

Stakeholder Workshop on Financing FSSM

New-Delhi

29th June 2018

Background

Following the adoption of a National Policy on Faecal Sludge and Septage Management (FSSM) there is greater attention on FSSM in India. Many state governments have also developed their own FSSM policy. However, in most cases, this has not resulted in increased programmatic attention or specific budgetary allocations to FSSM. The Financing Task Force of the NFSSM alliance and the ongoing project at CEPT University on Financing FSSM Services aim to understand the financing requirements for FSSM and explore possible public finance investment models for FSSM. Innovative options are also identified to leverage public resources and increase sector efficiency. Centre for Water and Sanitation (C-WAS) at CEPT University shared its work and key findings on the first phase of this research at a workshop with key stakeholders.

The study is carried out for the four focus states of the Bill and Melinda Gates Foundation in India – Andhra Pradesh, Odisha, Maharashtra and Tamil Nadu. It has assessed FSSM financing requirement in the four states and identified potential sources of funds for both capital and operating expenditure. The presentation at the workshop made the case that comprehensive and universal FSSM does not require large financial resources and can be largely funded through public finance. However, a variety of private and blended financial approaches can help enhance its effectiveness. These different approaches were discussed and debated. Their use will depend on the prevailing situation each state and adapted to local context and priorities.

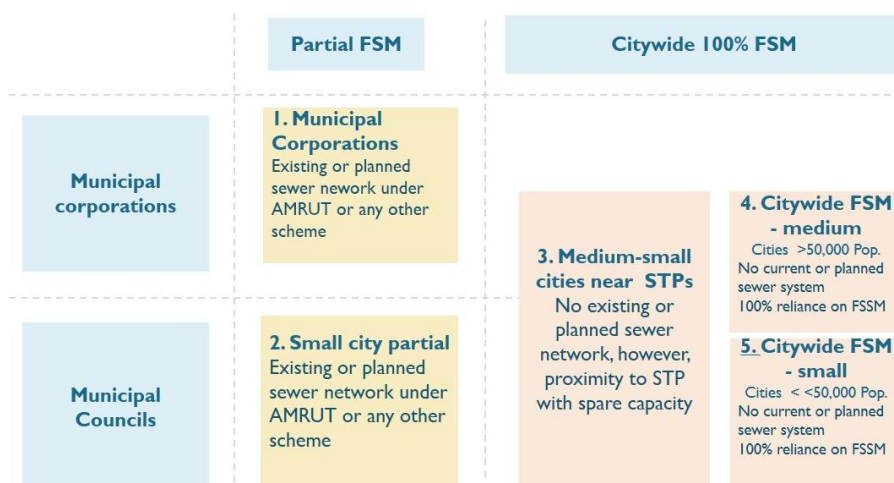
The workshop was organized jointly with the Finance Task Force of the NFSSM alliance and was facilitated by Dasra. The workshop participants included members of the Gates Foundation team, members of the Technical Support Unit (TSUs) from the four focus states and the national Programme Support Unit (PSU) as well as other members of the National Faecal Sludge and Septage Management (NFFSSM) Alliance.



FSSM Financing Requirements

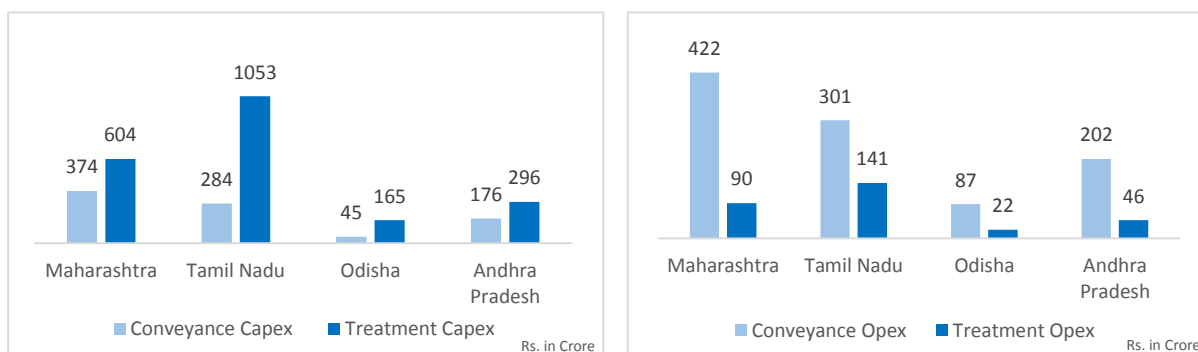
The financing requirements for FSSM were estimated across the service chain to capture both conveyance and treatment. Cities were divided into five categories to reflect different field situations and associated financing requirements, particularly for FS treatment. In doing this, a common approach was used across the four states using detailed city level data. FSSM financing requirement for Conveyance and Treatment were assessed for each of these categories. It was observed that the financing requirement is significant for conveyance for both capital and operating expenditures, in each of the four states. The analysis suggests that the focus should not be only on FSM treatment services, as is conventionally done. It was highlighted that unless the conveyance is adequately funded, septic tanks will not be regularly emptied, and newly built treatment facilities will remain underutilized.

