

# Building Capacities for Fecal Sludge & Septage Management



2  
Report on  
Orientation workshop for FSSM at  
Udaipur  
19<sup>th</sup> September, 2017



All India Institute of Local Self-Government, Mumbai



## SUMMARY

**Objective:** For effective implementation of FSSM activities at city level, it is essential to strengthen the knowledge base of officials within the state. The orientation workshop was conducted for the selected ULBs from all over Rajasthan to introduce the topic of septage and liquid waste management and make them aware of various technologies and their benefits. The workshop was focussed to introduce ways for implementation of the septage and liquid waste management plan. Experts from various states were invited to share their experiences and discuss viable options to implement FSSM in Rajasthan.

**Conducted by National Institute of Urban Affairs & All India Institute of Local Self-Government, Mumbai on 19<sup>th</sup> September, 2017 at Hotel Swaroop Vilas, Udaipur.**

The workshop conducted was presided over by **Shri Chandra Singh Kothari, Mayor, Udaipur** and officials of ULBs from 15 cities within Udaipur Division.

### The participants included the Commissioners and Engineers of the ULBs.

- *Number of participants attended: 33*
- *Number of ULBs attended: 15*
- *ULBs: Udaipur, Fatehnagar, Bhinder, Kanore, Salumbar, Banswara, Kushalgarh, Chittorgarh, Nimbahera, Rawatbhata, Kapasan, Begun, Badi Sadri, Pratapgarh, Chhoti Sadri, Dungarpur, Sagwara, Rajsamand, Amet, Nathdwara, Deogarh*

#### Speakers:

- *Ms. Utkarsha Kavadi, Director, All India Institute of Local Self Government, Mumbai.*
- *Ms. Aditi Dwivedi, Research Associate, C-WAS, CEPT University, Ahmedabad.*
- *Ms. Upasana Yadav, Research Associate, C-WAS, CEPT University Ahmedabad.*

#### Workshop Brief:

##### The workshop consisted of five main components

- Introducing the concept of ODF sustainability and appraising the existing status of the cities and their strategies for maintaining the ODF status.
- Overview and planning of Faecal Sludge and Septage Management
- Introducing various treatment options on FSSM (Faecal Sludge and Septage Management)
- Introducing various financing options on FSSM
- Intermediate hands-on exercises and group work

## Background

In recent months, Sanitation agenda has been at the forefront of development agenda in India. The Government of India has launched Swachh Bharat Mission and AMRUT where the emphasis is on eradicating open defecation. With the rapid rate of construction of individual toilets with increased use of onsite disposal system, the need to formalize and strategically implement the faecal sludge and septage management (FSSM) system has been established. Given this, Government of Rajasthan (GoR) aims at cities to become ODF+ and ODF++, by implementing septage management and treatment of faecal matter. Capacity building programmes for ULBs is therefore essential and Government of Rajasthan is committed to encourage ULBs to implement FSSM plans.

These orientation workshop on FSSM are integrated with the Capacity Building activities planned under SBM/AMRUT at the state level. By the end of each workshop the participants are expected to orient themselves to:

- *Faecal Sludge and septage management and its need.*
- *Challenges in implementing FSSM and ways to address them.*
- *Technical and financial options in FSSM planning*
- *Policy and regulatory framework in FSSM*

This workshop is the second in a series of workshops planned by NIUA. Participants of this workshop, who demonstrate a desire to learn and implement FSSM solutions in their cities, will be invited to specialized training and national/ international exposure visits and more learning events.

Therefore, orientation workshops for all ULBs in Rajasthan will be conducted under Sanitation Capacity Building Platform (SCBP) to support Rajasthan Government and the orientation workshops are the first set of training of the three-phased training programme planned for Rajasthan.

## Proceedings

The orientation programme conducted in Udaipur was the second programme held under SCBP project. The report focusses on the proceedings related to status of ODF cities in Rajasthan state, the scope and importance of FSSM, planning and financial framework for the same.

*(Agenda: Annexure 1)*

### **The objective of the orientation workshop was:**

For effective implementation of FSSM activities at city level, it is essential to strengthen the knowledge base of officials within the state. The orientation program is to be conducted for all ULBs of Udaipur Division of Rajasthan to introduce the topic of Faecal Sludge and Septage Management and make them aware of various technologies and their benefits and will be conducted at the divisional headquarters of Rajasthan. The orientation shall also introduce ways for implementation of the septage and liquid waste management plan. Experts from various organisations are invited to share their experiences and discuss viable options to implement FSSM in Rajasthan. The program would be interactive, encouraging peer learning and knowledge sharing within the participants.



