
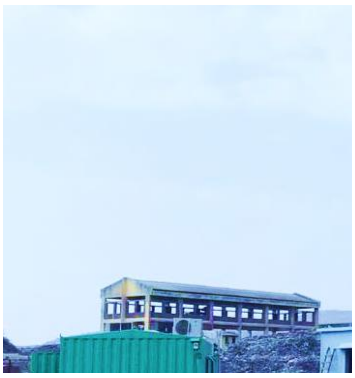


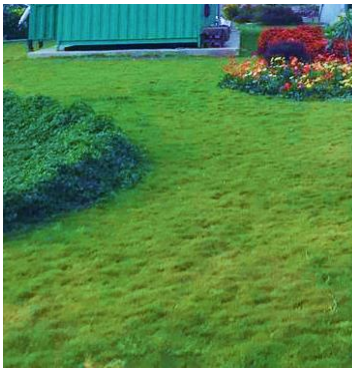

Role of Center for Water and Sanitation in Supporting the Journey of Sinnar for Safe Sanitation

January 2021

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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TITLE

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PUBLISHER

Center for Water and Sanitation (CWAS) , CEPT Research and Development Foundation (CRDF), CEPT University, Ahmedabad

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ATTRIBUTION

Citation suggestion for this document -

Center for Water and Sanitation (January, 2021). *Role of Center for Water and Sanitation in Supporting the Journey of Sinnar for Safe Sanitation*. Ahmedabad: Center for Water and Sanitation - CRDF - CEPT University. https://cwas.org.in/

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ACKNOWLEDGEMENTS

CWAS team has been supporting Sinnar city in its journey towards safe sanitation since 2013. This documentation is based on the work carried out by the Centre for Water and Sanitation (CWAS) at CEPT University in partnership with Sinnar Municipal Council. We acknowledge support of BMGF, DfID and HSBC for our activities in Sinnar.

This documentation has been prepared by Richa Shankar based on review of various reports and outputs prepared by CWAS. We have benefited from the stakeholder consultations and insights from the city government, private sector and civil society groups. CWAS project team including Aasim Mansuri, Yugasha Bakshi, Dhruv Bhavsar, Arwa Bharmal, Kasturi Joshi, Aditi Dwivedi and Arfat Attar have supported preparation of this report.

We thank Mr. Sanjay Kedar - Chief Officer of Sinnar Municipal Council (SMC), Mr. Vyankatesh Durwas – ex Chief Officer SMC, Mr. Kiran Dagale – President of SMC as well as officials from the sanitation department including Mr Rajendra Deshmukh – Sanitation Inspector and Mr Rakesh Shinde – Assistant Engineer for supporting our work in Sinnar.

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EXECUTIVE SUMMARY

In 2012, CEPT University, through its Center for Water and Sanitation (CWAS), entered into a partnership with the Water Supply and Sanitation Department (WSSD) Government of Maharashtra, Maharashtra Jeevan Pradhikaran (MJP), for providing technical and strategic support in the area of water and sanitation. Under this partnership, CWAS collaborated with the Sinnar Municipal Council (SMC) to provide technical assistance in improving the sanitation status of Sinnar city. This involved undertaking a detailed assessment of the sanitation situation of Sinnar across the sanitation value chain – access to toilets, collection of septage, transport and treatment, and safe disposal/reuse of treated wastewater and septage. This assessment indicated a need for intensifying efforts at various stages. A detailed City Sanitation Plan that included an analysis of the current situation, identifying problems at different levels, and proposing feasible and sustainable solutions in the form of multiple programme interventions, was developed by CWAS in consultation with the SMC for both sanitation and solid waste management. Based on consultations with stakeholders and on local priorities, the SMC decided to focus on two of the proposed high potential solutions: (a) Construction of own toilets and septic tanks; and (b) City-wide faecal sludge and septage management.

Throughout the city level programme, CWAS acted as an enabler, providing technical inputs to the SMC at various stages of the interventions. The SMC drove the initiative, from designing, planning, decision making and instituting mechanisms, to implementing and monitoring the interventions using its human and financial resources. CWAS worked towards system strengthening and building capacities of local government through technical assistance for implementation and monitoring these interventions but did not undertake any direct implementation. CWAS also supported the SMC in instituting policy guidelines and protocols, systems and processes, required formats, monitoring frameworks, documentation, etc, along with building sustainable mechanisms. Some of these mechanisms (for example, private sector engagement) were relevant not just for the sanitation work done by the municipality but for any other functional areas for which the SMC was accountable. CWAS supported the SMC in demonstrating a successful model for increasing sanitation coverage, rolling out a scheme to make the city open defecation free (ODF) much before the Swachh Bharat Mission (SBM) was conceptualized. Its efforts at sustaining ODF and putting mechanisms in place for faecal sludge and septage management (FSSM) were also made much before the nation started talking about ODF+ and ODF++.

Though extensive documentation has been undertaken for each of the programmes' stages and interventions, this paper specifically focuses on the approach used in these interventions. It describes how CWAS acted as an enabler for the SMC for gaining and sustaining sanitation outcomes, and demonstrating interventions that could be adopted by other cities, states, and countries across the globe. The SMC has hosted many delegations from within as well as outside India for exposure visits to learn from the Sinnar model. This approach can be adopted in bringing about any sectoral reform that is effective, efficient, and sustainable.

1 INTRODUCTION TO THE PROGRAMME

The Center for Water and Sanitation (CWAS) supported the Sinnar Municipal Council (SMC) in improving the sanitation scenario of Sinnar city by providing technical and advisory support. This paper captures this journey for improving sanitation and the role played by CWAS.

1.1 Genesis and purpose of the programme

In 2012, much before the Swachh Bharat Mission (SBM) was conceived, the Government of Maharashtra (GoM) realised the critical sanitation issues the state and specific cities were facing due to rapid urbanisation and population growth, leading to enormous impacts on the health and well-being of its citizens. Acknowledging the importance of safe and equitable sanitation, the GoM entered into a partnership with CWAS for supporting the development of City Sanitation Plans (CSPs) in select cities of Maharashtra. Four cities – Sinnar, Wai, Hingoli, and Ambajogai – were selected by the Maharashtra Jeevan Pradhikaran, Water Supply and Sanitation Department of Maharashtra, and the All India Institute of Local Self Government (AIILSG) for the development of CSPs with the support of CWAS, under CEPT University.

1.2 Funding Support

Through a grant from the Bill and Melinda Gates Foundation (BMGF), CWAS has supported the GoM in establishing a Performance Assessment System (PAS) since 2009–10. In 2012, with a strategic shift in focus to the sanitation sector, CWAS decided to work more on sanitation. As part of the ongoing support to the GoM for PAS, CWAS reached out to the government and offered technical support on sanitation. This led to CWAS supporting the development of CSPs for four districts in Maharashtra – Sinnar is one of them. After the CSPs were developed, it became crucial for CWAS to provide technical assistance and implementation support for the two programmes on improving coverage of toilets and faecal sludge and septage management (FSSM). CWAS got a separate grant in 2014, co-funded by the BMGF and the Department for International Development, for technical assistance support for such city-level interventions.

Later, in 2018, CWAS was supported by the Hongkong and Shanghai Banking Corporation (HSBC) under its Corporate Social Responsibility funding for improving sanitation in Sinnar.

1.3 Alignment with the government

The city-level intervention for sanitation was conceived as per the needs identified by the government at state and local levels. The CWAS team worked closely with the GoM, in complete alignment with government programmes. This happened through consistently engaging with government stakeholders at all levels and co-developing the programme. Since the SMC was convinced of, and acknowledged, the importance of FSSM, it took ownership of the interventions and led the initiative from the beginning of the programme. The SMC was heavily invested into the programme, providing adequate time commitment and timely decision making, establishing the required guidelines and ensuring adequate financing.

1.4 CWAS Approach

CWAS provided technical support and thought partnership to the SMC for identifying the problems, looking for solutions, prioritising intervention areas, designing a CSP, ensuring its implementation, and monitoring. This included building capacities of local government for designing and operationalising, supporting implementation through technical assistance but not, however, directly implementing.

The conventional technical support models of partnerships between governments and organisations usually visualise the task of the partnering organisation as being the 'thinking' unit for the governments to bring in new ideas and innovations, institute system reforms, and build system capacities. However, in practice this gets translated into partnering organisations functioning like an 'implementation arm' of the governments they are working with. This is partly because government departments have inadequate resources – human and financial – and depend on the partnering organisation to execute and achieve results quickly, and partly because it is easier for the partnering organisation to have control on implementation (and therefore, outcomes), avoiding bureaucratic channels and delays. As a result, system strengthening and long-term gains remain a distant dream despite such strategic partnerships. Once the partnership ends and government departments are left to their own devices with limited visibility and 'know how' into the programme, the growth ceases.

