

National Workshop on
**Non-Networked
Sanitation Systems
for India**

MUSSOORIE, FEB 27-28, 2019

REPORT

'19





Introduction

National Workshop on Non-Networked Sanitation Systems for India, held in Mussoorie from 27th-28th February 2019, was one of its kind national learning event for practitioners and training institutions to come together and share both rural and urban initiatives and experiences for addressing liquid waste management. The workshop was jointly organized by National Institute of Urban Affairs (NIUA), All India Institute of Local Self-Government (AIILSG), Mumbai and National Center for Good Governance (NCGG). This workshop was organized for officials to come together and discuss urban as well as rural initiatives and experiences for addressing Septage Management. The workshop provided a platform for experience sharing, peer learning, discussion and joint learning to initiate planning and implementation of non-networked sanitation systems in their own cities. It also felicitated cities for initiatives taken to address septage management in their respective towns. Over the course of two days, the workshop had thematic learning focus covering policies and institutions, technologies, financing and capacity building.



Delegates in the conclave

Participants Profile



More than 70 delegates including participants and speakers attended the workshop. Delegates comprised of government officials from state and local governments, consultants working in the sector and academic professionals.

Programme Outline

Inauguration



The workshop commenced with the welcome address by Ms. Utkarsha Kavadi, Sr. Executive Director, RCUES, AILSG, Mumbai. She welcomed and introduced the chief guest, Shri Madan Kaushik, Cabinet Minister to the Government of Uttarakhand along with dignitaries, champions, participants and organizers. She briefed about the need and status of sanitation situation and relevance of this workshop for both urban and rural areas in scaling up septage management in India.



Chief Guests Inaugurating the National workshop by lighting lamp



The workshop was inaugurated by Shri Madan Kaushik, Mr. Depinder Singh Kapur, Dr. Kush Verma and Dr. B. S. Bisht by lighting the traditional lamp.



Shri Madan Kaushik, Hon. Minister, Government of Uttarakhand, delivering the inaugural address

The inaugural address was delivered by Shri Madan Kaushik, Cabinet Minister, Urban Development Department, Government of Uttarakhand. He spoke about the growing need to address issues in sanitation across the state as well as nation. Shri Kaushik further spoke about the importance of building sustainable sanitation infrastructure and the ill effects of unplanned management of wastewater. He also appreciated the cause of national workshop for decentralized approach to sanitation needs in India.



Mr. Depinder Singh Kapur, Senior Domain Expert, NIUA giving the workshop overview

Mr. Depinder Singh Kapur, the Senior Domain Expert, NIUA gave an overview of the National Workshop in which he briefed the delegates about the agenda of the two-day workshop and the speakers presenting their work done in policy and implementation of FSSM. He acknowledged the partner organizations (i.e.) All India Institute of Local Self-Government, Mumbai and National Center for Good Governance for their efforts in organizing the workshop and welcomed the participants, champions and chairpersons.



Mr. Kush Verma, IAS (Retd), former Director General, NCGG, delivering the keynote address

Mr. Kush Verma, IAS (Retd), former DG, NCGG then took the stage to address key notes regarding the workshop to the delegates. He spoke about the sanitation scenario in the country and launch of Swachhh Bharat Mission and the progress made under the mission so far. He welcomed the delegates to this workshop and urged everyone to be interactive to make the workshop successful.



Dr. B.S. Bisht, Programme Director, NCGG, giving vote of thanks

Dr. B.S. Bisht, Programme Director, NCGG, Mussoorie, then addressed the guests with a vote of thanks to all the dignitaries and speakers for participating in the workshop. He welcomed the participants and acknowledged the partner organizers (i.e.) All India Institute of Local Self-Government, Mumbai and National Institute of Urban Affairs. Dr. Bisht also thanked the Ministry of Drinking Water and Sanitation for their support in organizing the workshop.



TECHNICAL SESSIONS

SESSION 01

MOVING BEYOND TOILETS – ODF+ & ODF++



Speaker 01	Rahul Sachdeva, Senior Programme Manager, NIUA
Topic	Non-Networked Sanitation Systems - Integral to India's Journey Beyond Toilets
Format	10 min presentation

The speaker began with an overview and the need for FSSM in India considering the rapid increase in urbanization. He briefed about the terminologies in FSSM, types of sanitation systems and status of on-site sanitation systems in India. He explained the importance of suitable mechanisms for septage management showing the statistics of estimated increase in onsite sanitation dependency rate in India and the health hazards if the septage is not disposed safely. He presented a timeline representing the efforts made by government to improve sanitation systems in Indian states over the years and explained the national level definitions of ODF+ and ODF++. He also discussed national policy on FSSM and how states are adopting their own FSSM policies based on the same. He concluded the presentation by welcoming the idea of non-networked sanitation systems as cheaper and efficient option where partial or no sewerage systems exist.



