



# ASSEMBLING PRIVATE SECTOR PARTICIPATION FOR A SAFE AND SUSTAINABLE URBAN SANITATION FUTURE- DISCUSSIONS FROM THE DIALOGUE

14.03.19 • THE NEHRU MEMORIAL MUSEUM &  
LIBRARY (NMML)

PREPARED BY-SCALING CITY INSTITUTIONS  
FOR INDIA:SANITATION (SCI-FI)



## **Background:**

Until recently, the dominant paradigm for wastewater management in urban India consisted of providing underground, networked sewerage across cities and towns. However, providing networked sewerage across rapidly expanding urban areas has proven to be a resource-intensive, technically complex and lengthy proposition with the net result that only one-third of the urban residents are served by sewerage.

Much of this gap has been filled by informal businesses that employ a mix of mechanised and manual cleaning methods. Despite the ubiquity of these service providers in the FSSM sector, there is still insufficient understanding of their business operations. How do they enter the market? What are the profit margins and break-even points? What are the customer-segmentation and negotiation approaches? Can we define limits to scale for these enterprises? Given the recent surge in policy focus through the National Policy for Faecal Sludge and Septage Management and funding under the national AMRUT scheme for FSSM facilities in eligible cities, it is important to develop detailed solutions to these questions and understand their impact on the market. This can promote development of the nascent FSSM market and avoid 'locking' cities into sub-optimal waste management processes.

Against this background, the Centre for Policy Research organized the 'Dialogues on PSP in Sanitation' on March 14th, 2019. Bringing in private-sector practitioners and infrastructure experts, sanitation sector professionals and policymakers to share their insights and experience, the objective of the Dialogue was to build knowledge-sharing networks, to learn from several state-specific implementation experiences and initiate a broader discussion on the potential for private sector participation in the sanitation value chain.

## **Session 1: Emerging Formal PPPs In FSSM**

The first session was moderated by Ms. Anindita Mukherjee, Senior Researcher, CPR. The session discussed new business approaches to FSSM that are emerging across states in different contexts, mentioning in particular the various ways that procurement and contract structures are evolving to meet state-specific issues and challenges. The session speakers included Professor Dinesh Mehta, CEPT University; Dr. Y. Malini Reddy, Administrative Staff College of India; Dr. Suresh Kumar Rohilla & Mr. Rahul Mankotia, Centre for Science and Environment; Mr. Kartikeya, J. Sagar Associates. The session summary is detailed below.

## Presentation 1: FSSM Business Landscapes-International Comparative Landscape

*Dinesh Mehta, Meera Mehta*

*Center for Water and Sanitation, CEPT University*



Dr. Dinesh Mehta discussed the growing recognition of FSSM and adoption of solution-based approaches at both state and national levels. The presenter pointed out that earlier initiatives like AMRUT targeted the creation of toilet blocks. However, no directives existed for treatment and safe disposal of faecal sludge. He further stressed the lack of consideration of conveyance (carriage of sludge by transport to and from source to treatment stations) in the financing of FSSM at the national level. The costs are quite high and close to that of requirement for treatment itself. The management of capital expenditures and operational expenditures is generally left for local governments to manage.

Dr. Mehta discussed possible service models for collection, conveyance and treatment and identified a need for close monitoring to ensure consistent service levels, especially when private parties are involved. Highlighting the ‘complaint-redressal’ nature of FSSM, Dr. Mehta emphasised that FSSM is not yet viewed as a public service like sewerage and solid waste management (SWM). This on-demand cleaning service often takes place at intervals of 8-10 years, increasing the possibility of use of illegal manual labour and making it difficult for cesspool operators to attain economies of scale. Moving to a scheduled desludging system offers many benefits over on-demand basis like improved desludging frequency, environmental benefits like BOD and coliform reduction and lower possibility of solids, better affordability in costs per trip and ease of regulation and monitoring.

Placing these models in context, Dr. Mehta then discussed various FSSM models adopted by countries across the world. Through a mixture of federal legislation and local capacity-building, donor support and sustained private-sector engagement, Philippines and Indonesia have implemented mandatory scheduled desludging practices paired with a robust monitoring system and mobile app based service to request

operators for collection. Dakar, Senegal has adopted a call centre based approach where cesspool operators are connected to the call centre and which operates on a bid-based system. In Vietnam, the costs for scheduled desludging are covered by the city's budget and 15% waste water surcharge. Dhaka, Bangladesh follows a unique model where municipality-owned trucks are leased to entrepreneurs that provide the service at a market determined price. In India, Dr. Mehta postulated that municipalities could combine desludging fee with property tax or water supply charges since most cities have, or are investing, municipal water supply.