Figure 1: City Categories for Assessing Financing Requirements



In both Maharashtra and Andhra Pradesh, the conveyance cost is largely influenced by type 1 cities. For these cities a different financing model can be developed with greater private sector participation. The treatment cost is driven by the type 4 and type 5 city categories for all states. For these cities, public finance will be predominant source.

Figure 2: Capex and Opex Financing Requirements for FSSM Services in Four States



Source: Based on estimates developed under the CEPT Research Project.

The assessment of financing requirements is based on a set of assumptions. These refer to desludging frequency and related conveyance requirements. Based on field observations, two types of trucks – 3 KI and 5 KI, were considered. For treatment plant, average cost per KLD of FSS treated was derived from available data for existing and proposed treatment facilities compiled by the National Program Management Unit in the Ministry of Housing and Urban Affairs (MoHUA) was used. There was some discussion on these assumptions regarding land costs. Our assessments do not include land costs for treatment plant.

In both Maharashtra and Andhra Pradesh, the conveyance cost is influenced by type 1 cities. For these cities, the FSS is transported to nearby STPs. In these states, there is significant presence of private desludgers. It is possible to consider a financing model with greater private sector participation. The treatment cost is driven by the type 4 and type 5 city categories for all states, as in these cities an FSTP is considered essential.



During the discussions, it was suggested that choice of specific treatment technology will influence both capital and operating expenditure of FSTPs. The Technology Task Force of the NFFSM was requested to take up further analysis of this, incorporating both capital and operating costs for different technologies, as well as per KLD costs. This will help to better analyse different technologies.

How can FSSM services be financed?

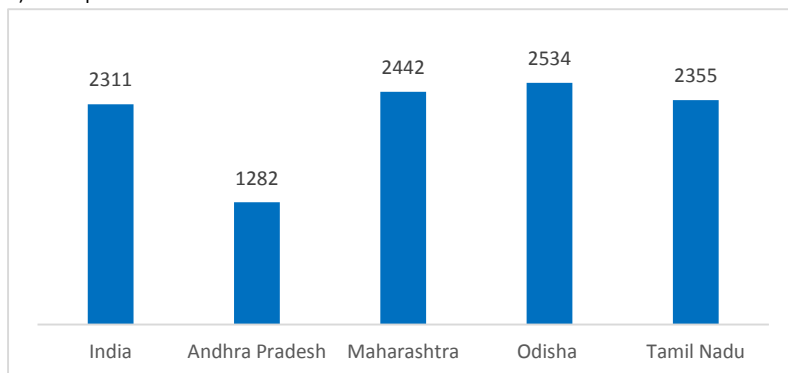
After considering the requirement of FSSM in four states, potential use of public funds to meet these requirements were discussed. Private funding sources were discussed, in the specific cases of conveyance and in case of AP, where the private funds are being sought for treatment through a hybrid annuity model. In addition, there was a discussion around options for financing operating expenditure.

Financing options for capital expenditure for treatment: The research findings highlight that capital financing requirement for FSSM is only a small proportion of total urban sector outlay at both the national and state levels. Thus, there is a need to create better awareness at both national and state levels to explicitly incorporate FSSM related components in national programs, such as SBM and AMRUT. This is important, particularly for small and medium towns, which are not covered by the current flagship programmes such as AMRUT and Smart Cities. Our research also shows that the financing requirement for FSSM treatment is high for category 4 and 5 cities (small towns with population below 100,000). This focus on inclusion of FSSM in flagship programmes will also influence state governments to allocate more funds for FSSM.

During the workshop discussions, the State TSU (E&Y) from Odisha pointed out that there is potential funding available through the District Mineral Fund for FSM services. They had made a presentation to state government on FSM requirements and the state government has indicated a willingness to make an annual allocation for FSM. Under the submission to the 15th FC, Odisha state government indicated a demand of Rs. 340 Crore for statewide FSM coverage. For Maharashtra, it was pointed out that the 14th FC funds are a major source of funds for ULBs.