Under the Sinnar sanitation improvement programme, CWAS made a conscious effort to ensure that the SMC owned all decisions. The principle and underlying condition behind every step to improve sanitation in Sinnar was not to 'do it yourself' but to engage the system and hand-hold the

Figure 1: Meeting with Chief Officer of SMC

Council in identifying the 'know how' and moving from 'know how' to 'do how'. CWAS played the role of an enabler providing advisory support to the SMC in developing, implementing, and monitoring programme ideas. While CWAS supported the SMC during all the stages – strategising, designing, rolling out, and monitoring – the whole intervention was owned and led by the SMC. CWAS collaborated extensively with the SMC on each and every aspect of the programme.

During the entire programme, CWAS kept engaging with the city government at different levels – sensitising and creating awareness about the importance of safe and equitable sanitation, tools, and technologies that could be adopted by Sinnar for improving sanitation, etc, and building capacities of different stakeholders responsible for specific functions while working with them. CWAS extensively engaged with political and administrative leadership as well as with officials from various departments like the National Urban Livelihood Mission (NULM), Water Supply and Sanitation Department (WSSD), and Accounts department for the implementation of the sanitation programme in Sinnar. These included the City Chief Officer, elected officers (such as President, Vice President of the SMC) and other elected representatives, sanitation inspectors, sanitation supervisors, sanitation engineers, and city consultants.

Figure 2: Meeting with SMC officials and other stakeholders

CWAS also played a critical role in building capacity of the SMC by instituting relevant Standard Operating Procedures (SOPs) and guidelines, and establishing systems and processes for effective implementation and monitoring of interventions. The process followed, efforts made, and milestones achieved were proactively presented to the decision makers at each stage of the programme to get their buy-in and build ownership within the SMC.

2 THE JOURNEY

CWAS began its journey in supporting the SMC for improving sanitation in Sinnar city with a situational analysis through sanitation assessment activities. This exercise helped both organisations in identifying key problem areas and bottlenecks impeding the achievement of the desired sanitation goals. The next step was to explore solutions for the identified problems and prepare a detailed sanitation plan for the city, followed by narrowing down the focus to the core intervention areas. An intensive resource mapping exercise was undertaken to determine what it would take to implement the proposed interventions. Intensive advocacy was done with the political and administrative leadership to get their buy-in on the plan, ensure earmarked financing, and institute required policies and g guidelines for operationalising the selected interventions. The various stages of this journey are detailed below.

2.1 Development of a City Sanitation Plan for Sinnar, including problem identification

The Sinnar CSP was prepared as a part of the PAS Programme in CWAS, CEPT University, which provided support to small cities in Maharashtra for improving sanitation services. To develop the CSP, CWAS worked in partnership with the WSSD, GoM, Maharashtra Jeevan radhikaran (MJP), and SMC. This was before SBM, when the country in general wasn't familiar with the concept and terminologies of 'ODF' (open defecation free)[1] other than people directly working in sanitation and FSSM; it is still not understood by many people. People at the helm of decision making were not fully aware of these concepts and techniques either. CWAS spent considerable time and energy explaining these concepts, mechanisms, successful technologies, etc, to city leaders through intensive one-on-one as well as group interactions, to make them understand the value of investing time and resources into adopting safe sanitation solutions.

Several meetings and consultative workshops were held with state and city representatives over a period of 15 months to discuss and debate solutions, technologies, and policy provisions for sustainable sanitation plans. Financing plans, to review affordability of solutions and to explore different sources of funds, were an integral part of these CSPs. The CSP was developed for a 10-year action horizon. The key stakeholders involved in the process were city officials, elected representatives, and officers of the MJP and AIILSG.

[1] As per the SBM guidelines, a city/ward can be notified/declared as an ODF city/ODF ward if, at any point of the day, not a single person is found defecating in the open.

Purpose of the CSP

The CSP[2] for the SMC focused on city-wide sanitation solutions that are affordable for both users and municipal governments. It explored and assessed new technologies and business models using an outcome-oriented approach, keeping in mind operational ease and financial feasibility. The city-wide sanitation assessment builds on new thinking in urban sanitation that goes beyond household level access to an assessment of the entire value chain, that is, from user interface to containment/storage, conveyance, treatment, and disposal or reuse. The Sinnar CSP also covered dimensions beyond excreta management and included management of greywater, stormwater, and solid waste as these are interlinked closely in the small city context. The CSP was also based on an assessment of options for low-cost sanitation and decentralised solutions for wastewater management that are more appropriate for small towns.

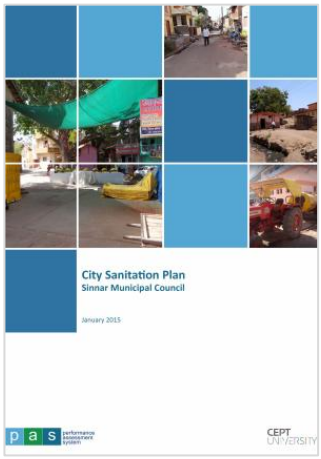


Figure 3: City Sanitation Plan of Sinnar

Approach and methodology for CSP development

The approach to the development of a CSP involved both technical and financial assessments. This was done through participatory processes backed by detailed field level assessments of different service sectors of access to water supply, sanitation, wastewater management as well as solid waste management. An assessment framework was designed that:

- Aimed to address the full sanitation value chain – from user interface to treatment/disposal and reuse.
- Was city-wide and integrated across sanitation sub-sectors – including greywater and solid waste and not just limited to excreta management.
- Was outcome, rather than technology, driven (captured non-networked solutions and not just conventional sewerage systems).
- Focused on equity and access to the poor including slum settlements.
- Used ease of governance and financing as criteria to guide selection of options for solutions.

A three-step process was followed for the development of the city sanitation plan.

Step 1: Performance assessment

The entire sanitation service chain was assessed for different service areas: user interface, collection, conveyance, treatment, and safe disposal. Service levels were measured through performance indicators. Sanitation indicators captured both on-site sanitation and sewerage

[2] City Sanitation plan of Sinnar : https://pas.org.in/Portal/document/UrbanSanitation/uploads/CSP_Sinnar_full_report.pdf

systems. It is pertinent to note here that existing and ongoing surveys were extensively leveraged for collecting information on the current status of sanitation in Sinnar. Questions specific to sanitation were added into the property level surveys that the SMC was planning to do under a water audit.

Additionally, CWAS undertook sample surveys to understand the types of on-site systems for various types of housing, such as bungalows, apartments, commercial properties, institutional properties, community/public toilets' septic tanks, etc. Similarly, questions related to money currently being spent on cleaning of septic tanks by individual households and their willingness to pay a marginal amount for scheduled desludging were explored. Quality tests of effluents flowing into drains were done; the extent and amount of pollutants entering the river Saraswati were also determined as part of the assessment phase.

The different activities carried out included:

Mapping and database creation: Baseline data was collected and mapped for a city-level assessment. In addition to interviews of key officials and elected representatives, focus group discussions (FGDs) were conducted to understand the existing situation and local practices. Transect walks helped to gain an understanding of topography and spatial development characteristics. Primary surveys were conducted in slums to understand the preferred choices for user interface, affordability and willingness to pay, etc. They also were used to validate the data collected from secondary sources.

Figure 4: Focus group discussions and surveys conducted in Sinnar

Urban local body (ULB) finances: The financial health of the ULB was assessed through a detailed analysis of its budgets. Past revenue streams and operational expenses were analysed to get trends that were then used to project municipal finances for the next 10 years. Central and state schemes and grants that were accessed as well as those that could be accessed for implementation of CSP interventions were also identified.

Gap assessment: An analysis of service level benchmarking indicators along with additional indicators for on-site systems and equity pointed to the gaps in current services. Besides, gaps in management including financial and human resources, institutional arrangements were

also studied. The gaps identified were also plotted in light of estimated growth in population and spatial development.

Step 2: Action planning

Key actions needed to improve services were identified, including:

Wastewater management options: Various technical alternatives for wastewater conveyance and treatment were reviewed and assessed in terms of land requirements, capital and operational costs, availability of labour/expertise, etc, in the context of Sinnar. This analysis helped a great deal in convincing various stakeholders to look beyond the expensive conventional sewerage systems.

Strategies and action plan: Having analysed the gaps in service and studied various alternatives to meet the gap, strategies to meet the gaps through concerted efforts over the next 10 years were identified. Interventions were phased so that universal coverage of toilets and 100 per cent safe management are achieved at the earliest. Phasing of other interventions was based on urgency, logical sequencing, and availability of resources.

Stakeholder consultation: The analysis of the existing situation as well as proposals were discussed and debated with all the stakeholders including city officials, elected representatives, and officers of the MJP through consultative workshops.