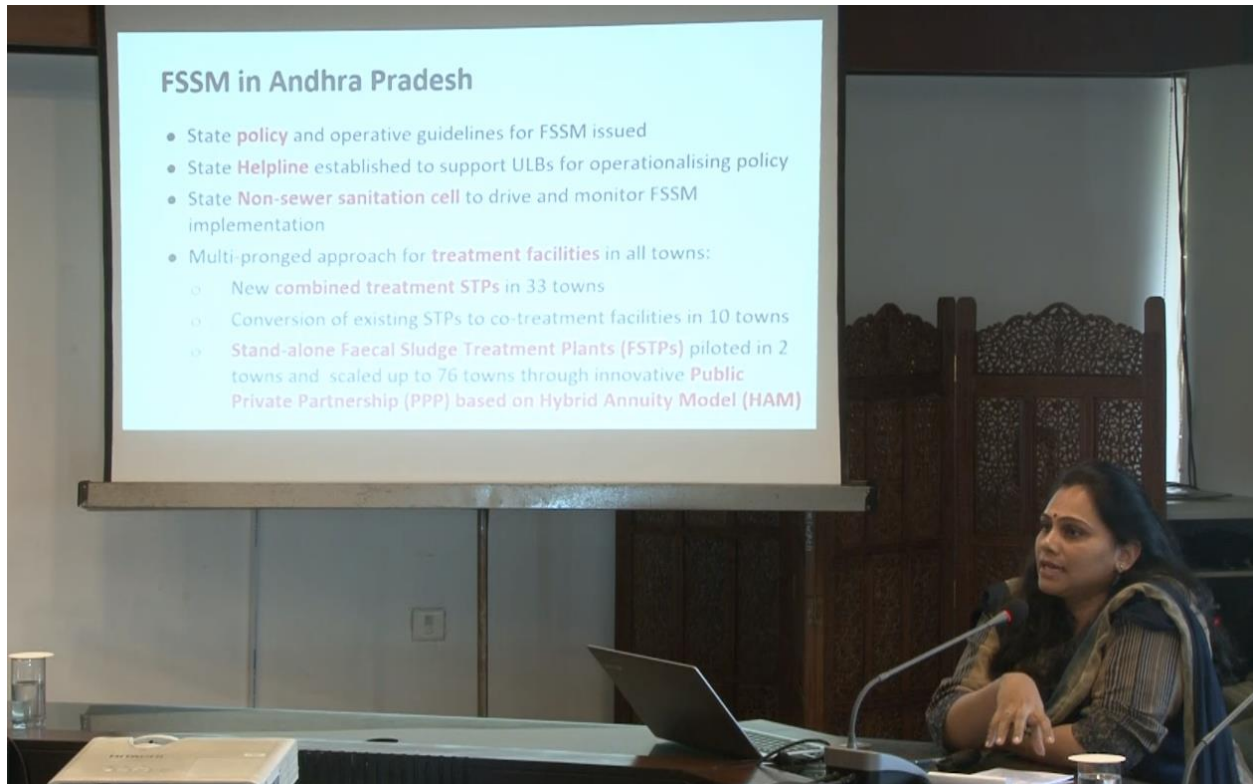
Treatment models have been further discussed by Dr. Mehta and pointed out that while Sri Lanka and Rwanda have developed treatment models with successful cost recovery through sale of compost and recyclable materials, the reuse market has not been an equally successful driver in India. In Leh, J&K, an integrated model is followed for desludging and treatment where the Blue Water Company (BWC) uses DBFOT (Design-Build-Finance-Operate-Transfer) model. Thailand operates on a similar integrated model.

Giving a glimpse into the PPP landscape across Maharashtra, Dr. Mehta estimated that, across 187 cities, there were about 200 private service providers charging in line of Rs.300-5000 per cleaning. 60 of these cesspool operators are licensed while another 40 contracted operators exist. They are willing to travel beyond administrative areas to provide service. Many operators practice open dumping, faced with the issue of unavailability of disposal spaces. Some other issues pointed out in the presentation are: delay in payments, cost escalation, issues with transparency in procurement, termination clause of 3 months, performance risks and denial of service by residents.

Dr. Mehta concluded the presentation by outlining his thoughts on the way forward and developing a PSP toolkit for FSSM. Some of the innovative ideas suggested include carrying out capability assessment prior to granting license, providing support to entrepreneurs to develop and implement different models in cities as adjusted to risks and city-contexts and develop different sources of funds. The PSP toolkit for FSSM provides a useful decision-making tool for cities to choose and plan their FSSM paths.