### Overview session

Following the registration, the program was initiated with a brief overview and objectives of the orientation workshop by **Ms Utkarsha Kavadi, Director, All India Institute of Local Self Government, Mumbai**. The session was further directed towards a pre-training quiz which consisted of fifteen questions about basic understanding of the concepts of ODF and FSSM.

(Quiz: Annexure 2)



### Moving towards ODF and ODF ++ cities Rajasthan

Session 1	<b>Speaker:</b>	<i>Ms. Utkarsha Kavadi, Director, All India Institute of Local Self Government, Mumbai.</i>
	<b>Objective:</b>	<i>To co-relate the first step of becoming ODF with the process of being ODF+ in reference to the planning of septage management for the cities.</i>
	<b>Format:</b>	<i>Presentation followed by discussions</i>
	<b>Duration:</b>	<i>30 Minutes</i>

The Udaipur division in the State of Rajasthan is performing well in the sector of sanitation. In the beginning of this session, two participating ULBs **Dungarpur and Udaipur (out of total 11 ULBs that have become ODF)**, were accentuated for their efforts and for being declared ODF by QCI.



The points of discussion revolved around the concern about lack of awareness, availability of land, priorities of ULB officials and land disputes in case of slums. Further, the quality of construction and issues related to public reluctance was discussed emphasizing on three main issues at city level:

- *Lack of space/ maintenance,*
- *Tenure issues, and*
- *Lack of Funds.*



Further, the case studies from the state of Maharashtra and its journey of becoming ODF and its sustenance was presented to bring to light the successful model and the journey towards a 100 per cent ODF state. The state level framework of ODF+ /++ cities was also discussed.

The major concern raised by the participants was about the availability of funds and the contribution of the beneficiaries which was concluded that, to get the sense of belongingness, a fair part of the total cost of construction of IHHL should be contributed by the beneficiary which can solve issues like under- usage/ no usage of the built toilets.

**Discussion:** The concluding discussion revolved around various city level challenges to become ODF and the need for a special SBM (Swachha Bharat Mission) Cell in all the ULBs or collectively for a group of ULBs in case of lack of manpower for focused implementation of activities to become ODF and move towards ODF+ /++.

### Intermediate session:

**“What are the challenges and probable solutions in your city in achieving the status of ODF and ODF+ / ODF ++?”**

*A peer learning group work was conducted after the session to understand the issues faced by the ULBs in their journey to become ODF+. The participants were asked to discuss and list down the issues/challenges in achieving the status of ODF and moving towards ODF+ /++. After listing the challenges, they were asked to think about the probable solutions that can be adopted to overcome these challenges in their respective cities. The participants from Udaipur and Dungarpur shared their experience and journey of becoming ODF sooner than other cities.*



Challenges	Probable Solutions
Lack of Space	Group septic tank, group toilets
Financial Issues	Funding from 14th Financial Commission, CSR mobilization
Lack of Awareness	Conducting extensive IEC activities, support of Police, Assistance from NGOs, Schools, etc., Medical /health department support
Lack of water supply	Public health department to ensure water supply, design interventions such that the toilets require less water
Geographical Constraints	Design interventions of pipe layouts, construction as per local context
Under/no usage of built Toilets	Penalty on other uses of toilets, ensuring good quality of construction of toilets so that they are functional and useable
Land Tenure Issues (eg. Forest areas)	Need of state level intervention for ease of building permission

## Overview and Planning of Faecal Sludge and Septage Management.

<b>Session 2</b>	<b>Speaker:</b>	<i>Ms. Aditi Dwivedi, Research Associate, C-WAS, CEPT University.</i>
	<b>Objective:</b>	<i>To introduce the concept of septage management to the cities along with its components and to establish the need for septage management plan and to explain planning strategies.</i>
	<b>Format:</b>	<i>Presentation followed by hands-on exercise and discussions</i>
	<b>Duration:</b>	<i>45 Minutes</i>

The session initiated with the data presentation showing different types of sanitation systems in Urban India to establish the need for septage management plan and planning strategies by explaining the emerging recognition of FSSM. The data suggested that “only 5 percent cities are reported to have 100 per cent sewerage system and nearly 1200 cities have fully onsite sanitation systems. “The current situation of septage management in Small-medium town in India and the planning approach of an end-to end IFSM

solution was discussed in detail. The detailed comparison was listed to understand the major differentiating factors between the conventional sewerage and septage management. Further, the key components of preparation of an FSSM plan with its institutional and governance aspects along with awareness generation and capacity building activities were also discussed in detail.



