

Citywide Inclusive Sanitation in Wai

Wai Municipal Council



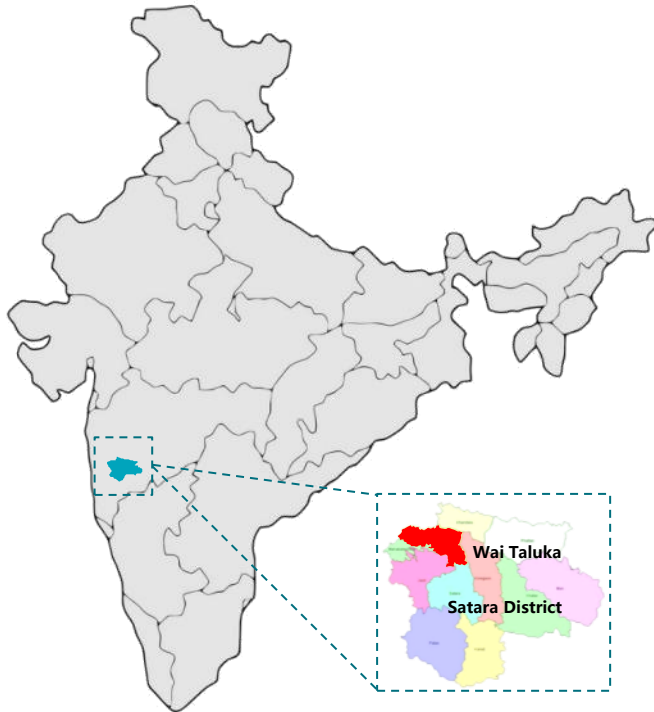
CWAS CENTER FOR WATER AND SANITATION

CRDF CEPT RESEARCH AND DEVELOPMENT FOUNDATION

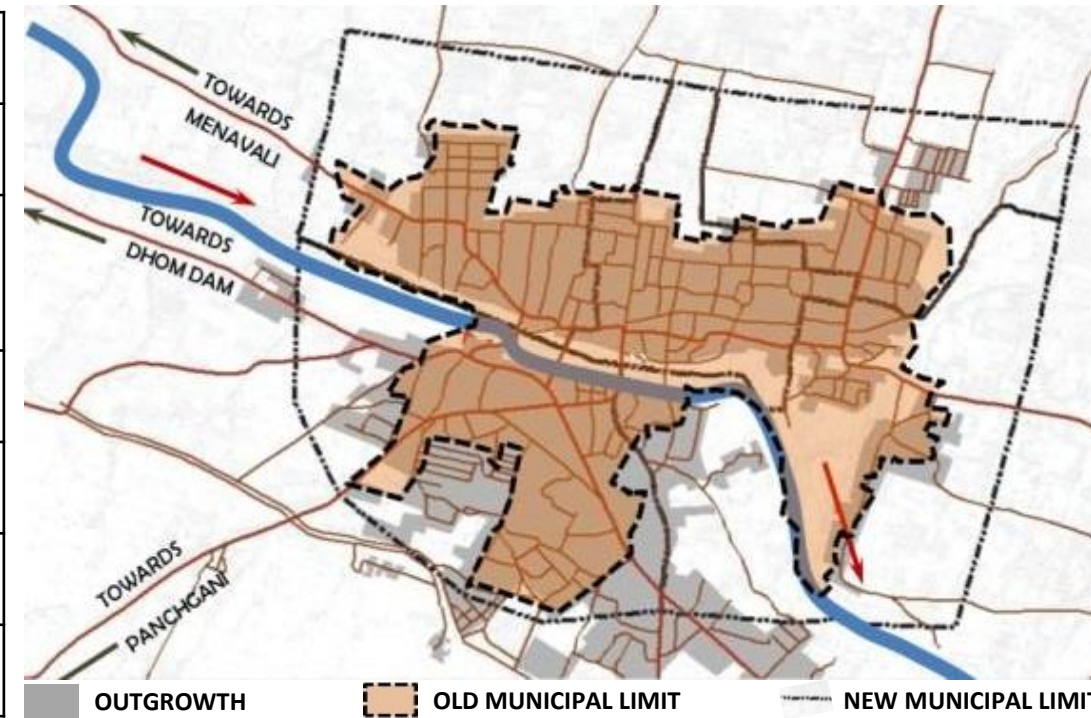
CEPT UNIVERSITY

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 (2019)	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.



Wai resolved to implement FSSM plan in their cities through a council resolution

वाई नगरपरिषद सर्वसाधारण सभा ठराव क्रमांक ५ दिनांक १८-०५-२०१५
ठराव क्रमांक ५

निष्पत्ती - मैला व्यवस्थापन आराखडा तयार करून त्याची अंमलबजावणी करणे आणि हुडको कॅम्पलपाकडे निर्धी मंजूरीसाठी प्रस्ताव सादर करणे बाबत निर्णय घेणे.