## Presentation 2: Innovation, Scaling and Growth: Opportunities and Learnings from FSSM in Andhra Pradesh

Dr. Y. Malini Reddy  
Administrative Staff College of India



### FSSM in Andhra Pradesh

- State **policy** and operative guidelines for FSSM issued
- State **Helpline** established to support ULBs for operationalising policy
- State **Non-sewer sanitation cell** to drive and monitor FSSM implementation
- Multi-pronged approach for **treatment facilities** in all towns:
  - New **combined treatment STPs** in 33 towns
  - Conversion of existing STPs to co-treatment facilities in 10 towns
  - **Stand-alone Faecal Sludge Treatment Plants (FSTPs)** piloted in 2 towns and scaled up to 76 towns through innovative **Public Private Partnership (PPP)** based on **Hybrid Annuity Model (HAM)**

Dr. Reddy presented an in-depth case analysis about Andhra Pradesh's efforts to achieve sustained Open Defecation Free status as well as meet FSSM requirements on priority basis. With strong political support, regional and State-level workshops were conducted to bring municipal officials and engineers up-to-date on policy and technical developments around non-sewered sanitation. A State Helpline was created for ULBs to understand how ODF+ processes can be implemented which was helpful in taking the sanitation agenda forward. To institutionalize these best practices, an expert unit on non-sewered sanitation was created within the Swachha Andhra Corporation, which helped to monitor FSSM implementation in a centralized manner, organize IEC efforts and streamline funding flows.

Building robust conveyance mechanisms remains a challenge. All 110 ULBs have private, informal desludging operators operating without direct involvement of the municipalities. After getting individual ULBs to pass city-level resolutions that accepted the FSSM policy, the next step was to have ULBs identify and empanel all desludging operators. Cities were reluctant to take this step before construction of the FSTP since empanelment required the city to take responsibility for disposal. Progress has been uneven but is expected to improve.

The government has adopted a multipronged approach to treatment, considering both co-treatment and dedicated treatment options for faecal sludge (Faecal Sludge Treatment plants or FSTPs). This approach includes:

- ◆ 33 functional STPs across 10 towns have been decided to be converted to co-treatment facilities (in Tirupati and Anakapalle, pilot co-treatment projects are underway);
- ◆ Another 28 STPs are scheduled to be built with the assistance of AMRUT funding- but going forward, all new STPs in Andhra Pradesh will be fitted for co-treatment.
- ◆ Stand-alone FSTPs in 2 towns are currently being scaled up to 76 towns using a PPP-based approach with a Hybrid Annuity Model (HAM) contract structure. A pilot project in Narsapur (population- 60,000) based upon pyrolysis technology and built with the assistance of Bill and Melinda Gates Foundation (BMGF), has helped in building confidence and scaling-up.

To overcome a lack of private interest in building FSTPs (due to low investment requirements), an effort was made to identify private sector operators and develop their interest. While initially a ‘FSTP-cluster’ approach was considered, where one FSTP would serve multiple towns, ULBs were reluctant to accept faecal sludge from nearby cities. Subsequently, the one-town-one-plant model was retained and 76 FSTPs were allocated to 7 clusters, each of which would be awarded to a single private operator on the DBOT model. The allocation was done on a geographical basis to improve operational ease for the private operator. In this way, the private operator can have better gains through building 10-11 plants instead of having to build one or two plants. It was estimated that treatment technology advances every 10 years so the concession period was granted for 9.5 years, with 6 months added for the construction project.

Dr. Reddy also discussed the salient feature of the HAM model where the concessionaire was selected on the basis of Least Cost Selection bidding process with minimum passing criteria of 70 Marks. The Bid Cost of 80 crores on the RFP which was quoted for the entire project, was initially inclusive of the Bid Project Capital Cost and the Net Present Value of the O&M cost assuming a 5% inflation projection. After 6 months and completed construction, 50% of the capital cost is paid with the remaining capital cost paid, along with the O&M costs, in an annuity period over the remaining concession period. This ensures that while the ultimate financier remains government, the initial construction and operational risk resides with the private party. There were three rounds of tendering, with four packages being awarded in the first tender and three in the second. The first tender was technology agnostic, while the second and third tenders were written with an emphasis on thermal treatment which was felt to reduce chances of transmission of polio virus.