Various case studies of Devanahalli (Karnataka), Khulna (Bangladesh), Wai & Sinnar (Maharashtra) were discussed as successful cases to encourage the participants to learn from such experiences.

Discussion: Major points of discussion were the current practices and challenges in the state of Rajasthan; institutional and monitoring challenges in the respective cities and divergent challenges faced by different stakeholders like households, private sector and the ULBs.

### Intermediate session:

#### **“Plan Scheduled emptying of STs in your cities-calculate infrastructural requirements.”**

*Participants were asked to plan for infrastructure that is required for implementing an FSSM plan for a city. Various inputs like Population, Total Households, Number of community /public toilets having septic tanks, etc were given to calculate*

1. *Number of tanks to be emptied daily*
2. *Number of trucks required*
3. *Volume of septage to be treated.*

*This hands-on exercise helped the participants to internalise the idea of scheduled desludging and estimates of infrastructure required in proportion to the septage generated.*



## Treatment Options for FSSM

### Session 3

<b>Speaker:</b>	<i>Ms. Upasana Yadav, Research Associate, C-WAS, CEPT University.</i>
<b>Objective:</b>	<i>To discuss the treatment options aspects of FSSM for all components of the service chain</i>
<b>Format:</b>	<i>Presentation followed by discussions</i>
<b>Duration:</b>	<i>30 Minutes</i>

This session gave an overview of various treatment options that can be adopted based on the local context in the cities to treat the collected faecal sludge. The session gave an outline of the ill effects of open dumping of faecal sludge on human and environmental health. Key highlights of standards of disposal of septage versus actual quality of septage that is being disposed off, were discussed. Factors to identify a new treatment site and subsequent selection of technology options for a city based on space availability were also discussed.



The session concluded with case studies where FSSM is implemented followed by a dialogue on market for treated septage.

### Audio-Visual of case study

A short movie on Devanhalli (Karnataka) was screened to add an informative audio-visual component to the presentation for better explanation of the implementation of the concept of FSSM.

**Discussion:** The important discussion points revolved around whether co-treatment of sludge /septage in STP is an option available in these cities and whether there is a market for the by-products of the treated sludge in the city.

## Treatment Options for FSSM

### Session 4

<b>Speaker:</b>	<i>Ms. Upasana Yadav, Research Associate, C-WAS, CEPT University.</i>
<b>Objective:</b>	<i>To discuss the financing aspects of FSSM for all components of the service chain</i>
<b>Format:</b>	<i>Presentation followed by discussions</i>
<b>Duration:</b>	<i>30 Minutes</i>



The session focussed on the financing aspects of FSSM for all components of the service chain and then identifying the potential financial sources like central or state grants or local government funds.

Through an interactive mode and discussions, various components of CAPEX and OPEX were listed for every city by the participants for better understanding and awareness. Both the possible sources of funding financial requirements in the form offer both CAPEX and OPEX available in a city were explained all through the FSSM service chain were explained for each component in the service chain.



The identification of existing revenue sources was also discussed in detail which was important to understand the financial powers local bodies possess in the state of Rajasthan. Various types of funds were discussed which could be useful to implement SMP FSSM plan in small towns.

Discussion: The major points of discussion were the key issues in financing FSSM, emptying charge or Sanitation tax, and potential sources for CAPEX and OPEX available in the state of Rajasthan.

### Quiz Buzz & Concluding session

The participants were asked to answer the same fifteen questions which were given to them during the overview session. This was done to know if the programme was informative and understood by the participants. The results were positive as most of the participants performed really well in the post-training quiz.



The concluding session was presided over by the Mayor of Udaipur Shri Chandra Singh Kothari, who spoke about importance of sanitation, need for

behavioural change and efficient ways to implement various strategies for becoming ODF and awareness for FSSM.

Further, the session was interesting as all the participants were to asked to list down the "ACTION PLAN" for next three months for becoming ODF, and for coming one year to implement FSSM in their respective cities. The outcomes were very interesting and the participants seemed to be enthusiastic to further take up appropriate actions for the betterment of sanitation in their respective cities.