Figure 3: Per Capita 14th FC funds allocation across four states

a) Per Capita 14th FC funds allocations



Source: 14th Finance Commission Report, Dec 2014, Annexure- 9.1 pg. 464

Government of Maharashtra has asked the ULBs to use 50% of these funds for sanitation related activities. Also, as large municipal corporations are not allocated the 14th FC funds, their share is distributed to other smaller cities. There is, thus, significant fund availability with small and medium towns in Maharashtra.

In Tamil Nadu, TNUDF is a major source of funds for ULBs. For water and sanitation, some of the smaller municipalities have availed funds through its water and sanitation pooled funds. However, discussions with TNUDF suggest their hesitance for investing for FSSM, due to the lack of previous experience. To overcome this, more advocacy is needed, and an initial pilot project for FSM (For FSTP Capex) maybe explored with TNUDF. It was suggested that there are possible opportunities for multi-lateral funds (e.g. ADB) for sanitation in Tamil Nadu, and these can be explored for funding FSM services. It was pointed out that TN has not received the 14th FC funds for urban local governments as elections have not been held in ULBs. This needs to be assessed further as the state government had made efforts to have these funds released.

In AP, the state government has invited private sector participation through a Hybrid Annuity Model (HAM) approach through the Swachh Andhra Corporation. GoAP has made a specific budget allocation for this in its budget. This will help assess the possibility of private sector interest in participating with capital investments in FSS treatment. The AP invitation for private sector participation covers 78 ULBs, AP government will need to mobilize funding for an additional 33 ULBs and an estimated Rs. 70crore of investments.

Financing capital expenditure for conveyance: As identified earlier, in all four states there is a need to explore capital funding for conveyance – mainly for the purchase of trucks. In Odisha, most cities have their own trucks. In addition, recently, the state government has funded purchase of 86 new trucks for 57 cities. In Maharashtra also, the available data from cities suggests that nearly 75% of cities had their own vehicle for septic tank emptying. These vehicles are largely operated by the ULBs themselves, though in some cases private sector is contracted to provide services using these trucks. Private sector service providers also operate in many cities, especially around major metropolitan

areas. Going forward, however, it is likely that greater private sector participation in funding the purchase of trucks is possible in both these states.

Unfortunately, adequate data is not readily available regarding availability of desludging services across cities in the states of AP and Tamil Nadu. The discussions with the state TSUs, however, suggest that private sector plays a greater role in providing emptying service.

Scheduled Desludging: In all states, septic tank emptying service is provided only as complaint redressal, i.e emptying service is demanded only when the pit/septic tank overflows. This practice affects the environment, pollutes ground water and affects health of the community. More efforts will be needed to convince local governments to adopt scheduled desludging. It is possible to develop appropriate strategies for this and ensure that emptying at regular intervals is offered to city residents as a service, rather than only as complaint redressal. These strategies will need to address issues of equity in terms of reaching the poor and low-income groups at affordable prices. In this context, there was some discussion about using the tax-linked scheduled service option that has been introduced in two Maharashtra cities. .

Discussions in the workshop also suggested that it would be useful to develop the Schedule of Rates (SORs) for various FSTP technologies and septic tank emptying trucks. This will make it easier for ULBs and/or their consultants to prepare DPRs for FSSM projects.

Ensuring adequate Opex funding: At present, in all ULBs across the four states, demand-based services are provided for septic tank emptying. This service is provided as a complaint redressal service. This is the common business model and is based on user charges levied at the time of emptying. In most cases charges are high ranging from Rs. 1000 to 1500. In some cities it is reported that a very high fee of Rs. 7,000 is charged. Households are generally willing to pay these high charges as they have no other recourse but to pay whatever the emptier demands.

Desludging charges are generally higher in smaller cities and in areas outside the ULB jurisdiction. The discussions suggested that often the poor and low-income groups pay high charges. In some cases, men in these households avoid using their own toilets so that tanks do not get full soon. Thus, high emptying charges inhibit regular emptying of septic tanks and use of household level toilets by all household members. An alternative model of scheduled emptying linked to ULB's sanitation and property taxes is being tried out in Maharashtra cities to address these issues.

Regarding opex for treatment, the workshop participants were reminded about the spectre of non-functioning STPs across cities in India. This is often due to inadequate funds for operation and maintenance of the plant. To avoid this situation for FSTPs, it was agreed by all participants that it is critical to ensure adequate funding for opex for FSTPs before the projects are taken up. For O&M of treatment plants, there is often a discussion of revenue stream from reuse of treated products from wastewater and septage. However, based on the field inquiries, it appears that these revenues are meagre and cannot offset operation and maintenance costs. Thus, local governments will have to find resources to meet the O & M expenses of FSTP.