Step 3: Financial planning

This meant taking into consideration the life cycle costs of various improvement actions in addition to their capital costs. The analysis provided financing plans for both capital and operating costs. Various sources including inter-governmental transfers, borrowings, public private partnerships (PPP), beneficiary contribution and ULB's own funds were assessed to finance capital costs. The operational costs were essentially met through internal transfers and tariff revisions. The financing plans were developed in an iterative manner to review sources of funds for capital works, tariff revisions and introduction of new taxes, where required, and transfers to the water supply and sanitation sector from the general budget.

Key problem areas identified and outlined under the CSP

Water shortage: Sinnar faced a severe shortage of water, and only approximately 40 per cent of households had a water supply connection.

Gaps in sanitation value chain: There are significant gaps across the sanitation value chain in Sinnar (sanitation scenario in 2012):

- Access to toilets: 13 per cent of households practiced open defecation in Sinnar and another 24 per cent were dependent on community toilets; all community/public toilets were in a poor condition.
- Collection of septage: 74 per cent of individual toilets depended on septic tanks which were largely oversized, did not meet the standards, and were infrequently cleaned.
- Conveyance of septage: Sinnar had only one 3,000-litre-capacity suction emptier truck for cleaning and conveyance of septage from all septic tanks in the town.
- Treatment and disposal of septage: Septage was dumped off at the solid waste dump site without any treatment. There was no treatment facility in Sinnar.

Figure 5: Sanitation scenario in 2012 – from left: practice of open defecation, ill-maintained community and public toilets and dumping of septage in the open.

2.2 Process of conceptualising the interventions – Proposed solutions for identified problems

Thorough analyses of the identified problems were undertaken by CWAS while consistently engaging with the key stakeholders at the policy and implementation level through consultative workshops and meetings. Extensive secondary research and consultations with stakeholders was undertaken by CWAS to identify potential interventions to solve for these problems, looking at successful models/interventions under each of the identified areas, discussing the feasibility of adopting these models and developing pathways to achieve success. For example: (a) the feasibility of providing a subsidy to households for the construction of toilets was assessed; and (b) cost benefit assessment was undertaken (taking environmental and individual costs into consideration) for establishing a mechanism for scheduled desludging, with households paying an annual sanitation tax along with the property tax, vis-à-vis on-demand desludging during distress/overflowing tanks paid directly by the households at the time of cleaning.

Proposed solutions

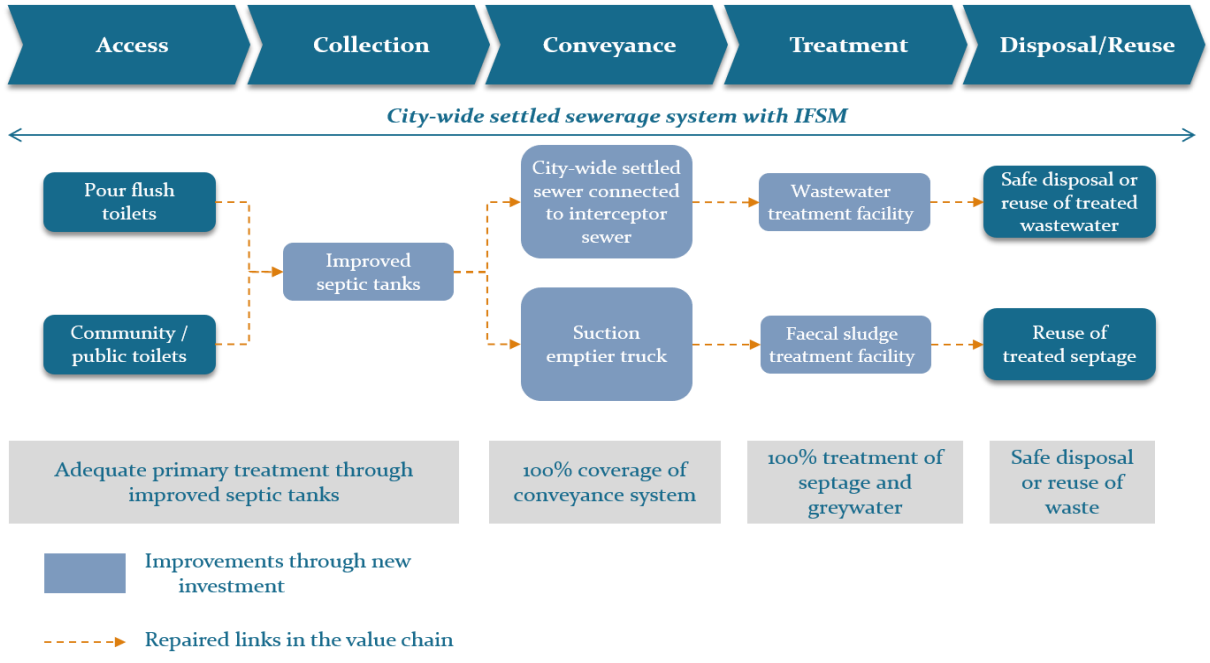
The overall goal of Sinnar's CSP was to move towards safe and equitable sanitation and improvement in water quality so as to ensure safe environmental conditions. The improvements were envisaged across the entire sanitation value chain: access, wastewater management, and solid waste management.

The key objectives as outlined in the CSP were:

- An open defecation free city through access and use of 'own' toilets and public toilets.
- Safe conveyance of wastewater and faecal sludge through affordable infrastructure and regular services.
- Universal solid waste management services using a bin-free approach.
- Appropriate treatment of collected wastewater, faecal sludge, and municipal solid waste along with their safe disposal or reuse.
- Appropriate public-private-community partnerships and ensuring ULB institutional capacity for monitoring and management.
- An affordable and feasible financing plan to meet both capital and recurrent (operation and maintenance, or O&M) costs of the main proposals.

To meet these goals and objectives, detailed proposals were developed. Based on the assessment and actions needed to achieve improvement in sanitation across sub-sectors and the value chain, specific interventions were identified that were planned to be implemented in the next 10 years. The diagram below highlights the key aspects of the CSP for universal sanitation services in Sinnar.

CEPT has supported Sinnar Municipal Council with developing comprehensive city sanitation plan for universal sanitation services



These programmes would be supported by ongoing activities for awareness generation among leaders and residents of Sinnar as well as capacity building of the local council.

Selected areas of intervention

All proposed solutions were assessed from a feasibility and sustainability lens both for financial feasibility and operational ease. Based on this analysis, the SMC selected two interventions to be prioritised in the short term.

1. **Ensure universal access to own toilets:** Construction of own toilets, individual or shared by two to four households, along with attached septic tanks.
2. **FSSM Plan:** Necessary refurbishment of septic tanks, regular (in a three-year cycle) collection and disposal of faecal waste from septic tanks, and construction of a treatment facility for septage and reuse of treated septage.

Specific studies were conducted to explore use of service-level agreements and performance-based contracts with private sector partners as a way to ensure the city-wide delivery of sustainable sanitation services, generating benefits both to users and in terms of public health.[3] These studies were presented to decision makers and a programme design focussing on ensuring universal access to toilets and safe management of faecal sludge was finalised in consultation with them.

2.3 Programme design and implementation

The programme focused all its efforts towards universal access to own toilets and FSSM through: achieving ODF, sustaining ODF, and moving towards ODF+ and ODF++.

Achieving ODF

During the assessment stage it was found that 4,869 households in Sinnar did not have individual toilets: 1,658 were reported to be defecating in the open; 3,211 were reported as being dependent on community toilets, including non-slum residents.

Along with the SMC, the CWAS team carried out surveys to understand the reasons for not having individual household toilets (IHHTs). The two key constraints that emerged through the responses to surveys were:

Space constraints: Design solutions were explored to solve for space constraints. CWAS worked with the SMC to encourage group toilets where two or three neighbours could pool

[3] CWAS, CEPT University. 2015. City Sanitation Plan, Sinnar.

in their resources to construct a common toilet for themselves where space is available within their premises.

Financial constraints: Extensive consultations were undertaken with the SMC, ULBs, lenders, and donors for exploring subsidy and credit mechanisms. Household surveys were conducted to get insights on the acceptability of 'group toilets' and willingness to cover the cost of constructing 'own' and 'group' toilets and maintaining them.

The residents of Sinnar were very interested in having their own toilets but cited space and financial constraints. They were, however, willing to share group toilets and partially bear the cost of construction. A detailed plan was developed by the CWAS team in close collaboration with the SMC.

Many of the community toilet blocks lacked basic infrastructure such as doors, water, and electricity; though all the toilets had septic tanks, most of them were defunct; there were no hand washing facilities in the toilets; all blocks depended on street lights for access during night; and almost all blocks needed to be refurbished. Better monitoring and maintenance of such toilets was required, especially in slums. The SMC was spending Rs 7.8 lakh/year on maintenance of community toilets. Various national and international studies on community toilets indicate that health risks increase with the number of households that share a toilet. Keeping these facts in mind, the SMC wanted to reduce dependencies as well as expense on the upkeep and maintenance of such toilets, and construct more IHHTs.