Dr Reddy pointed out that the challenge in creating PPPs for sanitation lies not in preparing RFP but in reducing the trust deficit with private sector and assuring them that government will adequately share the risk. Timeliness of government payments has been a key concern for the private sector so an escrow mechanism is a credible signal that payments will be made on time. Another challenge was land identification and assignment, which has to be done by the local body. The RFPs called for land of 1 Acre, where the unused land was intended to support a ‘sanitation park’ for each town to improve IEC efforts. Learning from the success of Andhra Pradesh, Telangana has also carried out a tender for 72 FSTPs using a similar ‘clustering’ approach.

### Presentation 3: The Tendering Process in Uttar Pradesh-Opportunities and Challenges

Dr. Suresh Kumar Rohilla, Mr. Rahul Mankotia;  
Centre for Science and Environment



Dr. Rohilla laid out the landscape of Centre and Science Environment’s (CSE) work in Uttar Pradesh (UP). There are 654 ULBs in Uttar Pradesh out of which CSE has worked with 66 cities that fall under the AMRUT scheme and comprise around 75% of the population on the Ganga. CSE has estimated that there are around 500 desludgers operating in these 66 cities. CSE is working with the state government to facilitate achievement of sanitation targets and improve convergence with the existing schemes like ‘Namami Gange’ (National Mission for a Clean Ganga). Under AMRUT, UP is fortunate to have an allocation of Rs. 450 crores solely for FSSM schemes. Under the State Action Plan prepared for AMRUT, each big town was allocated Rs. 10 crores and each small town was allocated Rs. 5 crores. However, while this funding and advocacy from other partners helped create awareness around alternative sanitation approaches, there was also challenges from existing institutional structures and practices. CSE was able to issue tenders for 51 FSTPs which have been allocated to technical partners. In conclusion, Dr. Rohilla mentioned that while re-tendering is a possibility, the growth of private sector participation is hindered by a lack of private sector players and solution providers.

Mr Rahul Mankotia presented the experience of working with state parastatal UP Jal Nigam (UPJN) to carry out a tendering process and scale up FSTPs. Describing the context, he mentioned that UP already one operational FSTP in Jhansi (built with ULB own funds) while while the other one in Unnao is under construction. Three other stand-alone tenders are in process in the cities of Loni, Rae Bareilly and Modi Nagar. To build on these separate initiatives, UPJN decided to scale up FSSM across the state of Uttar Pradesh. The scaling up process took the form of three separate tenders:

- a) A tender for FSTPs in 31 cities (one FSTP per city) for Rs. 121.06 crores;
- b) A tender to install co-treatment modules at existing STPs for 14 cities where population is less than 10 lakh at the cost of Rs. 6.12 crores;
- c) A tender to install co-treatment modules at existing STPs for 7 cities where population is greater than 10 lakh at the cost of Rs. 7.54 crores.

The tenders are technology agnostic with the intention of attracting the best technologies in the market. The tender visualized an integrated value chain model, including capex as well as 5-year infrastructure O&M as well as collection and transportation of the fecal sludge using UPJN vehicles. Since the FSTP tender was a large tender, bids by Joint Ventures (JV) of upto 4 participants were allowed. This was done to incentivize large and experienced EPC/turnkey contractors to partner with technology providers and local players in bidding for the contract. Standard PWD work experience requirements were retained to streamline the process.

A pre-bid meeting was held to field investor concerns. The primary concern was that a single bid for 31 FSTPs was too large for existing FSSM businesses, even in JV form. Concerns around regulation of effluent and land availability were also raised. After this meeting, the initial tender was cancelled and a retendering took place where 31 cities were divided into 4 packages and addendums added to reduce the work experience criteria to allow bidders with FSTPs under construction to qualify.

In conclusion, Mr. Mankotia remarked that the tendering process could be made more robust by better project preparation which should include land earmarking, improved plant capacity estimation and building an overall value chain. A clear area of improvement was increased involvement of ULBs in the entire tendering process which is also critical to addressing the entire value chain. Furthermore, a pre-tender Expression of Interest (EOI) meeting with private sector to ensure their concerns are adequately addressed in the tender. To adequately manage risks, the EOI can act as an icebreaker for the Government to help decide the strategy for bidding and time for deciding the complete tendering timeline. A professional transaction advisor would be helpful to explore other contracting types and streamline the contracting timeline. Governments and tendering authorities can also explore initiatives around openness in acquisition of clearances and land in place and ease of adoption of escrow account to ensure timely payment to the private sector.