ODF	FSSM
Monitoring	Buy cesspool vehicles
Construction of CT/PT	Public awareness
Penalty on IHHL Applicants who have not constructed	Site survey
Involvement of PHED for water supply for toilets	Increase manpower
Design Interventions	Scheduled DE sludger
Mobile toilets	Co treatment in STP
Posters /Advertisements	Building permission
Spot fine on OD	Co-composting
Learning from Dungarpur and Udaipur	

## Snapshots of training



## Testimonials



**Gaurav Dhing**  
Assistant Engineer, Udaipur.



The organising team behaviour is very good, and this type of training workshop should always be conducted for municipality. Please keep conducting similar training workshop for betterment of the cities and efficiency of officials



**Durgesh Singh Rawal**  
Executive Officer, Pratapgarh.



The organising team behaviour is very good, and this type of training workshop should always be conducted for municipality. Please keep conducting similar training workshop for betterment of the cities and efficiency of officials



**Babul Choudhary**  
Dungarpur.



Such orientation workshop was excellent and helped us to discuss various aspects of sanitation in the state. The workshop can include various case studies of good practices prevalent in the state. We (officials of Dungarpur) have involved the community in the awareness workshop, especially the school children. The involvement of the community is very essential in this process of becoming ODF and for substantial behaviour change.

## Orientation training on Fecal Sludge and Septage Management (FSSM)

19<sup>th</sup> September 2017

Venue: Hotel Swaroop Vilas, Udaipur

Session	Time	Subject	Content
	10.00 - 10.30	Registration	
	10.30 – 11.00	Welcome address, round of introduction, pre-training quiz	<i>10-15 questions for ULBs to answer</i>
<b>Session 1</b>	11.00 – 11.30	Moving towards ODF and ODF+ Rajasthan	<i>Rajasthan ODF data analysis and State's strategy ODF component of SBM guidelines, Journey of Maharashtra, Concept of ODF+ and ++</i>
	11.30 – 11.45	<i>What are the challenges and probable solutions in your city in achieving the status of ODF and ODF+?</i>	<i>Interaction /Group Discussions/ ULB wise Submissions</i>
	11.45 – 12.00	<b>Tea break</b>	
<b>Session 2</b>	12.00 – 12.45	Overview and planning of Fecal Sludge and Septage Management (FSSM)	<i>FSSM Overview - the value chain explained as a brief overview. Focus on collection and conveyance – Designs of STs, scheduled emptying and financing aspects linked to it</i>
	12.45 – 13.00	<i>Plan scheduled emptying of STs in your cities – calculate infrastructural requirements</i>	<i>ULB wise/ Group Exercise</i>
	13.00 – 13.45	<b>Lunch Break</b>	
<b>Session 3</b>	13.45 – 14.15	Treatment options for FSSM	<i>Focus on treatment options/ facilities for FSS and financing aspects linked to it</i>
	14.15 – 14.30	<i>Devanhalli Movie</i>	
<b>Session 4</b>	14.30 – 15.00	Financing options in FSSM	<i>Overview of various funding options and focus on contracting for private sector involvement</i>
	15.00 - 15.20	<i>Plan FSSM for your city– calculate financial requirements</i>	<i>ULB wise/ Group Exercise</i>
	15.20 - 15.45	<i>Post-training quiz/ summing up of learnings with tea break</i>	
	15.45 - 16.00	Feedback/ Certificate Distribution	

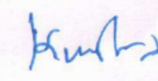






Building Capacities on  
Fecal Sludge and Septage Management  
Rajasthan

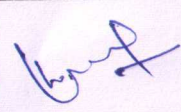
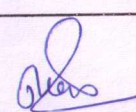
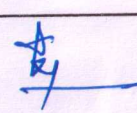
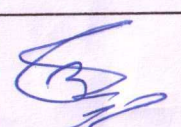
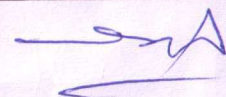
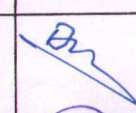
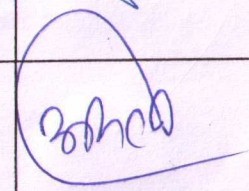
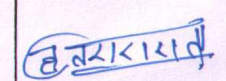
19<sup>th</sup> September, 2017 at Udaipur, Rajasthan.