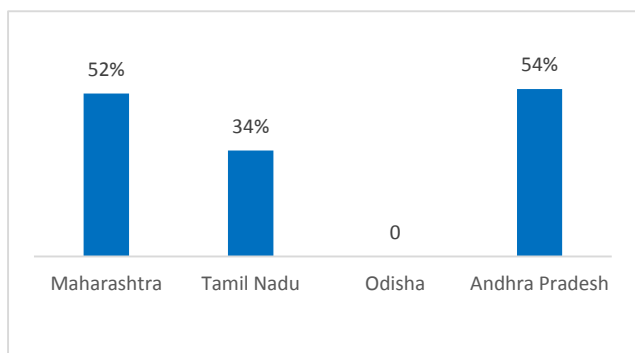
In all 4 states, FSSM is generally the responsibility of local governments and therefore the onus is on them to ensure proper operation and maintenance of FSTPs. The O &M costs will need to be financed by ULBs. It was pointed out that ULBs will finance this through either their own income or grants through the State/Centre.

The ability of local governments to finance and manage FSSM services depends on their technical and financial capacity. While lack of technical capacity can be overcome by hiring a private operator, the local government will need funds to pay the operator. Available information from Maharashtra, Andhra Pradesh and Tamil Nadu suggest that ULBs in these states are financially strong and have the capacity to meet the O & M costs of FSTPs. In these states, property tax is a major source of revenue for ULBs. It constitutes at least a third of own revenue income for ULBs. Available studies suggest that there is further scope to improve these revenues as often ULBs fail to cover all properties in the property tax net. Also, as illustrated in Figure 3d, collection efficiency is only around 50%. In Andhra Pradesh, the per capita property tax revenues are only 50% of those in Maharashtra and Tamil Nadu. Thus, there is good scope to improve local government revenues, which in turn can improve local services including FSSM.

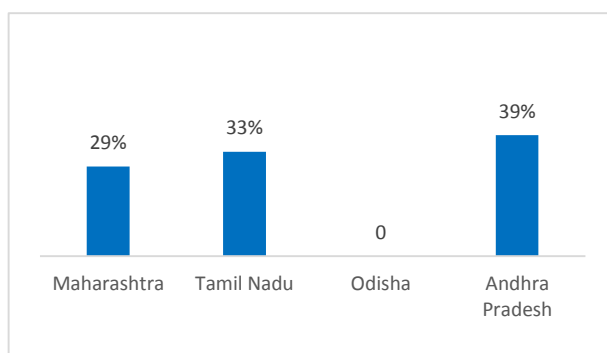
During the discussion it was also pointed out that all the four states do have some provisions to levy sanitation related taxes. However, it needs to be assessed whether these can meet O&M expenditures for emptying and treatment. The assessment in Maharashtra suggests that these can be used for FSSM services.

Figure 4: Municipal Finance Performance across the Four States

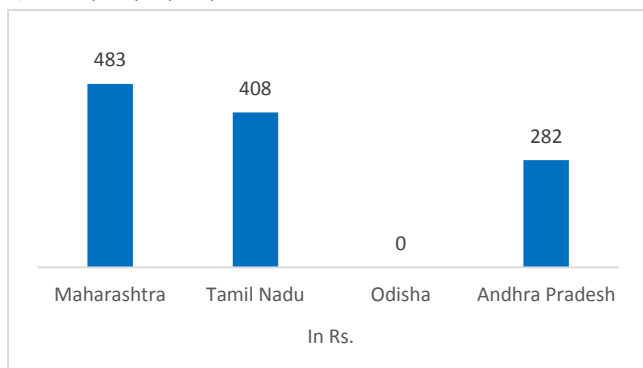
a) Percentage of Own Revenue to Total Revenue



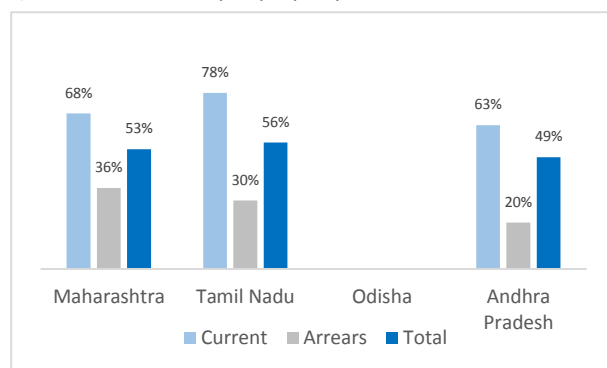
b) Percentage of property tax to own revenue



c) Per capita property tax



d) Collection efficiency of property tax



Source: For AP- FY 2015-16, CAG Report ; For MH- FY 2015-16, PAS-SLB Data; For TN- FY 2014-15, Fifth state finance commission report, 2016

In general, discussions suggested that to really ensure sustainable FSSM services, it is essential to strengthen the local government capacity – both to finance and to manage these services through appropriate partnerships with the private sector. This suggests that strengthening overall ULB capacity and finances will need to become a part of FSSM services strategy.