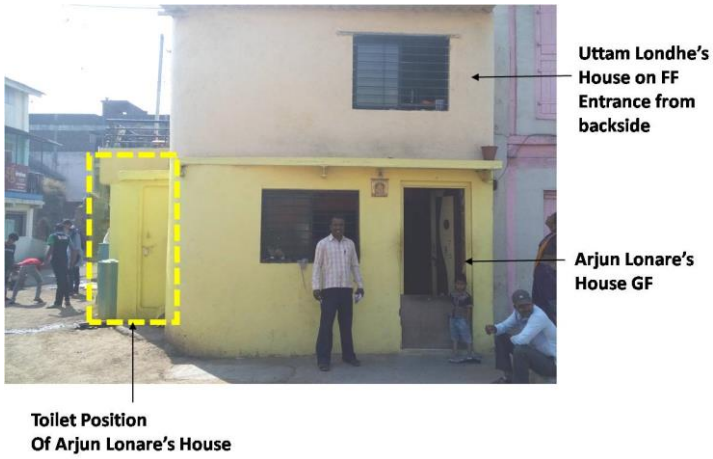


Figure 6: A case of group toilet in Sinnar

The programme explored the possibility of providing each of these households with 'own' toilets – which were toilets owned by households individually, or group toilets jointly owned by two to four households. A 'group toilet' is a toilet shared by two to four households residing in close proximity and who know each other well. This is owned by the beneficiaries and its access is controlled by them by using a lock and key. The repair and maintenance of group toilets is undertaken by the users. The analysis indicated that individual and group toilets had several safety, privacy, and health benefits over community toilets. While individual toilets are the most preferred solution, in situations where space and affordability pose serious constraints, group toilets may be a cost- and space-efficient way of providing improved sanitation facilities in Sinnar.

The programme aimed at providing access to either individual toilets or group toilets to all households who were either defecating in the open or were dependent on community toilets. Under this programme the Council also decided to provide incentive subsidy from the Council's own funds to construct a toilet – and this was done much before the SBM. This was also institutionalised by passing a Council resolution at the city level for this scheme.

CWAS engaged with the city Chief Officer to develop and finalise a programme plan with the required financial estimates. The development of the plan was a two-way process between CWAS and the SMC to ensure every feedback had been incorporated, and that the plan was aligned with the expectations of the SMC and had its buy-in.

The programme plan included the passing of a resolution by the Council to provide subsidy to households for constructing toilets, construction of individual household toilets and group toilets using subsidy/credit mechanisms, and improving the infrastructure as well as maintenance of community toilets.

Resolution signed by the Council to implement the 'Own Toilet Scheme'

Once the detailed plan and budget for implementing the 'Own Toilet Scheme' was developed, the next step was to get adequate financial allocations and approval from the SMC. CWAS worked with the Chief Officer to do extensive advocacy with the President, Vice President, and elected representatives to sensitise them on the importance of ODF, walk them through the intervention plan, and pitch for resource allocation. All of this resulted in the approval of the plan in the General Body Meeting of the elected representatives.

The extensive advocacy and sensitisation of the decision makers resulted in the SMC passing a resolution to implement the 'Own Toilet Scheme', unlocking the latent demand for toilets through a ULB subsidy scheme, in June 2014. Sinnar became the first city in the country to roll out such a scheme, much before the Swachh Bharat Mission was rolled out. Under this scheme, the SMC provided subsidies to all households for constructing toilets.

Construction of IHHTs

Adequate measures were taken by the SMC to facilitate Sinnar in becoming ODF.

CWAS supported the SMC in designing and conceptualising various interventions required to make Sinnar ODF. This included ensuring financing to households through schemes/subsidies and exploring credit options, generating awareness about the importance of using toilets and the 'Own Toilet Scheme' so as to increase demand, and build capacities of local contractors and masons for construction of toilets and septic tanks as per the prescribed norms and designs suited to the space constraints.

Figure 7: OD monitoring squads and household level discussions to spread awareness about the 'Own Toilet Scheme'

Household level surveys and group discussions were conducted with households that did not own toilets. The CWAS team, along with ULB officials, conducted meetings with people who were not ready to construct 'own toilets' and identified households that were ready to construct 'group toilets'. Architectural design solutions were provided to the households that presented with space constraints.

The process flow of key activities for the construction of IHHTs through the 'Own Toilet Scheme' included:

Financing Schemes/subsidies to households, sanitation credit through self-help groups (SHGs): Under the 'Own Toilet Scheme', the subsidy provided by the SMC was Rs 5,000 per household to APL (Above Poverty Line) families and Rs 10,000 per household to BPL (Below Poverty Line) families. An additional subsidy of Rs 5,000 was given to both APL/BPL families if their toilet was to be constructed in hard/concentrated rocky strata.

Gradually, as the SBM and Swachh Maharashtra Mission for Urban Areas (SMMUA) were launched later in 2014, the 'Own Toilet Scheme' was aligned with these national and state schemes. The subsidies under these schemes were then added to those provided by the SBM (Rs 4,000 per household) and the SMMUA (Rs 8,000 per household) to the subsidy provided by the ULB/SMC.

Figure 8: Meeting with financing institutions

This effectively raised to Rs 17,000–22,000 the total subsidy available per household. Additionally, other means of funding, such as sanitation credit through banks to SHGs and micro-financing institutions lending sanitation credit to households, were explored and initiated.

Figure 9: Left to right: Toilet subsidy; Individual household toilet owner

Rolling out the 'Own Toilet Scheme': The sanitation department of the SMC implemented the 'Own Toilet Scheme'. This included: (a) dissemination of the scheme: giving out application forms, collecting sorting and approving applications, and maintaining records; (b) on-the-ground inspection and assessment, technical approval, monitoring and approving implementation; and (c) disbursement of funds and record keeping. The CWAS team provided support to ULB officials in designing the scheme, application for subsidy and record keeping formats.

Communications: Information, education and communication (IEC) on schemes/subsidy, behaviour change communication: Extensive efforts were made for creating awareness and advertising the scheme. The CWAS team supported the development of messages and collaterals for advertisements. The scheme was introduced and disseminated by the SMC using a variety of approaches: ward level meetings headed by councillor, newspaper advertisements, announcements, and posters. The latter, in particular, were designed to share scheme information and were displayed prominently across the city – near temples, in residential areas, at road crossings, and in market places. Toilet and Lenders' fairs were organised to make people aware of the various options available for constructing toilets so that they could select one which was financially viable yet technologically sound.

Figure 10: Awareness banners regarding toilet scheme

Figure 11: Toilet and lenders' fair organised in Sinnar

Training of Local contractors/masons on construction of toilets: SMC officials, supported by the CWAS programme staff, listed local contractors and masons, who were then sensitised and trained for construction of toilets and septic tanks as per the Central Public Health and Environmental Engineering Organisation (CPHEEO) guidelines and using designs suited to

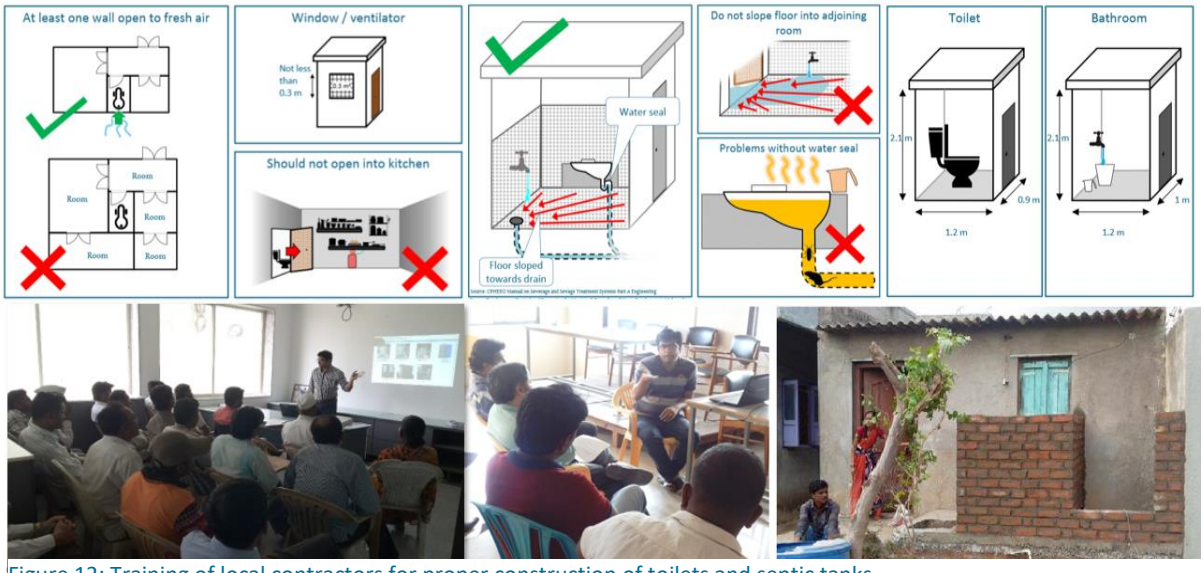


Figure 12: Training of local contractors for proper construction of toilets and septic tanks

space constraints. The ULB also ensured that the new septic tanks constructed in the city conformed to the said guidelines and were easily accessible from the street.