Speaker 02	Sasanka Velidandla, Independent Consultant
Topic	FSSM for Rural India- Approach and First Steps
Format	10 min presentation

The speaker gave a snapshot of status of the toilets in rural areas. He shared the key figures and statistics of the sanitation systems in the past 10 years and expressed the importance of FSSM for improvement. He explained the need for integrated plan for solid and liquid waste management and discussed pilots to understand the techniques to implement FSSM in rural areas. He showed examples of the cluster-based approach, a cost efficient and sustainable form of septage management. Concluding the presentation, he acknowledged resource constraints in rural areas and suggested ways to tackle the same.



Speaker 03	Sandeep Thakur, Associate Professor, NIUA
Topic	Overview of Municipal Finance, Service Level Benchmarks and Financial Requirements
Format	10 min presentation

The session started with the speaker giving an overview of the service level status in urban areas highlighting three important issues namely, institutional responsibility, fiscal responsibility and capacity building. He discussed about the progress of Swachh Bharat Mission indicators in urban areas and also showed the number of cities who received performance grants in the state of Rajasthan and Uttarakhand for FY 2017-18. He talked about context of FSSM and municipal finance, where he gave a brief note on existing financial situation of municipalities in India. He concluded the presentation by encouraging the states to prepare septage management guidelines. He also talked about the options of public-private partnership as well as safety standards for effluent and treated septage discharge or reuse.

SESSION 02

TECHNOLOGY AND TREATMENT OPTIONS FOR NON-NETWORKED SANITATION SYSTEM



Speaker 01	Praveen Nagaraja, Programme Manager, CDD Society
Topic	Technology Selection Criteria
Format	10 min presentation

In this session, the speaker started by showing prevalent sanitation systems of a city, and need for decentralized treatment systems for septage and grey water. He also spoke about the relevance and involvement of stakeholders in FSSM. He then compared the characteristics of faecal sludge and sewage and discussed the process for treatment. He also discussed the different technology options available and the approach for treatment of faecal sludge. He concluded by giving a framework of selection criteria for technology for FS treatment.



Speaker 02	Mr. Manoranjan Dash, Member Secretary, OWSSB, Odisha
Topic	Faecal Sludge and Septage Management- The Odisha Initiative
Format	10 min presentation

The speaker initiated the presentation by discussing about the Odisha Urban Sanitation Policy where he talked about the objectives and expected outcomes and also discussed about the constructed and upcoming FSTPs in Odisha. He then talked about the National Policy on FSSM and the key parameters involved while implementing the policy. He also discussed the present scenario of FSTPs in Odisha and the goals and objectives of the state to achieve ODF+ and ODF++ status in ULBs. He concluded the presentation by discussing the case of FSTP in Bhubaneswar in terms of the operational aspects, performance evaluation and regulatory requirements.

Panel Discussion



Dr. M. K. Teotia, Former HUDCO Chair, Urban Governance, Chandigarh, chair of the session conducted a panel discussion in which participants and speakers had a discussion on topics covered during session. The discussion revolved around FSSM v/s sewerage systems and their comparison in terms of their cost, time to implement and level of difficulties. The need to undertake a study to compare cost of sewerage system and end to end FSSM solution including treatment of grey water was established. Concerns like accessibility of septic tanks and difficulty in desludging of houses away from approach roads and need for smaller vehicles to tackle this issue were discussed. Options like treatment of FS at the containment level and their feasibility were debated. The session concluded with closing remarks from Dr. Teotia.

SESSION 03

NON-NETWORKED SANITATION - CONTEXT AND PRIORITIES FOR UTTARAKHAND



Speaker 01	Mr. Ravi Pandey, Superintendent Engineer Urban Development Department, Uttarakhand
Topic	Faecal Sludge and Septage Management in Hilly Towns
Format	10 min presentation

The speaker started by discussing about the scenario of non-networked sanitation systems in hilly areas and the protocol of the state regarding FSSM in Uttarakhand. He then discussed about the framework of FSSM, the responsibility of owners and inspection and enforcement mechanism. He also spoke about the cost recovery model and the role of private and NGOs in septage management. He then concluded the presentation by discussing the progress made by Uttarakhand in FSSM by presenting an upcoming septage treatment plant in Rudrapur.



