

**State workshop on
'Planning and implementing effective septage management – Supporting city's
journey beyond ODF and improved river health in U.P'**

22nd Oct. 2018

Venue: Hotel Clarks Awadh, Lucknow

Organised by CSE & Department of Urban Development, Uttar Pradesh

Conference Proceedings

Inaugural Session:

Welcome Address –

Dr Suresh Rohilla, Sr. Director welcomed the participants and set the stage for the Inaugural sessions. Dr.Rohilla gave the background of the challenges faced in effective faecal sludge management in the state of UP. He shared CSE's initiatives in the state of U.P. which includes capacity building workshops, trainings, exposure visits. He highlighted the support CSE is giving to 4 model cities i.e. Bijnor, Gangaghat, Chunar and Ramnagar by creating models for stakeholder interventions, help in preparation of CSP and DPRs for model projects. He further stressed on the need for an enabling environment at the state level and presented the draft policy on FSSM for the state of U.P. The same was distributed to all the participants for their comments.

Dr Rohilla then mentioned about the support CSE intends to give to the state of U.P. in the Phase-2. This would include capacitating the Urban Local Bodies in the Ganga basin on small scale, onsite waste water and septage management systems. He announced the launch of "Forum of Cities that Manage Septage in Uttar Pradesh" which would be a knowledge sharing platform for the cities. He further announced the setting up of a Programme Support Office in Lucknow with dedicated staff for the activities in Uttar Pradesh.

Excreta Management: Setting the context: Sunita Narain, Director General, CSE

In the inaugural address, Ms.Sunita Narain emphasized on the need for a new approach in solving the pollution problems of Ganga and its cities. She stressed on the fact that cities in India plan for water but do not plan for waste water which account for around 80% of the water generated. She highlighted the fact that most of the cities do not have an underground sewerage network and majority of the STPs are running under capacity. The cities in India need to recognize the reality that majority of the households are connected to Onsite Sanitation systems. This is where the opportunity lies for a cost effective solution.

Ms. Sunita Narain suggested a step-wise approach after the officials recognize the problem. The Step-1 would include bringing policy guidelines and bylaws for enforcement and implementation. She suggested that this could be done through EP Act or SWM Rules. Step-2 should be to focus on transportation Regulation of the containment system in the households might not be the immediate focus. Step-3 Treatment for Re-use: including Co-Processing of Faecal Sludge with Municipal Solid Waste where possible to enhance the reuse options. She stressed on the fact that the present day Sewerage System destroys the Nitrogen cycle where all the nutrients are lost by discharging all the waste water into the rivers. This is where the opportunity for re-use exists. She highlighted the need to change the approach to river cleaning in order to be successful.

BMGF: Overview of FSM Work in India – Madhu Krishna, BMGF

Ms. Madhu Krishna highlighted the need for safe sanitation and the fact the majority of the people affected by poor sanitation are below poverty level especially young women and children. She appreciated the efforts the State of Uttar Pradesh, the most populous state in the country, in the area of FSSM. She emphasized on the importance of FSSM since the majority of the population in the state are dependent upon Onsite Sanitation and highlighted the negative impacts of discharging untreated Faecal Sludge into the environment. She encouraged a collaborative effort of all the stakeholders in the state including the Govt., citizens, private sector participants, elected representatives and the NGOs and professionals working in this field to address this issue. She highlighted the efforts NFSSM Alliance in taking this agenda forward. She hoped that this day would be marked in the history as an important event in achieving the SDG 6.2 & 6.3 i.e. equitable access to safe and sustainable sanitation.

Mapping Faecal Flows (SFDs) and Citywide Sanitation in Uttar Pradesh - CSEs existing work and next steps: Suresh Rohilla&BhitushLuthra

Mr BhitushLuthra then presented assessment of Faecal Sludge and Septage Management (FSSM) in UP based on a study done for 30 cities in the state. He presented the data relating to the type of containment systems and the overall FSSM scenario in the state. Depending on the population, the cities were divided into 4 clusters and the SFDs were presented for each cluster including the FSSM characteristics of the cities in these cluster. The proposed approach for FSSM implementation was then presented for each cluster.