## Presentation 4: Legal and Regulatory Aspects to streamline private sector participation

Mr. Kartikeya G.S.  
J Sagar Associates

Mr. Kartikeya sought to build a context for PPPs in FSSM, stating that PPPs cannot happen in isolation and there needs to be a robust and facilitative framework helping the private sector to gradually build the confidence to enter and stay in the sector. The current FSSM legal framework is diffused and fragmented but policy offers an effective tool to make the framework robust. First, the private sector wants an insight into the foreseeable future where the infrastructure is worth investing and policy can establish such timeline. Second, the private sector desires effective risk sharing models and thirdly, the bankability or revenue stream is very important for a reliable financial model and securing debt/equity financing from external investors. Since FSSM as a sector is still evolving, with a number and variety of stakeholders, PPP models need stakeholder buy-in at an early stage to ensure continued success. Furthermore, competition between enterprises and ensuring customer choice is essential.



Mr. Kartikeya also discussed the importance of setting enforceable and easily monitorable standards based upon outcome parameters and, conversely, the importance of effective dispute resolution models that can ensure timely dispute. To reduce wastage of time and resources, Mr. Kartikeya also mentioned the importance of regulatory clarity and efficiency in granting approvals. In addition, FSSM policies need to build regulatory clarity and create long term certainty, and build responsibility for implementation on the ground.

Drawing on JSA's experience advising industrial transactions, Mr. Kartikeya then discussed the varieties of economic regulation ranging from 'regulation by an independent economic regulator' to 'regulation by contract', where the latter would be ideal for the FSSM sector. There is also potential for learning from PPP models already implemented in India across four project stages: Preparation (market assessment & due diligence), Procurement (bid criteria & suitability of bidder), Development (clearances) and Operations (operating environment and monitoring). He noted the barriers to private sector participation are threefold: demand side, supply side and regulatory issues. On demand side, cheap but illegal manual labour used for cleaning is a barrier to formal methods, improperly designed access for cleaning/emptying, the use of non-standardised tanks, lack of incentives to owners, lack of monitoring and recourse via penalties and general lack of awareness among citizens all combine to constrain or render FSSM demand unpredictable. The supply side and regulatory issues are dominance of informal small-scale operators in many cities, gaps and overlaps in roles and responsibilities in institutions and absence of an integrated value chain approach.

Mr. Kartikeya also spoke on the need for new models which allow for both piecemeal and integrated private sector participation in transport, treatment and disposal. He concluded by giving example of two prevalent models used in Malaysia which is based upon integrated long-term contract with regulated tariff and Dakar, Senegal which is a piecemeal spot contract based model with competitive tariff.

## Presentation 5: Derisking the FSSM Market- Lessons in Systematic Risk Allocation from Four Case Studies.

Ms. Anindita Mukherjee, Mr. Prashant Arya  
Centre For Policy Research



Ms. Mukherjee opened the presentation with a brief discussion of market potential for FSSM, in the light of massive construction under Swachh Bharat Mission (SBM) and the lack of city-wide sewerage infrastructure. To fully realize this scope, understanding market risks and systematically de-risking the market can serve as the foundation for generating more interest in private players to enter the desludging business. Ms. Mukherjee discussed CPR's previous study carried out in 2017-18, which understood how the business models of small scale entrepreneurs work and the effect that introduction of treatment facilities may have on their profitability and business in an informal market environment. That study found that the absence of effective risk sharing models may enable private operators to indiscriminately increase prices in response to market shocks. Building on these findings, supply-side assessments were made in 4 cities- Goa, Chennai, Jabalpur and Ujjain- to build a sophisticated understanding of demand dynamics and government interventions. Mapping various risks across the FSSM value chain, the presenter categorized the effects of those risks into short-term and long-term, where some risks enhance and some constrain the market. A key idea is that all stakeholders across the FSSM value chain face certain risks and adopt strategies to mitigate those risks ranging from building oversized containment structures to increasing desludging prices.

The next speaker, Mr. Prashant Arya, largely discussed the drivers of Mmarket in the demand side. His findings reveal that FSSM demand consists of multiple segments, including individual households, commercial buildings and apartment buildings (bulk customers) as well as sewer-cleaning and toilet complexes.