Speaker 02	Mr. Dhawal Patil, General Manager, ESF
Topic	Non Networked Sanitation - Context and Priorities for Uttarakhand State
Format	10 min presentation

The session started with a discussion about urbanization and existing sanitation situation in the state of Uttarakhand. He also spoke about the issues faced by the state in adopting both sewer and non-sewer networks. He then discussed about the good practices practiced in the state giving an example of New Tehri sewage treatment plant. He also mentioned the national level policy and priorities for FSSM and discussed options for septage management and concluded with suitable treatment options for hilly regions.



Speaker 03	Mr. D. K. Bansal, Executive Engineer, PIU (AMRUT), Uttarakhand Pey Jal Nigam
Topic	Faecal Sludge and Septage Management – A Case of Rudrapur
Format	10 min presentation

The speaker initiated the presentation by discussing about the harmful effects of inadequate sanitation and discussed about the vision and objectives of FSSM in the country. He then talked about the key elements necessary for undertaking FSSM projects. He then discussed the ongoing septage management projects in Indian states and urged the delegates of other states to adopt the same. He also talked about some literature studies relevant to FSSM. He concluded the presentation by presenting the case study of Rudrapur septage scheme under the AMRUT programme.



Speaker 04	Sanjay Bhargava, Jt. General Manager, HUDCO Regional Office, Dehradun
Topic	Challenges and Opportunities in Non- Networked Sanitation Systems - Financing Options
Format	10 min presentation

The speaker gave an overview about the national scenario of FSSM. He then explained the 'Clean Uttarakhand Dashboard' where he discussed facts about the urban and rural development in sanitation. He also discussed about the non-networked sanitation system challenges faced in urban areas and suggested solutions for the same. He concluded the presentation by discussing the involvement and role of HUDCO in financing and supporting the agencies for FSSM projects.

Panel Discussion



Dr. Kush Verma, IAS (Retd), Former Director General, NCGG; chair of the session conducted a panel discussion wherein delegates had a dialogue on topics covered during session. The discussion revolved around the need of dedicated earmarked funding for FSSM, similar to networked systems which will make the ULBs consider this option. Alternatives like funding from state or parastatal bodies like Jal Nigam were also discussed. FSSM was discussed as a good option for treatment of septage generated in the city and also for compliance of NGT rules to dispose septage only in dedicated area in the city. It was established that there is a need to study the characteristics of treated septage, possibility of co-composting and implications on soil. The session concluded with Dr. Verma summing up and giving closing remarks to the session.

SESSION 04

LEGAL AND INSTITUTIONAL CONTEXT- NON-NETWORKED SANITATION



Speaker 01	Mr. Bhupender Mathur, Chief Engineer, Rajasthan
Topic	Non-Networked Sanitation Systems for Rajasthan, India
Format	10 min presentation

The speaker talked about the current status of Swachh Bharat Mission in the state of Rajasthan. He spoke about the infrastructure built to improve the sanitation system and the efforts made at state level to spread awareness among the people regarding the ill effects of open defecation. He also discussed the ULB level scenario for Swachh Survekshan. He further talked about the protocol for ODF+ and ODF++ and commented on current status of ULB's in achieving ODF++. He emphasized on cluster approach to improve sanitation system as an option achieve the goal of ODF++. He concluded the presentation by discussing the involvement of NIUA in supporting Uttarakhand to build FSTPs in selected ULBs of the state.



Speaker 02	Mr. Sujith K., Assistant Professor, Faculty of Law, Delhi University
Topic	FSSM in Urban India: Legal and Institutional Framework
Format	10 min presentation

The speaker gave an overview of FSSM through the perspective of law, concentrating on legal and institutional framework of FSSM in urban areas. He spoke about different aspects of FSSM managed, executed, and regulated by various agencies, explaining the complexity in the regulatory framework related to FSSM in the country. He then explained the role of law giving a broader view on key functions, which would improve the FSSM.



Speaker 03	Mr. Suraj Kumar, Sr. Programme Manager, IPE Global
Topic	Regulatory Framework for FSSM – Capacity Building for FSSM in Rajasthan
Format	10 min presentation

The speaker discussed about the FSSM policy, guidelines and plans in terms of setting-up of infrastructure, capacity building, regulations and institutional framework. He discussed about feasibility study on co-treatment for three towns in the state of Rajasthan. He presented the current scenario on construction of FSTPs across different states. He also discussed about the business model for cost recovery and involvement of private operators in FSSM. He concluded the presentation by discussing the activities to be executed like training and capacity building programs for the stakeholders, database creation for scheduled desludging and IEC activities for community awareness and participation.