Launch of “MOUNT” “SANIKIT” and the report “Managing Septage in the Cities of Uttar Pradesh”

CSE then launched the report “Managing Septage in the Cities of Uttar Pradesh” along with two web based tools “MOUNT” and SANIKIT” which can be used by officials of state govt. and the ULBs for planning and implementing sanitation projects. Ms Ridhima Gupta and Ms Amrita Bhatnagar presented the details of “MOUNT” and “SANIKIT” respectively. Both the platforms were made available to the participants of the conference to explore on a desktop located near the reception area.

Address – G.S Priyadarshi, State Mission Director, AMRUT U.P.

Shri Priyadarshi presented the current status of AMRUT implementation in the state as well the proposed interventions in FSSM through AMRUT schemes. He expressed the challenges in implementation of Sewerage Projects and the need for the off-grid solutions like FSSM.

The State intends to implement Co-Treatment of Faecal Sludge in cities where there are existing STPs and intends to implement FSTPs in cities where no sewerage system is presently proposed. The total number of cities where Co-Treatment is proposed to be implemented is 21 whereas the total number of cities where FSTPs are proposed is 31.

He also briefed about the training programmes which the AMRUT has organized for FSSM in partnership with RCUES.

Address by Chief Guest – Manoj Kumar Singh, Principal Secretary, UD

The Chief Guest, Shri Manoj Kumar Singh addressed the participants of the workshop on the importance and the challenges of implementing an effective FSSM program at their cities. He highlighted the challenges in the reuse of the by-products from the treatment processes due to issues such as industrial effluents getting mixed sewage. He emphasised on the need to integrate the manual scavengers into the formal sector of waste water and faecal sludge treatment. He highlighted the need to professionalize the sector by providing proper training to all the workers involved in the sector. He also highlighted the need to use the best technologies available for treating the Faecal Sludge. He encouraged the AMRUT and other state PMUs to involve CSE and create good examples of FSSM in the cities across the state.

OPEN HOUSE - Problems, Challenges and Support required for mainstreaming FSSM

Panelist: Shri Manoj Kumar Singh (Principal Secretary, DoUD, UP), Shri G S Priyadarshi (State Mission Director, AMRUT, UP), Ms Sunita Narain (Director General, CSE), Ms Madhu Krishna (Country Lead, WASH, BMGF) and Dr Rohilla (Sr. Director, CSE)

All the participants in the workshop were given an opportunity to share their experience and challenges with the panellist and ask any questions they may be having. Key points discussed during the session is provided below:

Shri S K Gupta, GM, U P Jal Nigam stressed on the need to motivate the households in regular desludging of the tanks. He shared the experience of a program launched in 1991 where Rs 3 Cr was allocated by the Govt. to construct pour flush latrines with twin leach pits in the households in a city. The program was a failure since people refused to build the proposed infrastructure even though it was for free due to cultural and behavioural issues. Mr Sunil Kumar (Executive Officer, Gangaghat) reiterated the need to motivate the households in taking up interventions related to proper sanitation.

Mr Ajay Rastogi (Chief Engineer, Jal Nigam) shared his views regarding the need for a proper disposal point for the discharge of faecal sludge and the need for creation of facilities for receiving of septage in the existing SPS and the STPs. Ms Sunita Narain and Ms Madhu Krishna stressed on the need to involve the private sector and incentivise them to adopt proper technology and appropriate vehicles for the desludging.

The Principal Secretary UD highlighted examples where households are directly discharging their waste water to the open drain without any containment. He stressed that such households should be directed by the ULBs to either construct a Septic Tank or connected to a sewer line if available.

Municipal Commissioner from Moradabad shared his experience in the city and highlighted the fact that the STP in his city is running under capacity and is not designed to treat the Faecal Sludge emptied from the septic tanks in the city. To this the Principal Secretary DoUD replied by saying that there is gap in sewer line which is close to completion due to which the STP running under capacity and that Co-Treatment facility should be created for treating Faecal Sludge in the existing STPs.