ठराव - २०१५ च्या जनगणनेनुसार ३,०९९ कुटुंबांपैकी ५,१२५ कुटुंबांमध्ये वैयक्तिक सोबातये असून त्यातील ४,४२५ कुटुंबांची सोबातये ही सेंटिक टॅक्सचा जोडवेली आहेत. याई नगरपालिकेने केलेल्या वित्तियवाररम्यान असे लक्षात आले की, कुटुंब स्तरावरील बहुसंख्य सेंटिक टॅक्स हे आयएस नियमावली आणि सीपीएचईईके माहितीपुस्तिका यांनी सुचित केलेल्या आराखडा नियमानुसार नाहीत. बहुसंख्य सेंटिक टॅक्स हे सोळा आकाराचे होते ज्यामुळे ते एप्रिल ८-१० र्वी काळावधीपेक्षा अधिक कराधाने तरी स्वच्छ केले जात आहेत किंवा ते काहीच स्वच्छ केलेले नाहीत. यामुळे सेंटिक टॅक्समध्ये थम पदाची जमा होताना आणि सेंटिक टॅक्सची प्रक्रिया कार्यावलीत / अंमलात कमी होते. असा सेंटिक टॅक्समधून वेगळ्या-या सोबातयेत वीओडीके प्रमाण अधिक असले ज्यामुळे याच्या सोबातये वेगळ्या-या जालीच्या आरोग्यावर त्याचा परिणाम होऊ शकतो. तसेच, असा प्रक्रिया न केलेल्या सोबातयेची रस्त्याच्या कडेच्या कटारांमार्फत कुल्ला नदीत पाटांद्वारे वेद विच्छेदाद्वारे जावची आहे.

सद्यस्थितीत, नगरपालिका ही कुटुंबांना सेंटिक टॅक्स स्वच्छ करण्याची सेवा रु. १००० प्रति घेव देऊन कुल्लामध्ये मायलीनुसार पुरविले आणि स्वारीय सेवांची प्रक्रिया न करताना थमकचरा जमा करणाऱ्या ठिकाणी (इमिंग साईटवर) त्याची विच्छेदात लावली आहे. पर्यावरण तसेच सवुध / प्राणी यांच्या आरोग्यावर याचे परिणाम होतील. सेंटिक टॅक्सची अधिक नियमित स्वच्छता करणाऱ्या सहाय्य करणाऱ्या आणि प्रक्रिया न केलेल्या मैला तयार टाकणे टाळण्यासाठी नियमित सेंटिक टॅक्स स्वच्छ करणाऱ्या सेवांची तसेच सेवाप्रक्रिया प्रकल्पाची योजना आखणे आवश्यक आहे. यामुळे विकास संवाहनाच्या तशीय मैला व्यवस्थापनविषयक सल्लामार समितीने सिफारस केली आहे की, सेंटिक टॅक्स दर तीन वर्षांच्या काळावधीने स्वच्छ केले पाहिजेत, त्या सेवावर प्रक्रिया केली गेली पाहिजे व थम त्याचा गुलबंदीर केला गेला पाहिजे. हे करणाऱ्या पायदे म्हणजे - अधिक काळावधीनंतर सेंटिक टॅक्स स्वच्छ करणाऱ्या कळामुळे सेंटिक टॅक्सची प्रक्रिया कार्यावलीत / अंमलात बाधातून जाणार नाही. योजनावद्ध रितीने सेंटिक टॅक्स स्वच्छ केले जातील, सेंटिक टॅक्स स्वच्छ करणाऱ्या नियमित मनुष्यांचा शोध मुरू होईल आणि प्रक्रिया केलेल्या सेवांची किडी करताना वेईस. म्हणून नगरपालिकेने वारंवारती सार्वीय सेवा व्यवस्थापन योजना कार्यावलीत करणे आवश्यक आहे.

