



# Implementing City Wide Inclusive Sanitation (CWIS) in Wai, Maharashtra

Project approach, strategies, impacts and learning

**CWAS** CENTER FOR WATER AND SANITATION

**CRDF** CEPT RESEARCH AND DEVELOPMENT FOUNDATION

**CEPT UNIVERSITY**



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**Center for Water and Sanitation**

**CRDF, CEPT University**

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# Acknowledgements

This report was prepared to document CWAS's role in Wai as an enabler for providing improved city-wide inclusive sanitation services. It captures the evolution of the project, approach, implementation model, stakeholder engagement, scale up and sustainability.

The report also elaborates **efforts undertaken by the Wai Municipal Council (WMC) with consistent support and technical assistance from CWAS, CEPT University** under six thematic areas: inclusive service delivery model, making sanitation service delivery in Wai gender inclusive, sanitation workers safety and upliftment, innovative financing mechanisms, institutionalization, and sustainability of CWIS interventions, and scaling up CWIS in Maharashtra.

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# SANITATION IN WAI

**CITYWIDE | INCLUSIVE  
SAFE | SUSTAINABLE**

### 1 VISION FOR A FULLY SANITIZED CITY

All covered house wastes to bullocks. Streets are clean and safe.

All public toilets in the city, attached to sewer, electricity and telephone, water supply service.

All houses have water supply and sewer works for drainage. A dedicated treatment facility for city.

House of treated water and sewage.

Development of sanitation facilities.

Analysis of city blocks.

Continuous maintenance requirement.

Institutional arrangements.

### 2 CITY SANITATION PLANNING

Assessment of sanitation situation in cities across various sectors.

**PRIORITY 1: Urban sanitation One stop City Toilet & Septic Tanks**  
Construction of open toilet, collectively owned by 2-4 households, with attached water tanks.

**PRIORITY 2: Improved faecal sludge management**  
Regular (6-8 year) cycle collection and disposal of faecal sludge from water-lanes, along with the necessary replacement of septic tanks, construction of a treatment facility for multiple and reuse of treated effluent.

### 3 PRINCIPLES OF CITYWIDE INCLUSIVE SANITATION

**CWIS**

- Equitable participation for all progressive community/sector.
- Resource efficiency and reuse.
- Comprehensive local level planning.
- Working in partnership.
- Gender jobs in the water sector.
- Disposal and treatment of faecal sludge.
- Democratization of financial and technical aid.
- Financial sustainability.

### 4 UNIVERSAL ACCESS TO TOILETS

City's Own Toilet Scheme, equipped with 2-months interval. Mission.

Strong incentives to citizens.

Public toilets are free.

Open defecation free city.

### 5 SCHEDULED DESLUDGING OF SEPTIC TANKS

What is scheduled desludging?

All public toilets are desludged on a regular basis. Service on a regular basis.

### 6 FAECAL SLUDGE TREATMENT

Thermal FSTP - Purifier plant.

Load: 1000 kg/day.

Output: Treated Water and Sludge.

Capacity: 70 m<sup>3</sup> effluent daily.



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# 1 City-Wide Inclusive Sanitation (CWIS)

This section focuses on describing the To City-Wide Inclusive Sanitation (CWIS) and its Alignment with Government of India's Policy and Program Landscape.

## 1.1 What is City-Wide Inclusive Sanitation (CWIS) and how it was conceptualized?

India has been transitioning from rural to quasi-urban due to rapid urbanization over the last two decades and is expected to continue in the coming years. It is estimated that 43.2% of India's population, i.e., 675 million people, will reside in Urban conglomerates by 2035 (UN-Habitat 2022). With an exponential growth rate of urbanization, urban sanitation in India faces many challenges. Nearly 60 million people in urban areas lack access to improved sanitation arrangements, and more than 2/3rd of wastewater is let out untreated into the environment, polluting land and water bodies.<sup>1</sup>

To respond to these environmental and public health challenges, urban India will need to address the full cycle of sanitation, i.e., universal access to toilets, with the safe collection, conveyance, and treatment of human excreta with a lens of City-Wide Inclusive Sanitation (CWIS).

CWIS looks to shift the urban sanitation paradigm. It is a state of urban sanitation, where all members of the city have access to adequate, affordable, and sustainable sanitation services through appropriate centralized and decentralized systems without any contamination of the environment along the whole sanitation service chain<sup>2</sup> CWIS is based on the fundamental understanding that inherent market failures characterize urban human waste management and therefore, must be organized as a public service – including ensuring safe containment – to achieve public interest components of sanitation (i.e., safety and inclusivity).<sup>3</sup>

**CWIS was conceptualized by a large multi-disciplinary group of practitioners, development partners, researchers in a convening held in Atlanta in 2016 with a “Call to Action” that aimed to mobilize stakeholder to embrace a radical shift in urban sanitation practices deemed necessary to achieve city wide inclusive sanitation. The “Call to Action” was initiated by a growing group on institutions,**

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<sup>1</sup> Urban sanitation in India: key shifts in the national policy frame | June 2015

<sup>2</sup> Adapted from BMGF CWIS definition

<sup>3</sup> Policy Brief: Front. Environ. Sc. 2020 City wide Inclusive Sanitation: A public Service Approach or reaching the urban sanitation SDG

such as the Bill & Melinda Gates Foundation, Emory University, Plan International, The University of Leeds, WaterAid, the World Bank and many others.<sup>4</sup>

After a series of regional consultative workshops with ministerial, municipal and utility leaders, economic regulators, engineering firms, and development partners from over 40 countries, the CWIS building blocks and objectives (Gambrill et al., 2016), were refined into an SDG-aligned definition:

*A public service approach to planning and implementing urban sanitation systems to achieve outcomes summarized by SDG 6: safe, adequate, equitable, and sustainable sanitation for everyone in an urban area, paying special attention to the needs of the poor, the marginalized, and of women and girls, a comprehensive set of seven CWIS principles (Figure 1), and service framework (Figure 2) was developed.<sup>5</sup>*

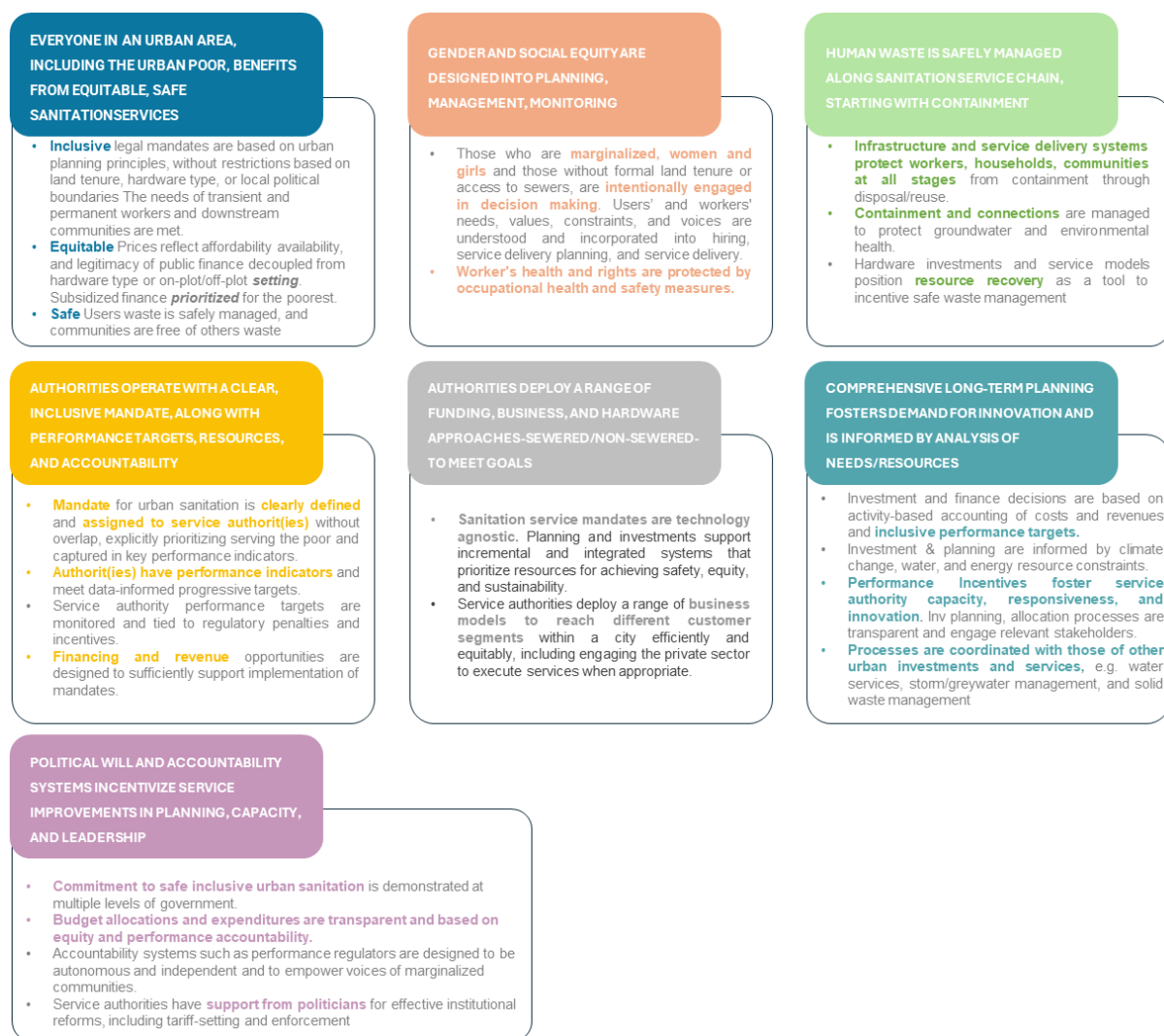


Figure 1.1-1: CWIS Principles

<sup>4</sup> <https://citywideinclusivesanitation.com/about/>

<sup>5</sup> Policy Brief: Front. Environ. Sci., 28 February 2020 Sec. Water and Wastewater Management

CWIS framework builds on decades of practice and lessons about public goods, market failures, and the delivery of basic urban services. It comprises of a set of **core outcomes** and **required functions** of a public service delivery system for sanitation, relevant across diverse city contexts. The core outcomes of a system are achieving **equity, safety** and **sustainability**, in sanitation service delivery for everyone in an urban area and not just those in areas with a sewered network. To achieve these outcomes, a system must demonstrate three functions: there must be clearly defined **responsibility for authority(ies)** executing a clear, legal mandate for inclusive urban service delivery; the legal authority(ies) must be accountable for performance against mandated responsibilities; and processes for planning and managing resources – financing, assets, people – across time and place must be transparently tied to mandated priorities and performance accountability.

CWIS SERVICE FRAMEWORK			
	 <b>EQUITY</b>	 <b>SAFETY</b>	 <b>SUSTAINABILITY</b>
CORE CWIS OUTCOMES	Services reflect fairness in distribution and prioritization of service quality, prices, and deployment of public finance/ subsidies.	Services safeguard customers, workers, and communities from safety and health risks—reaching <i>everyone</i> with safe sanitation.	Services are reliably and continually delivered based on effective management of human, financial and natural resources.
CORE CWIS FUNCTIONS	<b>RESPONSIBILITY</b> An authority(ies) executes a clear public mandate to ensure safe, equitable, and sustainable sanitation for all.	<b>ACCOUNTABILITY</b> Authorities' performance against their mandate is monitored and managed with data, transparency and incentives.	<b>RESOURCE PLANNING AND MANAGEMENT</b> Resources—human, financial, natural, assets—are effectively managed to support execution of mandate across time/space.

Figure 1.1-2: CWIS Service Framework

CWIS brings together multi-sectoral and multi-level stakeholders in sanitation provision at the city, state, and national levels. It is imperative for governments and developmental partners to align their vision and approaches to utilize their resources best and accelerate the achievement of inclusive and sustainable outcomes for the communities, especially for the most vulnerable and marginalized groups.



वाई नगरपरिषद कार्यालय, वाई

येथे साहित्य  
विषय व परीक्षा  
फल मिळेल

वाई नगरपरिषद, वाई

वाई नगरपरिषद कार्यालय  
आभिषेक

वाई नगरपरिषद कार्यालय

## 1.2 Government of India policies and frameworks alignment with CWIS

Elements of the CWIS principles and framework are not new to Government of India's policy landscape of sanitation. CWIS elements are embedded across several policies and program directives. Programs are being designed to prioritize inclusiveness and equity across the sanitation service chain, where the urban poor can benefit from equitable and safe sanitation services and to address the last mile challenge of achieving "universal access to all, at all times" so that vulnerable and marginalized groups are not left behind.

The launch of the National Urban Sanitation Policy (NUSP) in 2008 provided guidance to adopt integrated city-wide sanitation plans, including institutional strengthening, awareness generation, behavioural changes, pro-poor approaches, and cost-effective technologies aiming at developing state sanitation strategies and city sanitation plans that should lead to open defecation free cities, as well as **sanitary and safe disposal of all human and liquid wastes**. In many ways, the NUSP and the City Sanitation Plans (CSP) have been forward-looking and are well-aligned with most of the CWIS principles.

The thrust of GOI has moved towards service delivery to urban areas and not on the provision of infrastructure alone. Hence, the GoI launched the Service Level Benchmarking (SLB) covering water supply, wastewater, solid waste management, and stormwater drainage. It involved the **measurement and monitoring of service provider performance** on a systematic and continuous basis on 28 performance indicators in the areas of water supply, wastewater management, solid waste management, and stormwater drainage. Sustained benchmarking was to assist the utilities in the identification of performance gaps and introduction of improvements through the sharing of information and best practices, eventually resulting in better services to people.

**Integration of CWIS principles has become more prominent** as sanitation has been at the forefront of urban policy in India in recent times with the launch of the Swachh Bharat Mission (SBM) in 2014 and the Atal Mission for Rejuvenation and Urban Transformation (AMRUT) in 2015. The two flagship Missions have augmented the capacity to **deliver basic services of water supply and sanitation to all citizens**. There is a significant recognition of improved urban water and sanitation service provision for achieving public health improvements. This has resulted in a series of programs and policies for sanitation, such as the National Faecal and Sludge and Septage Management Policy (NFSSM), ODF+ and ODF ++ framework, WaterPlus Protocol, etc. This also includes state-level **programs, advisories, and guidelines to address issues of safe practices across the sanitation service chain, including - safe**

**access, collection, safe transportation, safe disposal, recycling, and reuse.** Further, policies and initiatives are formulated to **ensure the safety and dignity of sanitation workers and skill building of poor and marginalized to operate and manage sanitation** (including FSM) systems. Processes and mechanisms are developed to **encourage the participation of marginalized groups in leadership, decision-making, and the processes of service delivery.**

### 1.2.1 Inclusive and social equity approaches are reflected through initiatives

1. To safeguard the rights of marginalized groups, the government has introduced many policies and Acts. For instance, the **Transgender Persons (Protection of Rights) Bill, of 2016** seeks to safeguard the basic civil rights of transgender persons by addressing issues of access to public spaces (including access to public toilets and community toilets). As per Section 46 of the **Rights of Persons with Disabilities Act (PwD Act), 2016**, states are required to provide ramps in public buildings and adaptation of toilets for wheelchair users.
2. The **Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013**, forbids the employment of any person for the task of manual scavenging by any agency or individual. It also places restrictions on manual cleaning of sewers and septic tanks.
3. **SBM-DAY NULM convergence** in 2018 **focuses on empowering marginalized groups.** The convergence aims to promote livelihood options and increase income for women's Self-Help Groups (SHGs), informal workers, and other marginalized communities.
4. **'SafaiMitra Surakshit Shehar'** ensuring the **safety, dignity, and security** of all sanitation workers (SafaiMitras). For the first time, 500 cities across India have declared themselves as **'SafaiMitra Surakshit Shehar'**<sup>6</sup>. In doing so, they have established that the cities are able to achieve adequacy in terms of institutional capacity, human resource, and equipment norms as stipulated by MoHUA and are providing safe working conditions for SafaiMitras.
5. Ministry of Housing and Urban Affairs and Ministry of Social Justice and Empowerment jointly launched **'NAMASTE' (National Action for Mechanized Sanitation Ecosystem)** Scheme<sup>7</sup>, to provide impetus to the ongoing efforts towards mechanization and safety of sanitation workers.

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<sup>6</sup> <https://sbmurban.org/safaimitra-surakshit-shehar>

<sup>7</sup> PIB.gov.inPressRelease

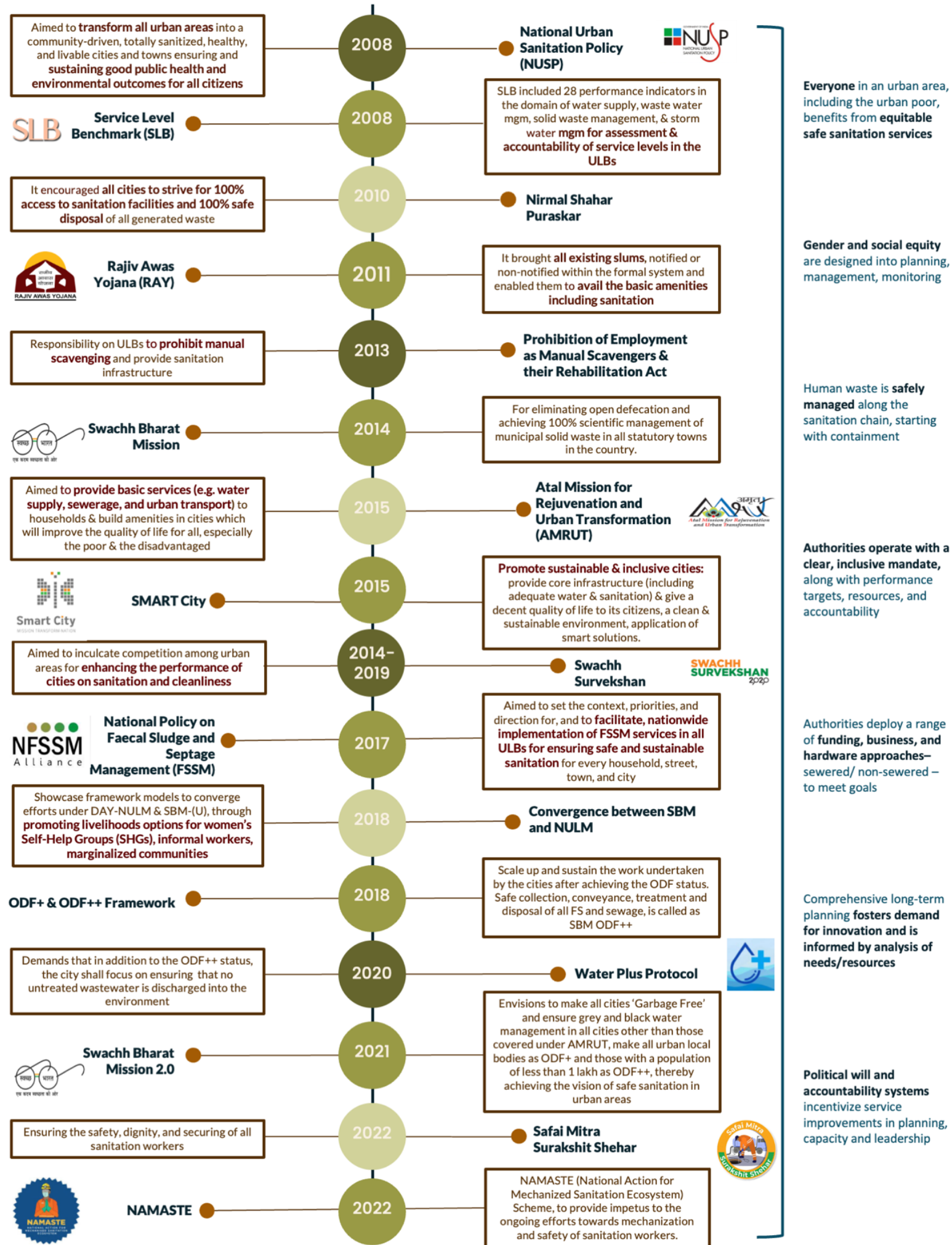


Figure 1.2-1: Gov policies and programs that incorporate CWIS principles



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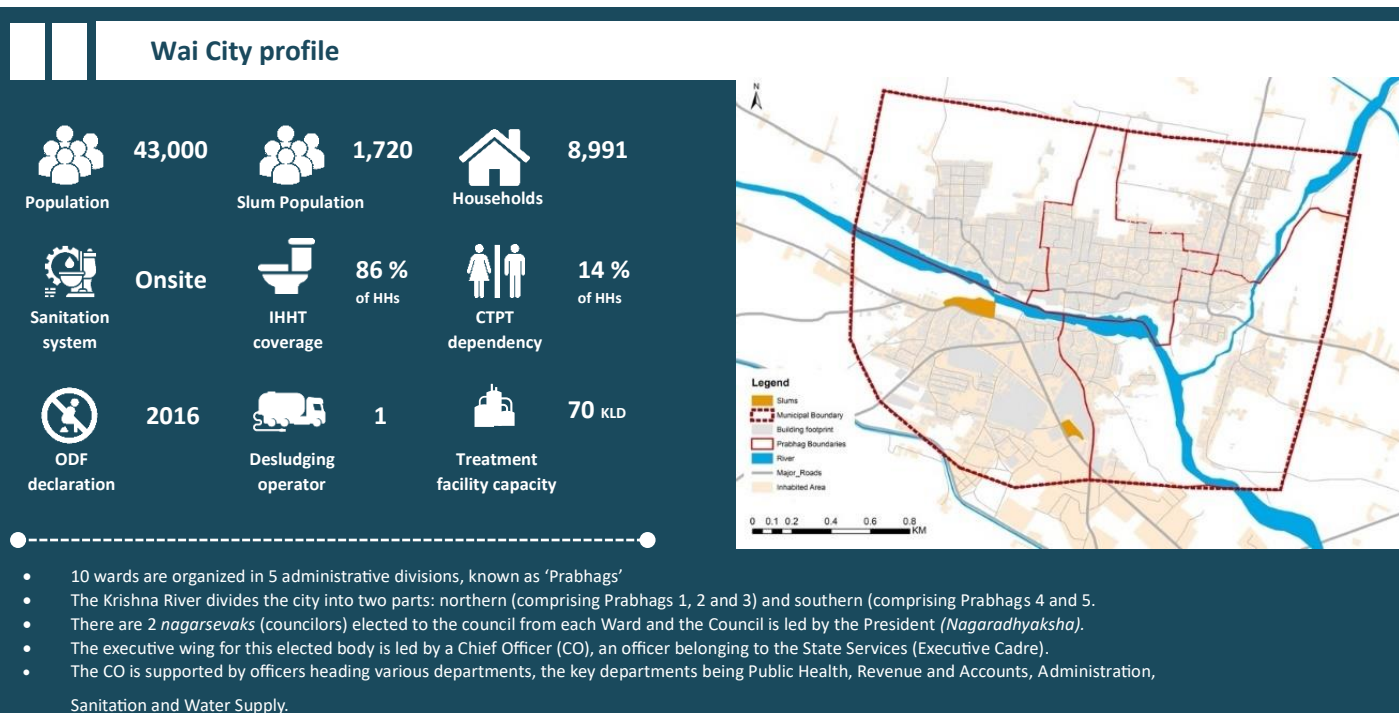


## 2 Introduction to CWIS at Wai City, Maharashtra

GOI policies and program directives have created an enabling environment for rolling out state and city specific initiatives and programs with focus on inclusive sanitation. With the launch of Swachh Maharashtra Mission Urban (SMMU) in alignment with Swachh Bharat Mission (SBM), the state of Maharashtra amplified initiatives to ensure safe and equitable sanitation services for all. The GOM and certain city government (such as Wai Municipal Council (WMC) had initiated designing inclusive and equitable sanitation solutions for all even prior to the launch of SBM. Wai carried out a unique “Own Toilet scheme” offering subsidies to households for construction of an individual toilet before the launch of the Swachh Bharat Mission (SBM).