Mr Tayal from PDMC AMRUT highlighted that DPRs for FSTP in all major towns have been approved and work for implementation would be started shortly. Other participants highlighted the need to regulate the type of containments in the households as this would be critical in the collection and transportation of the faecal sludge. Ms Sunita Narain re-emphasised the need for proper containment, but highlighted that the immediate attention was needed to regulate and incentivise the de-sludgers and provide a designated disposal point by the ULB where the faecal sludge can be treated. Treatment of the faecal sludge should be the focus of the ULBs. The Principal Secretary UD further explained the need for regular desludging for the optimal performance of the septic tank.

Mr Priyadarshi highlighted that fact there is a lack of demand from the citizens in the ULBs due to the lack of awareness about the issue of FSSM. The demand is primarily on projects related to water supply and roads. There is also a lack of clarity with regards to who is responsible for FSM and under which mission should the funds come from for such projects AMRUT, SBM or NMCG. The Principal Secretary emphasised the FSM does not require significant investment and that fund availability is not an issue but requires proper enforcement and IEC activities. He acknowledged the issue of lack of awareness among the citizens and emphasised that once people become aware that the main reason for the pollution in their water body is due to the lack of proper FSSM in their city there would increase in the demand for FSSM projects in their city.

Technical Session 1: Planning and Implementing Effective FSSM

Chair: G.S. Priyadarshi, State Mission Director. AMRUT

Moderator: V.K. Madhavan, Chief Executive, WaterAid India

- Experiences and Learnings from Devenahalli (Karnataka) & Leh (J&K) FSTP - ManasRath, CDD - BORDA

Mr. ManasRath shared CDD – BORDA experience of implementing the country's first ever Faecal Sludge and Septage Treatment Plant. The plant was constructed at a cost of INR 60 Lakhs built at an area of 625 sqm and commissioned on the year 2015 for a capacity of 6 KLD. The plant requires no electricity and completely operates under gravity and only require one full time operator to run the facility.

He also shared the experience of Leh where there was a challenge of implementing an FSTP under adverse climatic conditions and the ways PPP approach can be used in implementing FSTPs.

- Statewide scaling up FSM in A.P.&Telengana – S.V.Chary, ASCI

Mr. S. V. Chary joined remotely through video conferencing shared the experience and challenges faced by the Governments in Andhra Pradesh and Telangana in scaling-up FSSM in the state. He presented the fact that the state is presently floated tenders to implement FSTPs across the state in a packaged approach following Hybrid Annuity model.

International best practices

- Bangladesh: Abdullah Al- Muyeed, WaterAid, Bangladesh

Mr Abdullah Al-Muyeed presented the experience of implementing FSTP in Sakhipur Municipality in Bangladesh. The majority of the households in the town have pit latrines. The proposed technology is based on “PuranaTareeka Par Adhunik Technology” (Old way but new technology) approach. The FSTP uses Sludge Drying Beds to separate the Solid and the liquid content of the Faecal Sludge. The dried sludge is Co-Composted with the Organic portion of Municipal Solid Waste to form a good quality compost which is sold to the farmers.

- Malaysia: Dorai Narayana, Former Head of Department, IWK, Malaysia

Mr. Dorai Narayana joined remotely for this session from Malaysia and shared the Malaysian experience in improving the sanitation conditions in the country. He shared the regulatory interventions as well implementation approach taken by the Govt. which drastically improved the sanitation infrastructure in the country. He also the share the experience of the country in implementation of scheduled desludging.

- Philippines: Ma. Victoria E Signo, Head, Sanitation, Baliwag Water Distt., Philippines

Ms. Ma. Victoria E Signo joined remotely for this session from Philippines and shared the experience of implementing Faecal Sludge Management program in Baliwag town in the Bulacan province of the country. She presented the regulatory approach and planning involved in implementation of the program. She highlighted the funding and sustainability aspects of the plant operations as well as the best practices in operation and maintenance of the plant.