Cases of state government funding capex and opex: There was some discussion about funding of FSSM activities by state governments, rather than only ULBs. In Odisha, over the past two years, the state government has funded both treatment facilities (Rs. 18 crore) and purchase of septic tank emptier trucks (Rs. 13.5 crore). Given the relatively lower financial capacity of ULBs in Odisha this was probably considered necessary. However, it will be important to build ULB capacity in Odisha to operate and manage the FSTPs and trucks, either on their own or through appropriate contracts with private sector operators.

In a similar vein, the state government in Andhra Pradesh has played an important role in funding of FSTPs in 78 ULBs through a hybrid annuity model (HAM). The state government budget allocation will help cover both upfront capital costs as well as O&M costs and annuity payments to repay the private investments. A concern in this approach would be that the role of ULBs may be minimized as the private sector operators will report to and be funded through Swachh Andhra Corporation, a state government entity. In past, experience with state level entities or utilities in the water and sanitation sector has not been very encouraging. It will also require considerable monitoring from the state entity to fulfil the performance-based payment mechanisms.

In Maharashtra, there were several programs such as Sant Gadge Baba Abhiyan and Nagarothan which provided funds for urban infrastructure to cities. However, over the past decade, the state funding has mainly been used to meet the state share for projects under the national flagship programmes such as JNNURM, AMRUT SBM and SCP. Thus, a new central program that focuses on FSSM in all cities, especially the small and medium ones, will help mobilize state share for such projects. Government of Maharashtra, however, does provide resources to all municipal councils as incentive funds for becoming ODF. The total outlay for this would be nearly Rs. 408 crores as all municipal councils and Nagar Panchayats in Maharashtra have become ODF.

Preparedness of States and ULBs to plan and implement FSSM services: Discussions highlighted that along with ensuring adequate funding, adequate capacity is needed to both plan for and implement FSSM services at local level. Based on the research in these states, it was clear that a state led drive is needed for this. Two models were presented and discussed. The first one from Maharashtra focuses on the State Government supporting the cities with wider policies (such as the ODF sustainability charter highlighting FSSM and the ODF+ approach) and capacity building support for planning and preparing detailed implementation plans including preparation of Detailed Project Reports (DPRs). GoM has also enhanced the availability of 14th FC funds for small and medium sized cities and provided Incentive Funds to all cities that become ODF. However, it is recognised that FSSM is essentially a local government service, as are water supply and sanitation. This means that ultimately the ULBs will need to plan, finance, implement and manage these services. This is different from Andhra Pradesh where a state entity, the Swachh Andhra Corporation, plays a more direct role in planning, financing and implementation.

Discussions on this aspect highlighted the need for empanelment of consultants for FSM at the national level as has been done for SWM by the MOUHA. It would be helpful to have at least a memo from MOUHA that indicates that the consultants empanelled for SWM can also be used for preparing FSSM Plans and DPRs.



Innovative Financing Models

Based on findings of the ongoing research, a few innovative financing models were presented. It was highlighted that as the FSSM funding requirements are not very large, the focus of innovative approaches should not only be on leveraging additional resources, but also to provide incentives using performance-based approaches to improve efficiency and effectiveness of FSSM services.

The presentation of these approaches also highlighted lessons from other sectors, particularly water and transport sectors, where innovative financing mechanisms have worked. A few specific models were presented and discussed.

Performance based annuity models with PPPs: While it was agreed at the workshop that public finance is important for FSSM, it was also suggested that it would be useful to explore opportunities to bring in private sector participation in FSSM through annuity payments, backed by either regular taxes or specific budget allocations. This will allow private sector's 'skin-in-the-game' and lead to improved service delivery through performance linked contracts. Two emerging options were discussed.

- **Annuity linked Conveyance Contracts:** This model helps to mobilize capex for conveyance from the private sector. Examples of citywide scheduled desludging contracts using annuity payments were presented. These are backed by sanitation and property tax for their annuity payments. Two ULBs in Maharashtra – Wai and Sinnar Municipal Councils – have contracted a private company to provide citywide services, and with performance linked payment – based on number of septic tanks emptied. As no permit is given to another private operator, there will be

an assured market. It is expected that households will be willing to get their tanks emptied as no user charge is paid at the time of emptying. It was highlighted that the role of ULBs will be important in designing and implementing this approach.