Since 2012, CWAS (Center for Water and Sanitation), CEPT University has been supporting Wai Municipal Council (WMC) to deliver inclusive and safe sanitation services across the sanitation service chain. Based on suggestions from Water Supply and Sanitation Department (WSSD) of the State Government of Maharashtra Wai was selected as one of the cities which CWAS would support to prepare a City Sanitation Plan (CSP). The CSP prepared focused on city-wide sanitation solutions that are affordable for both users and the municipality. CWAS also, supported WMC in implementing its priorities: ensure universal access to own toilets and preparation of an Integrated Faecal Sludge Management (IFSM) Plans as an immediate solution to tackling blackwater containment, transport and safe disposal.

**In 2018, Wai was chosen as one of eight cities across the globe for the City-Wide Inclusive Sanitation Program Funded by the BMGF.**



Wai city located in western part of Maharashtra is representative of more than 7,400 small and medium towns of India, including 3600 Urban Local Governments and 3800 Census Towns. Approximately 40% of India urban population – 150 million people – live in these towns. Like many other small and medium cities in India, the city of Wai has faced the same sanitation issues – open defecation, disposal of untreated faecal waste (including both faecal sludge and septage) in the open, financial constraints in providing safe sanitation services, and growing environmental pollution.

However, Wai has now overcome these challenges and is providing improved sanitation services to all citizens across the service chain. With concerted efforts by CWAS, **core CWIS components were integrated into the city's sanitation plans**. For instance, the principle of **responsibility**, through the engagement of Wai Municipal Council and sanitation department staff, and **accountability**, through setting up mechanisms for monitoring/ tracking of service delivery and best utilization of its technical, financial, and human resources.

All the initiatives undertaken to improve the sanitation services have been **inclusive and sustainable in terms of finance and operations** through partnerships with the private sector and **using the city's own funds**. **WMC took ownership** of the initiatives and **institutionalized them through partnerships with the private sector and ordinances of the city council**. As a result, Wai has successfully demonstrated that, for small and medium cities, it is feasible to offer high-quality, affordable, equitable, and inclusive sanitation services to all citizens.

**The experiences and lessons from Wai are being translated into policies and guidelines at State and National levels**. Some of such significant initiatives at Wai were – PPP for schedule desludging and management of FSTP, introducing innovation in financial mechanisms, ensuring robust monitoring mechanisms, and ensuring continuous process improvement. Another innovative solution like introduction of a sanitation tax and the development of a City Investment Plan were methods adopted for utilizing financial resources and ensuring the sustainability of sanitation services.

The key approaches and interventions demonstrated in Wai have been detailed in the following chapters/modules:



Inclusive Service  
Delivery Model



Gender Integration in  
Sanitation



Sanitation  
Worker's Safety



Innovative Financing  
Mechanisms



Institutionalization &  
Sustainability



Scale-Up of the  
successful models



### 3 Inclusivity Approach across the Sanitation Service Chain

This chapter elaborates on the initiatives taken by Wai Municipal Council (WMC), with support from CWAS, CEPT University, to ensure inclusive sanitation service delivery for the citizens of Wai in Maharashtra.

It talks about the efforts made by WMC to ensure clean, safe, and quality sanitation services, which are access to toilets, better containment, scheduled desludging services, safe transport, treatment, and reuse to **all households** including marginalized, low-income and slum areas.

While there is significant progress in the sanitation landscape of India in terms of infrastructure creation, to address the last mile challenge, and to ensure sustainable ODF status, there is a growing realization that cities need to focus on inclusiveness and equity going forward. Cities should aim to prioritize inclusive sanitation for the general public/ multiple stakeholders across the sanitation service chain, including the urban poor who can benefit from equitable and safe sanitation services. Delivery of equitable services needs differential tariff policies and subsidization of municipal finance for the poorest, furthering the role of authorities towards meeting the goal of sanitation for all.<sup>8</sup>

To understand the urban sanitation challenges, particularly of the urban poor, there is a need to build equity and inclusiveness across planning, designing, implementation, regulatory, monitoring and management levels. It is vital to develop inclusive and gender sensitive sanitation infrastructure and service provision, which includes delivering safe sanitation services to women; aged; transgender; marginalized and unreached communities; and socially and economically backward groups, without any discrimination in the public locations like school, workplace, health centres, markets, parks, travel hubs and others.

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<sup>8</sup> NFSSM alliance - INCLUSIVE SANITATION: WAY FORWARD FOR CITIES – A framework and Checklist

With the above understanding and premise, Wai Municipal Council (WMC) in partnership with CWAS, CEPT University, adopted an inclusive sanitation approach for its citizens. Figure 2.1.1: illustrates the core elements of inclusive sanitation approach undertaken by WMC:

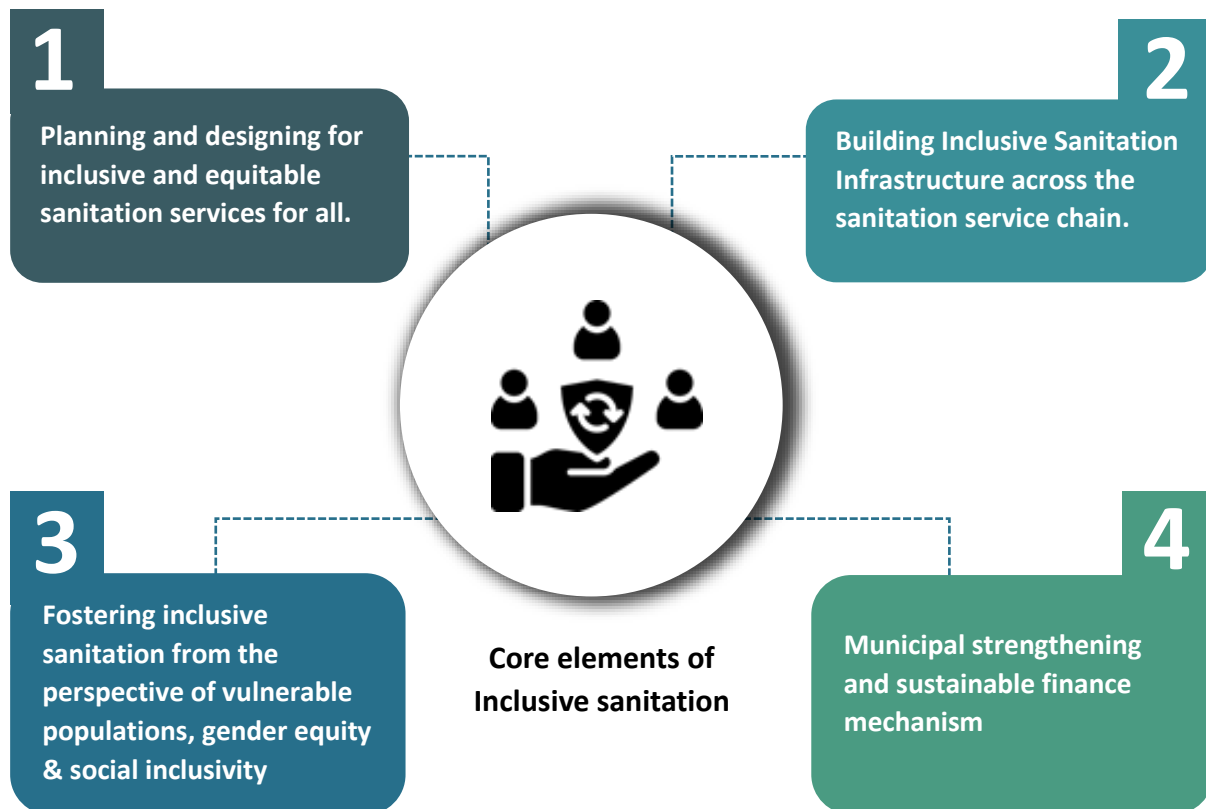


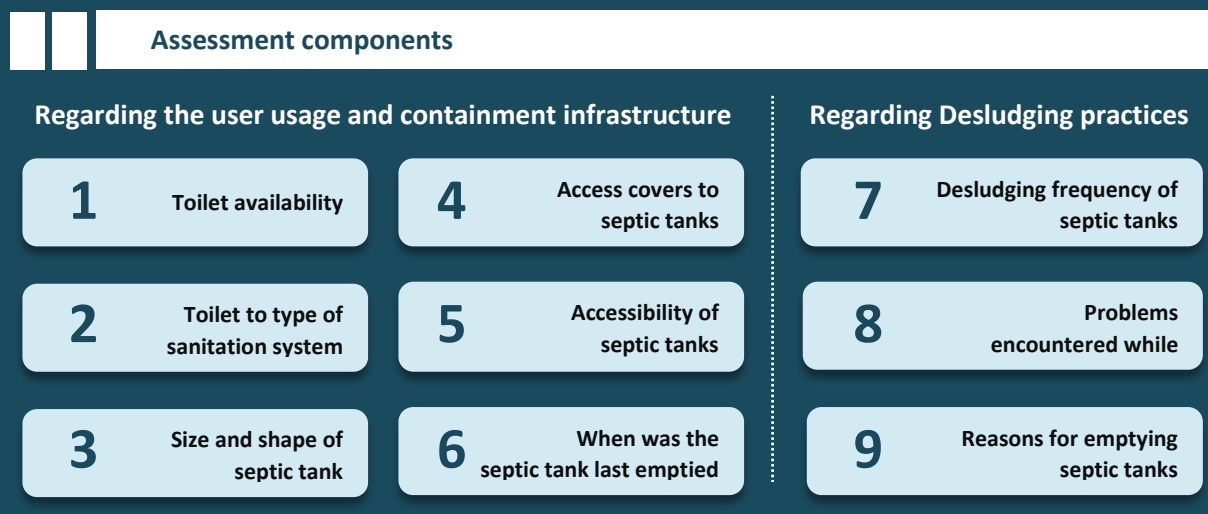
Figure 1.2-1:Core elements of inclusive sanitation

### 3.1 Planning and designing for inclusive and equitable sanitation services

#### Development of Inclusive City Sanitation Plan (CSP):

In 2012, the Government of Maharashtra via the Water Supply and Sanitation Department (WSSD) and the Maharashtra Jeevan Pradhikaran (MJP), developed the City Sanitation Plan (CSP) for Wai with support from CEPT University and All India Institute for Local Self Government (AIILSG). The aim was to prepare city sanitation plans for Wai, emphasizing universal access to toilets based on outcome-centric options rather than technology, and ensuring financial sustainability. The CSP focuses on city-wide sanitation solutions that are affordable for both users and municipal governments. The city-wide sanitation assessment was conducted which went beyond household level to the assessment of full-service chain, that is, from user interface to storage, conveyance, treatment and disposal or reuse. Wai CSP also covered dimensions of grey water, stormwater, and solid waste management, which are

interlinked closely in the small city context. After multiple meetings and consultative workshops, with state and city representatives, a city-wide assessment was conducted to assess the following –



A technical assessment was undertaken for septic tanks in sample properties, to assess their design, construction, influent and effluent wastewater quality. The study also gave various design recommendations for well-functioning septic tanks. Figure 2.1.2 – illustrates the challenges identified across the Sanitation Service Chain which helped the WMC in prioritizing and planning.

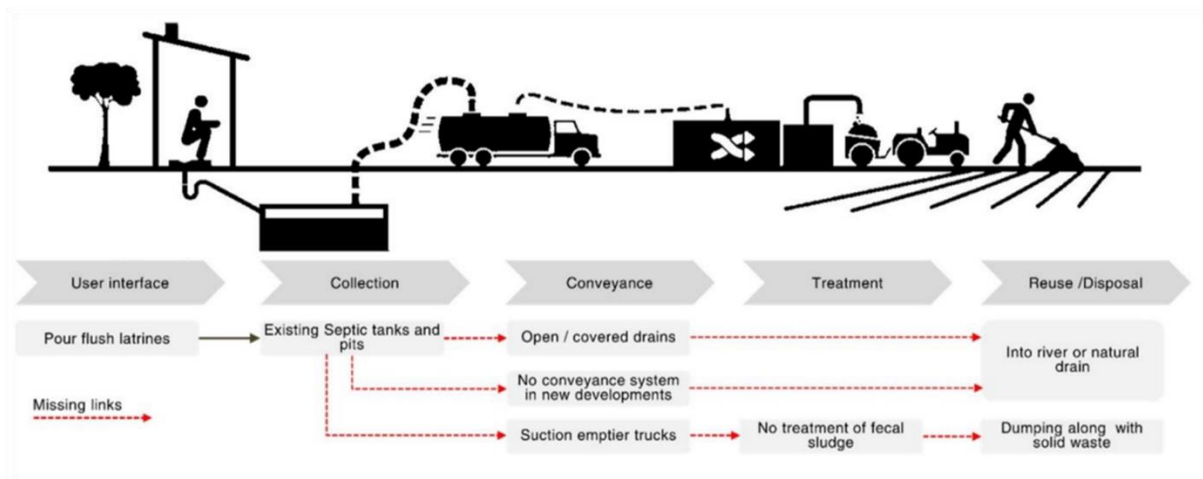


Figure 3.1-1: Sanitation service chain

The city government decided to focus on two priorities - making the cities open defecation free and initiating faecal sludge and septage management. CWAS supported WMC right from planning the services, implementation, allocation of resources and monitoring-related support. The city signed a

council resolution to facilitate the implementing. This ensured that the city government took ownership of the initiatives, and the plan was not disrupted by change in leadership/office positions.

Simultaneously, SaniTab and SaniTrack apps and dashboards were developed for conducting the surveys and monitoring the desludging services. These apps and dashboards facilitated easy representation of the data in the form of charts and maps. SaniTab allowed for customized questionnaires and has since then been used for various surveys in Wai and other cities.

## 3.2 Building Inclusive Sanitation Infrastructure across the sanitation service chain

### 3.2.1 Access to toilets in Wai

It was observed that in 2012, only 68% households had toilets on premise in Wai; 30% households were dependent on community toilets and 2% resorted to open defecation<sup>9</sup>. WMC worked towards improving access to toilets for all with support and technical expertise from CWAS, the efforts were amplified with the launch of Swachh Bharat Mission, leading to the increase in individual household toilets coverage to 85% and the city was declared ODF in 2016.

#### *Own Toilet Scheme, Swachh Bharat Mission and Sanitation Loans*

With the aim of making WAI open defecation free, WMC came up with the “Own Toilet Scheme” in the year 2014, where subsidies were provided to the households from the municipal funds. The main objective here was to focus on household toilets for sustained use and universal coverage by unlocking the latent demand for “own toilets” through demand-driven schemes at the local level. **The scheme was launched before Swachh Maharashtra Mission and later it was merged with the national mission.** Households without toilets were offered subsidies to construct their own facilities. Under situations such as lack of space, funds, or other tenure related problems, the Urban Local Bodies (ULBs) also came up with the concept of “Group Toilet” where 2–4 neighbouring households can share one toilet.

The CWAS team engaged with people at grassroots level and provided architectural solutions to address space constraints. An awareness campaign was conducted for those having major financial constraints to encourage them to take sanitation loans to bridge the gap between subsidies and construction cost. A “Toilet and Lender” fair had also been organized where multilevel stakeholders

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<sup>9</sup> [https://cwas.org.in/resources/file\\_manager/csp\\_wai\\_summary.pdf](https://cwas.org.in/resources/file_manager/csp_wai_summary.pdf)



were - brought together. Due to these efforts, ownership of toilets increased, and usage has been very high (CEPT University and All India Institute of Local Self Government, 2015).<sup>10</sup>

#### *Refurbished Community and Public Toilets:*

A survey was carried to evaluate the condition and functionality of existing community and public toilets in Wai. Based on the assessment, Community Toilet/ Public Toilets (CT/PTs) were refurbished for those who still cannot afford Individual Household Toilets (IHHT). These CTs and PTs have undergone further upgrades to adhere to the SBM Open Defecation Free (ODF)+ protocol and to make them inclusive, especially for women and vulnerable households. To do this, assessments were done for the infrastructure, usage patterns and O&M contracts of all the CTs and PTs through a gender lens. Recently, facilities for menstrual hygiene management have been added along with other upgrades.

#### *Sustaining Open Defecation Free (ODF) status:*

It was crucial to make sure that after toilets were built, people used them and did not return to open defecation. A group of volunteers had been assigned who coordinated "Good Morning Pathak" tours around the OD locations on a regular basis in the early morning and late evening. The CWAS team is also supporting plans for development of existing OD spots into public spaces and improvements in the surrounding environment.

### **3.2.2 Ensuring safe containment and conveyance**

#### *Collection/containment system for toilets:*

Wai city was largely dependent on onsite systems with most household toilets connected to septic tanks. City-wide assessment findings showed that tanks were not emptied regularly as prescribed by the CPHEEO guidelines. Most septic tanks were cleaned only once in 8–10 years when they overflowed. This practice adversely impacted the environment by worsening the quality of effluent and leakage/overflowing of tanks. Low desludging frequency used to harden the sludge in the tank, which the trucks were unable to break. This increased the chances of manual scavenging, which is a risky, below dignity and a banned practice, which is allowed only in special cases with protective equipment as per Prohibition of Employment as Manual scavengers and their Rehabilitation Act, 2013 (MS Act, 2013). Tanks were also not designed according to standards. Some were oversized so they would last for years without need for emptying (CWAS, CEPT University, 2015).

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<sup>10</sup> IWA: Beyond toilets: The WAI-Sinnar model for safe and sustainable citywide inclusive sanitation

Conveyance and disposal of septage: WMC owned one suction emptier truck each which was used to provide demand-based emptying services in a complaint redressal model to the households against a charge of INR 400–1000 (USD 5–12)/trip. The collected faecal sludge was then disposed on open land at their solid waste dump sites without any treatment (CWAS, CEPT University, 2015).