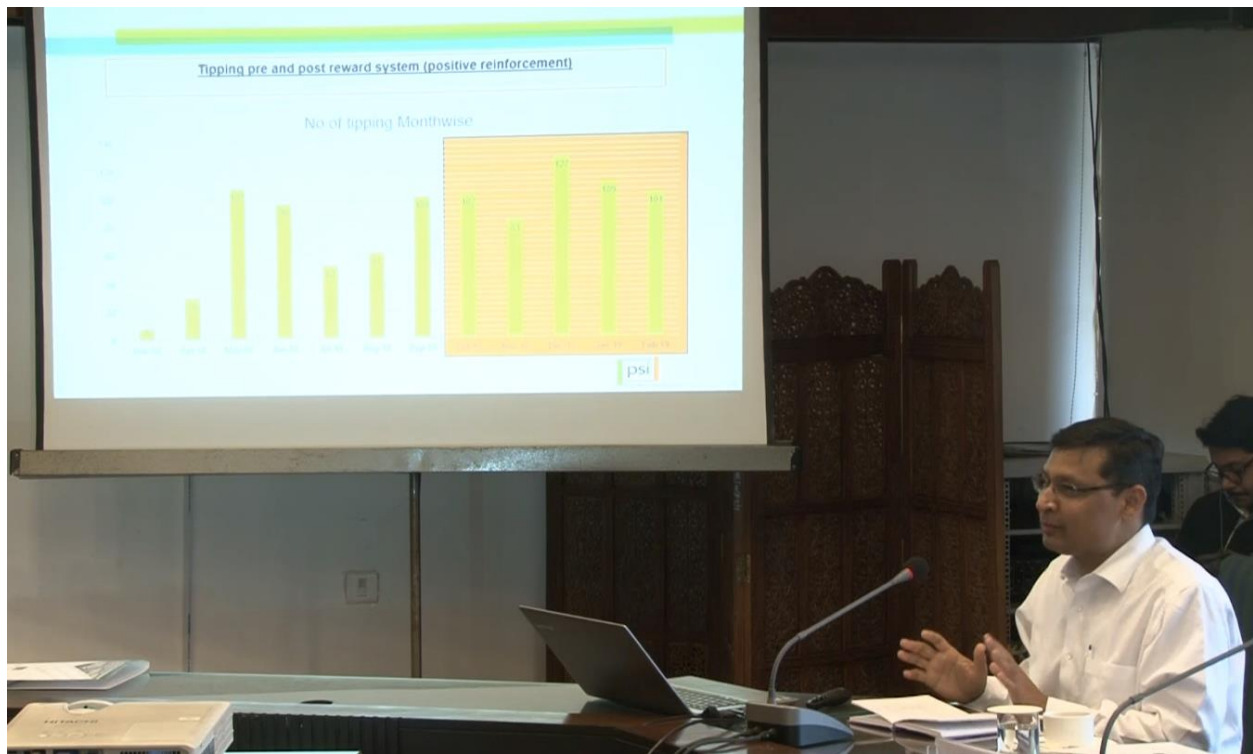
Discussing the case study findings, Mr. Arya indicated that demand available to be serviced by private sector, it is observed that individual houses contributed a small percentage to the demand. The vast majority of demand comes from bulk customers (like hotels in Goa or apartment buildings in Chennai or housing colonies in Jabalpur) which provide the main source for private service providers to sustain their operations in these cities. He indicated that unlike individual households emptying their tanks once in several years, bulk customers empty them more frequently and in large amounts. Presenting a graph on market revenue for desludging enterprises, from 2000 to 2018, the presenter showed how markets flourished in Goa and Chennai where the government had limited intervention while private markets in Ujjain and Jabalpur had been stifled by over-regulation.

The speakers concluded their presentation with a comparative slide of four geographies and importantly how the type of wastewater that is being collected across the cities. In Goa and Chennai, greywater is high while solids-heavy wastewater is higher in both Ujjain and Jabalpur. This should be something to consider when drawing up FSSM policies.

## Presentation 6: Creating a collection transportation framework in Bihar through integrating private sector as partners- Opportunities and Challenges.

Mr. Sanjay Singh

Population Services International (PSI)



Mr. Sanjay Singh presented his on-ground experience in working with septic tank operators in Patna from the last four years. He indicated that Patna is largely dependent on septic tanks- close to 65%- and are extremely large structures, about 15 ft. X 15 ft. X 20 ft. size. On the government side, Mr. Singh described the existing challenges in FSSM services. These challenges were not linked to the lack of infrastructure- city government possesses 8 vacuum trucks- but rather other issues in service delivery. These include lack of functioning vacuum trucks, hurdles in customers filing desludging requests (no digital channels available), lengthy period for service delivery (more than 5 days) and open disposal.