Panel Discussion



Dr. Avdhesh Pratap Singh, Sr. Advisor, Ministry of Water Resource, Government of India, chair of the session conducted a panel discussion, where participants and speakers had a discussion on topics covered during session. The discussion mainly established that the problem is not about existence of laws but about their implementation. The importance of laws and policies to fight the linkages of caste to sanitation and scavenging was discussed. For implementation of laws, building abilities as well as punishment both methods may be required. The approach for converting insanitary latrines to sanitary was discussed. Dr. Singh then addressed the closing remarks for the session.

SESSION 05

FELICITATING CHAMPIONS - CITIES/ TOWNS AND DISTRICTS

As a part of the national workshop, cities were felicitated for their outstanding work and achievement in implementing scheduled desludging of septic tanks linked with 100% treatment of faecal sludge and septage in dedicated faecal sludge treatment plant, setting up and operating a dedicated faecal sludge treatment plant and setting up of co-treatment of faecal sludge and septage with sewage at an existing sewage treatment plant. The guest of honor, Dr. Sanjeev Chopra, IAS (Retd.), Director of Lal Bahadur Shastri National Academy of Administration, Mussoorie, felicitated the delegates from the 'Pioneer Cities' with an award and certificates for their efforts in FSSM. Dr. Chopra congratulated the winners and noted that the development of a city can be directly linked with the level of efficiency and coverage of the sanitation systems. He encouraged the other delegates to take inspiration from the achievements of the 'Pioneer Cities' and take FSSM initiatives in their own cities. The cities felicitated were:

Wai

Sinnar

Bhubaneswar

Rourkela

Sambalpur

Dhenkanal

Berhampur

Karunguzhi

Nesapakkam

Jhansi

Devenahalli

Panaji

Warangal

Narsapuram

Leh

Puri



SESSION 06

FINANCING AND CONTRACTING



Speaker 01	Mr. R.S. Arun Kumar, Sanitation Lead, Tide Technocrats Pvt.Ltd
Topic	Private Sector Participation in FSSM - Opportunities and Challenges of Bidding and Contracting
Format	10 min presentation

The speaker detailed the technological options available for FSSM. He discussed the FSSM assessment carried out in different cities to understand the technologies used and fiscal factors involved mainly to understand capital expenditure and operational expenditure of the technologies. He also talked about the tender/contract documents and issues which discourage the private operator involvement in the FSSM. He spoke about the cost and technology parameters of treatment. He emphasized on the importance of private sector participation in FSSM, and challenges faced while bidding and contracting.



Speaker 02	Mr. ManasRath, Senior Advisor, BORDA
Topic	Financing and Contracts for FSSM: Model and Cases
Format	10 min presentation

The speaker presented the structure and requirements of financing and contracting FSSM services and the role of private players for improving FSSM services in India. He discussed about the financial appraisal of centralized sewerage system and FSSM system, inclining more towards the positives of incremental approach of FSSM system in towns having less population to improve sanitation system. He discussed two case studies of FSTP projects, describing the background, financial costing and implications faced while implementing. He also talked about the roles and responsibilities of different organizations in FSSM. He concluded by discussing the importance of long-term sanitation plan and the cluster approach as an efficient way to improve the sanitation system in India.

Panel Discussion



Dr. Manjit Singh, IAS (Retd) Pr. Secretary, Urban Development, Rajasthan, chair of the session conducted a panel discussion where participants and speakers had a discussion on topics covered during session. The discussion brought up concerns around the need for dedicated central and state finance for an enabling environment for FSSM planning and implementation, however the experts reiterated about the equal importance of private sector involvement for sustainability. FSSM models of finance were discussed with a confirmation on blanket solutions for FSSM as there are several local factors which need to be considered while planning for financing of FSTPs. There were also discussions on the need for generating a consumer database for a regular de-sludging for established FSTPs in the country. Dr. Manjit Singh then addressed the closing remarks for the session.

SESSION 07

CAPACITY BUILDING FOR NON-NETWORKED SANITATION



Speaker 01	Ms. Jyoti Dash, Programme Manager, NIUA
Topic	Capacity Building Experiences from SCBP
Format	10 min presentation

The speaker presented about the Sanitation Capacity Building Platform (SCBP) created by NIUA and the training programs organized by NIUA under SCBP in collaboration with different partners at state and national level. She discussed the thematic areas and the areas of intervention on which the platform works. She discussed in detail about the state level engagement experience of SCBP with Rajasthan, highlighted the issues faced by small and medium level ULBs and the state level strategy to deal with the problems. She talked about the collaboration with nodal training institutes for capacity building activities and training programs in different parts of the country. She concluded the presentation by discussing the training modules developed and reviewed in order to create normative framework for state level capacity building, identifying priority level modules and for impact assessment of the capacity building and training activities.



