



Report on Training Programme on Faecal Sludge Management

- for UADD Officers of Telangana State

Abstract

This report provides a brief on the training event conducted on the 3rd and 4th of August 2018 for UADD Officers of Telangana State. It provides an overview of the background, objectives and a brief on the proceedings of the training sessions.

Submitted By:



Submitted To:



Table of Contents

Introduction to Training	2
About the Training	3
Objectives of the Training.....	3
Proceedings of the Training.....	4
Tentative Programme Schedule	8
List of Participants.....	10

Introduction to Training

Over the last two years, given the ease of implementation and its associated costs, there has been an increase in demand towards non sewerage sanitation approaches across various state governments. As such, the importance of knowledge on approaches to FSM and means of successfully implementing FSM systems at a regional or town level cannot be understated. It is necessary that all cadres of sanitary and environmental engineering professionals understand the technicalities and concepts associated with FSM to be able to build adequate city scale solutions for our regions and cities.

The Directorate of Municipal Administration (DMA) in Telangana is organizing measures to set up systems towards the safe collection, treatment and disposal of all human waste that is collected from on-site sanitation systems. In accordance with this, GoT has been launching State level Policy on FSSM outlining the operative guidelines for Faecal Sludge and Septage Management (FSSM) in Urban Local Bodies. Setting up Faecal Sludge and Septage Treatment Plant (the “FSTP”) in each of the Urban Local Bodies is a move in this direction to tackle the health and environmental hazard caused when human excreta is disposed in open areas and water bodies due to lack of treatment facilities.

Government of Telangana (the “Authority”) has decided to develop and operate/maintain the FSTPs in 71 (seventy one) ULBs of Telangana (the “Project”) through Public Private Partnership (the “PPP”) on Design, Build, Operate & Transfer (“DBOT Hybrid Annuity”) basis, and has accordingly decided to carry out the bidding process for selection of a private party to whom the Project may be awarded. As such, the DMA is presently tendering out the implementation – i.e. construction and O&M - of city scale Faecal Sludge Treatment Plants across 72 towns on a DBOT (Design Build Operate and Transfer) basis through a Hybrid Annuity Model. The tender notification for the same was floated on the 23rd of July 2018.

Very few among these 72 Urban Local Bodies in Telangana State are either in planning stage or implementation of FSTPs in their respective ULB. As such, this training was organized to acquaint the functionaries from the public health department of the municipalities on the basic knowledge and skills to implement effective cityscale FSM solutions.

About the Training

Title	Advanced Training Programme on Faecal Sludge Management
Location	Dr. Mari Chenna Reddy HRD Institute, Hyderabad, Telangana
Organised by	MCR HRD Institute and NIUA
Resource Personnel	Consortium for DEWATS Dissemination Society
Participants	Engineers from ULBs in Telangana
Number of Participants	17
Number of ULBs Represented	7
Duration	2
Days	3 rd and 4 th August, 2018

Further details about the training program are as follows:

- **Participant Profile:** The focus of the training event was on functionaries who would be responsible to implement and roll out the program of FSTP implementation across the 72 cities. The profile of the participating group included largely Engineers and Health Inspectors from the Public Health Department of the respective municipalities. Few towns were also represented by executive officials like Commissioners/Asst. Commissioners.
- **Exposure to FSM:** Most of the selected participants were attending an FSM orientation for the first time.

Objectives of the Training

The training was organized with the following objectives:

1. In order to handhold the ULB officials to get more aware on the need for Faecal Sludge Management to address their city scale wastewater management issues, amongst the other available solutions.
2. To help participants understand the difference between sewage and faecal sludge and its approach for treatment.
3. To comprehend the components of a faecal sludge treatment facility
4. To improve the knowledge of participants on the kinds of technologies and approaches that can be adopted for treating faecal sludge
5. To understand the stakeholders and their interests in the FSM space and the overall market landscape
6. To understand the necessary means of operationalizing and sustaining FSM at a city scale, especially in the DBOT context within which the FSM program is getting roll out in the state.