या ठरावानुसार असा निर्णय घेतले येत आहे की, सेंटिक टॅक्स योजनावद्ध रितीने नियमितपणे स्वच्छ करणाऱ्या सेवा पुरविल्याचा आणि सर्व्हे नंबर २३८ (गुला) / २५५ (नवीन) येथील थमकचरा टाकण्याच्या ठिकाणी (इमिंग साईटवर) सेवाप्रक्रिया सुविधा/ प्रकल्प उभारण्याचा निर्णय नगरपालिकेने घेतला आहे. सेंटिक टॅक्स स्वच्छ करणाऱ्या सेवा पुरविले (दुक घेणे व काढविले) व सेवाप्रक्रिया प्रकल्प काढविले हे खाजगी संघे/ संस्थांमार्फत केले जाईल. मैला व्यवस्थापनामध्ये खाजगी संस्थांचा हा सहाय्य करवला/ टिकवून देण्यासाठी, मायबला/ मिळकतीवर कर त्यावरील घाटा. तसेच सर्व मायबला धारकांनी नगरपालिकेने ठरवून दिलेल्या वेळापत्रकाप्रमाणे त्यांचे सेंटिक टॅक्स तीन वर्षांनुसत एकदा स्वच्छ करून घेणे बंधनकारक राहिल. सेंटिक टॅक्स नियमितपणे स्वच्छ करून वेगळ्यासाठी त्यांना आरकण उपकरणा वेगळ्या तयारकुंड्यांची (manholes) ठरवून करून वेगळ्याची व वाहण्यासाठी योग्य असा योग्य रस्ता देण्याची जबाबदारी यानमला धारकाची राहिल. "Onsite Sanitation" व्यवस्था राबविल्यासाठी तशीय नियमावली व bye-laws बनविल्यात येतील.

या ठरावानुसार असा निर्णय घेतले येत आहे की, खाजगी संस्थांच्या सहाय्यातून सार्वीय सेवा व्यवस्थापनाची कार्यावली करणाऱ्याची व त्याच्या यालची अंमलबजावणीसाठी योग्य असे कर, नियमावली व जबाबेत लागू करणाऱ्या मंजूरी वेगळ्यात घेत आहे. तसेच सार्वीय सेवाप्रक्रिया प्रकल्पाचा यानिस्तर प्रकल्प आराखडा बनवून निर्धी प्रांतीसाठी HUDCO वा संघेकडे सादर करणाऱ्याची या ठरावाद्वारे घेतले येत आहे.

सूचक - मा.सौ. सुरेखा विश्वनाथ जतन सही XXX

अनुमोदक - मा.सौ. नमिता दिव्य उर्फ कुटुंब सही XXX



ड.स.मंनूर सही XXX
अध्यक्ष
वाई नगरपरिषद वई

सत्यप्रत
मुळ्याधिकारी
वाई नगरपरिषद वई

The resolution covers aspects like:

- Citywide FSSM
- Involving Private sector
- Scheduled cleaning
- Land for treatment facility
- Taxes to be levied

1st Cities in INDIA to have passed such a resolution .

Scheduled desludging implemented successfully in Wai and has been operational since May 2018

- Scheduled desludging and treatment of fecal sludge at FSTP began in Wai from 30th May, 2018
- City has attained ODF++ status as per MoHUA protocols.
- Wai became one of the first pioneering cities to demonstrate scheduled desludging in the country.
- Citizens have been vigilant during scheduled desludging services provided to them which have been recorded through use of SaniTab/SaniTrack.



TPI for ODF++, Wai Municipality



Third Party Inspection (TPI) report for Certification of ODF++: Wai Municipality

Date of TPI	23 rd - 24 th September, 2019
-------------	---

Name of the ULB: Wai Municipality

City Profile

State	Maharashtra
District	Satara
Census Code	802865
Total Population	36,025
Total Number of Wards	10
Fine Collection Mechanism (Yes/No)	Yes
Total No. of Community Toilets	21
Total No. of Public Toilets	3
Total No. of Best Toilets	6
IHHL & CT Seats Target Achieved (Yes/No)	Yes
STP/FSTP/Co-treatment Plant	Yes

As on September 24th 2019 Wai Municipality *can be declared as Open Defecation Free++.*

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.

