC....



- Successful completion of first 3-Year Scheduled desludging cycle covering the entire city
- Total of 3600+ septic tanks serviced
- Total Properties covered : 6800+
- Operations fully Mechanized Scheduled and monitored through SaniTab / SaniTrack
- Scheduled desludging has now been mandated as a part of ODF++ protocol and Swachh Survekshan under SBM 2.0

**WMC has initiated 2<sup>nd</sup> round of service**

# Environmental sustainability : Improvement in groundwater and river water quality due to scheduled desludging

Improved performance of septic tanks after desludging resulting in improved drain water quality flowing into river



- Reduction in Nitrogen, Total Suspended solids and Organic loads in septic tanks effluent after desludging them



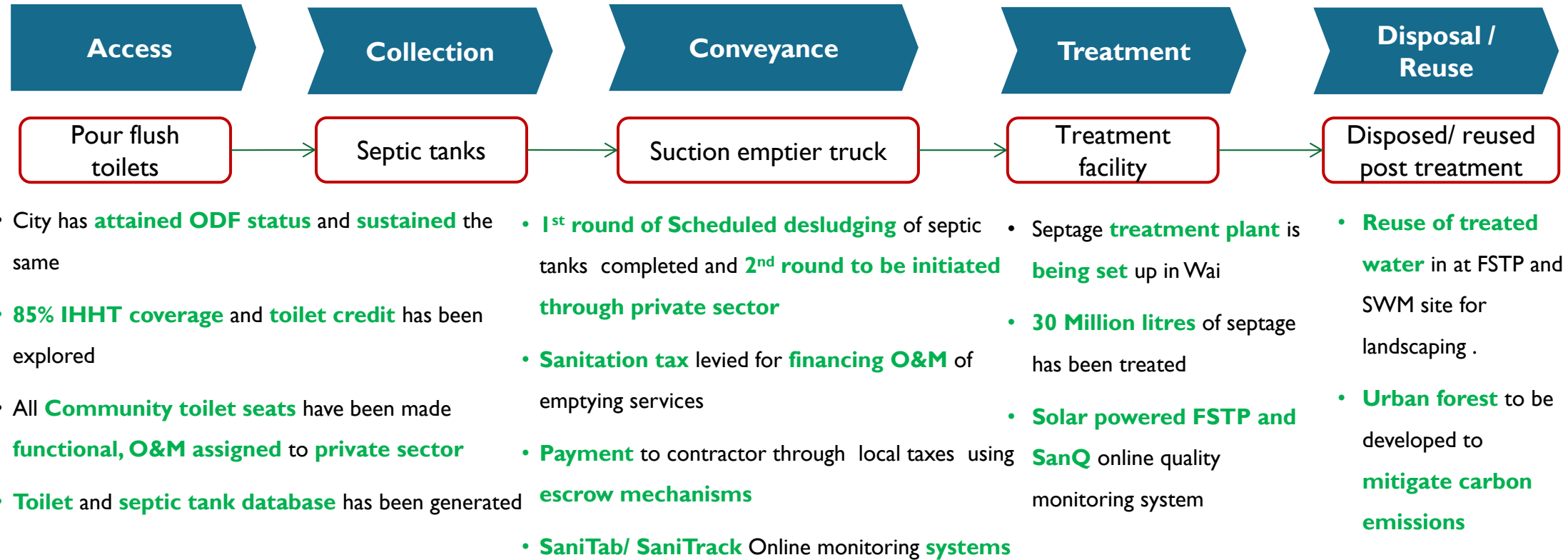
- Reduced concentration from septic tank effluent helped in reducing the discharge of nitrogen and TSS into the open drains
- 50-60% decrease in the value of TSS in desludged areas
- 50-60% decrease in BOD load in drains in desludged areas



- Regular desludging services will eventually improve the quality of river water and ground water as the quality of drain water and supernatants will improve



# Management of full sanitation service chain resulted in safe sanitation for all by 2023



**Engagement with Women at HHs, ULB and Service provider level and Sanitation worker safety**

**Institutionalization of all the activities through council resolutions, finance commitments and Training sessions with ULB officials**



# These sustainability steps have been demonstrated by CWAS in these cities that have become models for CWIS-FSSM / ODF++ . . .

Wai, Sinnar, Ichalkarnaji, Vita, Kolhapur, Satara, Khopoli, Igatpuri, Narkhed and many more . . .