Improving community toilets – infrastructure and O&M

A thorough inspection of all community toilets was done, followed by refurbishing of toilet infrastructure by the ULB. The CWAS team supported the assessment of infrastructure gaps and designing the requests for proposals (RFPs) for identifying vendors for O&M of community toilets in Sinnar. Refurbishment of such toilets was done more as an interim solution, until the coverage of IHHTs increased.

Figure 13: Refurbished community toilet in Sinnar

Efforts undertaken by the SMC were supported by CWAS in ideation, design, implementation, and monitoring of interventions – leading to Sinnar being declared ODF in June 2017.

Sustaining ODF

Though Sinnar was declared ODF, it was important to sustain this status and maximise sanitation and health gains. In consultation with the SMC, CWAS designed and supported implementation of multiple initiatives as detailed below.

Improving IHHT coverage by mobilising more toilet applications from SHGs and exploring sanitation credit

To increase the coverage of toilets and sustaining ODF status, mechanisms were explored for providing sanitation credit to households, which needed further support beyond subsidies, through SHGs. The SMC, through the NULM department supported by CWAS, conducted assessments including household surveys and FGDs to assess the willingness of SHG members to build toilets and the demand or need for sanitation credit. CWAS supported the SMC by interviewing the lenders and making then aware of the scheme. Potential lenders like local

banks and credit co-op societies were reached out for providing loans to SHGs for construction of individual toilets. Approximately 200 members were identified that were interested in availing sanitation credit. Proposals for toilet loans for 38 SHG members were drafted and submitted to eight banks by the SMC, which were eventually approved and disbursed to the SHG members.

Figure 14: SHG discussions with NULM department official

Improving school sanitation

In order to strengthen school sanitation in Sinnar that could significantly contribute towards improved health, sanitation, and education in the city, a needs assessment exercise was designed by CWAS; it was conducted by CWAS and the ULB in all public and private schools for sanitation infrastructure. The assessment indicated that the sanitation infrastructure in private schools was much better than in public schools. Out of the six public schools that were assessed, Zila Parishad School (Zapwadi) –which had only three functional water closets (WCs) for 284 students, with dilapidated structures, inadequate water supply, and irregular maintenance – was identified and shortlisted for sanitation improvement.

Crowdfunding was explored by CWAS and the ULB as a funding mechanism for improved toilets for the school. The crowdfunding campaign went live in January 2018 on Milaap and was shared on various social media platforms, raising nearly Rs 4.28 lakh in two months from 72 supporters/donors. Local citizens contributed towards this initiative by providing funds under crowdfunding. Around 40 per cent of the funds so raised were from donations by the city residents. Since there was still a finance gap of Rs 8 lakh, the SMC stepped in to provide a contribution via its own funds and close this gap for the installation of new toilet blocks and improvement of WASH facilities.

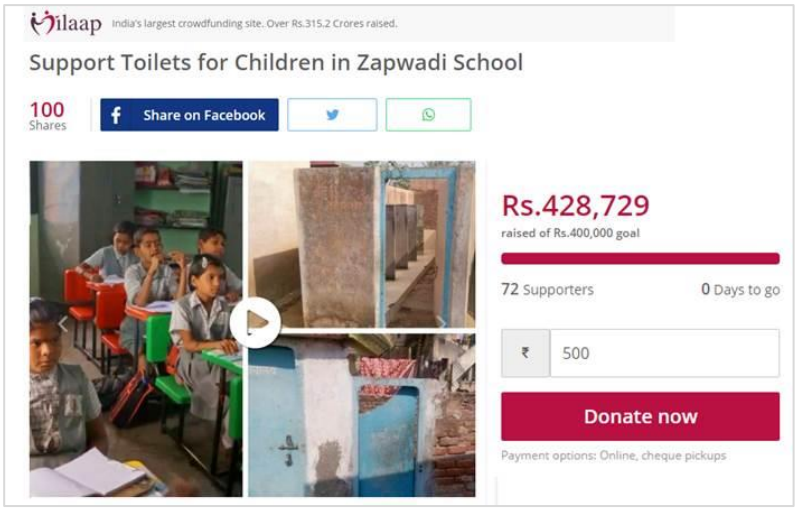


Figure 15: Crowdfunding campaign hosted on Milaap

A committee was formed to oversee the efficient utilisation of the funds. The members of this committee included: Principal of the school, Chief Officer, Sanitation Engineer (SMC),

Block Education Officer, and President. These key stakeholders were involved for increased engagement and ownership. A tender was floated by the SMC for the design and manufacturing of portable cabin toilets (POTA). Additional funds were provided by the Council. The SMC took the ownership of ensuring safe sanitation facilities for the school even though it was a district school and did not fall under the SMC's jurisdiction. The school was provided with improved sanitation facilities including two toilet blocks (separately for girls and boys, with a total of six WCs and 12 urinals), provision of 24x7 water supply by the SMC, and daily cleaning facility by a Council contractor. CWAS provided financing and content-related support for wall paintings to the school for improving IEC around the issue of sanitation. The Council also shouldered the responsibility for the O&M of the sanitation facilities of all public schools in Sinnar. The huge benefit of this intervention has been an increase in the enrolment rates of the school. The SMC has also emphasised WASH education and teachers have made WASH education an important part of the curriculum.

Figure 16: New and improved toilet infrastructure at Zapwadi School

Throughout the process, CWAS played the role of an enabler, providing technical support in designing and implementing interventions at each stage.

Conversion of OD spot into public space

With an objective to sustain the gains around ODF status, the programme initiated the conversion of regular OD spots into public spaces.

A baseline assessment of all erstwhile OD spots was done based on a set of parameters including geographical location, physical character, and nature of the space; existing and proposed land use of the spot; land ownership status; and type and number of beneficiaries using the spot. Based on this assessment, an OD spot in one of the slum areas was chosen to be converted into a public space. The OD spot is adjacent to Talwadi slum and Bhairavnath housing society (a middle income to high income group housing area). Approximately 17,500 people would be the immediate beneficiaries of this change.

CEPT University's Landscape Faculty designed the landscape plan in consultation with the SMC.

A detailed project report was prepared and received technical sanction. The public space has been designed to have a jogging track, children's play area, and an open-air gym.

Figure 17: Proposed landscape layout of the OD Spot

Modifying and maintaining public toilets

In addition to improving access by providing subsidies for individual IHHTs, the SMC also reviewed the conditions of public toilets and urinals in Sinnar and invested in their reconstruction and modification through a PPP model. A detailed assessment of existing public toilets in commercial areas was undertaken to identify gaps in physical infrastructure. Interactions with users were held to capture their perspective. It was found that 99 per cent of the users interviewed suggested refurbishment of existing toilets; 55 per cent were willing to pay for improved ones. Potential private contractors for O&M were also interviewed.

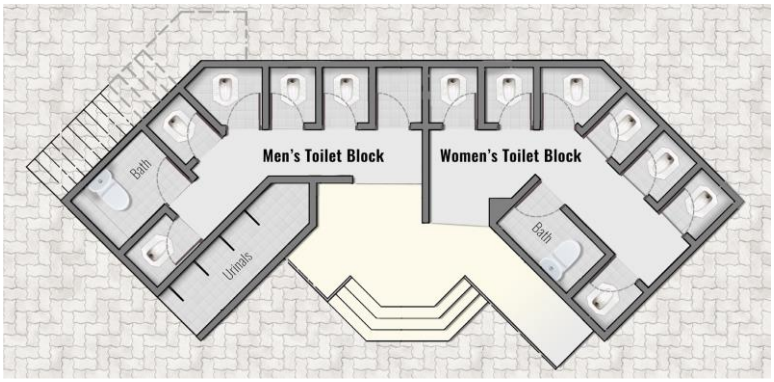


Figure 18: Proposed layout of new public toilet

In consultation with the SMC, a proposal for the demolition and reconstruction of a public toilet in Pratap Talkies was developed by the CWAS team. A tender document for the construction and O&M of a public toilet using the 'pay and use' mode has been drafted by the CWAS team wherein the capital cost for construction will be borne by the ULB and the O&M cost will be taken care of by the private contractor for the coming five years.