Transparent bidding process through government approved process and websites

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

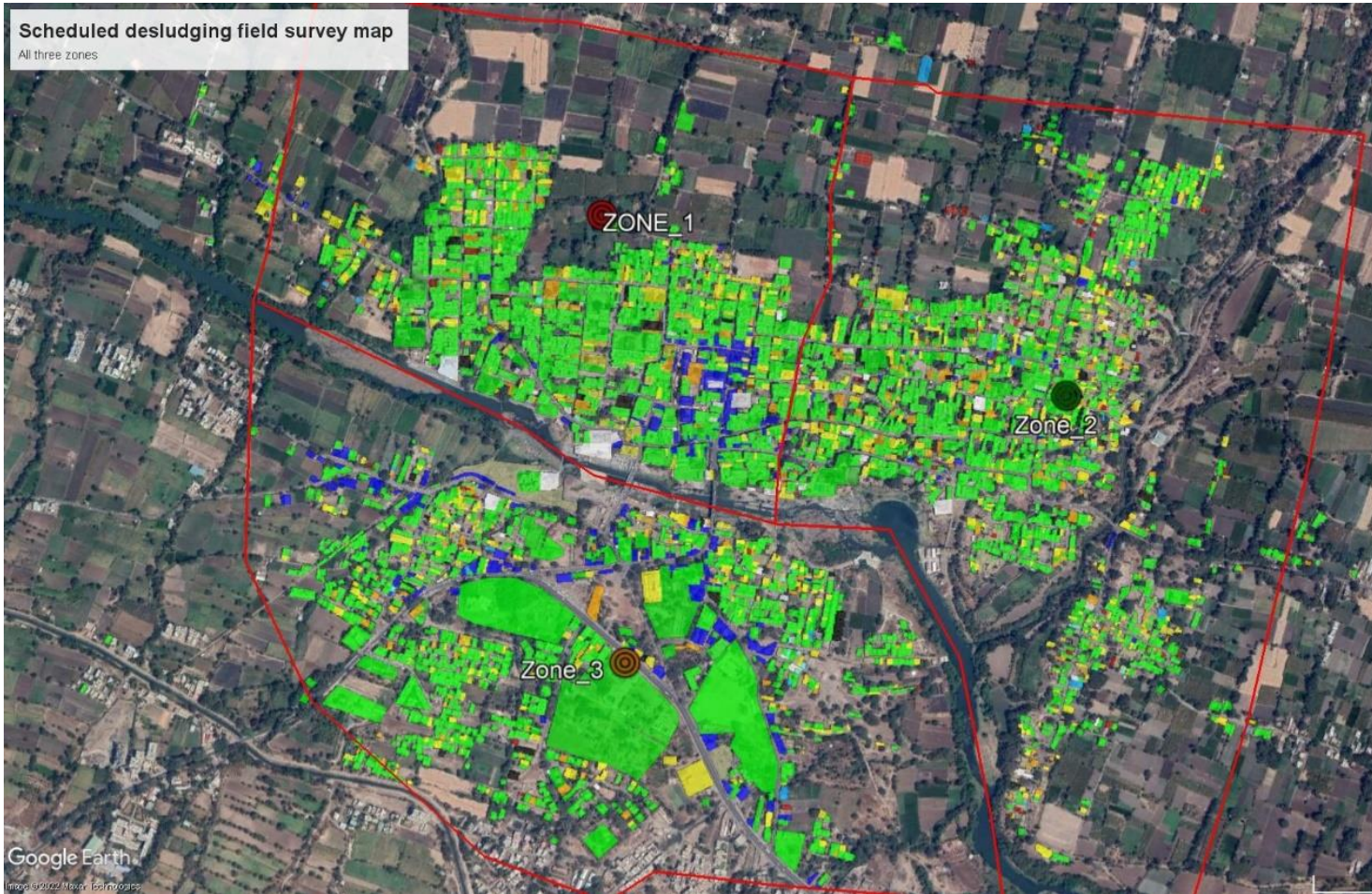
Awareness activities to be done by private contractor

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

Emergency emptying also included in contract

Citywide scheduled desludging as a public service



- **Successful completion** of 1st 3-Year Scheduled desludging cycle covering the entire city
- Total of **3600+** septic tanks serviced
- Total Properties covered : **7000+**
- Operations fully **Mechanized Scheduled** and monitored through **SaniTab**
- Scheduled desludging has now been mandated as a part of **ODF++ protocol** and **Swachh Survekshan** under **SBM 2.0**

Impact : 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

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

17+ ML septage delivered to the treatment facility

Performance linked Monitoring Mechanism ...

Daily report on septic tanks emptied by Sumeet team to council

This is a white form titled 'Collection and transport record form' with the number 101. It contains fields for name, phone number, address, and property tax number. It also has sections for identifying the waste (volume, type, source) and a declaration by the property owner.

WMC's copy

This is a purple form titled 'Collection and transport record form' with the number 101. It contains fields for name, phone number, address, and property tax number. It also has sections for identifying the waste (volume, type, source) and a declaration by the property owner.

Property holder's copy

This is a grey form titled 'Collection and transport record form' with the number 101. It contains fields for name, phone number, address, and property tax number. It also has sections for identifying the waste (volume, type, source) and a declaration by the property owner.

Treatment plant's copy

This is a yellow form titled 'Collection and transport record form' with the number 101. It contains fields for name, phone number, address, and property tax number. It also has sections for identifying the waste (volume, type, source) and a declaration by the property owner.

Sumeet team's copy

Serial No: _____

Collection and transport record form

i. Details of Waste Generator

- Name :
- Phone Number:
- Address :
- Property Tax Number :
- Type of building : Individual house / Apartment / Commercial complex / Other (specify) _____
- Was the Septic tank cover open (Yes / No)

ii. Identification of Waste:

- Volume _____ liters
- Type : _____ Septic Tank _____ Others _____
- Source : Residential/Commercial/Restaurant/Others _____
- Septic tank cover placed back on Septic tank : Yes / No
- Septic tank emptied : Yes / No
- 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

- Name of Driver :
- Permit :
- Vehicle License no :
- Truck Capacity :
- Pump Out Date :
- 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

IT enabled monitoring systems for FSSM ...