It was pointed out during the discussions, that user charges under the conventional complaint redressal mechanism for emptying are often very high and can act as deterrents in getting tanks emptied, especially by the poor and low-income households. The scheduled emptying linked to sanitation and property tax is more equitable and covers all properties, including those housing the poor and low-income groups. It was pointed out that compared to this, a sanitation tax linked to scheduled emptying will be lower and more equitable.

In Odisha, even though the state government had bought about 86 emptying trucks for 57 ULBs, private players were often not willing to operate these on a contract basis. In future, this approach may be reconsidered with an assured annuity payment made against outcomes, rather than user charges. In case the local tax collection system is not adequate as possibly in Odisha, other sources of funds such as other municipal income or specific grants can be used. It was discussed that the State and local Governments in Odisha may explore this route and explore the possibility of private sector purchasing their own emptying trucks and are repaid through a performance linked annuity payment.

- **Hybrid Annuity Model (HAM) model for treatment facilities:** Financing of road projects in India has evolved over time from Viability Gap Funding (VGF) to Engineering, Procurement, Construction (EPC) contracts to the hybrid annuity model (HAM). This was in response to risks of rather optimistic toll projections. HAM has helped to mobilize private sector investments by mitigating their revenue risks through annuity payments. This approach has also been used for a few STPs in UP. Its use for FSTPs, provides an opportunity to leverage public resources to bring in private sector financing for treatment. This also helps to reduce the initial public investments, though the private sector must be repaid through annuities using public funds.

The advantage of this model is that since the annuity payment is linked to the performance, it will also help to improve efficiency and effectiveness in operations. However, given the higher cost of debt for private sector and their high expectations on return on equity, the total investment outlay is likely to increase. Preliminary analysis suggests that the total investment requirement is likely to be almost double. The workshop deliberations suggested that as this model is being used in Andhra Pradesh, the actual bids received will help further assess this model.

- **Risk management through escrow account mechanisms:** Delayed payments by state or local governments or their entities, was highlighted by most private sector companies as a major risk. To manage this risk better, an escrow account mechanism has been used in annuity-based models for private sector investments in both conveyance and treatment. In case of annuity-based models for conveyance used in the cities in Maharashtra, a risk reserve fund of three months of payments has been kept in an escrow account. This is further backed by a council order to pay direct monthly allocations to the escrow account. Based on this experience, this mechanism is also being adopted by cities in Odisha. For example, Baripada Bhadra Council, is in

process of setting up escrow account mechanism to pay the private emptier companies. An escrow account mechanism has also been proposed for the AP HAM for treatment facilities.

Risk management also necessitates that the contracts are bid out and processed through normal government procedures. This would ensure that transfer of key officials or a change in government will not put the project in jeopardy and its continuance and timely payments are insured. Institutionalizing all these aspects is very important.

- **Strong monitoring systems are critical for performance linked annuity models:** The discussions also highlighted the need for strong and sustainable monitoring systems. Both require performance assessment in terms of services delivery. For conveyance contracts, performance is easier to assess as number of septic tanks emptied, though attention will have to put on ensuring that all contract clauses are followed. It was pointed out this is being currently captured in the two contracts in Maharashtra, and there are plans to further strengthen these through online and app-based systems. The discussions also highlighted that implementation of scheduled desludging, backed by a concurrent monitoring system, will provide an opportunity to create a database on existing septic tanks which has otherwise been very difficult in most cities.

In the case of HAM for treatment in AP, monitoring systems will need to assess treatment performance as well as a proper assessment of actual capital costs incurred. As the project is being implemented by a state entity, appropriate mechanisms for participation of local governments will also need to be developed.

- **Credit Guarantee Fund Trust for Small and Medium Enterprises (CGFTSME):** Government of India and SIDBI have recently set up this fund to strengthen credit delivery system and facilitate flow of credit to the SME sector. It has introduced a "Hybrid Security" product allowing guarantee cover for the portion of credit facility not covered by collateral security. In the partial collateral security model, the lending institution will be allowed to obtain collateral security for a part of the credit facility, whereas the remaining part of the credit facility, up to a maximum of Rs. 200 lakh can be covered under Credit Guarantee Scheme of CGTMSE.

Under the two annuity linked models discussed above, private sector enterprises will need to mobilize funds for either emptying trucks for the conveyance contracts or for meeting their share of treatment costs in a HAM. For this, commercial borrowing would be needed by private sector, many of whom are likely to be of the SME category. It would thus be useful explore access to credit guarantees for them through this fund.