Proceedings of the Training

Day 1; Date: 3rd August, 2017

The first day of the training was organized with the intention to acquaint the participants primarily on:

- The need for Faecal sludge management in the context of India's sanitation needs
- Understanding the basic concepts of rolling out FSM in the participating cities
- The technologies available for meeting their FSM treatment needs

The day began with an introductory session to set the context and introduce the participants to the subject of FSM:

- Why Faecal sludge management is a viable approach to meet the policy goals of sanitation, especially public health and environmental protection i.e.:
- Participants were also made to understand the basic concepts of faecal sludge management in terms of the value chain of sanitation
- The economic argument of adopting this non-sewered approach to address the wastewater management needs of the respective cities was also elaborated

In order to better manifest an understanding of FSM in participant's minds, a group activity was organized for participants to create a Shit Flow Diagram for a hypothetical case. Participants also had to look at the SFD so created, and explain the issues in the SFD of the town, i.e.:

- How much pollution is caused by lack of sanitary latrines in the city
- How much pollution is caused by open dumping of sludge
- How much sludge gets conveyed in the town by some form of safe collection and conveyance system



Figure 1: Mr. Krishna Swaroop delivering a session at the training event



Figure 2: A training session being deliberated by the resource persons

This exercise would help participants to better articulate a problem statement for sanitation in their town and hence be able to address it better. With the understanding of the various segments of the faecal sludge management value chain, participants were told to map out the stakeholders for each stage of faecal sludge management. While doing so, they were to elaborate the roles and interests of the specific stakeholder.

The next session was targeted to share knowledge on the difference between sewage and faecal sludge and its approach for treatment.

Thereafter, participants were introduced to the parameters of measuring the characteristics of wastewater and faecal sludge. The session acquainted the participants on the variability of faecal sludge characteristics and how the characteristics compare for faecal sludge collected from onsite sanitation facilities and wastewater sludge.

The following session focused on introducing participants to:

- Common challenges in collection and transportation of faecal sludge (FS)
- Technology options in practice

The rest of the training day was dedicated to providing an overview of treatment approaches and the kinds of technologies available for each approach to treat faecal sludge to the participants:

- Participants were first explained the difference between physical, chemical and biological treatment mechanisms. Following this, the participants received an overview of the available and more commonly adopted faecal sludge treatment technologies, alongside getting acquainted with their



Figure 3: Mr. G.S. Santhosh delivering a session during the training event



Figure 4: Participants being hand held during Group activity by resource person Mr. G.S. Santhosh

advantages, constraints of functioning and field of application. They were given an overview of the performance of each kind of technology and its appropriateness for local contexts.

- Towards the end of the session on treatment technologies, participants were provided a framework on the Determinants for developing a Treatment Concept, as illustrated below:

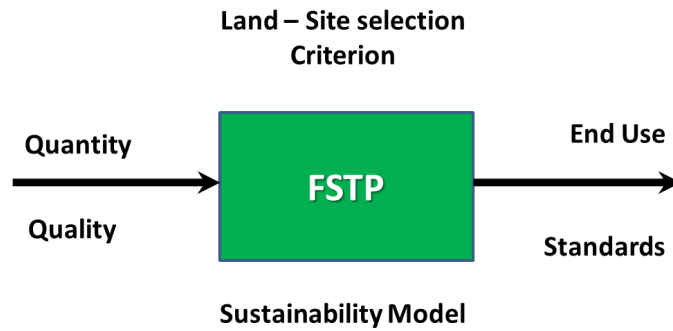


Figure 5: Determinants of a Treatment Concept

Day 2; Date: 4th August, 2017

The second day of the training was dedicated | introducing participants to real time demonstrations of faecal sludge treatment plants and sharing learnings from each case study. An overview of the plant specifications and overall model were shared for case studies of Faecal Sludge Treatment Plants in operation at Devanahalli, Leh and Warangal.

The participants were also explained how a 'Design Build Operate & Transfer context with a Hybrid annuity payment model' will affect the operationalizing of FSM in their city. For the same, they were made to return to the stakeholder mapping exhibits earlier created, and identify solutions for raising revenue to sustain operations. An overview of the various financial revenue flows possible across the FSM value chain was given to handhold this group activity (as illustrated below).



Figure 6: Participants being hand held during Group activity by resource person Mr. Avinash Kumar