To tackle these issues and ensure regularity in the services and reach to all, WMC with support from CWAS, initiated the practice of **Scheduled Desludging in 2018**. Under the scheduled desludging service, **all the septic tanks** of the city are **visited once every in 3 years** as per predetermined schedule, and **mandatory desludging** of septic tank is done by **the service provider appointed by the ULB**. The **sludge is delivered safely** to the designated disposal site for **treatment or reuse**. The service provider is paid through **annuity payments** backed by ULB revenues. Scheduled Desludging has some major benefits, which are-

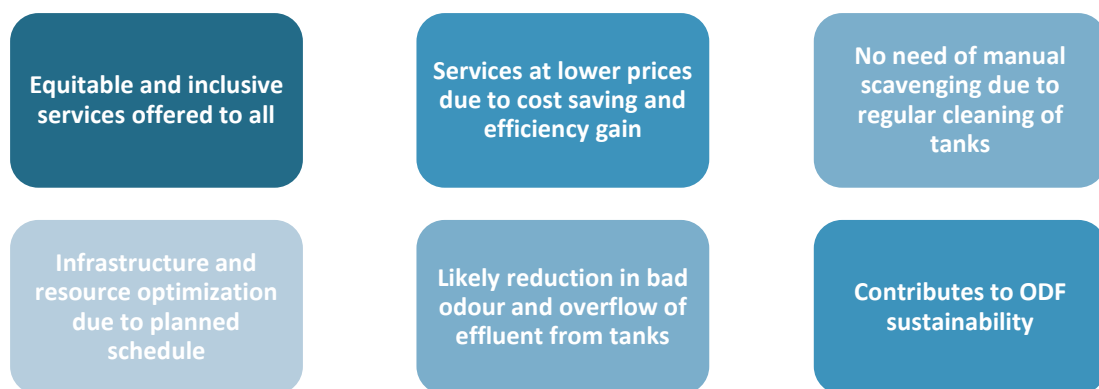


Figure 3.2-1: Benefits of scheduled desludging

Ensuring coverage of properties in vulnerable areas: low-income settlements or properties with dense and narrow street network have been considered vulnerable for the purpose of delivering emptying operations. In Wai, long pipes, and a truck of 6000 lt. capacity were made available for properties that had narrow roads and situated in denser areas.

This was a notable and the first ever scheduled desludging plan to be initiated in India. Wai’s first three-year cycle of scheduled desludging was successfully completed in 2022. Over 6800 households in Wai have been covered with 95% of acceptance rate of the service.

*Engaging the private sector through performance-based contracts:*

For carrying out scheduled emptying, Wai partnered with a private company through a PLAM (Performance Linked Annuity Model) type agreement as shown in Figure 2.1.5. CWAS provided advisory support to the city for developing performance-based contracts. The city floated a tender on the State Government’s online portal and contractors were carefully selected through a transparent

process to take up scheduled emptying. Agreement with the contractor contains conditions to protect interest of all parties.

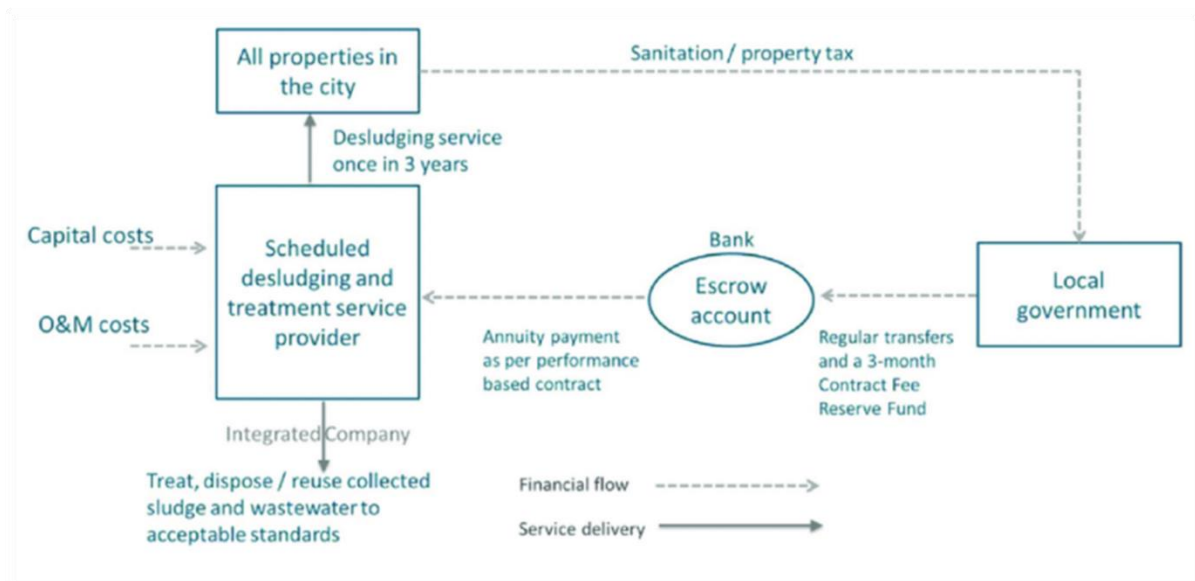


Figure 3.2-2: Performance based annuity model for scheduled emptying (Source: CWAS, CEPT University)

Payments linked to performance standards help maintain quality of service and safety compliance, such as the prohibition of manual scavenging, requirement of safety gear for workers, quality of suction trucks, cleaning up of spillage, assigning responsibility for damage to septic tanks, quality of construction, quality of treated sludge and timeliness of service. On the other hand, the contractor is also protected against payment delay through an escrow account mechanism where the city government maintains an amount equal to three months of payment.

### 3.2.3 Ensuring safe treatment and reuse

Through a PPP model, a **Solar FSTP** with a capacity of 70,000 litre, has been setup in the city to treat the septage and treated WW reused for urban forest and landscaping. FSTP set up ensures that all the sludge that is collected was disposed of safely. Wai resolved to implement FSSM plan in the city through a council resolution, which covered aspect such as citywide FSSM, involving private sector, scheduled cleaning, land, and funds for treatment facility.



Figure 3.2-3: Faecal Sludge Treatment Plant (FSTP) in the city of Wai (Source: CWAS, CEPT University)

Citywide tests were done to understand the quality of septage being generated and the technology and capacity required from the FSTPs. From 2018 to 2020, around 10 million litre of septage has been treated at the facility.<sup>11</sup>

### 3.3 Fostering inclusive sanitation from the perspective of vulnerable populations, gender equity & social inclusivity

#### *Comprehensive FSSM Planning*

To ensure access to adequate and affordable sanitation services to all. Figure 6 illustrates integrated FSSM planning across the sanitation service chain. All properties within the city are provided desludging services on a rotational manner with no fee levied at the time of desludging. This has been a successful innovative solution in regularizing emptying of tanks as a public service and ensuring desludging service provision equally across the cities, including in low income and slum areas. The desludgers carry long pipes which can reach septic tanks located at the end of narrow lanes in high density localities. Awareness drives were carried out by WMC to ensure successful implementation of the scheduled desludging. As a result, residents have embraced the scheduled desludging service and are prepared when the desludger arrives at their doorstep as per the schedule. FSTP has been fully operational with septage treatment as per the standards since its inception in June 2018.

<sup>11</sup> [https://pas.org.in/Portal/document/UrbanSanitation/uploads/Reuse%20slide%20deck\\_Wai\\_for%20website%20upload\\_26%20Oct\\_final.pdf](https://pas.org.in/Portal/document/UrbanSanitation/uploads/Reuse%20slide%20deck_Wai_for%20website%20upload_26%20Oct_final.pdf)



Figure 3.3-1: Integrated FSSM plan (Source: CWAS, CEPT University)

#### *Building capacities of Elected Women Representatives (EWRs)*

For effective functioning and participation in local governance focusing on FSSM. Wai is governed by the elected municipal council and currently women are holding key leadership and other managerial positions in WMC. CWAS team conducted a detailed assessment and found that there is a scope for building the capacity of the women officials and elected representatives. Orientation workshops were conducted, focusing on FSSM interventions, along with some exposure to basic technical terminologies. Handholding support for implementation and monitoring of FSSM to decision makers and executive officers helped them to take ownership of activities. A conducive environment was created to enable participation of women in FSSM activities in Wai. Awareness generation along with daily scheduled desludging operations among women citizens was also conducted.

#### *Gender - sensitive design approach*

Adopted for designing community and public toilets. With an objective to make CTs and PTs gender inclusive, menstrual hygiene management facilities were planned to be made available in all PTs and CTs. The sanitary pad vending machine and incinerators were installed in the public toilet and pilot community toilets. Awareness sessions were conducted among women to build awareness on menstrual hygiene and use of sanitary pad vending machines and incinerators.

#### *Gender budgeting - Allocation of funds for MHM facilities*

Government of Maharashtra has ordered all councils to allocate and utilize 5% of the revenue budget for women and child welfare activities. The CWAS team studied the allocation and utilization of funds in Wai and found that the funds have been under-utilized for many years. CWAS suggested WMC to

utilize the funds for MHM activities including procurement of vending machines, incinerators, sanitary pads, and maintenance of gender inclusive services.

*Mobilizing SHGs to ensure universal access to toilets:*

Women's SHGs were mobilized to encourage applications for toilet subsidies and promote sanitation loans through internal or formal lending. SHGs encouraged its members to get IHHT constructed, for improving gender-inclusive sanitation services, by aptly utilizing the subsidies and taking San-credit if needed. As a result, the IHHT coverage improved from around 68% in 2012 to approx. 85% in 2018-19<sup>12</sup>.

*Treatment and desludging operations led by women:*

To further strengthen women's participation across the service chain women were engaged at various levels – from sensitizing women members of the household to supervise the scheduled desludging process at their homes, to participation of women in the FSTP operations and maintenance as supervisors and site -in-charge, and in the O&M of CTs and PTs.

*Safety of contractual sanitation workers:*

The safety of sanitation workers engaged by the private service providers was ensured through clearly defined clauses under the private provider's contracts. O&M contracts were modified to include quality of services, and safety of sanitation workers. CWAS team supported WMC to draft clauses related to provision of work specific PPEs (such as gloves, face masks, helmets, safety goggles etc) and include it in their tender and contract documents. Resource material was developed for guiding the sanitation workers on workplace safety. With support from CWAS, WMC also conducted a training cum health check-up for sanitation workers of Wai Municipal council and institutionalize mechanisms for monitoring and replacement of PPEs from time to time.

*Workshop on sanitation workers' health and safety:*

A sensitization workshop cum health camp was held for all sanitation workers, including those from the solid waste management department, where workers were sensitized about the proper use of safety gear and were also provided appropriate PPE. Their managers have also been trained to monitor the use of PPE.

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<sup>12</sup> [https://pas.org.in/Portal/document/UrbanSanitation/uploads/Reuse%20slide%20deck\\_Wai\\_for%20website%20upload\\_26%20Oct\\_final.pdf](https://pas.org.in/Portal/document/UrbanSanitation/uploads/Reuse%20slide%20deck_Wai_for%20website%20upload_26%20Oct_final.pdf) (slide 17)

## 3.4 Municipal strengthening and sustainable finance mechanism

### 3.4.1 Institutionalization of roles and responsibilities within existing departments

- Mandates: Council resolutions passed for CWIS-FSSM.
- Earmark designated roles of Sanitation Inspector and Sanitation Engineer responsible for technical aspects of FSTP operations; sanitation supervisors for monitoring FSSM.
- Enable interdepartmental convergence and empowering elected representatives.
- Enable integration across programmes, with budgets and regulatory mechanism implemented through operative guidelines, MoU and licensing.

### 3.4.2 Improving the monitoring process

Initiatives were taken to strengthen the foundation of the city administration to institutionalize FSSM services. The CWAS team assessed the existing complaint redressal system in Wai and based on the analysis, measures were recommended to further improve the sanitation service chain. A "Payment dashboard" was created to enhance the monitoring process of payments by the ULB to the private operators. "Adhava report" was developed with an aim of improving the monitoring and reporting of services provided by different departments of the ULB.

### 3.4.3 IT-enabled smart monitoring system for desludging

CWAS helped the local authorities of Wai to put in place a robust monitoring mechanism and enabled different stakeholders to use these systems and tools for monitoring and tracking the interventions. Two apps were created: SaniTrack tracks scheduled septic tank emptying operations and SaniTab captures on-site sanitation information and monitors performance of desludging services, using dashboards to show real time progress.

### 3.4.4 Improving financial sustainability

WMC levied a sanitation tax to ensure adequate funds for operational expenditure (OpEx) wherein, the property owners pay yearly sanitation tax to the government as a part of their property tax bills, instead of paying a charge/fee at the time of emptying services. This fund is used to pay the private company engaged for emptying operations. This model de-links service delivery from collection of desludging fee. All properties are provided the service on a mandatory basis without waiting for individual desludging requests. This ensures that all households receive the service irrespective of their capacity to pay for the desludging or their ability to avail the service through the municipal

complaint process. It also guarantees that all localities are served equally including **low income and slum areas**.

### 3.4.5 Improved resource planning and management

CWAS team, supported in creating budget briefs to understand National/State budgetary allocations for local authorities. To institutionalize this, a software was developed to standardize budget heads for city level officials to understand budget allocation. Further, Wai has a City Sanitation Investment plan which acts as a ready reckoner for cities to plan, prioritize and identify source of funds.

## 3.5 Making the Inclusive service delivery model sustainable and ready to scale

Inclusive Sanitation thrusts on the need for sanitation services for all, with particular focus on urban poor. Like many other settlements in India, Wai faced sanitation-related issues such as open defecation, disposal of untreated faecal waste (includes both faecal sludge and septage) in the open, financial constraints in providing safe sanitation services and growing environmental pollution. However, Wai was able to overcome these challenges by embedding equity and inclusiveness across planning, designing, implementation, regulatory, monitoring and management levels to provide affordable, equitable and inclusive sanitation services to all. For all the initiatives undertaken in Wai, the **processes and systems** were established within the **local government** and by following all the required and routine government led processes. This ensured that the interventions do not become a one-time exercise but develop as a demonstrated model showcasing best practices to be replicated by other cities. The systems and processes established in Wai were systematically documented and shared with other districts and other states for scale up. Wai hosted multiple learning visits for decision makers and sanitation workers from different states. Some of the mechanisms like scheduled desludging and IT enabled monitoring systems are being scaled across various parts of the country.





## 4 Making Sanitation Service Delivery in Wai Gender Inclusive

Women are equal consumers of sanitation services in the household as men and are often responsible for maintaining hygiene and sanitation in the households, including ensuring the availability of water at the house. Yet, their concerns regarding the availability and utilization related to sanitation services are rarely addressed. Women's views and needs are undervalued, and their involvement in decisions making remains restricted. Center of Water and Sanitation (CWAS), CRDF, CEPT University (CEPT) has closely worked with the Wai Municipal Council (WMC) to address some of these issues by intentionally driving gender integration throughout the sanitation service chain.

The municipal council of Wai (WMC) with support from CWAS aimed to implement the goals and principles of City-Wide Inclusive Sanitation (CWIS) for all in Wai. One of the **core outcomes of CWIS services framework upholds integrating gender and social equity into the planning, management, and monitoring of sanitation services**. WMC with support from CWAS has been successful in initiating interventions across the sanitation service chain not only for providing access but for developing agency and moving towards transformation for women. This was done because Wai demonstrated the three functions: there must be a **responsible authority(ies)** executing a clear, legal mandate for inclusive urban service delivery; the legal authority(ies) must be **accountable** for performance against mandated responsibilities; and processes for **planning and managing resources** – financing, assets, people – across time and place must be transparently tied to mandated priorities and performance accountability.

**This section describes the efforts undertaken by the Wai Municipal Council (WMC) with consistent support and technical assistance from CWAS for designing gender-inclusive and equitable solutions.**

This includes interventions undertaken throughout the service chain - providing women equal access to safe and hygienic sanitation facilities and services, including menstrual hygiene management; facilitating proactive participation of women in sanitation service delivery, including fecal sludge and septage management; representation of women in decision-making; engagement of women in community mobilization, and community-based monitoring. It will elaborate on interventions undertaken which have the potential to help women move from '**access**' to '**agency**' to '**transformation**' in Wai, and the ownership WMC is taking to ensure the sanitation interventions are sensitive, equally accessible to, and managed by women as they are by men.

## 4.1 Challenges faced by women

Some of the issues faced by women due to unsuitable sanitation services in many urban and rural areas are described below –

### *Sanitation Insecurity*

Women and girls suffer the indignity of being forced to defecate and urinate in the open due to the non-availability of sanitation facilities at the household/community level. Often, they need to walk to remote locations outside the village, making them vulnerable to assault and potential rape.

### *Poor hygiene and risk of diseases*

Women using public or community toilets (PT/CT) are forced to face stinking, unhygienic conditions increasing the risk of faecal-orally transmitted diseases, urogenital tract infection, and chronic constipation amongst others. The condition worsens when they are menstruating.

### *Drop-outs from school*

Adolescent girls dropping out of school at the onset of menstruation due to a lack of safe and private disposal facilities are commonplace.

### *Marginalized decision-making*

In practice, women rarely participate in water and sanitation committees, which reduces their participation in decision-making and implementation of ideas for female-friendly sanitation services.

CWAS supported the WMC in addressing some of these challenges by taking a **gendered approach** to solve the sanitation problems of Wai, which looked at all genders that are currently marginalized, including women and transgender communities. Equity and inclusivity in sanitation have been one of the core focus areas of work at CWAS, to put this into practice CWAS has been successful in supporting the Wai Municipal council for implementing interventions for gender inclusivity.

With the launch of the CWIS program in Wai in 2018, CWAS embarked on the journey of orienting the officials of WMC on the need to **move from ensuring access to developing agency among women and gradually aiming towards transformation.**

For doing this, CWAS in partnership with Participatory Research in India (PRIA) a global center for participatory research and training conducted a gender assessment study in Wai. Recommendations of the study were proactively taken up by WMC with help from the CWAS team. One of the major areas identified was building the capacities of women in leadership and management positions. With the experience of working closely with elected representatives, CWAS in partnership with WMC initiated to build capacities of elected women representatives for FSSM so that they could make informed decisions. This training was designed and conducted in consultation with sector experts by the CWAS team along with WMC.

Another important area for bringing in gender inclusivity was to make sure that women had access to individual toilets, for which engagement with SHGs was explored for mobilizing applications for individual household toilets. For women residing in slums, women who do not have IHHT and are dependent on community toilets an assessment of all CT/PT through a gender lens was done. The recommendations of this assessment were discussed with WMC to finalize interventions focusing on the needs of women including facilities for Menstrual Hygiene Management (MHM).

WMC has taken ownership of all these interventions, especially the women elected representatives who are now committed to continuing efforts towards ensuring gender inclusivity as part of their work. All these interventions are detailed below.

## 4.2 Identifying areas that needed focus from a gender intentionality lens

The objective of the gender assessment study conducted by CWAS in collaboration with PRIA was to identify gap areas and recommend potential activities that would lead to increased access and agency for women and enable transformation. The PRIA team designed a normative framework and indicators to assess gender interventions in Wai using a 'system theory' approach. The framework broadly covered inputs, throughputs, and outputs considering sanitation service delivery at Wai as a 'system.' This framework presented a roadmap for evaluating the gender component in the organization's work culture and the processes and functions within the gender mainstreaming approach. This assessment also included actionable suggestions and recommendations.

Some of these **recommendations** from the study included:

#### *Access:*

Improving toilet coverage through IHHT for 100% of households, especially ensuring individual toilets construction for SHG households and female-headed households. Refurbishing old public and community toilets (ensuring individual taps for each seat, washbasins, and waste bins in each toilet) and constructing new gender-inclusive toilets.

#### *Sanitation service chain:*

Setting up a system at both consumer and ULB sides to manage faecal waste across the service chain from collection, transportation, and processing.

#### *Data for decision making:*

Collecting gender-disaggregated data on indicators like – the number of IHHT beneficiary households (head/ ownership wise), the number of persons attending capacity building sessions, feedback of users on the level of services at PT/ CT, staff deployed in service delivery, etc.

#### *Strengthening ULBs:*

Use a gender mainstreaming approach for budgeting by allocating at least 5% of the budget from the Women and Child Welfare fund and utilizing the funds for activities related to gender mainstreaming. Multi-stakeholder capacity-building efforts on gender issues and gender-mainstreaming for WMC elected / executive wing, SHGs, CSOs, residential societies, schools, etc. Implementing Sexual Harassment of Women at Workplace (Prevention, Prohibition, and Redressal) Act 2013. A gendered approach to the staffing of sanitation workers for increasing the safety, comfort, and usage of sanitary pad vending machines for women.

#### *Citizen engagement:*

Engaging with citizens while planning for interventions at the city level, with a special focus on Female-Headed Households (FHH) for sanitation service delivery. Developing a system of citizen feedback and grievance related to scheduled emptying, SWM services, CT/PT maintenance, drain cleaning, etc.

#### *Demand generation:*

Awareness and communication campaigns on topics like menstrual hygiene management, septic tank emptying, sanitary waste disposal, etc., for women.

### Monitoring:

Enhancing the monitoring system to capture gender-disaggregated data and tracking elements of gender inclusiveness. Monitoring of public/community toilets on aspects related to the availability of female caretakers/cleaners, provision of MHM facilities, etc.