Panel Discussion: Rahul Sachdeva (NIUA), A.K. Gupta (RCUES), Mr Ajay Rastogi, Chief Engineer (Ganga) UPJN

Mr V K Madhavan inaugurated the session a gave a background related to the scenario of FSSM in the state. Mr Ajay Rastogi stresses on the need to enforce the existing regulations i.e. Water Supply and Sewerage Act of the state which was responsible for the formation of the Jal Nigam and Jal Kal in the state.

Mr A K Gupta (Additional Director, RCUES) stressed the need to address the entire value chain of FSSM to effectively tackle the problem and to learn from the existing FSTPs implemented in the country. He also stressed on the fact that there are existing 40 STPs in the state which can be used

for Co-Treatment of faecal sludge. He emphasized on the need for dedicated funds and adequate manpower so that the assets created for FSSM are sustained and operated properly. Mr Rahul Sachadeva (NIUA) highlighted the need for a dedicated capacity building program for the ULB officials and importance of their involvement from the planning stage itself.

Shri Priyadarshi concluded the session and stressed on the way forward for the ULBs in implementing FSSM in their towns and highlighted the importance of proper planning and issues related to financing and identification of land.

Technical Session 2:

Chair: Shri Mrityunjay, Joint Director. SBM, Uttar Pradesh

Moderator: Dr Suresh Rohilla, Sr Director, CSE

- Thermal Technologies in Faecal Sludge Treatment – Shriram . B, Tide Technocrats

Mr Shriram from Tide Technocrats shared the experience of implementing 3 no. FSTPs with pyrolysis technology at Warrangal, Narsapur and Wai respectively. He emphasised on the fact that this technology requires less area, is modular which means it can be scaled for capacity, quickly installed, can be operated in all weather and treats the sludge generated. The heat generated from the pyrolysis can be reused in the pasteurization process for the treatment of the liquid part of the faecal sludge.

- Co-treatment of FS in STPs: Experiences and Way forward – Sanjay Gupta, Consultant Advisor – BMGF

Mr Sanjay Gupta explained the importance of Co-Treatment of Faecal Sludge in STPs and shared the present scenario of Co-Treatment in the country. He provided the country level data relating to the operational capacity of the existing STPs and the potential for Co-Treatment here. He also provided the case study of Co-Treatment in Kanpur and Ghaziabad cities.

- Appropriate business models and cost recovery mechanism for a range of faecal Sludge management options in Ganga basin – Andreas Ulrich, IWMI

Mr Andreas gave a background of the IWMI organization. He highlighted the potential of Faecal Sludge Management in India by presenting country level data on population dependent on Onsite Sanitation. He then presented various business models and their potential in India. He highlighted the need for Institutional Linkages and Partnerships for successful implementation of FSSM. He took the example of Mughal Sarai and Gangaghat and presented possible FSSM interventions in the cities.

- Soil Bio-Technology for sewage treatment – Chandrashekar Shankar

Mr Chandrashekar Shankar explained the Soil Bio Technology (SBT) for the treatment of Sewage. He provided a comparison of SBT vis-à-vis other conventional technologies like Activated Sludge Technology. He explained the process description of the technology and also some of the frequently asked questions about the technology.

- Decentralised waste water treatment incl. Reuse – ChhaviSharda, CSE

Ms ChhaviSharda highlighted the issue of treatment of effluent from the Onsite Sanitation Systems and the negative impacts of the untreated effluent on polluting the drains, water sources and insanitary conditions in the neighbourhood. She presented the concept of small bore sewage system on the conveyance for effluent from Onsite Sanitation Systems (OSS). She then presented the Dewats technology for treating the effluent from OSS by providing 3 case studies.

Shri Mrityunjay, Joint Director. SBM, concluded the session by reiterating the importance of FSSM and the need to move towards ODF++ and thanked CSE for organizing this workshop.

Dr Rohilla ended the Conference by thanking all the dignitary present in the Conference for their participation.