“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



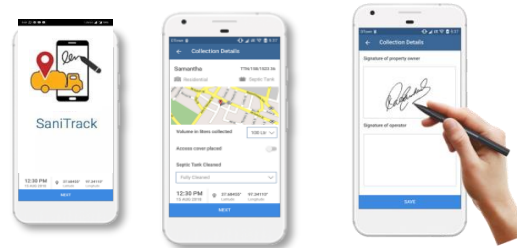
Unique database



SaniTab



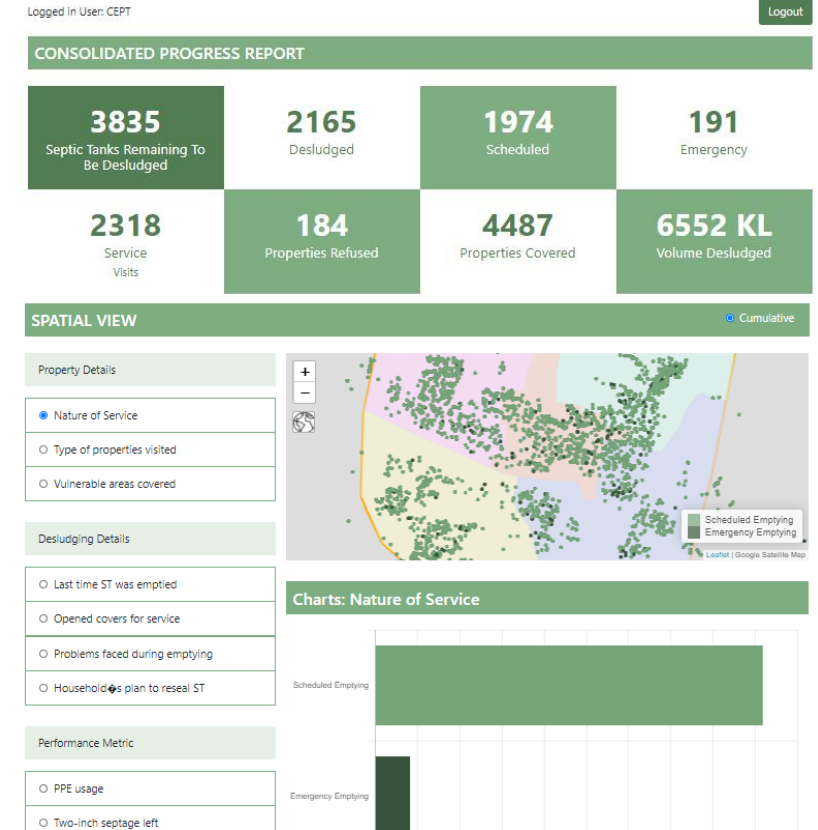
SaniTrack



SanQ



Monitoring Scheduled Desludging in Wai



What has been achieved after implementing FSSM in Wai

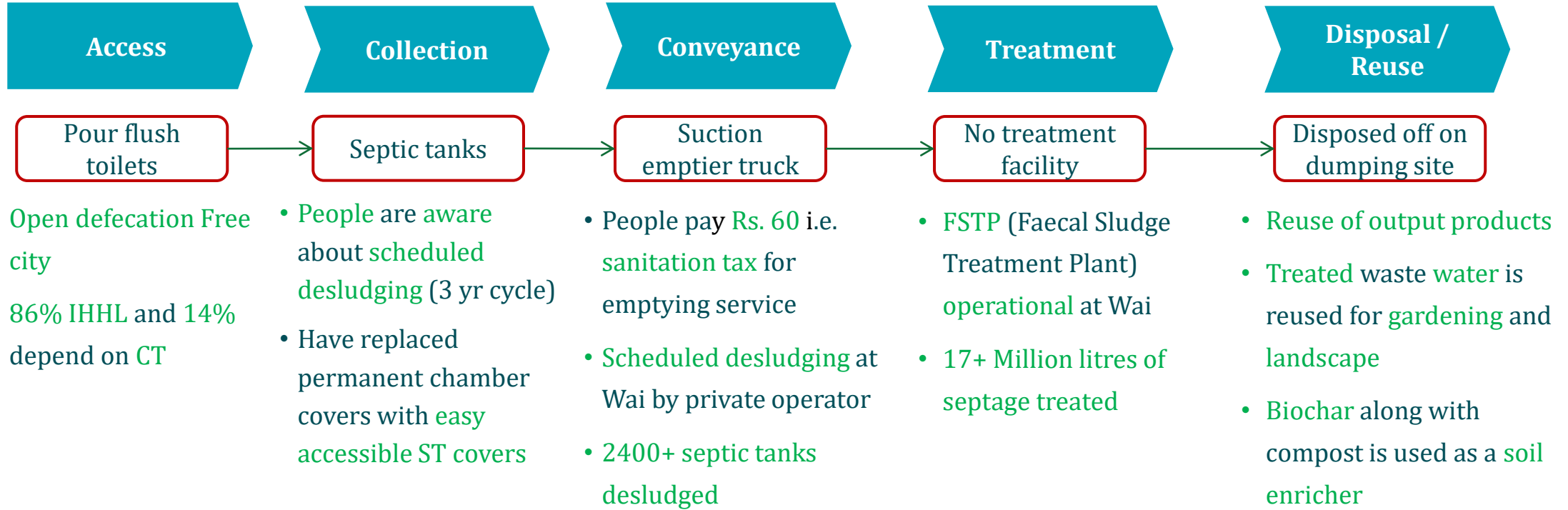
- **2400+ septic tanks** covered by scheduled desludging covering **4900+ properties**
- **1st cycle of scheduled desludging almost completed** for the full city
- **7-8 septic tanks desludged per day** as compared to 7-8 per month in 2017 with demand desludging
- **17+ million liter septage delivered** to the treatment facility
- **90-95% 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