Sinnar Swachhta Kosh

CWAS and the SMC ideated to establish a fund-generating mechanism for sanitation and came up with the concept of a City Sanitation Fund to enable local industrialists and other donors to effectively contribute to the development of improved and universal sanitation in

the city. A Council resolution was passed for setting up a committee, the 'Sinnar Swachhta Kosh (SSK)', and a bank account was opened. The first SSK meeting was held in 2017 with the SMC, CWAS team, and industrialists. A few of the industrialists committed a contribution to the Kosh. CWAS prepared a concept note on operationalising the SSK, which included members of the SSK committee and their roles and responsibilities, setting up fund management and utilisation mechanisms, setting up monitoring and reporting mechanisms, etc. CWAS also supported the SMC to conduct the SSK meetings with industrialists and donors. The Council is keen to diversify and expand this funding mechanism for further

Figure 19: Chief Officer addressing the Sinnar Swachhata Kosh Meeting

development of erstwhile OD spots, IHHT subsidy, setting up handwashing stations, school sanitation, faecal sludge treatment plant (FSTP) landscaping, etc.

Moving towards ODF++ - Designing and operationalizing interventions for Faecal Sludge and Septage Management

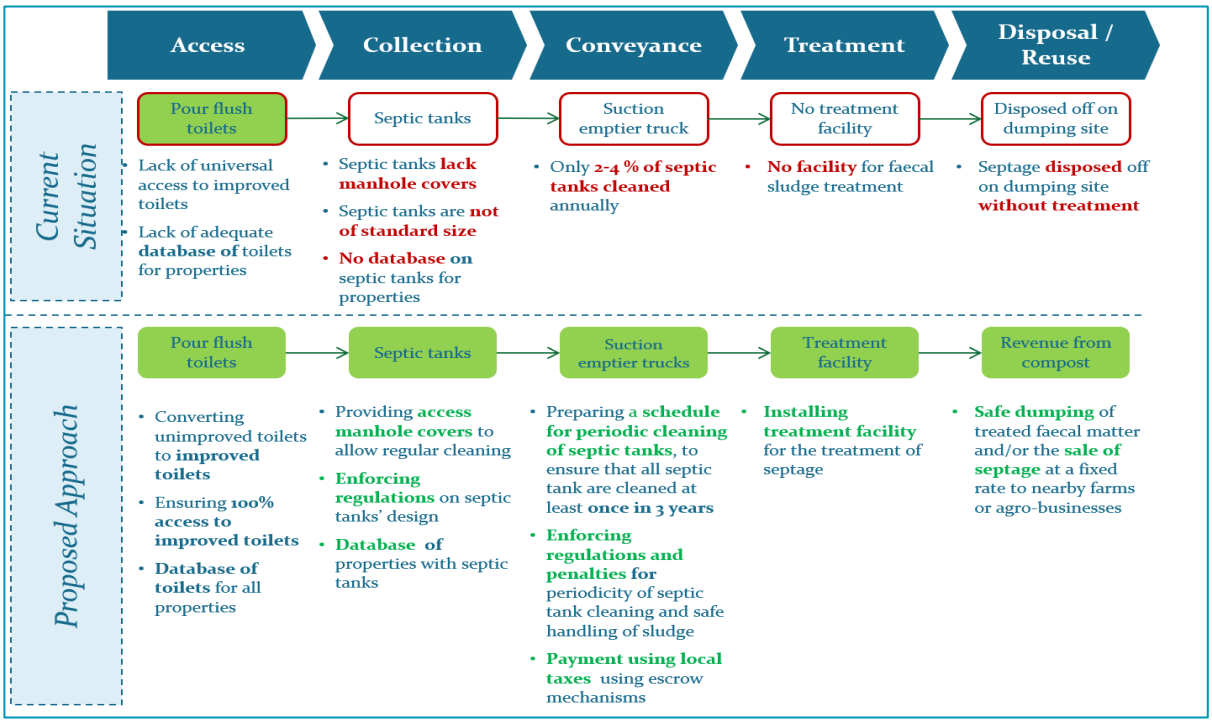
As per SBM guidelines: A city/ward/work circle[4] can be notified/declared as SBM ODF+ city/SBM ODF+ ward/SBM ODF+ work circle if, at any point of the day, not a single person is found defecating and/or urinating in the open, and all community and public toilets are functional and well maintained.

Similarly, a city/ward/work circle can be notified/declared as SBM ODF++ city/SBM ODF++ ward/SBM ODF++ work circle if, at any point of the day, not a single person is found defecating and/or urinating in the open, all community and public toilets are functional and well maintained, and faecal sludge/septage and sewage is safely managed and treated, with no discharging and/or dumping of untreated faecal sludge/septage and sewage in drains, water bodies or open areas.

CWAS provided support to the city for developing an end-to-end solution for FSSM. The process of this support included assessing the existing scenario at all stages of the sanitation value chain, identifying problems, and designing and operationalising solutions to solve for

[4] As per the Ministry of Housing and Urban Affairs (Government of India) ODF framework.

the identified problems, so as to help the city transition from RED to GREEN on FSSM. The diagram below depicts this approach.



After completing the initial sanitation diagnostics to identify gaps/problems across the sanitation value chain, the next stage was to identify possible solutions. Multiple interventions were designed by CWAS in consultation with the SMC based on successful evidence-based models, which are detailed later in this section. Some of them included: instituting a mechanism for scheduled desludging, transport and treatment of faecal sludge, ensuring finances for FSSM, and establishing policy guidelines and monitoring mechanisms.

The ULB's institutional and capacity analysis was undertaken to determine the sufficiency and bandwidth of resources in the context of implementing the proposed solutions. The potential for private sector engagement for carrying out some of the proposed sanitation interventions was also explored.

Institutionalising the concept and guidelines

A detailed plan and budget for implementing the 'Faecal Sludge and Septage Management' initiative was developed by CWAS and the SMC. The next step was to get institutional mechanisms and guidelines in place, backed by adequate financial allocations from the SMC. CWAS worked with the Chief Officer of the SMC to do extensive advocacy with the President, Vice President, and elected representatives to sensitise them on the importance of FSSM, to walk them through the intervention plan, and pitch for resource allocation. All of this resulted in the approval of the plan in the General Body Meeting of the elected representatives.

In June 2014, a resolution was signed by the Council on FSSM that covered aspects of city-wide FSSM, private sector engagement, scheduled cleaning, land for setting up a treatment

facility, provision for special sanitary tax to be levied, and opening of an escrow account for ensuring accountability, transparency, and efficiency in pay-outs.

Plan for scheduled desludging

Assessments carried out by CWAS and the SMC indicated that less than 4 per cent septic tanks were cleaned annually in Sinnar. Households cleaned the tank once in eight or 10 years, as opposed to recommended cleaning after every three years. Sinnar had only one truck with a capacity of 3 kL, owned and operated by the ULB. Households paid the ULB about Rs 400 to 800 per trip when they got their tanks cleaned, which was usually at the time of distress/overflowing of tanks.

In order to solve for this, CWAS, in consultation with the SMC, proposed a shift in septage management practices, moving from complaint redressal to regular service orientation. The proposed solutions included:

- Septic tanks to be cleaned on a pre-determined schedule; regulations set in place to ensure periodic cleaning.
- Awareness generation activities to educate households about the need for regular cleaning.
- Engaging private sector (service provider) for desludging of septic tanks and transport of faecal sludge.
- All property owners (residential and non-residential) will pay a 'special sanitary tax' to be levied by the ULB as per the municipal legislation.[5]

Figure 20: Scheduled desludging services

Systematic processes and guidelines were outlined and reporting formats were developed by CWAS in consultation with the SMC for scheduled desludging. All the properties in the city were surveyed to collect data and develop a sanitation database. A detailed route plan for scheduled desludging was developed. The city was divided into three zones and all the properties in each zone were planned to be covered at the end of the three-year period.

[5] Maharashtra Municipal Councils, Nagar Panchayats and Industrial Townships Act, 1965, Chapter IX: Municipal taxation, Section 108.

Households were to be informed by the service provider a day prior to the visit for desludging and instructed to keep the covers of their tanks open before the visits. Households were to be visited as per the route plan. A form was to be signed by the households after the completion of emptying. Septage was to be carried to the treatment plant and records were to be maintained at all levels. In collaboration with the SMC, CWAS developed and disseminated awareness materials related to the scheduled desludging intervention.

Transport of faecal sludge

An increase in number of trucks by contracting out to the private sector for IHHT for desludging and transport of sludge was proposed by CWAS. Sinnar planned to get three additional 5-kL trucks to clean approximately 10–12 septic tanks a day, 300 days a year, which could be operated by a private service provider. The existing ULB trucks were proposed to continue cleaning public and community toilets.

A tender document was developed by CWAS in consultation with the SMC and rolled out by the SMC for inviting private service providers for scheduled desludging of septic tanks. The evaluation of the tenders was done by the SMC. CWAS followed all the required processes for the SMC for rolling out the tender and the same processes can be used for scale up in other cities of Maharashtra and the rest of the country.