Sr. No.	Name of the Participant	Designation	Municipal Body / Organisation	Mobile No. & Office Phone No.	E-mail ID (Office & Personal)	Signature
1	Vikky Sharma	Asst. Revenue Inspector	deogarh	8952083676	Viksh20@gmail	
2	Jagmohan Tomwar	JEN Nagar Palika Deogarh.	Deogarh	9610083119	Jen.Jagmohan@gmail.com.	
3	Gaurav Dhing	A.EN, Nagar Nigam Udaipur	Udaipur	9414263916	gauravdhing@yahoo.com	
4	Sumit Kumar	JEN MB	Kanore	9785096887	Sumit.ktharwal2013@gmail.com	
5	कुन्दन देथा KUNDAN DETHA	E.O	दिल्ली-एनएस	9460451463		
6	Hemraj Gurjar	LDC	Kanore	9694321134	hemraj9904@gmail.com	
7	Arabhatal Bhabar	AFN	Banswaral Nagar Panch	9413306238		
8	Dalaji Patidar दलजी पाटीदार DALAJI - PATIDAR	LDC	Nejarpasth Barm	9460332671		



Building Capacities on  
Fecal Sludge and Septage Management  
Rajasthan

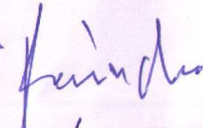
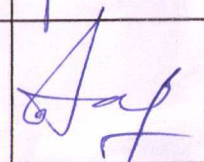
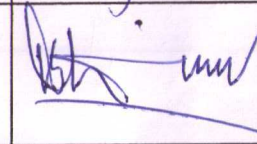

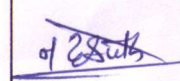
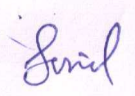
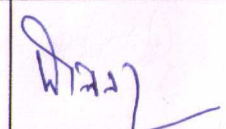

19<sup>th</sup> September, 2017 at Udaipur, Rajasthan.

Sr. No.	Name of the Participant	Designation	Municipal Body / Organisation	Mobile No. & Office Phone No.	E-mail ID (Office & Personal)	Signature
9.	Lokesh Patidar	Junior Engineer	Dungarpur	9461857879	lokeshptdrg@gmail.com	
10	HARISH KUMAR.	J. EN MB BUNDER.	Bhinder	7742514514	hsolcentki2010@gmail.com	
11	Duyesh Singh	E.O. Ratapgarh	Ratapgarh	9950139332		
12	Duleechand Solanki DULEECHAND SOLANKI	JEN Chhoti Sabni	Chhoti Sabni	9785472915		
13	Sharwan Lal Sharma SHARWAN LAL SHARMA.	LDC mid Sabni	Chhoti Sabni	9667736454		
14	Bhaktin Patidar	Junior engineer	Salumber	9928743781		
15	AMIL SHARMA.	Charaman	Kanode.	972201585		
16	Hitesh K. Soat HITESH ROAT	Revenue Inspector	Patapgarh M.P. Patapgarh.	9602228844		



Building Capacities on  
Fecal Sludge and Septage Management  
Rajasthan

19<sup>th</sup> September, 2017 at Udaipur, Rajasthan.

Sr. No.	Name of the Participant	Designation	Municipal Body / Organisation	Mobile No. & Office Phone No.	E-mail ID (Office & Personal)	Signature
17	Ravinder Buryar	Jr. A/c	Kapasam	8561021623	Nagarpalika-Kapsam@yahoo.com	
18	GANESH LAL KHARADI	Commissionary	Dungarpur	9413117965		
19	Babulal Choudhary	Fire Officer Dungarpur	Dungarpur	9462338101		
20	Amrisha Patel	IEC Supervisor	Dungarpur	9829039573		
21	Nand Lal Suthan	JEN Nagar Nigam	Udaipur MCU	9929035860	nandlal5656@gmail.com	
22	Sunil Bhatnagar			9887557076		
23	Lalit Singh Deth	E.O	Fatehnagar	9929427203	singhlatit06@gmail.com	
24	G. L. Mali	E.O.	N. P. Salumber	9772085401	e.o.salumber@gmail.com	



Building Capacities on  
Fecal Sludge and Septage Management  
Rajasthan

19<sup>th</sup> September, 2017 at Udaipur, Rajasthan.

Sr. No.	Name of the Participant	Designation	Municipal Body / Organisation	Mobile No. & Office Phone No.	E-mail ID (Office & Personal)	Signature
25	Udit Sharma	S.I.	M.P. F.S. Udaipur City	889098 5050		
26	Pravin Jethava	LDI	Sagwara	9829618264		
27	Nirmala Ahari	Chairman	Sagwara	9636838953		
28	सुरेश चण्डपाळीवाल	समाप्ति राजसमिती	न.प. राजसमिती	9929174646		
29	मालती मीठा	चेअरमन	नगरपालिका नाथदोडा	9929298723		
30	Saurabh Mishra	J.E.N	नगरपालिका जायदारा	7665532 503	Saurabh.24.2010 @gmail.com	
31	जगदीश शर्मा	S.I	नगरपालिका नाथदोडा	9461570 454		
32	हरि सिंह	U.D.C	नगरपालिका डामोद	94608249 27		