Speaker 02	Mr. Dhawal Patil, General Manager, ESF
Topic	Capacity Building for Non-Networked Sanitation
Format	10 min presentation

The speaker gave a background of organization and their contribution in the field. He talked about the Integrated Wastewater & Septage Management (IWWSM) module prepared by the organization which covered components like need of FSSM, planning for FSSM, sustainable sanitation and water management in Indian scenario along with aspects like stakeholder's analysis, financing and different technologies used in sanitation system. He discussed the 3 days agenda of workshop for this module and the activities done during the period. He concluded the presentation by discussing in detail the module for training of consultants for preparation of FSSM DPR and modules related to FSSM in hilly areas.



Speaker 03	Ms. Utkarsha Kavadi, Sr. Ex. Director AILSG, Mumbai
Topic	Capacity Building of Stakeholders
Format	10 min presentation

The speaker talked about how capacity building organizations can integrate FSSM aspects into their overall structure and the requirement for dedicated capacity building efforts for scaling up of FSSM which will help in implementing FSSM. She then gave a brief note on AILSG organization and its role in providing capacity building research and technical support to states and local governments. She explained the kind of training programmes organized by AILSG and the integration of FSSM into the existing work plans. She also discussed about the organization's involvement in capacity building activities in the state of Maharashtra. She emphasized on the importance of capacity building which has enabled the ULBs to take their own initiatives. She concluded the presentation by talking about essential parameters which are necessary for capacity building programs and training activities.



Speaker 04	Ms. Manoj Pande, Assistant Professor & Head Urban Development Cell, ATI Nainital
Topic	Individual Capacity Building Framework
Format	10 min presentation

The speaker gave an overview for the need for capacity building framework and training on FSSM amongst the elected representatives and technical functionaries. He discussed the training content with emphasis on the challenges and issues related to various functional areas and the technologies involved in collection, conveyance, treatment and disposal of septage. He also talked about the need for disaster resilient infrastructure and stakeholders' participation in FSSM. He also highlighted the efforts taken by Uttarakhand Academy of Administration in the field of FSSM. He concluded the presentation by discussing plans and strategies required to improve the FSSM services in Indian states.

Panel Discussion



Prof. S.K. Mishra, IIT Roorkee, chair of the session conducted a panel discussion, where participants and speakers had a discussion on topics covered during session. The discussion was mainly on the topics of building capacities and dissemination of training material to all cities and having focused training for on ground officials and engineers involved. It was also discussed that the capacity building for officials of hilly regions to be more focused with innovative options. Integrated training approach to be implemented through programmes like Integrated Capacity Building Program (ICBP) was highlighted. The Uttarakhand state level support to be provided by NIUA for building capacities, technical support and policy regulations was also discussed. Prof. Mishra closed the session by concluding that capacity building is continued education and should be done irrespective of time and place.

Closing Remarks



Mr. Ashish Shrivastava, IAS, Director, Smart City Dehradun & Additional Secretary to Chief Minister, Government of Uttarakhand.

The workshop concluded with the closing address by Shri Ashish Shrivastava, IAS, Director, Smart City Dehradun & Additional Secretary to Chief Minister, Government of Uttarakhand where he spoke about the efforts and initiatives required for preparing sanitation systems, which are sensitive to local needs, accessible to all and can be implemented across the country. He noted that non-networked sanitation systems can work as a supplement to the conventional networked sanitation. He appreciated the efforts taken by the partner organizations in bring together experts and delegates from across the country to talk about the diverse issues of FSSM and suggesting solutions for the same.

Vote of Thanks

The vote of thanks was delivered by all three partner organizations to thank the delegates, sector experts and senior government officials who made the national workshop a success by sharing their experience and insight on the subject.

Way Forward

As a way forward it was unanimously agreed upon that:

- ⦿ Non-networked sanitation systems are not a temporary solution in fast urbanizing India, they are the need of the hour as the most appropriate solutions to achieve sustainable sanitation.
- ⦿ FSSM policy should address the enabling provisions in the form of suitable regulation and institutional framework for capacity building, education and awareness among all stakeholders.
- ⦿ Urban and Rural areas with challenges should be independently studied with local context and to have innovative solutions for different challenges.



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Non-Networked Sanitation Systems for India