PSI entered this space, working with Saraplast, attempting to understand whether a revenue-generating financial model could be built in sanitation. The initial investment and experiment was with the construction of an FSTP along with portable toilet cabins (on a rental basis) in urban and rural areas. While this model gained some traction, over a 3-year period only 65% of operational cost was recovered through cabin rentals and cabin-based advertising. Though the model was overall not sustainable, it did provide some learnings- mainly that capital costs are hard to source from the private sector. As a result, they decided to work with existing 4 STPs in Patna city and calculated their excess capacity which could be used for co-treatment of fecal sludge.

Building this model required a two-pronged approach- identifying/strengthening the enabling environment for small private cesspool operators and working with these operators to resolve bottlenecks. To mainstream

these operators, PSI began by mapping each one of these service providers to build a database and working with government to gain access to existing treatment infrastructures, i.e. STPs. The process was iterative and the need for credible commitment on part of cesspool operators to utilize the STPs led to the formation of an association of private operators which could communicate and contract with government. The improved communication tankers negotiate down the tipping fee set by government from Rs. 300 to Rs. 100.

The extensive challenges in partnering with informal cesspool operators were discussed. The presence of existing oligopolies and social networks, high levels of distrust and fragmented operational geographies were some key barriers to intervention. Mr. Singh discussed that extensive handholding, setting up monthly meeting and building appropriate incentive mechanisms (e.g. 'petro-cards' as reward for disposing at the STP) were some measures, but above all sustained engagement is the key.

## Presentation 7: Blue Water Company-Experience Sharing from Private Sector Perspective

Mr. Amresh Sinha

Blue Water Company



Mr. Amresh Sinha began his presentation with the background of Blue Water Company (BWC) and the company’s inception. While dealing with their first project in Devanahalli, Bangalore, they realized the need of operation and maintenance of the plant and that this would be a consistent demand in the future. Their goal is to emulate FSSM-service providers like Indah Water Konsortium, Malaysia’s national sewerage company. Currently they work in three towns but another fifteen towns in the expansion phase and the business case also provides for diversifying into other wastewater treatment services.

Based on BWC’s visits to 300 plus towns, Mr. Sinha remarked that there already exists a vibrant conveyance ecosystem of private sector participation in varying forms. This ecosystem combined with the 2017 FSSM policy and 500+ FSTPs in tenders (as per presenter’s slide) has given a boost to the sector. However, Mr. Sinha mentioned that the wave of FSTP construction has perhaps attracted a certain number of “fly-by-night businesses” that pay more attention to capital costs and construction than O&M. Citing CPCB reports on the high incidence of malfunctioning STPs, Mr. Sinha mentioned that going forward, a business’ ability to provide reliable, cost-effective O&M will become a differentiating factor in the market. A policy mechanism which incentivizes businesses to develop O&M capability or stimulate the growth of new businesses would be valuable.

Discussing the challenges in entering the FSSM sector, a key hurdle is the B2G (Business to Government) nature of service that makes it challenging for the operator to recover costs due to issues such as delayed

payments, fragmented bureaucracies and institutional change. Despite government incentives for ‘Start-Ups’, lack of financial/technical qualification and available funding is also a challenge. Tender design with overly-stringent Key Performance Indicators (KPIs) and overburdening private operators with risk also discourages private sector to enter into FSTP construction. For instance, it is private operator’s responsibility to ensure that plant runs at full capacity (irrespective of demand and city context) or ensure 100% user fee collection. Mr. Sinha also put forward the idea of route optimization along with a more nuanced approach to scheduled desludging could improve FSSM service quality and cut costs.

Mr. Sinha stressed that BWC has found FSSM not as profitable as initially thought although certain changes to business models could improve viability. An integrated contract-model across the value chain will be a positive step while clustering can take advantage of economies of scale and save significantly on administrative costs. The presentation concluded with policy suggestions such as tax exemptions for buying trucks, more clarity and standardization around reuse policies the requirement for national level standard procurement process and building welfare schemes for sanitation workers.