Sanitation Situation in 2021

The city has now been declared ODF++ by MoHUA

After implementation of FSSM



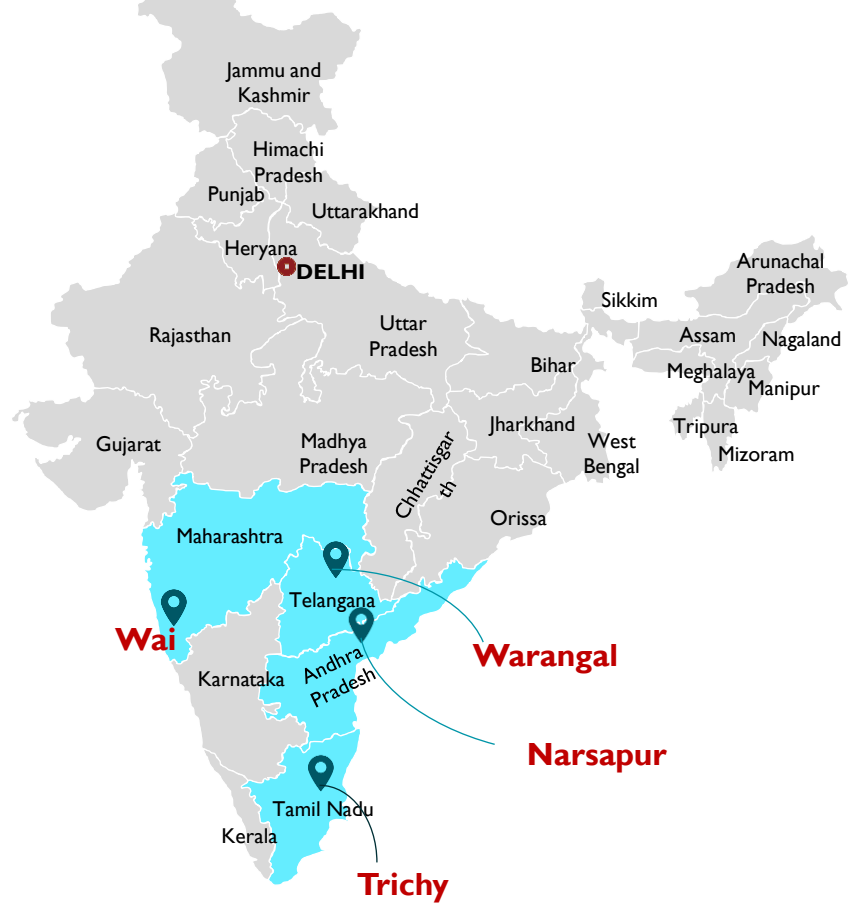
Wai is one of the 8 global cities under CWIS programme of BMGF ...

ASIA

AFRICA



INDIA



BANGLADESH



Citywide Inclusive Sanitation . . .

A state of urban sanitation, where all members of the city have access to adequate and affordable sanitation services through appropriate centralized and decentralized systems, without any contamination to the environment along the sanitation value chain.