Treatment of faecal sludge – Setting up an FSTP

Extensive advocacy was undertaken by CWAS with the administrative and political leaders of the city, emphasising the need for constructing an FSTP in Sinnar. This led to allocation of resources by the SMC and rolling out a tender document for engaging a private operator. The contract included construction of a FSTP and operations for three years on a design-build-operate (DBO) basis. The contract was awarded to Panse Consultants from amongst the three bids received. CWAS played a significant role in the designing and rolling out of the tender document, as mentioned above. In addition, all the relevant government processes were also followed with regard to the construction of the treatment plant. The entire cost for setting up the FSTP was borne by the SMC.

Figure 21: Sinnar FSTP

The FSTP was inaugurated on March 3, 2019, in the presence of the Member of the Legislative Assembly, Chief Officer, Mayor, councillors, SMC officials, CWAS team, Panse Consultants, Sumeet Facilities Pvt Ltd, and nearly 500 women from SHGs. The FSSM (emptying and treatment) operations started on March 27, 2019.

Figure 22: FSTP inaugurated in the presence of MLA, Chief officer, Mayor, councilors,500 SHG members, SMC officials and CEPT team

Enhancing the investments made towards FSTP

CWAS supported the SMC in enhancing the investments made towards the FSTP through landscaping, urban forest plantation, and installing a resource centre on-site.

Landscaping around the FSTP and creating a 'resource park': The model resource park showcases on-site implementation of effective reuse of the treated wastewater for watering the on-site plants and reuse of dried sludge as compost. CWAS identified a Nashik-based landscape architect to develop a landscape design proposal in consultation with the SMC. Around 3,530 sq mt of barren land has been converted into a well landscaped area in a circular design inspired from the water filtration systems in Mandu Fort.

Figure 23: Resource park at the Sinnar FSTP

Urban forest: CWAS developed a proposal in consultation with the SMC to develop an urban forest in Sinnar. In the first phase of this intervention, saplings and trees were planted to develop an urban forest covering an area of 2,900 sq mt. In 2020, the second phase of the development and expansion of this urban forest was executed – more saplings, covering an area of approximately 1,000 sq mt, were planted. In total, 1,100 tree saplings have been planted on-site. The SMC is planning to engage SHGs for the O&M of both the landscape garden and the urban forest. The Council also plans to take adequate steps for maintaining and expanding the urban forest area in the future.

Figure 24: Urban Forest at Sinnar FSTP

Resource Centre: Sinnar's FSTP facility receives 500+ visitors every year. A POTA cabin has been installed in the FSTP site to be used as a resource centre. With a seating capacity of 50 people, the resource centre is used for dissemination of Sinnar's FSSM story and about the FSTP.

Figure 25: 10Kw on-grid solar plant at Sinnar FSTP

Solar plant: A solar unit module has been mounted on the resource centre. The on-grid solar plant suffices to meet the power requirements for FSTP operations.

Online wastewater quality monitoring system: An online wastewater quality monitoring system has been installed in the Sinnar FSTP to measure effluent quality for pH, BOD, COD, TSS, and nitrates at pre-defined time intervals.[6]

Private sector engagement at different levels:

CWAS supported the ULB in developing and implementing a scalable, end-to-end methodology to enable ULBs in small and medium towns in Maharashtra to effectively engage the private sector in sanitation service provision. A city-wide FSSM system was developed and implemented in partnership with the private sector, to move from the current outlook of complaint grievance redressal to a financially and environmentally sustainable service model.

A six-step process was followed to define the structure of private sector engagement:

1. Define the operational role of the private sector in terms of which activities should be bundled together.
2. Identify the source of revenue.
3. Allocate the responsibility for capital investment between the private player and the ULB.
4. Define the payment structure.
5. Analyze the required contract length and value to incentivise private players.
6. Identify risks and required mitigating actions.

Collaborations with the private and non-governmental sector for improving sanitation in Sinnar went beyond contracting out of services. The process, led by the local city government to make Sinnar ODF, included facilitating access to household credit through private micro-lenders, SHGs, and housing finance companies. Similarly, CWAS and the SMC facilitated the development of an innovative financing mechanism – Urban Sanitation Fund – to leverage new sources such as corporate social responsibility, social investors, foundations and donors (comprising both grants and returnable capital) through a performance-based mechanism.

Financing: Generating funds and timely payment to service providers

The CWAS team supported the ULB in establishing financing mechanisms, including generating funds and streamlining payments to service providers/desludging companies through a performance-linked annuity model. The funding was generated through a sanitation tax bundled with property tax levied on all property owners in the city. Sanitation tax was institutionalised through a Council resolution. The amount collected through the sanitation tax went to the local government. The ULB deposited this amount regularly into an escrow account so as to have a reserve amount for at least three months of contracting fees.

[6] pH = power of hydrogen; BOD = biochemical oxygen demand; COD = chemical oxygen demand; and TSS = total suspended solids.

Performance-based payments were made to the service provider on a monthly basis through the escrow account.

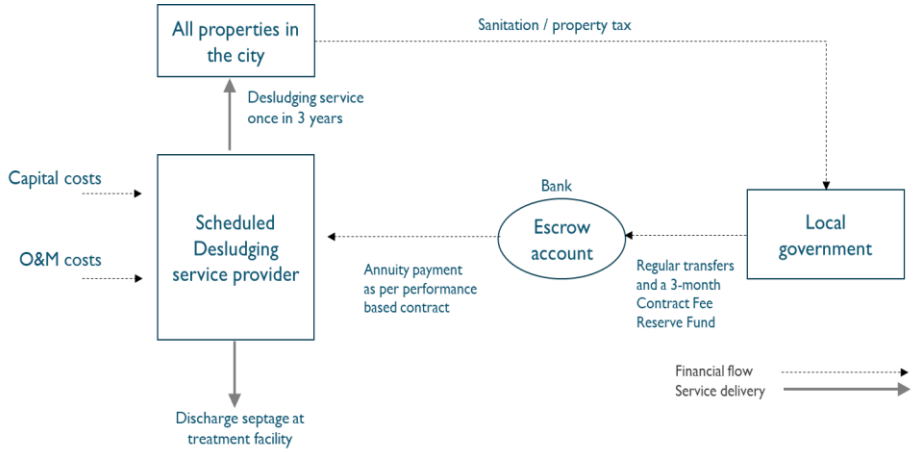


Figure 26: Performance Linked Annuity Model (PLAM) for scheduled desludging in Sinnar

Monitoring of FSSM activities

CWAS helped the SMC put in place a robust monitoring mechanism and capacitated different stakeholders to use these systems and tools for monitoring and tracking the interventions. These included development of apps; development of dashboards with provision for tracking of key indicators; conducting training to build capacities of staff members on how to use the apps, dashboards, and other monitoring systems; and how to use data for decision making in day-to-day functions, amongst others.[7] This dashboard is viewed by the Chief Officer regularly to assess the progress of scheduled emptying, problem solving, removal of bottlenecks, and any discussions with the private service provider.

Two apps were developed. First, an existing paper-based monitoring system with four copies of the format for four different stakeholders (local government, private operators, property owners, and treatment plant) was transitioned into an app-based online monitoring system – SaniTrack– for tracking of scheduled septic tank emptying operations. SaniTrack was designed to monitor satisfactory services at the property, as well as safe decanting and treatment quality at the FSTP. All of these features are captured on a dashboard that is linked to the app. This app has login functionality for different user types – emptying route scheduler, private desludger, SMC, and CWAS. The app captures photo stamping and geo-stamping and enables spatial information view. It has functionality to capture both scheduled emptying as well as demand-based operations. The app also has functionality for payments which can be linked to the automatically generated monitoring reports. The app is used to measure the performance of the private service provider as per the contract conditions. The app is being used for monitoring both private and ULB vehicles.

[7] CWAS, CEPT University. 2019. Monitoring FSSM service chain.

Figure 27: Web and mobile based modules of SaniTrack in use in Sinnar

Figure 28: Web and mobile based modules of SaniTab in use in Sinnar

The second, SaniTab tool has been designed to capture on-site sanitation information and to monitor performance of desludging services with dashboards to show real time progress. This dashboard has login functionality for different user types – SMC, service provider, and CWAS. The app captures photo stamping and geo-stamping and enables spatial information view. The app is being used for monitoring both private and ULB vehicles.

Awareness generation

To ensure success and sustainability extensive awareness generation activities were undertaken to ensure Sinnar's progress towards ODF++. CWAS played a critical role in developing communication plans, selection of mediums and development of collaterals. These activities included, but were not limited to, posters, wall paintings and banners in the city; interpersonal communication through household visits using leaflets and other collateral materials; circulating short videos; intimation of scheduled desludging through SMSs, etc.

Figure 29: IEC activities for FSSM

2.4 Achievements of the CWAS approach in a nutshell

The programme was a joint effort between CWAS and the SMC, which demonstrated success in transforming the sanitation scenario in Sinnar over a period of five years. The programme focused on supporting the city to identify problems, build solutions, and implement and monitor them.