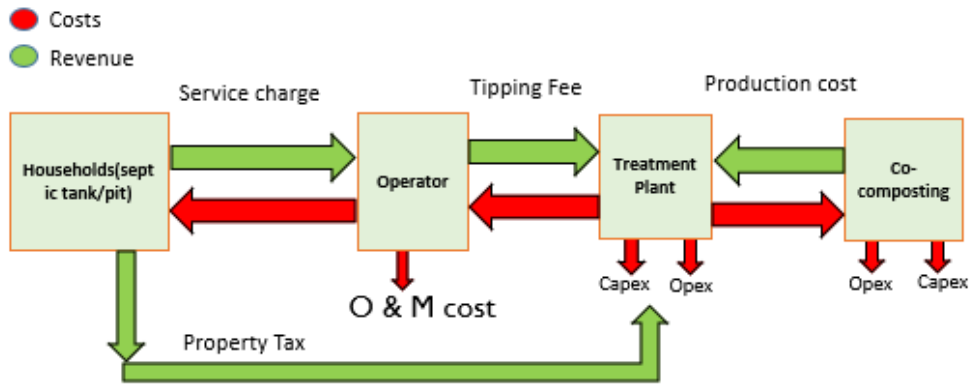


Figure 7: Cost recovery options within FSM



Figure 8: The Participants, Trainers and Event Organizers



**DR.MCR Human Resource Development Institute
Government of Telangana**

**Training Programme on Faecal Sludge Management
for UADD Officers of Telangana State**

03.08.2018 to 04.08.2018

Tentative Programme Schedule

Day	Content	Pedagogy	Resource persons
3rd August 2018			
9.30 -10.00	Introduction and ice breaking		
10.00-10.30	Session 1 – Introduction to faecal sludge management – Need and Issues	Interactive lecture	Avinash Kumar, CDD
10.30-11.15	Session 2- Understanding Shit Flow Diagram	Interactive lecture	Krishna Swaroop, Avinash Kumar and G. S. Santhosh, CDD
11.15 – 11.30	Tea Break		
11.30 – 12.30	Session 3 – Stakeholder mapping in FSM	Group Activity	Krishna Swaroop, CDD
12:30 – 1:00	Session 4 – Quantification of FS	Interactive Discussion	Krishna and Santhosh, CDD
1:00 – 2:00	Lunch		
2:00-2:30	Session 5 – • Collection and conveyance of faecal sludge – technology options	Interactive lecture	Avinash Kumar, CDD
2.30-3.30	Session 6 – Quality Characteristics Session 7 – Treatment Approach	Interactive lecture	G. S. Santhosh, CDD
3.30 – 3.45	Break		
3.45 – 4.30	Session 8 – Contd. Treatment Technologies	Interactive lecture	G. S. Santhosh, CDD

4.30-5.00	Summary of the Day's Discussion	Interactive Lecture	Krishna Swaroop, CDD
4th August 2018			
9.30 -10.00	<i>Recap of Day -1</i>		G. S. Santhosh, CDD
10.00-11.30	Session 9 – Technology Case Study Devanahalli, Leh, Warangal	Interactive Lecture	G. S. Santhosh, CDD
11.30 - 11.45	Tea Break		
11:45 – 12:15	Session 10 - Exploring FSTPs in DBOT context	Interactive Lecture	Krishna Swaroop, CDD
12.15-1.15	Session 11 - Operationalizing FSM in your town – Challenges	Interactive case discussions	Krishna Swaroop, Avinash Kumar and G. S. Santhosh, CDD
1:15 – 2:00	Lunch		
2:00-3:30	Session 12 - Operationalizing FSM in your town – Way Forward	Interactive case discussions	Krishna Swaroop, Avinash Kumar and G. S. Santhosh, CDD
3.30 – 4:00	Recap of overall learnings	Interactive lecture	Krishna Swaroop, CDD
4:00 – 4:10	Tea Break		
4.10 – 4:30	Feedback & Evaluation		

List of Participants

Training Programme on Faecal Sludge Management				
S. no.	Name of the Participant	Designation	ULB	Office Email Id for communication
1	Sri D John Samson	Commissioner	MC, Nizamabad	nmc.nzb1@gmail.com
2	Y Kondal Rao	Assistant Executive Engineer	MC, Nizamabad	
3	B Sarath Chandra	Assistant Executive Engineer	MC, Nizamabad	
4	M Prakash	Sanitary Inspector	MC, Nizamabad	
5	Shri Jagan D	Assistant Commissioner	MC, Khammam	mc_kmm@yahoo.com
6	S Raj Kumar	TPBO	MC, Ramagundam	ramagundam.corporation@gmail.com
7	MD Khaza Jameel Ahmed	Assistant Engineer	MC, Ramagundam	
8	G Mahesh	Assistant Engineer	Narayanapet	mlpnrpt123@gmail.com
9	D Chennakeshavulu	Health Assistant & Sanitary Inspector i/c	Narayanapet	
10	Dr P Venkateswara Rao	NIT Warangal	Warangal	pvenku@gmail.com
11	Dr Sridhar	NIT Warangal	Warangal	
12	Mr Ramesh	Volunteer	NGO	
13	Mr Ghouse Mohiddin	Consultant	NGO	
14	Sri Suresh Kumar	Dy. Executive Engineer	Wanaparthi Municipality	knrcmnr@reddiffmail.com
15	B Venkanna	Sanitary Inspector	MC, Karimnagar	
16	V Sridhar	Sanitary Inspector	MC, Karimnagar	
17	G Srinivas	Sanitary Inspector	MC, Karimnagar	