## **Presentation 8: Future FSSM Business Opportunities: What can be learnt from the sectors of Water, Energy and Solid Waste**

Ramanujam S.R and Yogesh Upadhyaya

Center for Policy Research



Mr. Ramanujam began by laying out the learnings and experiences from other infrastructure sectors and how can we apply those learning in promoting private sector businesses in FSSM sector. The first comparison is the relative miniscule size of project sizes in the FSSM sector when compared to other urban infrastructure sectors such as highways or ports, which can be multi-thousand crore contracts. This comparison holds too for municipal urban infrastructure projects such as water supply and sewerage that typically vary from INR 100 crores to INR 400 crores per project, while FSSM projects rarely exceed INR 8 crores per city in an integrated approach. Mr. Ramanujam pointed out that small project sizes dictate the company profiles that get involved in the business, i. e. the FSSM sector would attract largely single-person businesses rather than local, national or international players like other sectors. Thus, these businesses will effectively operate in a way that single person businesses run in India and provide training and exposure to achieve the level of technical and economic sophistication that is expected out of them. Another implication is that attracting attention and interest from key government stakeholders like a municipal commissioner or senior civil servant will remain challenging because it remains a small project from a state or ULB perspective. This should be kept in mind when developing projects and structuring policy and government



engagement. The projects being developed should be suitable for a ULB attention span and investment appetite.

The second learning from other sectors is that the focus of other infrastructure sectors in the initial 10 to 15 years has focused on asset building. This approach is not only capital-intensive and wasteful, it also pressures cities and stakeholders into building services that improve asset utilization rather than meeting sector goals. It is only in the past 10 years that the focus of these sectors has shifted to taking a household level approach, e.g. the importance of segregation in solid waste management was understood 20 years ago but serious attention to segregation has only recently emerged as a policy priority after largely failed attempts at building solid-waste treatment and reuse plants. Thus, assets are necessary but not sufficient and FSSM stakeholders should prioritize sector needs which is not necessarily the assets. Mr. Ramanujam pointed out that in many of these sectors, technology has driven decision-making strategies rather than a more evidence-based approach, which is a trend FSSM would do well to avoid. Overall, many infrastructure sectors have seen a movement from big to small local players and it is a positive thing that FSSM sector is starting with small players. A policy suggestion to ease truck financing and procurement is issuing trucks with state-wide, multi-city licenses which would ensure operators the flexibility of locating in cities with favourable economics.

Mr. Upadhyaya concluded the presentation by summarizing the learnings from other sectors and sketching out an ecosystem which could sustain FSSM businesses. A vibrant and sustainable FSSM sector would be one that looks equally at sector needs, the requirements of private businesses and engages ULB stakeholders in an appropriate and long-term way.

## Key Takeaways

- One common demand from the experiences shared by the presenters is the need to have integrated contracts of operating both the FSTP and the trucks which can make the business more viable. Clustering & scaling up can also help in their viability due to economies of scale. It saves the HR cost to a huge extent.
- Learning from experiences of other infrastructure like STPs and solid waste management plants, it becomes evident that policy interventions are required to improve operation and maintenance processes and support the already low numbers of O&M operators. A national level standard procurement process with not so stringent KPIs is required for minimizing the risks associated with private participation.
- The small size of FSSM sector when compared to other municipal infrastructure implies that the nature of business owner is limited to single person business. To achieve the level of sophistication that is expected out of single person business, training and exposure is required to equip the willing entrepreneurs with sufficient tools. The small sector size also mean that sanitation related project's priority will always be lesser than other municipal projects. In the short to medium term, FSSM projects should be planned with reliance on a strong evidence-base and awareness that such projects may not figure high on a ULB's list of priorities.
- Experiences throughout the country show that local variations and demand segmentation may prevent a uniform approach to scheduled desludging. Due to prevalent building practices of building oversized septic tanks and current demand dominance by bulk customers, scheduled desludging will have to be planned and implemented with close knowledge of city context and capacity
- To improve the credit accessibility, it is suggested to allow trucks to have state-wide multi city license to ease the financing of trucks. In case it goes out of business in one city, it should be allowed to operate in another city. Tax exemption for services and equipment on the ground that it's public good can also give easy access to loans and credit.
- To address the risk of delayed payments made by ULBs to private operators, creation of escrow account is necessary. This will certainly build confidence in the private operator to enter into this business.
- Finally, when the sector becomes more organised, efforts should be made for creating an ecosystem that works with little or no ULB intervention and directly interacts with customers in order to generate its revenue.

## **SCALING CITY INSTITUTIONS FOR INDIA: SANITATION (SCI-FI: SANITATION)**

Sanitation programme at the Centre for Policy Research (CPR) is a multi-disciplinary research, outreach and policy support initiative. The programme seeks to improve the understanding of the reasons for poor sanitation, and to examine how these might be related to technology and service delivery models, institutions, governance and financial issues, and socio-economic dimensions. Based on research findings, it seeks to support national, state and city authorities develop policies and programmes for intervention with the goal of increasing access to inclusive, safe and sustainable sanitation. Initiated in 2013, the programme is primarily funded by the Bill and Melinda Gates Foundation (BMGF).

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