## 4.3 Guiding principles adopted by WMC for gender intentional and transformative change

CWAS supported WMC to work across the sanitation service chain to implement some of these recommendations. The guiding principles for these interventions were –

- Universal **access** to toilets and sanitation facilities through gender-intentional project plans and service provision.
- Increased **agency** of women by building capacity for decision-making and leadership; formalizing women’s engagement in fecal sludge and septage management (FSSM).
- Institutionalization of engagement of women leading to **transformation**

The graphic below describes the actions taken at different stages of the sanitation service chain to improve access, increase agency, and support transformation for bringing about gender integration in sanitation. Each of these areas has been described in detail below.

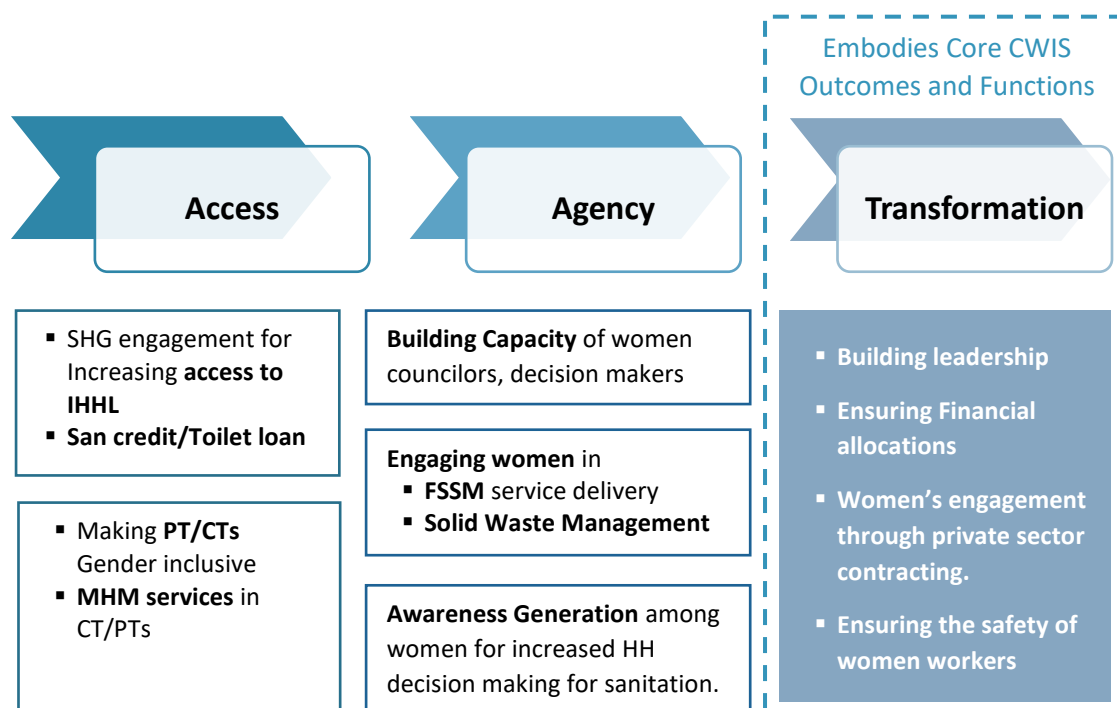


Figure 4.3-1: Detail describe of the action taken up at each stage for gender integration

### 4.3.1 Improving Access

Access to safe sanitation facilities addresses the basic needs and vulnerabilities of women and marginalized groups. Improving access refers to the provision of sanitation infrastructure and services through facilities that are 'gender intentional' and address the needs of women - safety, privacy, cleanliness, and dignity. The emerging focus on IHHT and moving to universal access to toilets should be a strategy to be adopted by governments, as women benefit from these toilets for various reasons such as safety, saving time, better MHM practices, etc. With the goal to make universal access to sanitation facilities a reality, the CWAS team supported the WMC in three areas as detailed below:

#### *Increasing access to IHHT through SHG engagement for IHHT and San credit*

Wai has a good network of SHGs which has been leveraged over the years to increase coverage of individual household toilets for SHG members who do not have toilets. WMC with support from CWAS team have conducted various activities for exploring demand for sanitation loans for HHs who have financial constraints but were willing to construct individual toilets. SHG meetings helped members in identifying the preferred credit options. It was approximated that the women could afford an EMI of Rs.900 per month, based on the average loan amount that they would need to borrow to complete toilet construction.

The exercise was scaled up in 2017 for which an NGO, CHF India Foundation was engaged to mobilize toilet applications to increase coverage of individual toilets and facilitate access to sanitation loans for those with financial constraints. Some of the key activities that were undertaken were: assessment of SHGs in Wai, assess and establish links with potential lenders, awareness generation towards the need of individual toilets, and facilitating access to loans for toilets by linking with financial institutions. The applications mobilised from SHG members were then shared with WMC for further processing. Meetings were conducted with SHG members to understand their interest in involvement for FSSM related activities. Most of the members showed interest to be involved in manufacturing related activities which could be done from home or at some centre. Flexibility in working hours was also observed as one of the key points in getting involved. SHG members mentioned that there is a need to create awareness around FSSM and explain how SHG members could be involved to generate interest.

In the recent COVID pandemic, demand for individual toilets has increased. CWAS team conducted a telephonic survey of SHG members and identified members who did not have individual toilets, this list was shared with WMC for further processing. The efforts have resulted in Wai achieving an IHHT coverage of 85% which was around 68% in 2012.

### *Making community toilets/public toilets gender inclusive*

An Assessment of community and public toilets in Wai was done from a gender lens to suggest recommendations for efficient utilization of existing infrastructure and investments made by WMC, to suggest solutions to WMC for addressing issues such as vandalism, stealing, etc., and to understand the potential of community participation for the management of CT/PTs. Key Recommendations from the assessment highlighted MHM facilities as a major area of intervention, especially for those CTs/PTs which have a high footfall of women.

To address this, WMC with support from CWAS identified community toilet blocks in which MHM facilities could be installed. The existing MHM facilities and the current usage and disposal pattern were studied. The steps of this intervention included:

- Assessment of MHM facilities in CT/PTs to design interventions.
- Assessment of Current operational and disposal mechanism for MHM waste generated.
- Approval for installing MHM facilities in all CT/PTs and beginning with select Pilot CTs.
- Selection of pilot community toilets for installation of MHM facilities
- Institutionalizing allocation and utilization of budget for improving access to all CTs with MHM facilities.

### *MHM facilities installed in CTs/PTs:*

Assessment of MHM facilities in CT/PTs was done to understand usage of facilities and the reason for non-usage both from supply and demand side. CWAS team conducted multiple rounds of discussion with the Chief Officer, President, and other WMC staff to sensitize them on the importance of providing MHM facilities in CT/PTs. As a result, WMC provided approval for procuring and maintaining MHM facilities with financial support from the Women and Child Development funds. The selection of pilot community toilets by CWAS for installation of MHM facilities was done using the below criteria:

- CTs falling in vulnerable areas (slum areas).
- CTs in areas where HHs have space constraints to construct IHHTs identified based on the field notes of WMC staff responsible for SBM IHHT work, and qualitative discussions in these areas by the CWAS team. CTs in these areas were screened.
- CTs having high footfall identified during the CT/PT infrastructure assessment.
- CTs that have proper conditions for the installation of the MHM machines e.g., covered space, electrical point, etc.
- CTs that are spatially spread across different wards.

For operations and management of the installed MHM facilities, **SHGs** were engaged. SHGs played an important role in monitoring and maintaining the MHM facilities. To encourage more SHG women



participation, O&M contracts were strengthened to make them more inclusive. Gender friendly clauses on safety and dignity of sanitation workers, community engagement, gender inclusivity, were added. The project is also exploring to engage SHGs in the production of sanitary pads. Extensive awareness generation on MHM facilities and the use of MHM machines is being conducted through posters, flyers, and other communication resources.



Figure 4.3-2: Women using vending machine and SHG meeting in progress

### 4.3.2 Increasing Agency

Increasing women’s agency in sanitation includes programs and interventions that build assets, capability, and opportunities for women and marginalized groups. ‘Agency’ looks beyond access and focuses on whether women are actively involved in developing local policies related to sanitation, in the local government, or even in other places. At the household level, it would mean that women are able to influence and make decisions on constructing IHHT or getting the septic tanks desludged. In Wai, the collective power of women’s SHGs was leveraged to advance gender integration in sanitation facilities and services.

#### *Increasing agency through building capacity*

As per the Maharashtra Municipalities Act, 1965, it is mandatory to have 50% representation of women among the elected representatives, due to which there is equal representation of women in the elected wing. There is provision for 30% reservation for women in government and semi-government posts, therefore leading to good representation of women at Class 2 and Class 3 level officers. Under the Class 4 category of government services, which is mainly sanitation workers, the representation of women is low.

CWAS team conducted a detailed assessment of the institutional structure of WMC. Based on this assessment it was found that although there is ample representation of women, there was immense scope for building the capacity of the women officials and elected representatives on sanitation related aspects with a gender lens. Capacity building of councillors was identified as a major area of intervention. CWAS supported WMC in undertaking the following interventions for building capacities of women officials.

*Workshop conducted for councillors:*

A two-day orientation workshop focusing on FSSM interventions in Wai along with some exposure to basic technical terminologies was organized for the councillors. The workshop had a session on municipal acts and laws which are applicable to FSSM and a session on gender inclusivity and communication skills. The training also included field demonstration visits to orient participants toward scheduled desludging and treatment operations. This workshop served as a platform for interaction between sector experts and councillors that helped them to enhance their capacities in fulfilling their role as elected members of the council.

Women councillors were very enthusiastic and actively participated in the workshop. They also expressed interest in increasing their involvement in Faecal Sludge and Septage Management (FSSM). They interacted with the citizens during the scheduled desludging demonstration to understand citizen's responses about the services. The councillors suggested that similar workshops should be conducted for all elected representatives for a better understanding of FSSM.



*Figure 4.3-3: Women councillors workshop and interaction with citizens*

*Handholding support for implementation and monitoring of FSSM to the WMC:*

CWAS provided handholding support to decision makers of the WMC such as the Chief Officer, President, and Sanitation Committee Chairperson, and executive officers like the engineers and city

coordinator through regular meetings and discussions. These included orientation on various activities under FSSM and CWIS through regular review meetings which have facilitated an improved understanding of the sanitation work in Wai, leading to better decision-making and increased ownership. A summary of engagement with different stakeholders has been outlined below –

- For the President, awareness and understanding of the programs and activities helped in getting resolutions passed at the General Body Meetings (GBM) and **increased ownership** of the sanitation program.
- The Chief officer through regular review meetings was oriented on the operational aspects of FSSM including the monitoring mechanisms of the scheduled desludging services and treatment. She also got the technical support required from CWAS for applying for sanctions and liaising with the state-level mission office.
- The orientation through review meetings helped the Chairperson of the Sanitation Committee in presenting sanitation related issues better at the GBM.
- The city water supply and sanitation engineer received training and assistance in day-to-day functions for FSSM. She was a part of regular discussions, review meetings, and training on monitoring apps like SaniTab and SaniTrack; operation and maintenance of the FSTP and its technology; assimilating data for SBM validation and PAS-SLB data validation.
- The City Coordinator, who is a key resource person for SBM related work at WMC has been oriented on the use of PAS-SLB data and other related works. She has been active in coordinating individual toilet applications that have to be reported to the State mission directorate.

#### *Participation of women in FSSM activities in Wai:*

With the support from Wai municipal council a conducive environment was created to enable women and make them comfortable in working for FSSM related activities. Private agencies which were engaged under PPP model for desludging and maintaining Faecal Sludge Treatment Plants (FSTP), recruited female staff as supervisors and site-in-charge of FSTP to encourage women leadership and their agency or engagement in sanitation services. Women with support from WMC and private operators have excelled in their work and have represented WMC on various platforms. These women have now been recognized for breaking perceived barriers and have been featured in the 'Frontline: Stories of Resilience of India's Sanitation Champions' book which was launched by MoHUA on October 2<sup>nd</sup>, 2020, Swachh Bharat Diwas.

To increase women's participation, more recently, women SHGs were contracted for O&M of urban forest areas at the FSTP (Faecal sludge treatment plant). The tender floated by WMC was exclusively for women SHGs.

*Awareness generation among women citizens on FSSM:*

To raise awareness amongst women and in the process, build their agency to make informed decisions, the CWAS team conducted awareness generation sessions in the area where scheduled desludging operations were ongoing. While providing desludging services, it was observed that in most of the cases, only women members of the household were at home when the truck arrived. It was thus important to make them aware about the services for increasing the acceptance rate. The CWAS team along with the private desludging company conducted small group sessions with citizens and explained the importance of desludging septic tanks every 3 years. Easy-to-understand awareness materials were designed in the local language and distributed to serve as a starting point for initiating discussions. It was observed that women who showed interest during the awareness generation sessions also briefed their family members and neighbours, which led to wider dissemination about FSSM. Due to such regular and one-to-one awareness generation interactions, women citizens have been able to influence or make decisions regarding the safety and overall well-being of their households.



Figure 4.3-4: Raising awareness about scheduled desludging through using awareness material

*Capturing gender-specific data during desludging operations:*

The project team initiated capturing gender-specific data in the Sani tab app during the desludging operations. The Sani-tab app has provisions for recording the gender of the person/family member, who responded to the desludging team, and the one who supervised the emptying process, to collect gender-bifurcated data. Analysis of this data would help in assessing the involvement and ownership of women in sanitation-related activities.

### 4.3.3 Driving Transformation

CWAS supported WMC in driving transformation through programs and interventions that address unequal power relations and seek legal, institutional, and societal level change. Transformation goes beyond institutional engagement to initiate programs that engage with multiple stakeholders, especially men and children for creating an empowering ecosystem for women. Transformation could be achieved through the identification of relevant schemes, and policies and working towards a robust on-ground implementation. Policy convergence, institutional restructuring, and scaling up good practices are critical to moving from agency to transformation. To facilitate transformation CWAS supported WMC in planning and executing the interventions detailed below -

#### *Interventions for women to move from 'Access' to 'Agency' to 'Transformation'*

Based on the gender assessment study conducted by PRIA, focus areas and activities were identified which could potentially lead to enabling agency and transformation for women in Wai. The recommendations were implemented by WMC with support from CWAS.

- Building leadership and increasing participation of women at WMC on various national and international platforms.
- Institutionalizing allocation and utilization of budget for improving access to all CTs for women.
- Advocating inclusion of clauses for encouraging women's engagement in Contracts of the sanitation department of WMC.
- Provision of work and gender specific PPE for sanitation workers included in all contracts of sanitation dept of WMC.

#### *Disseminating knowledge on Wai's experience of gender inclusion in sanitation*

CWAS supported in building knowledge products documenting Wai's experience of increasing the participation of women across sanitation service chain and resources related to gender inclusion, which were made publicly available, disseminated through social media, represented at various platforms, and dissemination events. A campaign for recognizing women as 'Sanitation Champions' of Wai was launched on Twitter to acknowledge the participation of women in FSSM. Decision makers and executive officers shared the process, progress, and learnings in Wai at various workshops and conferences leading to increased ownership and sustainability of efforts.

### *Institutionalizing allocation and utilization of budget for improving all CTs with MHM facilities*

The GoM had made it compulsory for all the Councils to allot and utilize 5% of the revenue budget for women and child welfare. However, in Wai CWAS study of budgets indicated that the allocated budget was underutilized. The CWAS team discussed the possibility of using the funds for various activities related to gender inclusivity. One of them was making the CTs and PTs gender inclusive by the provision of appropriate MHM infrastructure. CWAS team supported WMC to make a detailed estimate of the funds required for this proposal, to facilitate approvals during the general body meeting. WMC agreed to effectively utilize the allocated funds for other activities related to women and child welfare in the future. SHG women are now engaged to operate and maintain the MHM facilities installed at 6 CTs/PTs. Based on the success of this engagement, WMC plans to replicate this model in few other CTs.

### *Facilitating women's engagement in contracts of the sanitation department of WMC*

With an aim to encourage women's involvement in the sanitation sector, the CWAS team discussed and sensitized the possibility of engaging women workers or SHG members for FSSM or SWM related activities with WMC. Women SHGs members were engaged to manage MHM facilities and O&M of urban forest at FSTP site. To further encourage and ensure women's formal engagement, the CWAS team supported WMC to draft appropriate clauses and add them to some of the tenders and contract documents of the sanitation department.

### *Provision of PPE for all sanitation workers especially women in all tender and contracts of WMC*

Sanitation workers provide important sanitation services often at the cost of their safety and health. A study of sanitation workers, their access to PPEs, and their usage was conducted by the CWAS team with the support of WMC. The study found that the overall usage of PPEs by sanitation workers was low. One of the primary reasons was that the PPEs provided were not work-specific and user-friendly. Qualitative discussions with women workers revealed that the provided PPEs did not meet their specific needs. CWAS team also found that the contract documents did not include any clauses related to the provision and replacement of PPEs. To address this issue, the CWAS team supported WMC to draft clauses related to the provision of work-specific PPEs and include them in their tender and contract documents. CWAS also supported WMC to institutionalize mechanisms for monitoring and replacement of PPEs from time to time. WMC added a clause in all contracts that states 'All workers (especially women) should be given ISI marked PPEs every time they are at work and ensure its usage.'

#### 4.3.4 Way ahead for advancing and scaling gender integration in sanitation

**Guided by the CWIS principles, CWAS team will continue to advocate, support, and bring ownership towards gender inclusivity initiatives at WMC.** Based on their experience of supporting the WMC on various aspects of women’s inclusivity, the CWAS team works with the key state and city level decision makers to further strengthen these efforts. The broader objective towards the way forward would be to amplify the interventions initiated and advocate for empowered outcomes for gender inclusivity at all levels. Some key initiatives for scaling gender integration across the sanitation service chain are outlined below:

*Table 4.3-1: Key initiatives for scaling gender integration across sanitation service chain*

Access	Agency	Transformation
Continue to Improve access to individual toilets, especially for women headed HHs.	Continue to work towards making WMC a more gender-inclusive organization and workplace	Moving from incorporating ‘gender inclusion’ at a policy level (in vision and charters) leading to developing interventions that are gender inclusive.
Addressing sanitary waste management across the Solid Waste Management service chain	Engaging with citizen groups, especially women, during project planning and integrating their viewpoint and voice and participation in implementation.	Setting up a culture of capturing gender-disaggregated data and using it as a decision support system: This will help WMC in planning, developing, and implementing a gender-inclusive service delivery.
Awareness generation and communication campaigns on topics like menstrual hygiene management, especially for women.	Multi-stakeholder capacity building through workshops on gender issues. Gender mainstreaming efforts with other stakeholders like SHGs, CSOs, residential societies, schools, etc.	Advocating for and ensuring the inclusion of clauses for encouraging women’s engagement in Contracts of sanitation department of WMC; Supporting formal engagement of SHGs by WMC for provision of sanitation related services in the city.





## 5 Sanitation Worker's Safety and Upliftment in the City of Wai

Sanitation workers play the most critical role in providing sanitation services to citizens while facing several health and safety risks, sometimes even to their life, due to their working conditions. This is compounded by financial challenges, stigma, and social discrimination due to the nature of their work. Wai Municipal Council (WMC) realized this, and, with support from CWAS, CEPT University, has taken several steps to ensure the safety and dignity of sanitation workers and improvement in the overall working conditions.

In 2018, Wai was chosen as one of the eight cities across the globe for the City-Wide Inclusive Sanitation Program (CWIS) funded by Bill & Melinda Gates Foundation (BMGF). WMC is implementing the CWIS program in the city following CWIS principles and with technical support from CWAS, CEPT University. Under the CWIS service framework, one of core outcome is Safety. As per the CWIS principles of 'safety', human waste needs to be managed safely along the sanitation service chain, - containment, collection, transport, and treatment, and is safe for the environment, communities, and the workers handling it. To achieve these outcomes, it is essential that infrastructure and delivery systems protect workers, households, and the environment across the service chain.

This section details the steps taken and work executed by WMC with support from CWAS under the project for ensuring the safety, dignity, and overall working conditions of sanitation workers. It also covers the preparedness of WMC for the containment of COVID – 19, and, protecting front-line workers & vulnerable groups, while ensuring regular FSSM services.

An assessment study was undertaken by CWAS with support from the WMC to understand the current state and working conditions of sanitation workers, their use of Personal Protective Equipment (PPE), and other issues and challenges that they face. The findings of the study were used to draft recommendations for WMC and led to the development of a detailed plan of action by the WMC followed by concrete actions. CWAS team supported WMC to implement some of the measures, including instituting policies, guidelines, and regulations for the provision of PPE kits and other safety gear, and, their replacement as and when needed; sensitization and orientation of contractors, supervisors, and sanitation workers on the use of PPE; regularizing health camps and counseling sessions; covering the sanitation workers under the social security net; and instituting monitoring mechanisms. This has resulted in an overall improvement in the working conditions of all sanitation workers across the FSSM value chain in Wai.

This section also showcases how sanitation worker safety has been institutionalized in Wai. The three phases in the journey of WMC to improve the working conditions of sanitation workers - assessment, recommendations, and implementation – have been detailed in the sections below. A sub-section detailing the preparedness of WMC for the containment of COVID-19, protecting front-line workers & vulnerable groups, while ensuring regular FSSM services has also been covered.