POLITICAL WILL AND ACCOUNTABILITY

systems incentivize service improvements in planning, capacity, and leadership

COMPREHENSIVE LONG-TERM PLANNING

fosters demand for innovation and is informed by analysis of needs and resources

RANGE OF OPTIONS

Authorities deploy a range of funding, business, and hardware approaches—sewered / non-sewered—to meet goals

EQUITABLE SAFE SANITATION

Everyone in an urban area, including the urban poor, benefits from equitable safe sanitation services

GENDER AND SOCIAL EQUITY

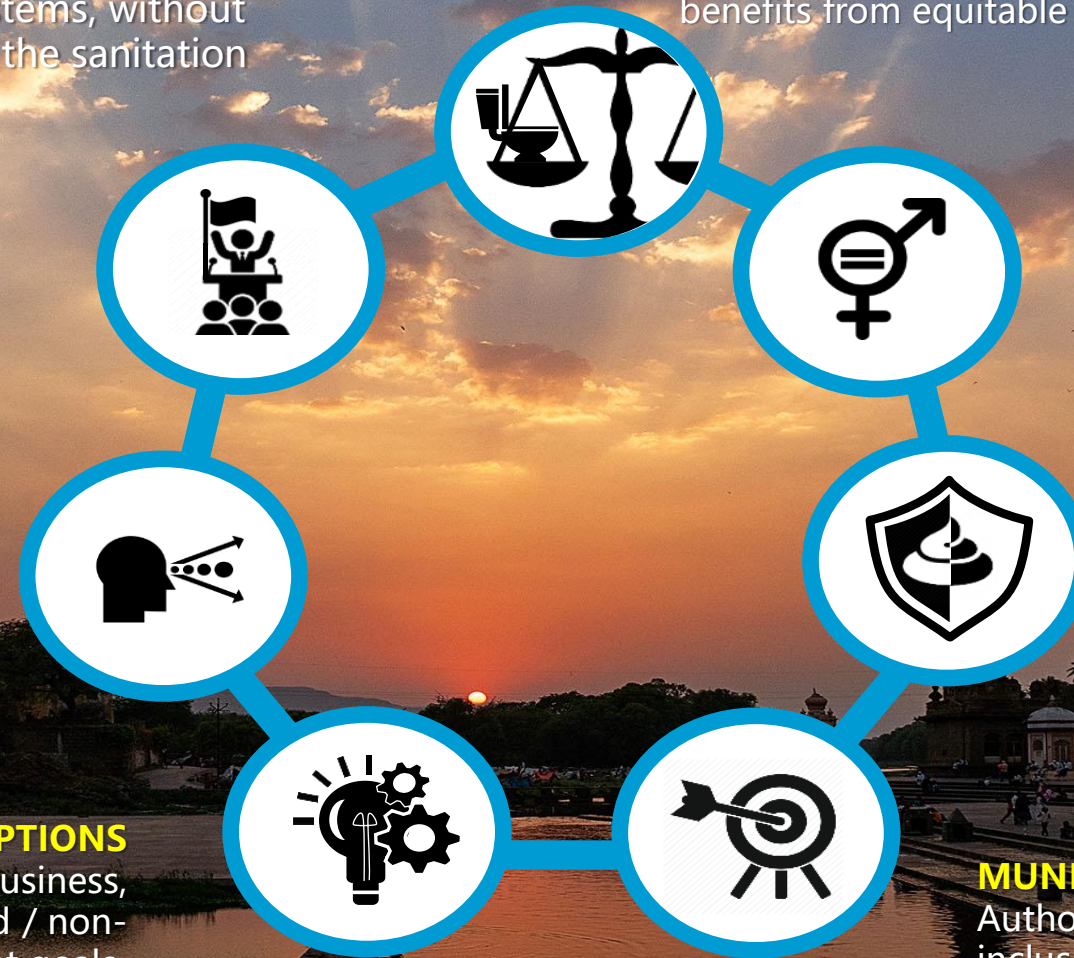
are designed into planning, management, and monitoring

SAFE MANAGEMENT

Human waste is safely managed along the sanitation service chain, starting with containment

MUNICIPAL ACCOUNTABILITY

Authorities operate with a clear, inclusive mandate, performance targets, resources, and accountability



Improved sanitation value chain

Improved implementation of scheduled emptying

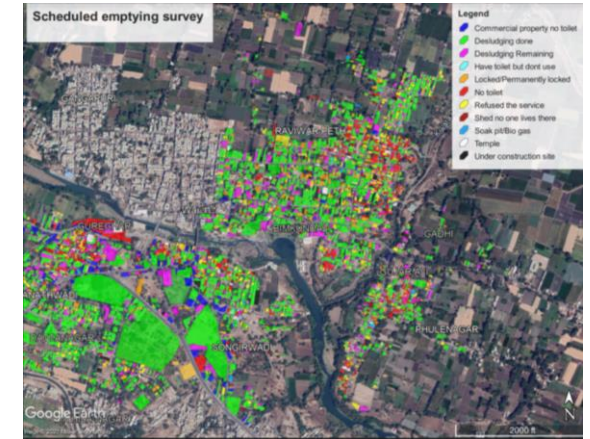
- Schedule desludging has been successfully implemented and has been operational since May 2018.
- Mapping of all properties covered under scheduled desludging in process

Water and wastewater quality testing in Wai

- Quality tests are conducted for the baseline year in 2019 and trendline year 1 in 2020. At present tests are being conducted for trendline year 2, 2021
- Results and analysis have been prepared.