Institutional and Market Borrowing for Capital Investments: While in macro assessments, the financing requirements may not seem high, some ULBs may need additional resources to finance the capital investments for FSSM. For this, a few options were discussed. These mainly focused on debt mobilization by ULBs, either through institutional borrowing (e.g. HUDCO, TNUDF) or through the capital market in the form of bonds. Such borrowing will require a rigorous assessment of municipal finances. It would be easier in States such as TN, where the ULBs have a strong credit history through the TNUDF operations, or in Maharashtra where the ULBs have high own income through sources such as property and sanitation tax, as well as various land value capture mechanism such as

betterment levy and Transfer of Development Rights (TDR). It is worth noting that in Maharashtra share of own income in total revenue income of ULBs is high at 50% and property tax comprises only 30% of own income.

- **Institutional borrowing from HUDCO, Municipal Development Funds or Banks:** Housing and Urban Development Corporation (HUDCO) provides loans to public agencies and private sector for urban infrastructure. State Governments and ULBs can borrow from HUDCO to finance their FSSM related capital investments. HUDCO offers loans at competitive terms and can be a good source for ULBs for urban infrastructure as FSSM can be included in this. In 2015-16, it disbursed loans worth Rs. 8,250 crores for urban infrastructure and over the 6 years period from 2011 to 2016 it released loans worth Rs. 14000 crore per annum. HUDCO's loans provide a good option for ULBs. The interest rates are about 10.35% and the loan tenor ranges from 7 to 15 years depending on the types of projects. However, HUDCO requires a state government guarantee for lending to urban local bodies, which may become a constraint as such guarantees affects contingent liability of state governments. Also, the new Fiscal Responsibility and Budget Management Acts of several state governments have a ceiling on total guarantees. Of the four focus states of except Maharashtra all other states have such stipulated limits. However, HUDCO funding can be explored for treatment facilities by private providers in a PPP arrangement for FSSM services, if it is competitive as compared to other options for them.

In addition to HUDCO, ULBs can also borrow from the State level Municipal Funds (MDFs). Of the four states, TN, Maharashtra and AP have such funds. However, besides TNUDF, the MDFs in other states have not provided credit effectively to ULBs. For TNUDF, as noted above, it would be good to explore their interest in FSSM and support development of pilots. The MUNIFRA in Maharashtra does not have a strong and effective portfolio. However, loans for those ULBs that are unable to meet their contributions for treatment facilities maybe able to approach MUNIFRA for loans.

ULBs can also borrow from various banks – ranging from scheduled commercial banks, small finance banks to urban cooperative banks. Bank loans will be available for ULBs at relatively low interest rates terms though tenor will be short of up to 5 years. It is important to point out that most banks may not have realized that lending for FSTPs of up to Rs. 5 crores will also be covered under the priority sector lending (PSL) requirements for commercial banks. This will make it attractive for banks to lend to ULBs for sanitation projects. However, this requires awareness generation for both banks and ULBs. It will also require rigorous assessment of municipal finances to ensure their repayment capacities. It would be useful to explore pooling of a few smaller ULBs that are interested to borrow from banks. This will help reduce their costs and make it attractive for banks to consider a larger project. Any borrowing from banks will also require permission from the State Government as per most state Municipal legislation.

- **Municipal Bonds and Bonds through a Water Sanitation Pooled Fund:** Though the idea of municipal bonds in India was introduced more than 20 years ago, ULBs have used this route only on a few occasions. Recent issuance of municipal bonds by a few ULBs such as Pune, Hyderabad and Indore has rekindled interest in this. However, so far it is the large ULBs, mainly municipal corporations that have raised funds via this route. . Also, the costs of preparing for such debt

mobilization are high and the smaller ULBs may find it difficult to use this route. The pooled bond mechanism has been successfully used by the TNUDF over the past 15 years for mobilizing market resources for water and sanitation investments by smaller ULBs in Tamil Nadu. However, this will require supporting TNUDF which has experience in this route, to consider FSSM projects within this. There is also a need for some regulatory clarity as TNUDF has not been to use this route under the new SEBI regulations for municipal bonds.

CSR, Philanthropy and Social impact investment: While both public finance and possible commercial resources are important, FSSM financing can also come through other emerging innovative mechanisms including CSR, philanthropy and funding by social impact investors. This may comprise grants or loans depending on the specific sources. While the CSR and philanthropy funds will largely be as grants and project support, the social impact funds can be grants or loans, depending on the specific mechanisms used. A few illustrative mechanisms and examples were presented and discussed.