## 5.1 Assessment: Understanding the Sanitation Worker Ecosystem

The study began in 2020 with an assessment phase focusing on the sanitation worker ecosystem and the usage of PPE. This included:

### 5.1.1 Profiling of sanitation workers:

To understand the number of sanitation workers, activities they are involved in, type of employment, benefits they receive. Out of the 102 sanitation workers in Wai, 37 were on the WMC payroll, while the rest of them were through private operators and contractors. The sanitation workers under WMC got comparatively more benefits than those employed by private labor suppliers. The sanitation workers were employed in 12 different activities for FSSM, SWM, and other cleaning-related work. The 4 types of engagements for sanitation workers are detailed in the table below –

Table 5.1-1: Types of engagement for sanitation workers

Employer	Nature of contract	Type of work
<b>Wai Municipal Council</b>	<ul style="list-style-type: none"> <li>Managed completely by WMC,</li> <li>Sanitation Workers on WMC payroll</li> </ul>	<ul style="list-style-type: none"> <li>CT/PT septic tank desludging</li> <li>Road sweeping, drain cleaning, and grass/tree maintenance along roads.</li> </ul>
<b>Labour supplier</b>	<ul style="list-style-type: none"> <li>Contractors only for labor supply</li> <li>Informally employ sanitation workers</li> </ul>	<ul style="list-style-type: none"> <li>Door-to-door collection of waste and transportation to the SWM site</li> <li>Road, sweeping, drain cleaning, drivers for SWM vehicles</li> </ul>
<b>Private Operators</b>	<ul style="list-style-type: none"> <li>Operations run directly by private operators for profit.</li> <li>Informal agreements with SWs</li> </ul>	<ul style="list-style-type: none"> <li>Operation and maintenance of all community toilets (CT), WMC school toilets, and 1 public toilet (PT)</li> </ul>
<b>PPP/Service contracts</b>	<ul style="list-style-type: none"> <li>Multi-year service contracts.</li> </ul>	<ul style="list-style-type: none"> <li>Desludging of septic tanks for all properties within the WMC boundary</li> <li>Operations and maintenance of FSTP</li> </ul>

### 5.1.2 Assessment of contracts and guidelines

There were three contracts related to FSSM given to private operators and labour suppliers from WMC. A detailed assessment of all contracts of the sanitation department was undertaken with a special focus on the provision and usage of PPE. The aim was to assess the scope for improvement in these contracts and suggest corrective action to WMC. Two of the contracts of private operators had no clauses for PPE provision and its monitoring and replacement. Only one contract for scheduled desludging had a clause on the use of PPE for sanitation workers. Monitoring of the usage of PPE was not followed systematically by any of the three contractors.

A detailed assessment of guidelines on sanitation and SWM with a focus on PPE was conducted. The reviewed guidelines included the following -

- Advisory on Community and Public Toilets, 2018, MoHUA (technical collaboration with GIZ)
- Standard Operating Procedures (SOP) For Cleaning of Sewers and Septic Tanks, 2018, (CPHEEO, MoHUA)
- SBM Municipal Solid Waste Management Manual, 2016 (CPHEEO, technical collaboration with GIZ)

After assessing the guidelines, a list of all types of PPE required according to the activity that the sanitation worker(s) were involved in was prepared. This list helped in procuring PPE for the sanitation workers and was used by WMC in all contracts for mandatory provision of requisite PPE to all workers. The findings of the assessment were utilized for the preparation of the revised tender by WMC for purchasing PPE and PPE-related resource materials. This list was also used as a guidance for the distribution of PPE gear during the workshop of sanitation workers at Wai.

### 5.1.3 Qualitative discussion with sanitation workers and PPE wholesalers

The CWAS team engaged with all sanitation workers to understand the current usage patterns of the PPE and barriers. Qualitative discussions were conducted to assess the types of PPE provided, issues faced in using them, existing systems for replacement of PPE, and monitoring mechanisms. Discussion with PPE wholesalers was conducted to assess user-friendly gears, make cost comparisons, availability of vendors, etc. The existing mechanisms for monitoring were studied in detail to identify the gap areas/areas that required support. The findings of the assessment study included:

- Contracts did not include PPE-related clauses: The contracts of the two private employers who employ the highest numbers of workers did not have any clauses for PPE provision as well as for usage. There was scope for including specific PPE-related clauses for workers employed by the private sector.

- Work-specific PPE with an adequate replacement not provided: Government guidelines specify the different types of PPE that need to be used while performing different activities that are easily available. However, workers were not provided with the right kind of PPE for the specific activity they perform. Additionally, there was no replacement regime in place in cases where PPE was provided.
- Systematic monitoring of PPE usage was absent: PPE usage by sanitary workers was not being monitored by WMC and/or private contractors. This led to very low usage among workers.
- Awareness of the importance of PPE usage was low: Awareness among workers of the health impacts of not using PPE was low; some of them did not feel the need to use PPE. Training on the correct use and maintenance of PPE had also not been conducted for most workers.

## 5.2 Actions taken for ensuring safety of sanitary workers in Wai

Based on the findings from the assessment, CWAS, with support from WMC, evaluated, and prioritized high-impact, actionable solutions which were implemented. The broad outline of the work done by the CWAS and WMC is depicted below, and each of these activities is detailed in the following sections.

Adequate availability of appropriate PPE			
PPE clause drafted and included in all contracts		Revision of PPE procurement tender notice and work order	
Improving monitoring of PPE usage and replacement			
Sanitation supervisors to monitor PPE usage - monitoring register	SaniTab app to monitor PPE usage and document data generated	Replacement regime for PPE improved	
Generating awareness about PPE			
PPE procured and distributed to all sanitation workers	Training and orientation workshop on safety at workplace	Health camp and counselling sessions	Resource materials on PPE usage and maintenance

Figure 5.2-1: Sub components of action taken up for sanitation worker safety

### 5.2.1 Inclusion of PPE clauses for all contracts of the sanitation department

CWAS team conducted secondary research of the contracts of other ULBs/Municipal councils of the state of Maharashtra and other organizations to study their PPE clause. A brainstorming session with WMC officials was also conducted by the CWAS team, after which the clauses were drafted for the provision and usage of PPEs. The new clauses focused on -

- Adequate quantity of all types of PPE to be provided to sanitary workers according to the type of work they are engaged in.
- Ensuring PPE usage by sanitary workers with a penalty for non-compliance.
- Monitoring and reporting mechanism for PPE usage/provision/replacement.

The clauses drafted were then fine-tuned and finalized after discussion with the Chief Officer and were included for the labour contracts of SWM, drain cleaning, and road sweeping.

### 5.2.2 Revision of PPE procurement tender notice and work order

WMC used to procure the same set of PPEs for all sanitation workers, irrespective of the type of work they were engaged in and notwithstanding the type of PPEs that would be suitable for them. Based on the assessment of guidelines related to PPE, and, from the qualitative discussions with the sanitation workers and the PPE vendors, a list of mandatory PPEs according to different activities across the sanitation service chain was prepared. Existing PPE tender notice and work orders for PPE procurement were assessed. Revised tender notice, tender form, and work order for PPE procurement were drafted and shared with WMC. These documents were to be used for future procurements of PPE for sanitation workers who are employed with WMC. The quantities of PPE in this tender also considered the replacement cycles wherein some gears like masks and gloves were to be procured in larger numbers than the requirement, to have a buffer stock.

### 5.2.3 PPE monitoring was included as one of the responsibilities of sanitation supervisors of WMC

Based on the assessment and qualitative discussions with the sanitation workers, it was found that systematic monitoring of PPE usage was not happening. The three sanitation supervisors used an attendance register which only had a few notes on the activities to be conducted by each worker assigned to them. This old register was replaced with an improved version. Additions and improvements were made to the data recording format and processes being used by the sanitation supervisors. A section was added on monitoring the usage of PPE by sanitation workers. This monitoring report was to be submitted to the Sanitation Inspector for checking. The new monitoring

Register was given to all the 3 Sanitation supervisors for use, and suggestions received by them for the improvement of the format were incorporated.

#### 5.2.4 SaniTab app is used to monitor PPE usage

CWAS team supported WMC to monitor the usage of PPE by sanitation workers through the SaniTab app through periodic surveys. The data from the SaniTab app was analysed and documented and shared with WMC. The WMC used this data to make critical decisions for further improving PPE usage amongst sanitation workers.

#### 5.2.5 A replacement regime of PPE set in place for WMC sanitation workers

The assessments done by CWAS showed that WMC did not have a replacement regime in place. Distribution of PPE was a one-time activity, after which workers did not get any replacements in case of damage/wear and tear of the PPE. CWAS supported WMC in preparing a distribution and replacement regime.

#### 5.2.6 Training and orientation workshop on safety at workplace conducted for all sanitation workers

Regular workshops were organized by WMC with support from CWAS with the objective to orient sanitation workers toward the importance of using personal protective equipment (PPE). The workshop also aimed at acknowledging the importance of the work that sanitation workers did and attempting to provide dignity to their work. The workshops were used as a platform for WMC to felicitate and appreciate the sanitation workers.

During these training workshop PPEs were distributed to all sanitation workers. It was found, during the qualitative discussions with the sanitation workers that some of them did not have any PPE, especially those employed by the private labour contractor, while some others who had PPEs chose not to use it because of behavioural barriers. Keeping this in mind, PPE gears were procured and distributed to all sanitation workers during the workshop conducted by WMC. The PPE gear distributed to each sanitation worker was in accordance with the type of work they were engaged in and as per the guidelines. A demonstration on the proper use of these PPE gears was also given.

**Health camp and counselling sessions were also organized as part of the workshop for all sanitation workers.** The health camp was conducted by medical practitioners from Wai who also had experience in sanitation worker's health and safety. The health check-up included height, weight, blood pressure, ENT, and blood sugar level (random). Tetanus vaccination camp was also conducted for all workers.



Figure 5.2-2: PPE distribution and health checkup camps for sanitation workers

Medical prescriptions were given to workers who had ailments. Counselling sessions were also undertaken with a focus on deaddiction and the importance of having a healthy lifestyle.

### 5.2.7 Resource materials designed and used for sanitation workers on PPE usage and maintenance

These resources are mainly in the form of flyers and posters, which were used extensively during the training workshop. The posters have been displayed in the health department which is visited by most of the sanitation workers.

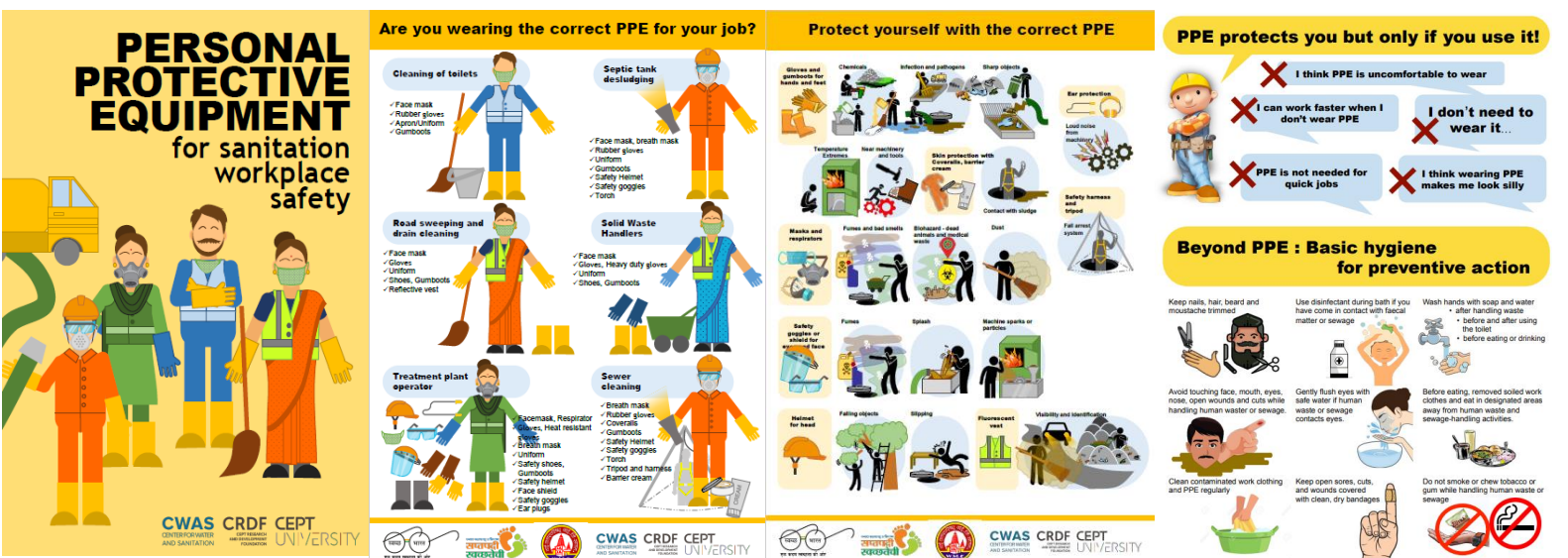


Figure 5.2-3: Flyers and Poster for PPE usage and awareness generation

## 5.3 Institutionalization of interventions for the safety of sanitary workers

WMC succeeded in institutionalizing the interventions with support from CWAS and aims to keep the momentum going. WMC was able to implement the interventions because there was a sense of acknowledgment that the safety of sanitation workers is important, and secondly, there is scope for improvement in making their working conditions better.

The approach that was taken by WMC along with CWAS was to make the interventions sustainable by integrating them into the existing systems; for e.g., the task of monitoring PPE usage was added to the responsibility of WMC supervisors who were already recording attendance and work done.

Since the private sector employs 60% of the sanitation workers in Wai, it was also important to institutionalize the safety of such workers, which was done by including PPE specific clauses in all contracts of the sanitation department.



WMC adopted measures of building 'accountability' through existing system of monitoring the use of PPEs.



Safety functions were institutionalized and executed by integrating workers safety in adequate clauses in the contracts with the private sector and of the sanitation department.





## 5.4 Measures taken during these years for Sanitation Worker's Safety led to better preparedness and management of COVID-19 by WMC

Maharashtra was one of the worst affected states from Covid-19 pandemic. People witnessed extensive distress during the lockdown, and sanitary services were disrupted in many places. With directives from the State Government, the municipal council of Wai proactively adopted measures to prevent the pandemic from spreading, ensured containment and quarantine in badly affected areas, yet provided uninterrupted basic services, including emergency septic tank emptying, scheduled desludging of septic tanks, FSTP operations and protecting sanitation workers who were working on the front lines to safeguard citizens. The activities from WMC were categorized into the following –

### 5.4.1 General city-level response to Covid-19

During the Covid-19 pandemic, WMC focused on containment, encouraging people to maintain social distancing, and spreading awareness on the preventive measures. A detailed containment plan and three rapid response teams were prepared by the council. Sanitization of public places, streets, offices, etc., was done regularly for disinfection. WMC published and circulated the list of vendors for home delivery of milk, vegetables, groceries, and other necessary items. A list of BPL card holders was prepared by the WMC, and food security was ensured by providing rations to them daily.

### 5.4.2 Ensuring regular FSSM services

During the Covid-19 pandemic, as an essential public service, sanitation services were being carried out regularly in Wai. To ensure smooth operations, WMC issued special ID cards and permission letters to sanitation workers, supervisors, contractors, and sanitation department staff. Emptying and cleaning of septic tanks of CT/PT and at the household level under the scheduled desludging operation was carried out by the council on a daily basis. FSTP was also operational, and the septage was being processed. The sanitation workers were provided with appropriate PPEs, which were used during the service to avoid any spread of infections to sanitation workers and household members. Regular cleaning of CT/PTs was taking place, and the citizens were made aware to maintain personal hygiene after using the CT/PT. The workers were educated to assess any symptoms of Covid and report them immediately.



Figure 5.4-1: FSSM services in Wai during Covid-19

### 5.4.3 Protecting front-line workers & vulnerable groups during Covid-19

Protecting the front-line workers and vulnerable groups was a priority for WMC during the Covid-19 pandemic. Regular meetings and sessions were conducted for sanitation workers, to make them aware of the health risks and their preventive measures. They were provided with PPE (masks, gloves, and soap) and were encouraged to use them on duty. The CWAS team supported the Council to ensure that all Sanitation workers had the required number of PPEs, to cater for 3 months of usage being replenished regularly as required.



Figure 5.4-2: Sanitation workers trained and using PPE for their work regularly

## 5.4.4 Way ahead

WMC aims to keep further improving by planning and implementing more concrete actions toward the safety of sanitation workers. Some of the action points identified for the future are:

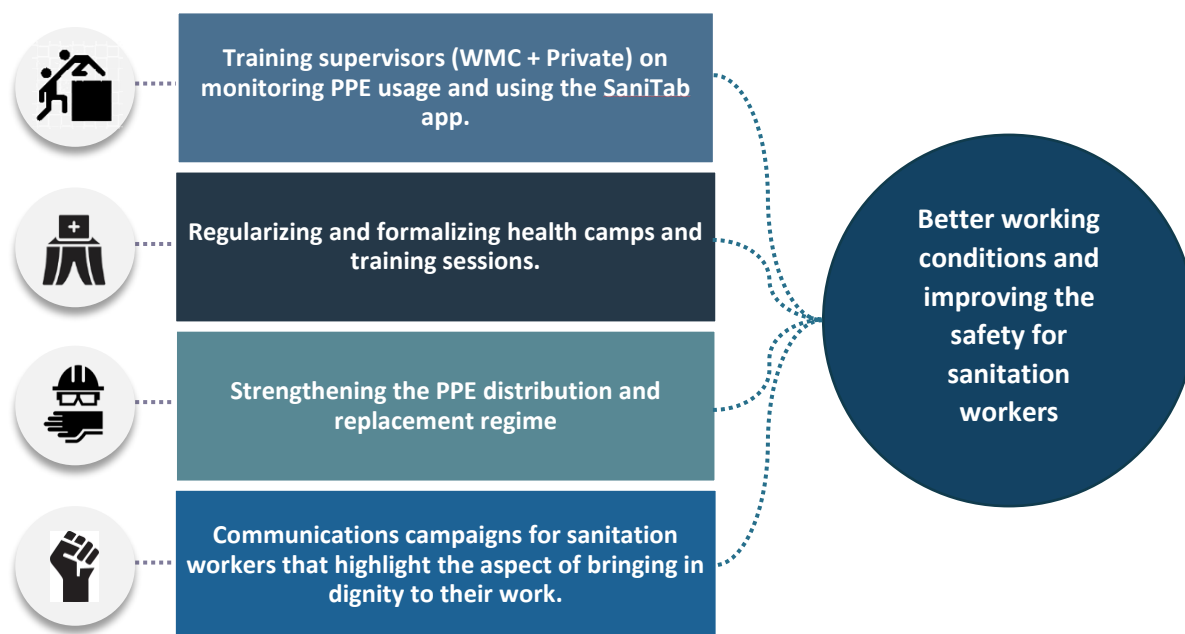


Figure 5.4-3: Action towards improving the safety of sanitation workers

## 5.5 Key learnings for replication and scaling efforts towards sanitation workers safety

Some key learnings have been derived based on the studies undertaken and interventions that WMC implemented to improve safety and working conditions for sanitation workers. The successful implementation of interventions by WMC, as suggested by CWAS, has led to the council staff now acknowledging the fact that the safety of sanitation workers is important. Through the journey of improving the safety of sanitation workers, there has been a shift in the mindset of decision-makers towards sanitation workers. Some key learning that could be applied to other cities that want to improve the safety of sanitation workers are listed below –

- **Data on sanitation workers ecosystem:** Collect real-time data on sanitation workers, service providers, PPE provision, replacement frequency, etc., to enable efficient and effective response.

- **Adopt a holistic approach:** The problem of PPE non-usage is multi-dimensional- including technology, governance, and behaviour change barriers. A holistic approach to address all of these, along with effective participation from other stakeholders, is required to address some of the issues of sanitation workers' safety.
- **Provide PPE adequately and monitor diligently:** Provide adequate PPE gear suitable to the nature/type of work to all sanitation workers, with a special focus on those employed through the private sector. Set up monitoring and replacement regime by instituting adequate clauses in the contracts with the private sector.
- **Acknowledge their work:** Have a positive attitude towards sanitation workers, consider them as assets, acknowledge their work and bring dignity to them.



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## 6 Innovative Financing Mechanisms for Implementing CWIS in Wai

Availability and sustainability of resources are much-needed components for the success of any program. This section details the innovative financial mechanism and resource planning and management that the CWIS project at Wai has adapted to have a sustainable financial flow through the participation of the communities, including the introduction of a sanitation tax to partially cover the operating expenses of Faecal Sludge and Septage Management (FSSM). It will also cover WMC's initiative of introducing the Performance Linked Annuity Model (PLAM) for regularizing scheduled desludging services where payments to the private partner are made on achieving agreed targets through an Escrow account for minimizing delay in payments. These innovative financial initiatives helped sustain quality service delivery under the sanitation program.