## Comprehensive City Sanitation planning



## Pioneer cities in India to implement citywide scheduled emptying of septic tanks



## City Wide Inclusive Sanitation



Scheduled emptying of septic tanks



Involving Private sector for emptying operations



Levying a Sanitation tax to support operations



Faecal Sludge and Septage treatment facility (FSTP)



Use of Own (DBO) / Philanthropy funds for FSTPs



Reuse of treated wastewater



Online monitoring systems for emptying and treatment



Municipal council commitment and leadership



Gender inclusivity in sanitation



Involvement of SHGs



San Workers training

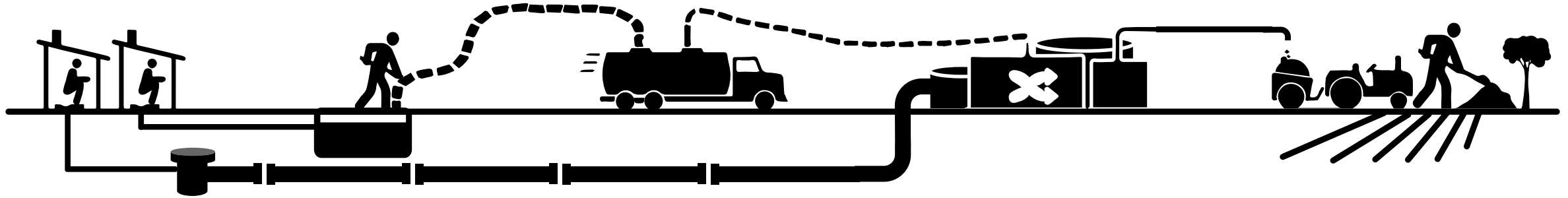


Equitable Services for Slums and Vulnerable areas





**Scaleup at State level : Citywide Inclusive safely managed sanitation for all through various state policies, charters and GRs**



## Access to toilets

# City Wide Inclusive Sanitation charter

## Collection systems

GR for making cities ODF  
and proper construction of  
IHHTs / CTs/PTs

## Conveyance

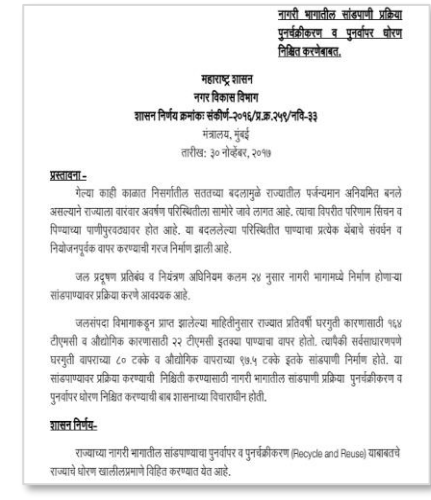
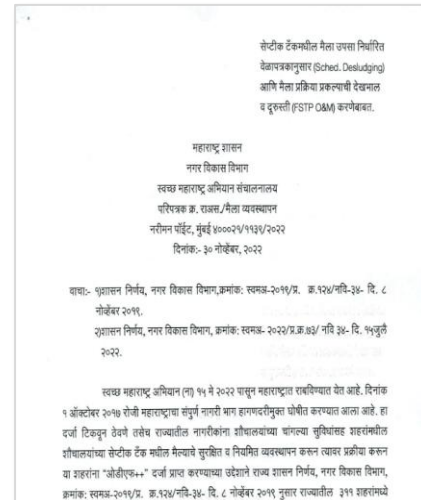
## Circular on scheduled desludging and FSTP O&M

## Treatment

- GR for constructing city level FSTPs
- Cotreatment at STPs
- Cabinet approval for setting up STPs

## Disposal / Reuse

## Reuse policy of Government of Maharashtra



# Summary – Effective Performance based Contracting for FSM..

- Engagement with stakeholders – ULB , Private, Citizens
- Develop Balanced contractors
- Financing and operational sustainability
- Accountability / Monitoring systems
- Risk mitigation measures





Partnerships and Collaboration to attain Scale . . .

BILL & MELINDA  
GATES *foundation*



Government of  
Maharashtra



**CWAS** CENTER  
FOR WATER  
AND SANITATION

**CRDF** CEPT RESEARCH  
AND DEVELOPMENT  
FOUNDATION

CEPT  
UNIVERSITY

**NFSSM**  
ALLIANCE



# Thank you

<https://cwas.org.in>

[aasim.mansuri@cept.ac.in](mailto:aasim.mansuri@cept.ac.in)  
[cwas@cept.ac.in](mailto:cwas@cept.ac.in)

## About us

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

**CWAS**

CEPT  
PUBLIC WATER SUPPLY  
SANITATION

**CRDF**

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RURAL DEVELOPMENT  
FOUNDATION

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UNIVERSITY



[pas.org.in](http://pas.org.in)  
[cwas.org.in](http://cwas.org.in)



[pas@cept.ac.in](mailto:pas@cept.ac.in)



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