- **Mobilizing CSR (and philanthropy) for FSSM:** For both corporates and philanthropists, while sanitation has gradually emerged as an important area, there is little understanding of FSSM and the need to look beyond toilets to making cities ODF+ by ensuring safely managed sanitation. The research, however, showed that philanthropy has helped to fund pilot a few FSTPs such as those in Devanhalli in Karnataka, Wai in Maharashtra, Trichi in Tamil Nadu, Warangal in Telangana and Narsapur in AP. These have showcased new technologies and made it possible to make these concepts popular. However, it can be argued that this is not a sustainable source beyond initial demonstration of technologies.

There is also a possibility of mobilizing corporate funding using CSR for large companies as the Companies Act, 2013 mandates that large companies spend 2% of their three-year average annual profit towards CSR. However, given the past trends this funding may not be available for FSSM conveyance and treatment related activities. Beyond this, however, there may be possibilities of mobilizing CSR funds to support FSSM for different activities that would help the quality and effectiveness of investments. CEPT university has mobilized CSR funding from HSBC for Sinnar, a small city in Maharashtra. This supports activities related to ODF sustainability and for making the city ODF+. A CSR platform has been set up by Samhita and ISC with CEPT as knowledge partner with BMGF funding. The platform is expected to mobilise CSR funds for sanitation and FSSM services in Maharashtra.

CSR funds can also be mobilized for other such activities such guarantee funds to back up escrow accounts being used for annuity models. This arrangement would give private players greater comfort and would help in reducing bid prices.

- **Development impact bonds (DIBs):** DIBs were discussed as upcoming instruments to attract social impact investors to the sanitation sector. Under a DIB structure, the investors are paid if the A DIB can be explored for FSSM to facilitate a new technology or business model linked to specific outcomes related to either social / equity impacts or environmental impacts. Such outcomes can be improved quality of treated waste water or citywide sludge collection and safe disposal after treatment. As in case of annuity-based models, strong monitoring systems will be

needed to measure impacts, such as the ones being introduced in Wai where GIS based monitoring of both conveyance and disposal is planned. Discussions were around proper structuring of FSSM-DIBs and exploring potential investors. This can also be taken up for further discussion to explore potential pilots in the Finance Task Force.

Way Forward

The workshop provided an opportunity to share the research findings with partners from the state TSUs and national PMU, as well as other NFFSSM partners from the Finance Task Force.

The model developed for assessing the financing requirements has been shared with all stakeholders for their own analysis and developing state strategies for resource mobilization. The key takeaway from these assessments was that the financing requirements are not high, but national, state and local governments will need to prioritize this in their programmes. Inclusion of FSSM for all cities in a national flagship program will also help move the financing agenda greatly. This maybe either as SBM+ or AMRUT+.

Several follow up suggestions were also made for the Technology Task Force. One of them related to developing a better understanding of treatment facility costs related to different technologies. It was suggested that these costs need to be assessed based on data from ongoing and upcoming projects and should be assessed as per unit (kl) costs. It was also suggested that it would be useful to develop the Schedule of rates (SORs) for some of FSSM components such as various FSTP technologies and septic tank emptier trucks. This will make it easier to take up treatment projects at state and local levels. Finally, it was suggested that it would be helpful to have consultants empanelled for FSSM by the MOUHA as has been done for SWM under SBM. It would be good to at least have a memo from MOUHA that indicates that the consultants empanelled for SWM can also be used for preparing FSSM Plans and DPRs.

Several innovative financing models were suggested and discussed. Some of these based on annuity models are already being implemented for both conveyance and treatment. It was suggested to also explore the ideas around pooled bonds /borrowing and getting social impact investors through a DIB structure. It was suggested that pilots for testing some of these models and their potential scaling up need to be taken up. It was agreed that these ideas can later be discussed further in the Finance Task Force.

List of Participants

Sr No.	Participants	Organization
1	Sakshi Gudwani	BMGF
2	Madhu Krishna	BMGF
3	Erin McCusker	BMGF
4	Rahul Mankotia	CSE
5	Rudresh Sugam	CSE
6	Dinesh Mehta	C-WAS, CEPT University
7	Meera Mehta	C-WAS, CEPT University
8	Aasim Mansuri	C-WAS, CEPT University
9	Upasana Yadav	C-WAS, CEPT University
10	Jigisha Jaiswal	C-WAS, CEPT University
11	Anurag Chaturvedi	Dasra
12	Parnasha Banerjee	Dasra
13	Bhawna Prakash	EY
14	Pragyal Singh	EY
15	Srinithi Sudhakar	IIHS (on-call)
16	Miriam Otoo	IWMI (on-call)
17	Mayank Agarwal	KPMG
18	Pankaj Arora	KPMG
19	Nogesh Bhardwaj	Samhita