### 6.1 Fund flow to the Sanitation department of the Wai Municipal Council

The municipal councils receive funds from multiple sources to accomplish the development and maintenance of infrastructure, operations, and management of facilities, for partnerships, innovations, monitoring, and paying salaries. Some of the major sources of receiving funds for the sanitation department of WMC are as below-

#### 6.1.1 National funds

The sanitation program of the municipal council receives funds under the Central government scheme 'Swachh Bharat Urban.' The funds are allotted for the construction of Individual Household Toilets and Community toilet complexes. Funds in the form of Finance Commission Grants also are distributed to ULBs.

#### 6.1.2 State Government

The WMC is mainly dependent on grants from the Govt. of Maharashtra, which contributes two-thirds of its revenue receipts. The major grants received by the WMC include compensation in lieu of octroi, dearness allowance grants, Nagar Parishad assistance, mudranshulka (stamp duty), entertainment tax grants, etc. Most of these grants are a predictable source of income for the WMC.

### 6.1.3 Municipal council funds (Own Sources)

Amongst its own sources, property tax, water tax, and other local taxes are the major sources of revenue. The major non-tax source comprises rents from municipal properties. The WMC transfers internal surplus from the non-WSS accounts to meet the shortfalls in the WSS sectors and fulfil both capital and revenue expenditure requirements for the water, sanitation, and solid waste (WSS) sectors.

Funds from **CSR and private sources** are also received occasionally but are not predictable sources; hence they cannot be accounted for in the planning of activities of the department. Annual planning of activities, based on the infrastructure and public service requirements of citizens, becomes the basis of estimation for the budget requirement.

## 6.2 Resource Planning: Development of a City Investment Plan (10 years) to ensure the financial sustainability of WMC

The City Sanitation Investment Plan (CSIP) for Wai is a multi-year scheduling and financial planning of sanitation infrastructure investments. The CSIP provided a link between the municipality's strategic vision, local priorities, and its annual budget and it assessed the city's ability to undertake capital investments for sanitation projects and to fund operational obligations. Existing service levels for sanitation projects were assessed for WMC based on which new projects were proposed to enhance the sanitation service levels. Overall capital cost and O&M costs were calculated for the existing and future projects to weave in the investment plan.



Effective **resource planning and management** are required so that mandated entities are sufficiently resourced to be able to fulfil their mandate. Resource planning is explicitly linked to the other CWIS functions – responsibility and accountability.

Figure 6.2-1: FSTP at Wai

The CSIP has been prepared for a duration of ten years (2019 to 2029) using SANIPLAN, a model developed by the CWAS team. The investment plan was prepared through desk-based research, analysis and discussions with the Accountant, Tax Inspector & Heads of the Water Supply & Sanitation dept. of WMC and private stakeholders like Chartered Accountants. The financial health of WMC was studied through a detailed assessment of municipal budgets, balance sheets, and annual financial statements. Accounting and budgeting practices and processes were also reviewed in detail. The investment plan was prepared keeping in mind the local priorities and capacity to implement. The plan covered the capital and operational financial requirements for already planned activities along with new projects and activities coming up to improve sanitation services in Wai. Some of the planned activities under the CIP to improve sanitation services are detailed below–

### 6.2.1 Construction of individual household toilets (to achieve 90-95% coverage)

WMC to increase the coverage of IHHT from 86% to 100%, with a focus on non-slum households, as the slum IHHT were constructed under the IHSDP and are to be covered PMAY scheme. It was assessed that around 1200 households are dependent on community toilets and will require IHHT facilities. The approximate cost of the construction was estimated to be around **INR 30 million**, out of which the ULB share was 29%, central and state SBM funds at 34%, and 37% was estimated to be the beneficiary share<sup>13</sup>. With the construction of IHHT, the dependency on CTs will reduce, and Wai will be able to reduce its community toilet O&M expenses by 50%. The households with space constraints may use the existing community toilets as ‘group toilets’ where a group of households will have access to their designated toilet with lock and key.

### 6.2.2 Operation and maintenance of Faecal Sludge Treatment Plant

From donor funding a Bangalore based company Tide Technocrats has set up a septage treatment facility of 70,000 litres capacity in Wai. Both Capex and Opex are being provided by Tide technocrats, and the operations will be handed over to WMC for further management. The council needs **INR 4 million per annum** for FSSM O&M cost, including INR 1.6 million for scheduled desludging cost and INR 2.4 million for FSTP cost. To maintain the landscaping of FSTP, a cost of INR 0.4-0.5 million per annum was estimated<sup>14</sup>.

<sup>13</sup> [https://cwas.org.in/resources/file\\_manager/City\\_Sanitation\\_Investment\\_Plan\\_for\\_Wai.pdf](https://cwas.org.in/resources/file_manager/City_Sanitation_Investment_Plan_for_Wai.pdf)

<sup>14</sup> [https://cwas.org.in/resources/file\\_manager/City\\_Sanitation\\_Investment\\_Plan\\_for\\_Wai.pdf](https://cwas.org.in/resources/file_manager/City_Sanitation_Investment_Plan_for_Wai.pdf)



### 6.2.3 Upgradation of open surface drains to closed drains for stormwater drainage

WMC planned to upgrade its existing open surface storm water drains to covered drains. The project was planned to be funded under Nagri Dalittetar Vasti Sudharna Yojana. The overall cost of the project was INR **4.1 million**. WMC also plans to construct new storm water drains and tar roads at various strategic locations. The overall cost of the project is estimated to be **INR 6.5 million**, and the project is to be funded under Maharashtra Suvarna Jayanti Nagarothan Maha abhiyan (District level) (90:10)



Figure 6.2-2: Open Surface drains in Wai

### 6.2.4 Laying of new settled sewer for wastewater conveyance and a treatment plant

To achieve the water+ protocol, the city also planned to construct settled sewers to provide safe conveyance and treatment of greywater and septic tank effluent. The greywater and effluent of septic tanks were conveyed through open drains and disposed in rivers without any treatment. The city plans to construct a small-bore sewer system to convey greywater from bathrooms, kitchens, and septic tank effluent, which will be treated through the treatment plant. The capacity of the proposed STP is 6.3 MLD, and the length of the network is 40.61 km. The overall cost of laying the network is approximately INR **393.8 million** and the treatment plant is INR **54 million**, which includes the cost of construction (Source: *Wai Settled Sewer DPR, 2017*). The project is awaiting technical sanction and is proposed to be funded under the Maharashtra Suvarna Jayanti Nagarothan Maha-Abhiyan Scheme (District level)

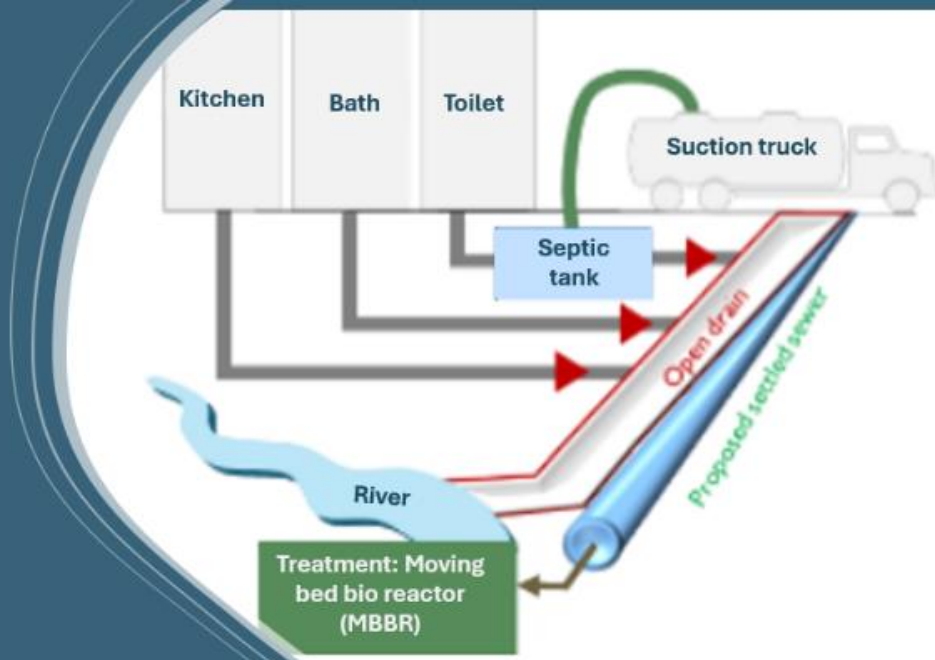


Figure 6.2-3: Proposed flow of greywater through the settled sewer

### 6.2.5 Improving cost recovery and collection efficiency of sanitation services

The tax department of the Council is focused on covering 100% of properties for collecting property tax bills efficiently, and the **sanitation tax** as a part of the property tax bill. It is planned to regularly send bills to the taxpayers in the month of April and organize various drives, such as the 'Sanitation Tax Collection Campaign,' for improving tax and arrear collections, offering incentives and rebates to early payers for encouraging them to make timely payments, amongst others. The Council also plans to link the online mode of payment to the existing database to make it convenient for the payers. Increasing the number of physical collection centres such as govt. offices, post offices, banks, etc. are being explored and the existing workforce may be optimally engaged in the collection process.

**“** In total, WMC will require INR 489.4 million for capital investments, out of which ~INR 54 million (11%) will be required from WMC's own share, possibly 15th FC funds. The rest of the amount will be contributed by the Central and State governments. Additionally, the city will require 19.5 million per annum from its own funds for O&M of its upcoming sanitation projects. Also, around INR 25.2 million per annum will be required to manage the total sanitation operation expenses of existing and new projects.<sup>15</sup>

<sup>15</sup> [https://cwas.org.in/resources/file\\_manager/City\\_Sanitation\\_Investment\\_Plan\\_for\\_Wai.pdf](https://cwas.org.in/resources/file_manager/City_Sanitation_Investment_Plan_for_Wai.pdf) (Slides 51, 52 and 53)

## 6.3 Streamlining budgeting for the sanitation department of the WMC

As a first step towards streamlining financing the WMC with support from CWAS, relooked at their budget structure to analyse and improve overall planning and allocations.

### 6.3.1 Improved and transparent budgeting

CWAS Team supported Wai Municipal Council in analysing and improving their municipal budget. The process of assessment started with studying the previous trends of the revenue and capital accounts, using the budget documents, and detailed discussions with WMC officials. It was observed that the annual budgeting process and budget allocations in Wai lacked realistic estimates. Ad-hoc allocations and linear increments affected the overall financial planning of WMC. Suggestions to improve the sanitation budget heads for Wai's budget 2021-22 were given through a consultative process with all the city officials across departments, including - accounts, administration, building and construction, and sanitation. Suggestions were made through a lens of **inclusivity, accountability, and transparency**.

### 6.3.2 Communicating city budgets through budget briefs

CWAS Team developed the 'Budget Brief' tool for the WMC to help in creating transparency in preparing budgets and boost local participation and citizen engagement in the budgeting process. The budget brief includes actuals of the last three consecutive financial years and planning for the next year. It is prepared in the local language for easy communication with all stakeholders. It has a simple graphical representation and is self-explanatory. It captures key infrastructure highlights of the city, revenue-capital account summary, surplus/ deficit, sectoral allocation of the revenue head, upcoming government schemes and grants, major budgeted projects, and their annual capital expenditure.

### 6.3.3 Budget software to enable uniformity and digitization of municipal budgeting

The annual municipal budget of WMC was analysed by the CWAS team using the lens of effectiveness and readability. These budget documents were not found to be structured and organized in the prescribed formats thereby making it difficult to use for planning purposes. Repetitive accounting codes, non-structured departmental heads and functions, and varied yearly budget formats were some of the challenges that were observed while analysing the municipal budgets of WMC. To improve the process of budgeting, using a budget software was recommended to introduce digitization, enhance the uniformity and structure of the WMCs budget.

Key features of the budget software module include:

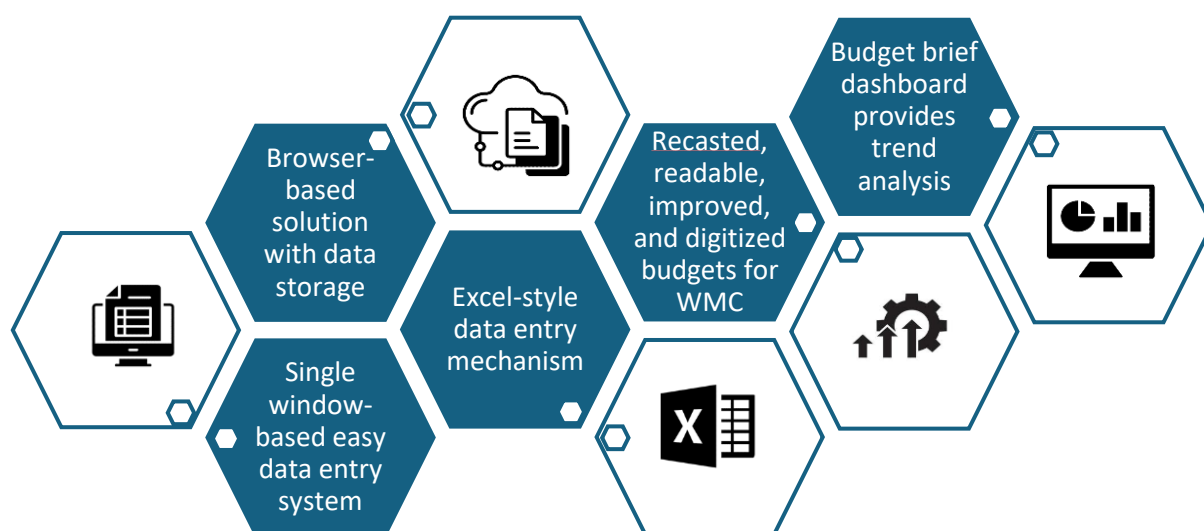


Figure 6.3-1: Feature of budget software



The shift to a CWIS approach helped WMC to take financial decisions with respect to additional resources required.

### 6.3.4 Enhancing revenue of WMC through streamlining taxation

*Increasing own revenue streams of WMC:*

Over the past nine years (2011-20), the revenue income of Wai has grown from Rs. 6.8 crores in 2011-12 to Rs.10.9 crores in 2017-18<sup>16</sup>. Nearly half (53%) of the revenue income is grants from the State Government and Finance Commission. The remaining 47% comes from WMC's own revenue sources, much of which (95%) is formed by property taxes and water taxes. Other taxes which contribute to revenue income are - fire tax, tree tax, solid waste management tax, advertisement tax, cinema tax, education tax, employment tax, rental income etc. As per CWAS Analysis based on PAS SLB Data, 2018-19 for Maharashtra, the per capita own tax revenue income of Wai, was found to be lesser than other towns of similar size and population in Maharashtra. This suggested that Wai needs to strengthen its own tax income sources, to match the state average of Class 'C' councils and other peer cities.

<sup>16</sup> [https://cwas.org.in/resources/file\\_manager/Enhancing\\_Own\\_Revenue\\_Income\\_for\\_WMC.pdf](https://cwas.org.in/resources/file_manager/Enhancing_Own_Revenue_Income_for_WMC.pdf)

To strengthen its tax income source with a special focus on property tax, WMC took some important steps as suggested below –

*Revise the existing property tax rate table based on market value of properties*

WMC followed Annual Rateables Value (ARV) method of assessment based on which property tax is calculated. Under this method, a rate table provided by the district town planning department is used, which was prepared 15-20 years ago based on market rates prevalent then. Every four years, a re-assessment takes place, where rates are increased by 30% without considering the market values. The market rates of the properties have changed drastically over the past two decades. Thus, there is a plan for WMC to change its current rate table by assessing the true value of the property as per the current market value and appropriately calculating the property taxes.

*Improve the current property tax management system and billing efficiency*

In Wai, the assessment and updating of the property database is done manually in registers every four years, and thereafter the information is entered into MAINET software. WMC had initiated a payment arrangement with HDFC Bank. However, this payment is not linked to the property tax department. The existing property tax database is linked with the online payment mechanism for ease of payment. Also, to improve the overall collection efficiency, payment through apps, credit/ debit cards etc., are accepted. Collection centers have been established at banks for payment of property tax. The above-mentioned efforts are helping to increase coverage of more properties in the property tax database, improve billing and collection, and help monitor arrears.

*Introduce an amnesty scheme or one-time settlement scheme to improve arrear collection of property and water tax*

In Wai, the property tax arrears collection efficiency is 60%, and the water tax arrears collection efficiency is 45%. To improve this scenario, WMC plans to introduce a 'One Time Settlement Scheme' to collect its property tax and water tax arrears, where defaulters can settle their property tax and water arrears in one go. The council can also organize arrear collection drives and can offer rebates or relaxation in penalties.

*Revision of sanitation tax and solid waste management tax to recover operation and maintenance cost of these services*

WMC plans to progressively increase its sanitation tax and solid waste management tax to be able to improve cost recovery of sanitation services.

*Introduction of Sanitation Tax for a more equitable and sustainable tax structure:*

The Maharashtra Municipal Councils, Nagar Panchayats and Industrial Townships Act of 1965 allows for a 'special sanitary tax'. WMC also levied a sanitation tax to ensure adequate funds for OPEX. In this arrangement, property owners pay a yearly sanitation tax to the government as part of their property tax bills, as against the previous system of paying a charge/fee at the time of emptying service. WMC also decided to use the surplus from property tax collections to fund sanitation services, which keeps the sanitation tax low and makes it affordable. The citizens currently pay around INR 60/- annually as sanitation tax in addition to their property tax. However, it is proposed to increase the sanitation taxes to INR 300/- and further increase it by 10% every year. Transfer of amount from property tax per annum is estimated to be approximately INR 19.6 million. Through this tax structure, the council will be able to recover 25-30% of total sanitation expenses in the upcoming years.

**The tax burden on residential properties could further be lowered by cross-subsidization and charging higher taxes to commercial and institutional properties.** WMC also plans to move from the flat rate of sanitation tax to a percentage property tax. This will allow the tax to be more equitable as those with smaller properties and low property tax will pay a lower sanitation tax while those with larger properties will pay a higher property and sanitation tax.

*Performance Linked Annuity Model (PLAM) for Scheduled Desludging:*

Another important step taken by the Wai Municipal Council is to sign an exclusive contract with the private service providers for schedule emptying service, where payments are made on an annuity basis – monthly, in the case of Wai. **This OPEX is backed by sanitation tax and property tax levied by the government on the citizens and thus is a sustainable model of finance.** Payments are linked to the private service provider's performance – based on the number of septic tanks emptied and adherence to standards. As no permit is given to another private operator, there is an assured market for the one selected. On the other hand, households are also willing to get their tanks emptied as no user charge is to be paid at the time of emptying.

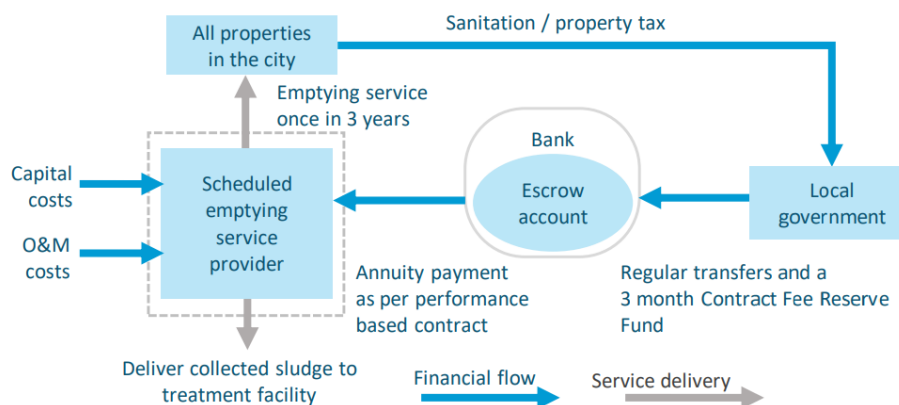


Figure 6.3-2: Performance Linked Annuity Model

During consultations with the private sector, delayed payments was the biggest risk reported in signing contracts with local governments. To protect the private operators against this, an **Escrow mechanism** was set up, which is a tripartite agreement between WMC, the private contractor, and an independent bank. An account was opened with the bank, where WMC deposits funds to create a Reserve Fund at the start of the Escrow arrangement. WMC is to maintain a minimum balance of three months' payment to the contractor via transfers from property tax and sanitation tax every month. As the private provider completes the task, a performance-linked payment is made from the Escrow account without any delay. This gives the service provider an assurance of receiving funds on time from the government.

### 6.3.5 Institutionalization of innovative financial mechanisms for sustainability and scale up

To make cities resilient and sustain sanitation service operations, it is essential to strengthen the local government's capacity and finances to manage public services. Wai Municipal Council is adopting data driven techniques to assess and estimate the infrastructural, service, and financial requirements of the city; and adopting innovative mechanisms to enhance and sustain the flow of funds into CWIS activities. Increasing WMC's own revenue, introduction of sanitation tax, and performance-linked annuity model (PLAM) for private service providers - are some of the key strategies adopted to ensure continuous and sustainable delivery of sanitation services. Concrete steps were taken to improve the process of budgeting and resource planning including use of a budget software tool to introduce digitization and enhancing the uniformity and structure of the WMCs budget.