Improved operations of FSTP

- FSTP has been fully operational with septage treatment according to standards since its inception in June 2018
- Solar panels installed and operational and urban forest to be executed.



Grey Water Management

- Pilot locations for grey water management have been identified

Municipal Strengthening

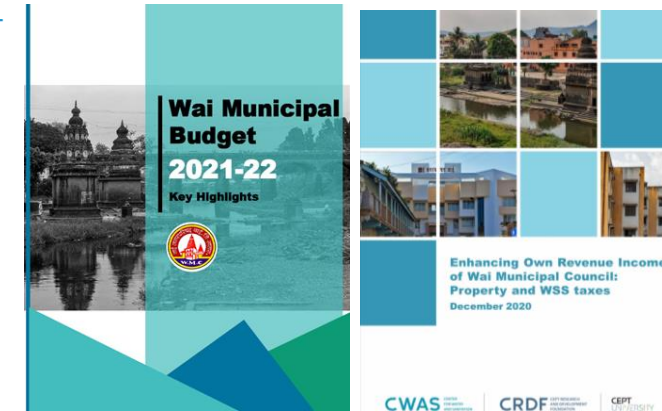
Institutionalization of FSSM services – Staff Assessment and capacity building

- Assessment study on staffing and monitoring process
- Various dashboards prepared for tracking and improving progress
- Training and capacity building workshops conducted for elected representatives ,WMC officials and sanitation workers



Improving Financial sustainability

- City Sanitation Investment plan prepared
- Measure to improve own revenue
- Budget briefs and Proposed budget software



Improving access to toilets

- Demand for IHHT has been assessed and shared with WMC
- Assessment has also been done on how to accelerate construction of IHHT



Empowering women for inclusive FSSM service delivery . . .

- **Building capacities of Elected Women Representatives (EWRs)** for effective functioning and participation in local governance focusing on FSSM.
- **Celebrating Women Sanitation champions** in the city and acknowledging their participation
- **Sensitizing women** at household level regarding the process of desludging



Center for Water and Sanitation Retweeted

National Faecal Sludge and Septage Alliance @NFSSM Alliance · Nov 3, 2020 · · ·

#AtTheFrontline #StoriesOfResilience

Snehal Bhosle from Wai, Maharashtra has made society re-think gender roles through her empowering story. This young girl, a Site-In-Charge at a Faecal Sludge Treatment Plant (FSTP) in Wai... (1/3)

Snehal, currently pursuing her Bachelor's degree in Engineering and due to her background, she was awarded the role of **SITE-IN-CHARGE** for an FSTP.

Center for Water and Sanitation and 8 others

Center for Water and Sanitation @pas_project · Mar 8

On this Women's day, celebrating our Sanitation Champions from Wai, Maharashtra #WomeninSanitation #WomensDay2020 #IWD2020 #EachforEqual @wai_council @swachhbharat @SwachhMaha @NFSSMalliance @BMGFIndia @TNUSSP @mehta_pani @DineshMehta100

SANITATION CHAMPIONS OF WAI

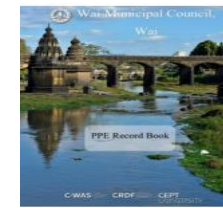
Smt. Vidya Pot
Chief Officer
Wai Municipal Council

Dr. Pratibha Shide
President (Mugher)
Wai Municipal Council

Mrs. Rupali Vanarse
Chairperson, Sanitation Committee
Wai Municipal Council

Sanitation workers safety

- Registers for PPE usage and replacement
- 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.
- 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



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, Gumboots, Safety helmet, Safety goggles, Torch
- Road sweeping and drain cleaning:** Face mask, Goggles, Uniform, Shoes, Gumboots, Reflective vest
- Solid Waste Handling:** Face mask, Goggles, Heavy duty gloves, Uniform, Shoes, Gumboots
- Treatment plant operation:** PPE mask, Respirator, Goggles, Heat resistant gloves, breath mask, Torch, Uniform, Safety helmet, Gumboots, Face shield, Safety goggles, Ear plugs
- Sewer cleaning:** Breath mask, Rubber gloves, Goggles, Safety helmet, Safety goggles, Torch, Tripod and harness, Safety harness, Safety shoes, Ear plugs



Thank you

CWAS CENTER FOR WATER AND SANITATION

CRDF CEPT UNIVERSITY



<https://cwas.org.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.



pas.org.in
cwas.org.in



pas@cept.ac.in



[pas_project](#)



[pas.cept](#)



pas.org.in/web/ceptpas/pas-e-news
Sign up: tiny.cc/pasenews