The approach followed by CWAS was to enable the SMC through building systems and processes, building capacities within the government by 'learning on the job', identifying and solving for policy and process gaps. The success of these efforts is not limited to just the sanitation outcomes achieved, but also to the unprecedented achievement of the city – with its limited resources – rising to the occasion, developing practical solutions, and implementing interventions with technical assistance provided by CWAS.

The capacities, systems, and processes that were built through the period have not just benefited the SMC in improving sanitation, but can be adopted and used for various other programmes and domains coming under the city municipal council. The approach used by CWAS has also ensured long term sustainability and set the stage wherein the model can be scaled from Sinnar to Maharashtra to other states of India.

2.5 Challenges along the way and finding solutions

The key challenges that CWAS faced during the implementation of the programme include:

Building data system: When the programme started in 2012, there was no sanitation data available with the municipality. The programme designed household surveys and included relevant questions in the ongoing surveys to collect the desired data on sanitation.

Financing options: Limited resources were available at the city level and households expressed financing being a constraint for constructing toilets. CWAS undertook extensive analysis factoring in the environmental and individual costs, went to the decision makers with this cost benefit analysis, and advocated for a subsidy-based scheme which was eventually approved.

Institutionalization: Leadership changes at the city level presented tremendous challenges in terms of timely implementation of the interventions. In the eight years of its journey, CWAS worked with three Chief Officers – the changing relationships required renewed efforts towards relationship building. To mitigate this, CWAS had a well-documented mechanism in place for institutional history including a non-financial binding Memorandum of Understanding and institutionalising all the activities within the SMC through a Council resolution. The other efforts made towards seamless transition included meeting with both

the outgoing and incoming Chief Officers together for debriefing on the success made by the intervention and the way forward.

CWAS deputed staff within the SMC for continued institutional memory and seamless support to the SMC on the programmes/interventions. Adequate mechanisms for feedback were instituted by CWAS to ensure that suggestions from the government are adequately addressed and incorporated within the programme.

3 SUSTAINABILITY AND SCALE

Establishing sustainable mechanisms was the core of CWAS's approach. While CWAS worked very closely with the government from assessment to designing solutions, facilitation, implementation and final monitoring of the interventions, it simultaneously built the capacities of local officials at all stages. CWAS played the role of an enabler in providing end-to-end support to the SMC but did not directly implement the programme. Instead, it provided hand-holding and supportive supervision to the SMC for improving sanitation outcomes.

Establishing processes and systems

During the process, CWAS supported the SMC in establishing processes and systems within the government, so that the intervention does not become a one-time exercise but develops as a demonstrated model showcasing best practices to be replicated by other districts and states. A host of activities were undertaken by CWAS in consultation with the SMC that were later instituted in the SMC for future requirements.

Necessary guidelines and protocols were developed for each component of the programmes at assessment, planning, implementation, and monitoring stages. First, for baseline assessments, tools were developed to conduct household surveys for assessing sanitation situation in Sinnar. Next, in order to engage the private sector and for contracting, necessary formats were developed such as tender documents/RFP documents for scheduled desludging, O&M of public toilets, FSTP construction and operations, etc. These, interventions were also supported by development of relevant communications materials in order to ensure their success.

Once interventions started taking shape, monitoring mechanisms were also developed such as indicators to be tracked and tools to be used for tracking apps including dashboards for tracking progress, decision making and problem solving.

Detailed documentation was undertaken for each component of the programme, including process documentation. This will not just be helpful for the SMC for years to come but can be shared with other cities/states interested in learning about the Sinnar model.

Lastly, mechanisms were explored for financial sustainability and a 'Sinnar Swachhta Kosh' was instituted to enable local industrialists and donors to effectively contribute to the development of improved and universal sanitation in the city.

Disseminating learning at scale

The learning from the project was disseminated extensively at state as well as national levels. At the state level in Maharashtra, CWAS was already providing technical assistance to the

GoM under the SMMUA and there was great buy-in to scale up a few interventions, such as scheduled desludging and construction of FSTPs, across the state. CWAS conducted capacity building workshops at regional as well as at divisional levels, shared all the documents (SOPs, protocols, guidelines, case studies, etc) developed as part of the Sinnar and Wai projects, and facilitated 'learning visits' for other cities to learn from, and replicate, the Sinnar model.

CWAS also worked with the National Faecal Sludge and Septage Management Alliance to disseminate learning from the interventions at the national level. Consistent advocacy with relevant stakeholders led to the inclusion of scheduled desludging in the FSSM policy framework. The products created by CWAS as part of the technical assistance to the SMC – such as FSM toolkit, PSP toolkit, monitoring apps (SaniTrack and SaniTab), etc – were also widely disseminated.

Additionally, at the national level, CWAS in partnership with the National Institute of Urban Affairs under the Sanitation Capacity Building Platform, widely disseminated the learning from Sinnar to other states by conducting training of ULBs across other states, for instance, Uttar Pradesh, Bihar, Madhya Pradesh and Rajasthan. It also conducted nation-wide capacity-building sessions.

Figure 30: Visit by officials from other states to Sinnar

A City-wide Inclusive Sanitation conference was held, which had participants from neighbouring countries like Bangladesh, Nepal and others, wherein the Sinnar model was presented.

Figure 31: Sharing Sinnar experience with national and international sector partners

The Sinnar model is set for scale up and is already being replicated in the other cities of Maharashtra. Model tenders for scheduled emptying and FSTP construction and operations are ready and being used in other cities in Maharashtra. Based on Sinnar's experience, training of all ULBs in Maharashtra, and in other states and countries, was done for ODF++. Learnings from Sinnar have been translated into policies and guidelines at state and national levels.

For CWAS, supporting the state for the Swachh Maharashtra Mission for urban areas is a plausible way of scaling the CWAS approach for broader implications.

4 STAKEHOLDERS' ROLE AND FEEDBACK

During the course of developing this approach paper, feedback on the CWAS intervention was taken from key stakeholders and beneficiaries in the SMC, including the Chief Officer, Sanitation Inspector, and the Sanitation Engineer. The summary of these interactions alluded to the CWAS approach as being very nimble, cost effective, successful, and scalable.

Presented here are highlights from the interactions (as reported by SMC officials):

Long term partnership: The CWAS engagement began in 2012, much before the launch of the SBM. The SMC was unfamiliar with the new age concepts, techniques, and methodologies of sanitation including ODF, ODF+, and FSSM. The SMC had no data, no guidelines, and no processes for sanitation related work. The first gain to the SMC was the information and knowledge imparted by CWAS around why city sanitation was important, what could be done to improve the sanitation situation in Sinnar, and how the SMC could go about it using its own human and financial resources.

Support at each step: CWAS partnered with the SMC at each step in making Sinnar a model city for sanitation. This included: (a) identifying the problem through supporting the designing, training, and implementation of surveys; (b) developing a CSP in collaboration with the SMC; (c) suggesting innovative mechanisms for financing, such as inclusion of sanitation tax as part of the property tax; (d) providing technical inputs across a range of interventions around toilet constructions, septic tank designs, transport of septage, creation of an FSTP, etc.

Building systems and procedures: CWAS played an important role in helping the SMC establish processes and systems, including development of SOPs and guidelines, undertaking extensive documentation for institutionalising these interventions.

CWAS supported the SMC in setting up mechanisms for private sector engagement and contracting, including defining the processes and steps, supporting the development of tender documents, inputs and negotiations on technical issues, finalising vendors and monitoring their work. The processes established for private sector engagement in the long run will help not just in sanitation related work but also in contracting out for other work areas undertaken by the SMC.

Cross-cutting approach: The other major contribution of CWAS through these years has been supporting the SMC in problem solving across technical, financial, and administrative issues pertinent to sanitation. Regular monitoring and inspections by the SMC as guided by the CWAS team has led to early identification of issues and course corrections.

CWAS approach has been need based and solutions oriented.

Building capacities: CWAS has been a thought partner as well as an implementing and problem-solving partner for the SMC. It has built adequate capacities within the SMC, both in

terms of institutionalisation of systems and procedures, as well as providing on-the-job training to core staff to take the work forward.

The model and the SOPs have been well documented by CWAS and can be used by any other city for improving sanitation. This model has been different from the other TA models in the sense that CWAS has been able to equip the SMC with all the required tools and techniques to take the work forward on its own.

This model is focused around building institutional capacities; therefore, it is cost effective and sustainable. It should be scaled across cities and states for sustainable city-driven action on sanitation.

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CENTER FOR WATER AND SANITATION

The Center for Water and Sanitation (CWAS) is a part of CEPT Research and Development Foundation (CRDF) at CEPT University. CWAS undertakes action-research, implementation support, capacity building and advocacy in the field of urban water and sanitation. Acting as a thought catalyst and facilitator, CWAS works closely with all levels of governments - national, state and local to support them in delivering water and sanitation services in an efficient, effective and equitable manner.

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