## 7 Institutionalization and Sustainability of CWIS Interventions in Wai

Wai is one of the eight global cities under the Citywide Inclusive Sanitation (CWIS) program of the Bill and Melinda Gates Foundation (BMGF). The sanitation department of the Wai Municipal Council (WMC) provides various sanitation-related services, such as solid waste management, drain cleaning, cleaning and maintenance of community and public toilets, etc., to its citizens. WMC has implemented the program on CWIS in Wai since 2018, with support from CWAS, CEPT University.

This section will cover the efforts made by CWAS to support the WMC in institutionalizing activities undertaken by the program and sustain the results obtained. CWIS principles define sustainability as services being reliably and continually delivered based on effective management of human, financial, and natural resources. The sustainability of interventions can be brought in by instituting mechanisms for cost recovery of service delivery system operating expenses and provision of financing resources for capital expenditure, expansion, and renewal.

### 7.1 Key interventions to sustain the actions taken by the WMC for City Wide Inclusive Sanitation

To ensure sustained outcomes under CWIS, it is essential that investments, activities, technologies, and other mechanisms are designed and implemented to be viable<sup>17</sup>. Services are reliably and continually delivered based on effective management of human, financial, technological, and other natural resources. CWAS has played a vital role in supporting WMC in bringing about systems strengthening through concrete actions across various dimensions, institutionalizing these actions, and integrating systems to advance sustainability and safety in services across all areas.



Figure 7.1-1: Interventions for Sustainability and Institutionalization

<sup>17</sup> <https://www.frontiersin.org/articles/10.3389/fenvs.2020.00019/full>

The sections below describe the approaches and activities undertaken by the WMC and CWAS team to ensure the sustainability of the interventions under the CWIS Program in Wai.

CWAS supported the WMC in ensuring City Wide Inclusive Sanitation through:

- Developing and bringing in city resolutions for implementation of city-wide inclusive sanitation; setting up the process for faecal sludge and septage management (FSSM) - scheduled septic tank emptying and setting up a treatment plant for faecal waste.
- Assessment of human resources at the sanitation department, ensuring that the staff availability meets the requirements and redefining roles and responsibilities.
- Engaging the private sector on a contractual basis for ensuring sustained human resources for O&M of CT/PTs, scheduled desludging, and managing operations of the FSTP.
- Enhancing efficient monitoring and reporting by using app-based smart monitoring mechanisms.
- Ensuring sustained finances through the introduction of sanitation tax, process improvement in pay-outs through an escrow account, and a payment monitoring dashboard to ensure timely payment to the contractors and a 'Adhava report' for improved reporting on the activities performed by the sanitation department to the CO.
- Improving the complaint redressal system by encouraging the use of the Swachhata app by sanitary supervisors and ensuring that each complaint is registered, and the loop is closed by adequately addressing the complaint.

Each of these areas is described in detail below -

#### *Processes set for Scheduled emptying and FSTP operations through City Resolutions*

The Wai Municipal Council, with support from CWAS, became India's first city to implement scheduled emptying of septic tanks every 3 years for each household, along with treatment of collected septage at a dedicated 70 KLD Faecal Sludge Treatment Plant (FSTP). **Wai Council signed a resolution to implement an integrated FSSM plan** that covered aspects like citywide FSSM, engaging the private sector for sanitation operations, scheduled cleaning of septic tanks, levying sanitation tax to finance the FSSM services, and providing land for the treatment facility (FSTP). WMC has instituted a performance-based contract with a private contractor, selected through a government tendering process for providing scheduled emptying services. The FSTP is constructed and operated by Tide Technocrats under a private-public partnership.

Institutionalizing these services into the day-to-day operation of WMC needed some restructuring of their human resources, redefining the roles and responsibilities of existing staff, and setting up an

efficient monitoring and reporting mechanism. This also required setting up processes and systems and building the capacity of sanitation workers and others involved in this operation.

Since Wai pioneered scheduled desludging, it must serve as a role model for other cities that intend to provide scheduled desludging. Through their journey of providing scheduled desludging services to all in Wai, WMC also demonstrated and provided learning for many cities like Wai across the state and the country.

From the commencement of the CWIS program in Wai, CWAS played the role of an enabler in providing end-to-end support to the municipal council but did not directly implement the program. Instead of taking over the functions in their own hands and running a parallel system, CWAS made efforts to **identify gaps and strengthen government systems** by providing hand-holding support to WMC for assessing, planning, strategizing, implementing, and strengthening monitoring mechanisms to institutionalize and sustain sanitation outcomes. This ensured wilful government engagement and accountability in the sanitation program.

#### *Engagement of the Private sector in the provision of sanitation related services:*

Honouring the commitment towards providing safe, equitable, and sustainable sanitation services to all in Wai, WMC passed a **general resolution** to implement citywide FSSM plans with support from private partners. At different levels of sanitation service chain, private service providers were engaged on contractual basis, under public private partnership model, to improve the efficiency and quality of service and allow sanitation department enough time for planning, formulating policies and regulating. Below are the areas for which the WMC partnered with the private providers in supporting the CWIS program:

#### *Scheduled desludging*

WMC has contracted a private provider since 2018 to carry out scheduled desludging operations of the septic tanks for each household in Wai every 3 years. The company has been issued a service-based contract for 3 years, where they will provide services for emptying the septic tank as scheduled and transporting it to the FSTP, recording the details, and reporting in the SaniTrack app (discussed later).

#### *Operations & Maintenance of FSTP*

A private company has been contracted to set up a Faecal Sludge and septage Treatment Plant (FSTP) and handle its operations and maintenance. FSTP of 70 KLD capacity has been set up on land allocated by WMC. A thermal treatment process (pyrolysis) and is used for the treatment of the septage and

the quality of output and by-products are monitored regularly by the contractor as per standards. The company is also responsible for sharing performance reports of inlet and outlet information with WMC for monitoring purposes.

#### *Civil Society Organizations for cleaning and maintenance of CTs/PTs*

Since 2018, CSOs have been contracted by WMC for daily cleaning and undertaking minor repairs of WMC's Public Toilets, Community toilets and toilets & urinals of their school buildings. The responsibilities of these NGOs include repair/replacement of damaged doors, latches, toilet seats, tube lights and bulbs, water motor, water storage tank, painting the toilets, and undertaking other minor works.

#### *Door-to-door garbage collection*

A private contractor has been engaged for supplying labours who, after training, are engaged in the door-to-door collection of garbage.

#### *Instituting smart monitoring systems for desludging*

Realizing the importance of smart monitoring mechanisms and reporting; Wai Municipal Council has adopted mobile based applications like **SaniTab**, **SaniTrack** and **SanQ**, to ensure efficiency and sustainability of FSSM operations. These apps are customizable and available in vernacular languages for ease of access.

**SaniTab** is a mobile application that was initially developed for conducting citywide digital baseline assessment surveys of the properties regarding the availability of toilets and sanitation practices. Currently, it is being used to create a detailed database of all septic tanks desludged in the city. The collected data can be viewed in the form of processed charts, tables, and maps on online dashboards for informed decision making. SaniTab is now functioning as a monitoring app that is linked to a real-time dashboard. It is also available for free download on Google Play Store.

**SaniTrack** is a GIS-GPS based online monitoring system to track the collection and safe transport of septage from the household to the treatment facility. It consists of a mobile app-based module for day-to-day scheduling of desludging operations and then recording details of each desludging with acknowledgment by the household respondent through signature on the mobile app. Along with signatures, geo-location and timestamp are captured automatically, and the operator can capture data about the type of property, sludge volume, household details, etc. It also captures the safe unloading of collected septage at the FSTP through a similar acknowledgment process.

A centralized web portal allows registration of new households, desludging service operators/contractors, etc. This system has a field vetted base map of the city where households are mapped and linked to property tax numbers, for making it a transparent process. In addition, the suction trucks are also fitted with GPS trackers, to ensure safe collection and unloading of septage.

**SanQ** is an online water quality monitoring system installed at the FSTP site. It measures effluent quality (pH, BOD, COD, TSS and Nitrates) at a pre-defined time interval and helps to assess and decide upon the further steps to be taken.

#### *Assessing staffing patterns of the sanitation department - augmenting roles and responsibilities*

With an aim to support the WMC in creating sustainable solutions for CWIS and FSSM, the CWAS team conducted a detailed assessment study to understand the current structures and mechanisms in place.

The objectives of this assessment included:

- To assess key processes of the municipal council and draw learnings and identify gaps, if any.
- To develop a framework in which FSSM services can be institutionalized within the WMC.
- To identify measures for resolving these issues and improving the ongoing processes.

The assessment included a detailed review of the staffing pattern of the sanitation department related to the **recruitment processes, adequacy of staff, their roles and responsibilities and monitoring and reporting mechanism**.

Based on the detailed discussion with the WMC officials, key processes were mapped to understand the stakeholders involved in each of these processes, forms and formats used, frequency of reporting and monitoring, etc. Suggestions made by the CWAS team for the institutionalization of FSSM services in Wai included redefining some of the roles & responsibilities of the WMC staff and the private operator at different stages - planning, implementation, reporting, and monitoring. The key findings of the assessment of staffing patterns and their roles and responsibilities were as follows:

#### *Decision Makers*

##### *Chief Officer*

Wai is governed by the elected municipal council, aided by the executive wing. It is headed by a Chief Officer (CO), who is responsible for decision-making and overall monitoring of sanitation activities in the department.

### *Elected Representatives:*

The elected representatives were aware of the overall FSSM activities going on in the city. They along with the sanitation committee, were involved in awareness activities of scheduled emptying, monitoring of the emptying, and treatment operations.

### *Implementers (operations and management)*

#### *Sanitation Engineer and Sanitary Inspector (SI)*

The engineer had limited involvement in monitoring FSSM-related activities, whereas the sanitary inspector mainly reviewed the daily emptying operations. There was scope for systematically involving both SE and SI in monitoring the emptying and treatment operations by training them to use SaniTab/SaniTrack dashboard (mobile-based apps created to monitor the service), monitoring the FSTP dashboards, and reviewing the quality check reports shared by the FSTP operators, and reporting to the CO on a regular basis for FSSM operations. Capacity-building support to these staff was suggested to be provided by the CEPT team.

#### *Sanitary Supervisors*

Sanitary supervisors were mainly involved in monitoring the operations of SWM. They could be further involved in monitoring the on-ground scheduled emptying operations and report to the SI on a daily basis about the challenges and progress.

#### *Sanitary workers*

They were mainly involved in service provision related to street sweeping and drain cleaning. They need to be involved in supporting the monitoring of scheduled emptying operations and reporting to the supervisor in case of any challenges.

#### *SHGs/Community based organizations*

There is potential to involve and train women from SHGs/CBOs to monitor and create awareness about scheduled emptying operations. They can report to the SI/ Sanitary supervisor on daily basis about the activities that have been undertaken & challenges, if any.

The assessment found that though the **overall staff was adequate** as per the staffing pattern provided by the Directorate of Municipal Administration (DMA), there was a need and scope to **enhance the roles of sanitary inspectors and supervisors by systematically involving them in monitoring the emptying and treatment operations.**

### *Instituting robust reporting and monitoring mechanisms for FSSM-related activities*

A robust reporting and monitoring mechanism is imperative for any system to run smoothly and enable the achievement of desired results. To understand the existing monitoring mechanism of the sanitation department, a detailed assessment was carried out by the CWAS team that included the review of forms and formats used, frequency of monitoring and reporting, and existing issues in reporting and monitoring, amongst others. The findings from this assessment and suggestions made by the CWAS team are detailed below:

#### *Scheduled emptying operations by the private service provider:*

The service provider had a paper-based reporting format capturing details of each emptying task, a copy of which is submitted to the household, at the FSTP and to the WMC. The service provider gets the copies of the reports signed by the SI and submits it to the WMC (along with their bills) on monthly basis. A fortnightly report on households not willing to empty the septic tanks or are unavailable is also submitted to the WMC. A WhatsApp group that has members from WMC, CEPT and the service provider, is used for reporting and immediate problem-solving. Apart from paper-based forms, WMC is equipped with tools like the Sani-Tab and SaniTrack dashboards to monitor the emptying operations.

#### *To build ownership and accountability, WMC took the following action:*

To further understand the roles and responsibilities of different stakeholders for various activities, a detailed analysis was carried out by the CEPT team using RACI matrix. The findings of the analysis and recommendations were shared with WMC. The WMC took the following actions to streamline monitoring:

- The daily report submitted by the service provider to the SI was modified to capture - overall progress made and challenges faced, and plan for the next day.
- Service providers' staff were also made responsible for - i) monitoring of field operations along with the SI. ii) senior management meets with the CO regularly to review the progress/challenges in operations and resolve issues to help improve operations.
- Sanitary supervisors were given the responsibility of on-ground monitoring of emptying services Use of SaniTab for reporting the septic tank emptying operations initiated for capturing the data and overall analysis. The task of capturing and monitoring data from SaniTab was moved from CWAS to WMC.

#### *Septage treatment operations by the private service provider:*

Through a grant by Bill & Melinda Gates Foundation, Tide Technocrats has set up a faecal sludge and septage treatment (FSTP) facility that has a capacity of 70,000 litres on land allocated by WMC. The Capex and Opex for 2 years for the FSTP are provided by Tide Technocrats. Tide team regularly reports to the WMC about its day-to-day operations, treated wastewater and septage quality reports, reuse of the treated biochar and wastewater, etc. Similarly, WMC officials and staff regularly monitor the on-field operations of the plant and check the quality reports and overall performance of the plant. The reporting and monitoring mechanisms for the FSTP are detailed below:

- FSTP operators submit daily manifest forms regarding the septage that is being brought to the FSTP. They share the overall progress made and challenges faced on daily basis with the SI and the Engineer at WMC
- In case of any delay or disruption in FSTP operations, the Site-in-charge informs SI and the supervisor from the emptying team.
- A fortnightly report is submitted with details on operations and maintenance carried out at FSTP, quality of treated wastewater (WW), and septage and reuse details.
- The senior team of Tide Technocrats meets with WMC on a regular basis and updates the executive and elected officials on FSTP operations.

#### *Services of day-to-day collection of solid waste, drain cleaning, street sweeping:*

These services are provided mostly by WMC's own staff (sanitary workers and sanitary supervisors) and partially by labour contract staff. The **Sanitary Workers** work in two shifts and before starting their work in each shift, they mark their attendance in the register kept at the sanitation department of WMC. For workers through labour contracts, a separate attendance register is maintained.

The sanitation workers are primarily monitored by **Sanitary Supervisors** who pay daily visits to their respective zones. Sanitary supervisors, while visiting the field, enter their attendance in the register. The contractor also maintains a record of their attendance. The **Sanitary Inspector** also makes random monitoring visits. The reporting formats capture additional details related to monitoring of emptying and PPE usage by workers. The sanitary supervisor reports to SI in case of any issues.

#### *Monitoring of Community and Public Toilets:*

The NGO/CBO responsible for cleaning and maintenance of all CTs and one PT, submits a report of the work done at WMC, along with their monthly bill. The report consists of the location of the toilets cleaned, details of the repair work undertaken, contact details of the cleaners, and the locations where they worked. During the submission of the bill, the secretary also meets the CO for discussion on



operational issues, if any. The SI is responsible for monitoring the CT/PT. There is no daily reporting on CT/PTs, and the supervisor/secretary only reaches out to the SI in case of any issues.

#### *Process Improvement with Monitoring Systems - Adhava Review and Payment Dashboard*

CWAS has supported WMC in making significant efforts towards process improvement and streamlining payments to the private operators engaged for providing FSSM services.

A payment dashboard has been developed and institutionalized to improve the monitoring and reporting of the payment to the private operators/contractors by the sanitation department of the WMC. Adhava report, a simple excel based tool has also been developed for improving the monitoring and reporting of services provided by the sanitation department of WMC.

#### *Adhava Report*

Adhava (review) meeting is the monthly/bimonthly meeting conducted by the CO with various departments of the council, primarily to supervise the acts and proceedings of the council.

The Adhava meeting has been further leveraged to strengthen the monitoring and reporting system of the FSSM-related activities of the sanitation department by introducing an 'Adhava Report' for sanitation, a monthly one-page report, including key performance indicators for all sanitation-related activities. Prepared by the SI and clerical staff of the sanitation department, the report is submitted to the CO regularly. Adhava report updates on the performance of indicators such as: Cleaning of community and public toilets, drain cleaning, Solid Waste Management, scheduled septic tank emptying service, Septage treatment etc.

*Table 7.1-1: Adhava report template*

Sr. No.	SWM (D2D collection)	Road Sweeping	Drain Cleaning	Emptying of septic tanks of all properties	Treatment of septage	Street light repair
1	Total D2D waste collected	Name of the areas swept	Total length of drains cleaned (in kms)	Total septic tank to be cleaned this month	Total septage received at the station	Total number of lights repaired/replaced
2	Total waste segregated	Stretch of road swept (in Km)	Issues/ comment	Total septic tanks actually cleaned	Total septage treated	Issues/ comment
3	Issues/ comment	Issues/ Comment		Total septage received	Total septage reused	
4				Issues/ comment	Issues/ Comment	

Adhava meetings also provide a platform for discussion on the work done by WMC staff, work that needs priority attention, council-level resolutions to be passed for sanitation activities, updates on applications received from citizens, review of payment status against bills submitted by the contractors, covid response, tenders, and other official subjects. Adhava reports can also be used for keeping a record of complaints received and for tracking bills of private service providers.

#### *Payment Dashboard*

The Payment Dashboard is a real-time monitoring tool to monitor and track the status of bill payments of all the private operators contracted by the WMC officials (CO & accounts department). Through this dashboard, the payment of contracts of the sanitation department has become very easy, and the Council intends to adapt this for all its private contracts. A few salient features and benefits of the payment dashboard are showcased below.

- Single Window and easy to operate excel based tool.
- Easy to read and self-explanatory for monitoring purposes.
- No additional IT infrastructure or workforce is required to operate it.
- Single entry record management system with contract-wise bills in one place.
- Can be further used to assess the performance of contractors.

#### *Ensuring Sustainable Financing:*

Sustainable financing is another key component for sustaining sanitation outcomes. To meet the financial requirements, WMC introduced a **sanitation tax**, which is levied on all properties in Wai, against which the property owner is provided scheduled desludging services once in three years. The local government makes payments to private operators for providing sanitation services through an escrow mechanism. The sanitation tax is paid annually and is lower than what each family earlier used to pay for emergency desludging. Sanitation tax has helped ensure that scheduled desludging service becomes a part of public services provided by the local government, and residents do not have to pay at the time of desludging. It also enables local government with adequate funds for the operation and maintenance of sanitation services in the city.

It was also suggested that Wai Municipal Council needs to take measures to enhance its own revenue stream from municipal taxes to sustain and finance urban services, including sanitation. Property tax and water tax have been found as the main sources of the council's revenue, forming 95% of tax revenue. There is a need to increase the efficiency of tax collection by improving the enumeration of all properties, improving the calculation of taxes, and introducing and increasing channels and modes of online and easy payment methods to increase the collection efficiency of tax amounts and arrears.

### Instituting a Complaint Redressal System

Wai Municipal Council (WMC) has 12 functional departments through which they provide various services to their citizens, as well as resolve their complaints around these services. An efficient and transparent citizen’s complaint redressal system is an important component in sustainable service delivery. It gives citizens an opportunity to provide feedback for the services they receive and gives the municipal council an opportunity to evaluate their performance and improvise it. Hence, WMC, with support from CWAS, conducted a study to assess the existing complaint redressal system with an aim to strengthen it further with appropriate measures. This included assessing whether complaints are resolved in a timely manner, are trackable, if the loop is closed, if the data is monitored appropriately and analysed regularly.

### Channels for receiving citizen complaints in WMC

Of all the departments, the sanitation department received the highest number of complaints since it provides most of the day-to-day public services. The assessment showed that most complaints received by the sanitation department are generally related to drain cleaning and solid waste management-related services. The complaints are generally received over the phone from citizens, or the citizens give the complaints in writing by visiting the sanitation department. However, the complaints received telephonically are passed on verbally to the sanitation inspector and have no system of getting registered. Below is a graphic depiction of the complaint redressal system of sanitation department of Wai –

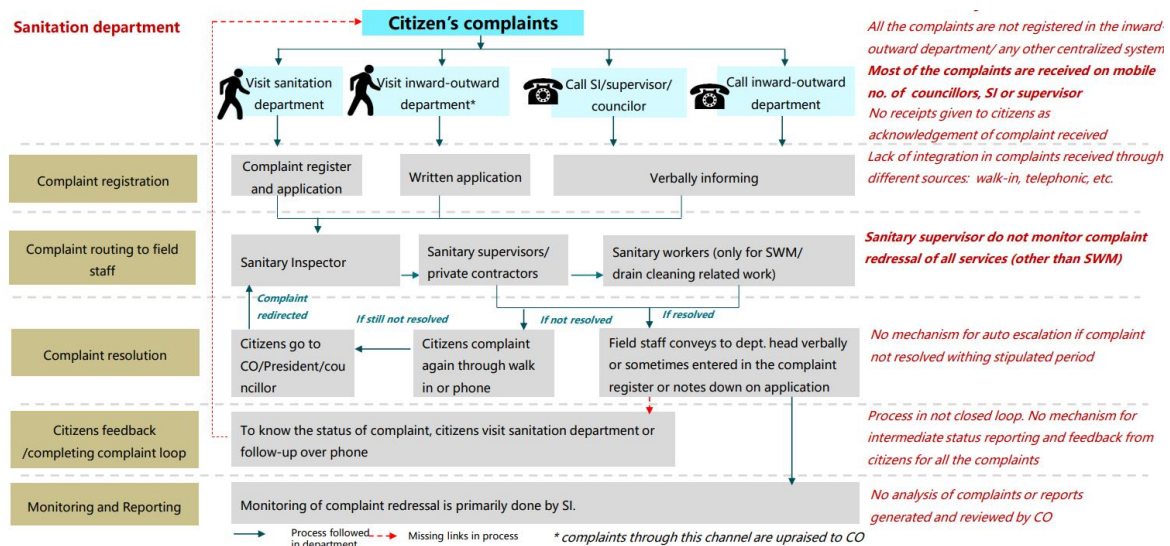


Figure 7.1-2: Complaint redressal system of sanitation department, Wai

*Process outline for the Complaint Redressal System:*

- **Complaint registration:** Complaints were received through different channels like calling/visiting the inward-outward department or calling the department head/supervisor/counsellor.
- **Complaint routing to field staff:** Complaints were routed by SI to field staff. Usually, sanitary supervisors were not involved in monitoring the complaint redressal process.
- **Complaint resolution:** Complaints were handled on an ad-hoc basis with no mechanism for auto-escalation. Resolution was not entered in the register and sometimes verbally conveyed.
- **Citizen's feedback /completing complaint loop:** There was no mechanism to monitor the status of the complaint. No confirmation/feedback from citizens was taken on action.
- **Monitoring and Reporting:** Checking and supervision of complaints was done by SI. CO intervened only if the complaint was not redressed by SI and citizens chose to approach the CO. The complaints were not being put together and analysed on a regular basis.

Apart from WMC's complaint redressal system, the Swachhta app is another official platform by the Government of India under the Swachh Bharat Mission, which enabled citizens to post any civic-related issue.

*Institutionalization of 'Swachhata app'*

To add transparency in the complaint redressal process, it was suggested that the WMC's citizen charter should include information regarding the time duration for the resolution of the complaint, the place and person to be contacted, contact details etc. A consultant was hired for institutionalizing 'Swachhata app' within WMC who ensured that the app was implemented and used appropriately. All in-person/online or telephonic sanitation-related complaints were redirected to the city coordinator, who helped the citizens to register complaints on the Swachhata app. WMC also promoted the helpline/toll-free no. amongst the citizens for lodging complaints.

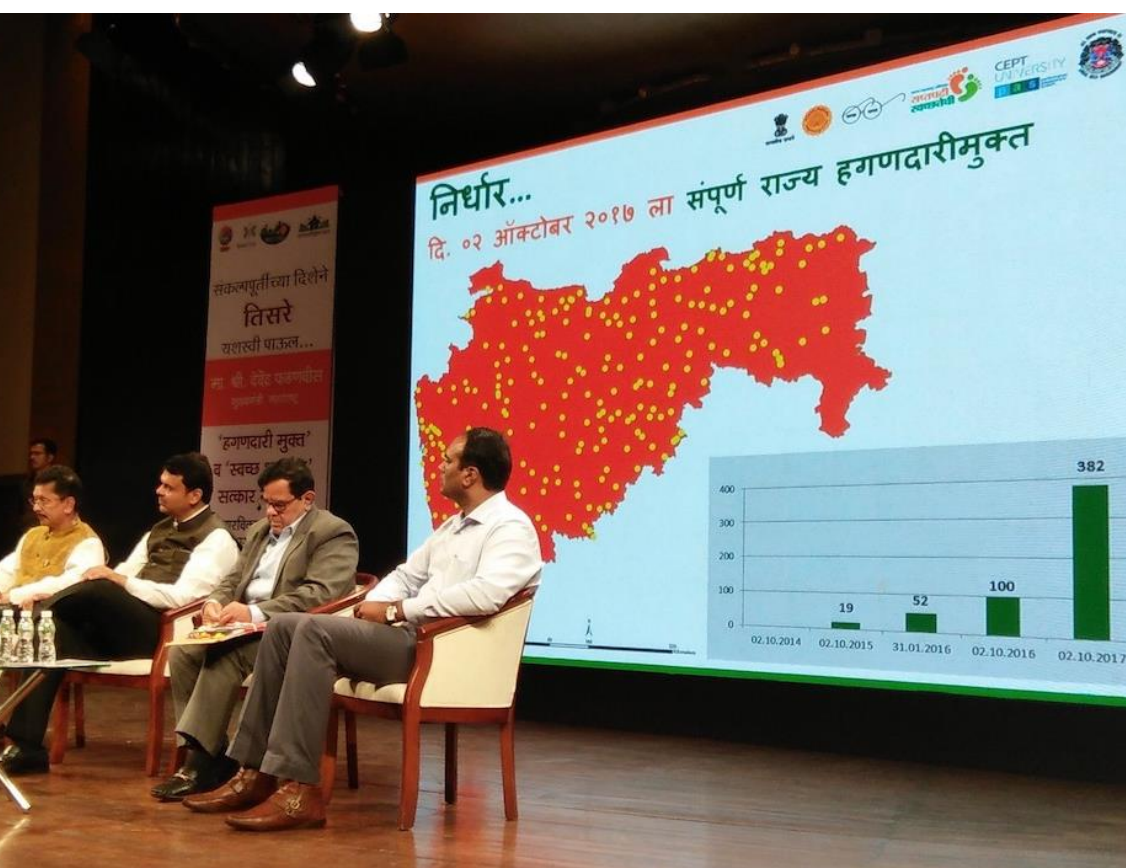
The sanitary supervisors were asked to download the engineer's app (of Swachhata app) on their phones and resolve the complaints by supervising and monitoring sanitary workers. Auto-escalation was enabled if the complaint is not resolved within the stipulated period. A mechanism was put in place to register citizens' feedback in the Swachhata app after the resolution of the complaint. The sanitary supervisors/city coordinator update the status of the complaint at every stage on the app, analyse the data from the administrative website, and share quarterly reports to the CO. This was done during the Adhava meetings.

## 7.2 Scaling Wai Lessons at a State and National Level

Institutionalization and sustainability of outcome(s) are important cross-cutting elements under key principles of CWIS. Sustainability can be achieved by focusing on the institutionalization of service availability and quality, sustainable inflow and management of finances, lasting partnerships, and efficient monitoring, reporting, and feedback mechanisms. WMC is committed to and has been working towards institutionalizing safe, inclusive, and sustainable sanitation services for its citizens, with technical support from CWAS and setting up benchmarks for other cities and States.

**The experiences and lessons from Wai are being translated into policies, guidelines and tools (Septage Management Guidelines, Step-by-Step Guide for ODF++, O&M of treatment plants, SOP for scheduled desludging) at the State and National level.** CWAS played an instrumental role in setting up the policies and guidelines and **building capacities** of the city officials, sanitation workers, women decision-makers, and SHG women. State-level IT-based **tools for monitoring** (Maha Sani Track) were developed.

CWAS became a key partner for exchanging learning and knowledge of the CWIS projects with other states as a part of the National FSSM Alliance. The experiences of Wai have been incorporated in the primer on FSSM in the national guidelines and the learning from these projects has significantly contributed to the National policy on FSSM. Scheduled desludging was mandated as a condition of ODF++ under the new SBM 2.0 guidelines. CWAS also extended support to states for using tools developed under the CWIS projects in Maharashtra. **GoM with support from CWAS have paved the pathway for learning from city to the state and state to the country.**





## 8 Scaling-up City-Wide Inclusive Sanitation (CWIS) in Maharashtra

Wai Municipal Council has been implementing City Wide Inclusive Sanitation (CWIS) program since 2012, with technical support from CWAS, CEPT University. The program has come a long way, using innovative strategies to improve access, affordability, and quality of sanitation services for all the citizens of Wai City. Learnings from Wai have been scaled up in the rest of the Maharashtra and India with support of CWAS. CWAS has been supporting the Government of Maharashtra through its MoU for implementation of Swachh Maharashtra Mission in the Urban Areas and Citywide Inclusive Sanitation under SBM 2.0 and has also been an important sector expert to provide advocacy support at the national level. This section talks about the experiences and achievements of the sanitation program in Wai, which have been translated into policies and guidelines at the State and National level.

The interventions implemented in Wai to achieve CWIS, such as the PPP model for schedule desludging, innovative financing mechanisms, and technology-based monitoring systems, amongst others, have all been extensively documented with the creation of relevant resource material, awareness material, monitoring tools, toolkits for engagement of private partners, guidelines for tax regimes, etc. The Wai model has been showcased on various platforms, and the WMC has hosted multiple learning visits for many ULBs, sector partners and other stakeholders from India and around the world. This dissemination of learning combined with advocacy efforts has led to many of the components of the Wai CWIS model being scaled in other cities of the state.

### 8.1 WMC implemented Interventions for sustainable, inclusive sanitation under the CWIS Program

Wai City in Maharashtra, with a population of around 43,000, represents small and medium towns of India, where approximately 40% urban population resides. The cities of our country are facing issues related to the increasing population due to migration from rural areas. The infrastructure for safe sanitation needs to match up with the bulging population adequately. Lack of access to toilets and basic sanitation facilities, open defecation, untreated disposal of faecal waste, financial constraints, and growing environmental pollution – are some of the challenges that the cities in India are facing. CWIS program focuses on finding inclusive, affordable, and sustainable solutions for across the sanitation service chain. With the CWIS program in Wai, **Wai became one of the first cities to be**

declared ODF in 2017 and ODF++ in 2018. It is also recognized as the 1st city in India to implement citywide scheduled emptying of septic tanks. The program undertook many successful interventions, and these achievements are worth disseminating and replicating. Some of the major achievements and key interventions of the program are depicted in the infographic below.

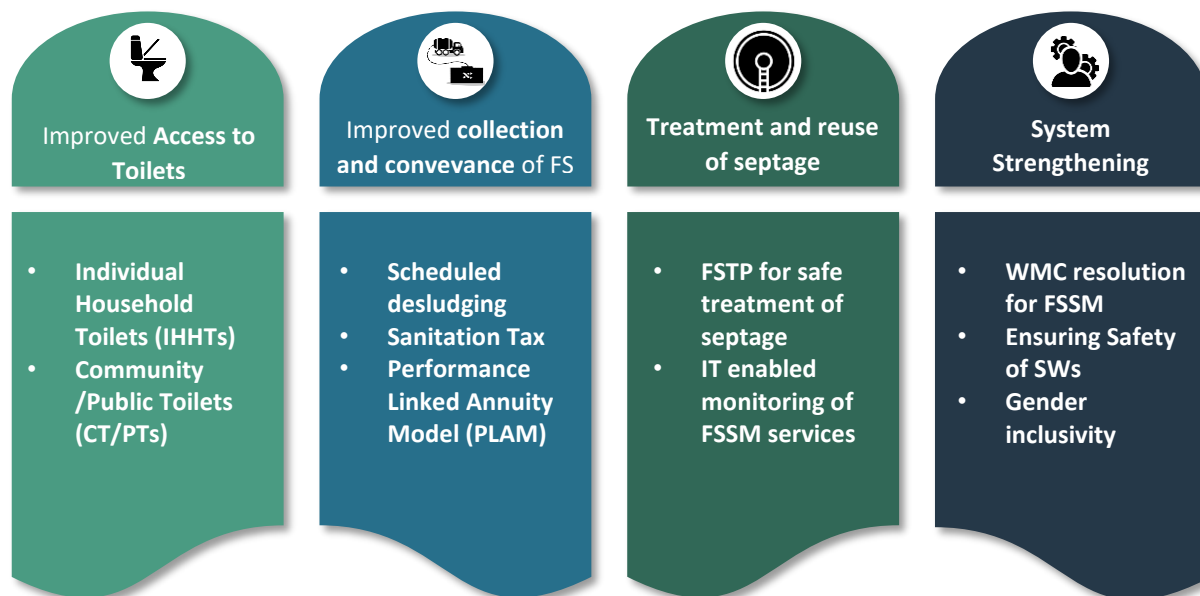


Figure 8.1-1: Major achievements and key inventions across sanitation value chain in Wai

## 8.2 Scaling up of initiatives across the state of Maharashtra

The approach used by CWAS in supporting Wai ensured long-term sustainability and set the stage wherein the model can be scaled from Wai to Maharashtra and to other states of India. The key outcomes of CWIS included – **equity, safety, and sustainability**. CWAS signed an MoU with GoM to support implementation of CWIS across the state.

The project ensured inclusive and equitable sanitation services for all by undertaking measures like - including those toilets not connected to sewer networks; mandatory desludging service but not linked to “user charges” – thereby providing service to ALL; special care to service vulnerable areas – long pipes for narrow lanes; no charges at time of desludging - benefiting low-income areas, sustainably financed through equitable “sanitation tax”.

The project worked towards building capacities of Elected Women Representatives (EWRs) for effective functioning and participation in local governance focusing on FSSM; sensitizing women at the household level regarding the process of desludging; facilitating SHG involvement for operations of FSTP and maintenance of garden and urban forests.



CWIS projects looked at ensuring safety across the sanitation service chain. Efforts towards construction of own toilets and improving access to toilets, ODF status of cities, schedule desludging to ensure regular cleaning of tanks and setting up a Faecal Sludge Treatment Plant (FSTP) for appropriate treatment of septage and reuse of treated water and sanitation waste – were all steps taken towards ensuring safety in sanitation services. The project prioritized the safety of sanitation workers as much as the safety of citizens and communities. The sanitation workers and supervisors were equipped with personal protective equipment (PPE) and training to protect them from harmful gases and infections.

The project demonstrated government ownership, community engagement, partnerships with the private sector, and bringing in the required council resolution of the city government – all contributing towards the sustainability of CWIS efforts. The introduction of a sanitation tax and the development of a City Investment Plan are innovative methods being adopted for utilizing financial resources and ensuring the sustainability of sanitation services.

The state of Maharashtra has about 60 million urban population residing in 394 Urban Local Bodies.<sup>18</sup> The Government of Maharashtra (GoM) aims to scale up access to safe, sustainable, and inclusive sanitation in all its urban areas across the sanitation service chain - from containment to treatment and reuse, aiming to make the whole state ODF++.

After the state became ODF in 2017, the Government of Maharashtra (GoM) issued a 7-point sustainability charter that focused on ODF-Sustainability and ensuring effective collection and treatment of human faecal waste in all cities<sup>19</sup>. As per the sustainability charter, some lessons from Wai have been translated into policies and guidelines at State and National level. Some of the interventions scaled at the state level are described below.

### 8.2.1 Government resolution promoting ODF+/++

The government of Maharashtra, with technical support from CWAS, CEPT University, developed a framework for ODF+ and ODF++, which was later proposed to be adopted at the National level. The state passed a government resolution (GRs), binding all its ULBs to move towards ODF+/++ status and provided directives to utilize incentive funds by the state government and 50% of 14th Financial Commission grants for sanitation related activities. Government resolutions covered areas of land availability, performance-linked financing for cities, and construction specifications for different kinds of toilets to maintain the quality of construction.

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<sup>18</sup> [https://pas.org.in/Portal/document/UrbanSanitation/uploads/state\\_fssm\\_strategy\\_maharashtra.pdf](https://pas.org.in/Portal/document/UrbanSanitation/uploads/state_fssm_strategy_maharashtra.pdf)

<sup>19</sup> [https://pas.org.in/Portal/document/UrbanSanitation/uploads/state\\_fssm\\_strategy\\_maharashtra.pdf](https://pas.org.in/Portal/document/UrbanSanitation/uploads/state_fssm_strategy_maharashtra.pdf)

## 8.2.2 Construction of IHHT

With financial subsidies received from the Government of India, the state government, ULB funds, and toilet loans by SHGs, approximately 7,00,000 IHHTs were constructed, and 1,66,465 community toilets were constructed across the state by January 2020<sup>20</sup>. This played a key role in sustaining the urban areas open defecation free (ODF).

## 8.2.3 Scheduled Desludging of septic tanks

The concept of scheduled emptying of septic tanks every 3 years is in the process of being adopted state-wide. Wai's model of scheduled desludging has proven to be influencing the government's strategy, and the state is moving towards adopting scheduled desludging services for all its cities. Wai hosted multiple learning and exposure visits for other districts within Maharashtra and other states for decision-makers and implementers, explaining the mechanisms put in place for scheduled desludging including – policies, guidelines, and processes for private sector engagement, innovative financing through sanitation, review, and monitoring.

## 8.2.4 FSSM Planning

Adopting a two-pronged approach for scaling up FSSM strategy in the state, the GoM has issued a resolution for –

- Setting up independent FSTPs in 323 cities, which are still using conventional non-mechanized treatment technology and
- To treat the septage at their own STPs for 35 cities that have a Sewage Treatment plant (STP).

In addition, septage from 36 cities that fall within 20 km will get co-treated at nearby STPs<sup>21</sup>. With the facilitation support from state, 140+ FSTPs are operational within span of one year and ~100 FSTPs are upcoming<sup>22</sup>.

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<sup>20</sup> [http://swachhbharaturban.gov.in/writereaddata/Statewise\\_status\\_of\\_implementation.pdf](http://swachhbharaturban.gov.in/writereaddata/Statewise_status_of_implementation.pdf)

<sup>21</sup> [https://www.pas.org.in/Portal/document/ResourcesFiles/FSM6\\_Scaling\\_up\\_FSM\\_Infrastructure\\_in\\_Maharashtra.pdf](https://www.pas.org.in/Portal/document/ResourcesFiles/FSM6_Scaling_up_FSM_Infrastructure_in_Maharashtra.pdf)

<sup>22</sup> [https://www.pas.org.in/Portal/document/ResourcesFiles/FSM6\\_Scaling\\_up\\_FSM\\_Infrastructure\\_in\\_Maharashtra.pdf](https://www.pas.org.in/Portal/document/ResourcesFiles/FSM6_Scaling_up_FSM_Infrastructure_in_Maharashtra.pdf)

FSTP details		
Independent FSTP Cities – <b>323</b>	Cotreatment at Own/nearby STP cities – <b>71</b>	
<b>Category C:</b> Cities with own FSTPs	<b>Category A :</b> Cities with STPs	<b>Category B :</b> Cotreatment at nearby STPs in radius of 20 KM
<b>323 Cities</b>	<b>35 Cities</b>	<b>36 Cities</b>

Figure 8.2-1: Maharashtra government's strategy to scale up FSSM

### 8.2.5 Capacity Building

Capacity building workshops were conducted across all divisions of Maharashtra with technical support from CWAS, CRDF in partnership with the Department of Urban Development, Maharashtra.

- The learnings of Wai were shared with 800+ city officials who were trained in ODF++ preparedness through operationalizing faecal sludge treatment plants and improving desludging services.<sup>23</sup>
- Training of the first set of 130 ULBs selected from Maharashtra for developing FSSM plans – 90% of these cities plan to take up the same model to become ODF++
- An online webinar was also organized to sensitize Elected Women Representatives (EWRs) for effective functioning and participation in local governance focusing on FSSM. 50+ ULBs women representatives participated in this webinar.
- A CWIS workshop has been conducted by CWAS for the cities of Pune division in May 2023 and many others have been planned for other divisions of Maharashtra.

### 8.2.6 Safety of sanitation workers

ULBs initiated measures for improving the safety of sanitation workers by including PPE related clauses in contracts with respect to the availability, use, replacement, and monitoring of PPEs. ULBs also sensitized the workers through various workshops on health and safety and organized health

<sup>23</sup> <https://nfssmalliance.org/state-stories/maharashtra.html>

campus. CSR Proposals were developed for PPE procurement by ULBs across 6 divisions in Maharashtra, covering 366 cities (small and medium towns) and impacting the safety of 27,000+ sanitation workers.

### 8.2.7 Gender Inclusive Approach

Many Urban local bodies (ULBs) have taken proactive initiatives for engaging women in sanitation services by encouraging women to increase their awareness and knowledge regarding sanitation related issues and accept leadership roles with local institutions.

Resource materials developed in Wai CWIS Program are readily available for other cities to use. These include –

- Model tender documents for scheduled emptying and FSTP.
- IFSM assessment and planning toolkit.
- Toolkit for engagement of private operators.
- Case studies of Wai.
- Awareness materials for FSSM and ODF.
- PPE procurement proposal for sanitation workers' safety, inclusiveness, and quality.
- Monitoring tools.
- Budget software to enable uniformity and digitalization of municipal budgets.

With the above efforts and focused scale-up strategies, Maharashtra is emerging as a 'model' state for FSSM services. It is a mission led by urban local bodies and facilitated by the state government. The strategies are scalable/ replicable to 7600+ towns in India, and many small cities in South Asia and Africa can also learn from Maharashtra's experience.



