

# NON SEWERED SANITATION SYSTEMS FOR INDIA:

## State Level Normative Framework for Capacity Building

NIUA/Training Modules Review Committee lessons Jan 2019

### Background

Challenges of water and sanitation sector are increasingly centering on managing demand and reducing wastewater footprint. The days of endlessly increasing the supply of drinking water are over. Creating an enabling environment of norms and regulations, translation of policy into funds and functionaries in place to deliver and enforcing institutional accountability, is a frontier area where the capacity building needs to focus today. All these constitute a holistic scope for capacity building for FSSM.

### Capacity Building

Capacity is “the ability of people, organisations and society as a whole to manage their affairs successfully”. Capacity development is the “process of unleashing, strengthening and maintaining of such capacity”(OECD/DAC)

Capacity Building is more than just development of training modules and providing trainings and exposure visits. In a UNDP symposium in 1991 on A Strategy for Water Sector Capacity Building, following were identified as components of capacity building :

- the creation of an enabling environment with appropriate policy and legal frameworks;
- institutional development, including community participation (of women in particular);
- human resources development and strengthening of managerial systems.

Capacity building has to be integrated into the normal functioning of an organisation, as on job training and mentoring from within. An organisation has to create opportunities for its staff to grow professionally and acquire knowledge and skills, to remain relevant and seize opportunities for growth. A learning environment that allows this to happen on the job, cannot be replaced by training and capacity building from outside. Most organisations suffer from the lack of a learning culture that hinders knowledge and skills assimilation opportunities for its staff and partners. Capacity building of Staff and officials of Urban Local Bodies and Para

State Technical Agencies, including administrative and executive staff engaged in the designing, implementation and maintenance of water supply and waste water treatment systems, is a necessity for ensuring sustainable and equitable water and sanitation services.

### Sanitation and Urbanisation in India

The total urban population of India, as per Census of India -2011, is 377 million, which is majorly spread across 7935 urban centers - 4041 statutory towns and 3894 census towns. Statutory towns are administered by Urban Local Bodies which is responsible for delivery of infrastructure services, and census towns are administered via rural administration, provision of urban services is not mandatory in these areas. Though the no of census towns has trebled over a decade, the increase in no of statutory towns has been much slower.

**Table 1: Urban centers in India (Source: Census of India 2011, Office of the Registrar General & Census Commissioner, Ministry of Home Affairs, Government of India.**

Types of Urban Units and number	Census - 2001	Census-2011
Statutory towns	3,799	4,041
Census towns	1,362	3,894
Urban agglomeration	384	475
Out growths	962	981

There is a large gap between the wastewater generated and actually treated. Out of about 61754 million litres per day (MLD) of sewage generated, treatment capacity exists for only 32% (about 22963 MLD). As per the CPCB report- Status of Sewage Treatment in India, municipal waste water generated in 35 metropolitan cities shows that all these cities collectively generate 15,644 MLD of sewage. But these cities have sewage treatment capacity of only 8040 MLD (51% of the total sewage with Delhi and Mumbai together accounting for 55% of treatment capacity of these 35 metropolitan cities. The total treatment capacity gap between the waste water generation and its treatment in Class I and Class II cities of India combined is also as high as 70%. The below image gives the detail of the same.

Implementation of on-site sanitation services remains a problematic area in most Indian cities. Data related to availability of sanitation services, collection of faecal sewage and sewage treatment remains unknown to most urban bodies. Municipal corporations in many Indian cities have been known to employ manual scavengers to clean septic tanks, a practice deemed illegal by the Supreme Court. Inappropriate tank sizes are another problem which occur due to lack of defined norms with regard to tank sizes. Other problems such as lack of infrastructure among municipal bodies, lack of proper sewage treatment facilities and poor awareness among people on how untreated faecal sewage poses health risks has created several gaps in urban sanitation. As of today, more than 400 Faecal Sludge Treatment Plants and several towns have committed to co treatment of septage with sewage in their existing STPs. Different technology options ranging from DEWATS to Thermal and Membrane based technologies are being tried out.

### **Capacity Building Approach of SCBP**

Sanitation Capacity Building Platform (SCBP) is an initiative of the National Institute of Urban Affairs (NIUA) for addressing urban sanitation challenges in India. The Platform, supported by BMGF is an organic and growing collaboration of credible national and international organizations, universities, training centers, resource centers, non-governmental organizations, academia, consultants and experts. The Platform supports National Urban Sanitation Missions, states, and ULBs, by developing and sourcing the best Capacity Building, Policy Guidance, Technological, Institutional, Financial and Behaviour Change advise for FSSM.

The partners of the platform are - CEPT University, Consortium for DEWATS Dissemination (CDD) Society & BORDA, Ecosan Services Foundation (ESF), WaterAid, iDECK, Centre for Policy Research (CPR), All India Institute of Local Self Government (AIILSG), Administrative Staff College of India (ASCI), Urban Management Centre (UMC), CSTEP and WASH institute. SCBP is part of the National Faecal Sludge and Septage Management Alliance (NFSSMA) at the national level. The strength of the Platform is its ability to bring together partners to contribute towards the development of State Sanitation Policy, Training of Trainers and Training Content

Development, Technical and Social Assessments, Training Programme delivery, Research, and Documentation.

Capacity building support under SCBP was initiated in 2016 with intensive engagement in six towns in three states (Uttar Pradesh, Bihar, and Andhra Pradesh). Starting from six towns focus, the programme was expanded, reaching a large number of government officials from 300 towns directly and indirectly around 2000 officials in 10 states of India and many private sector consultants, training institutes and academia. The Platform has supported FSSM capacity building intensively in two states - Uttar Pradesh and Rajasthan and recently has initiated work in Uttarakhand. At the national level, the platform has conducted FSSM capacity building through engagement with Nodal training institutes to reach out to more towns and states (Madhya Pradesh, Karnataka, Kerala, West Bengal, Jharkhand, Bihar, Andhra Pradesh, Telangana, Chhattisgarh, and Odisha).

SCBP has identified nodal national training institutes and provided FSSM training modules and trainers from among the SCBP partners in the short run. And by linking these state-level institutes with state universities and technical institutes in the long run. The financial sustainability of the training institutes is a matter of concern as central and state grants fund them and these are not sufficient to provide useful quality training materials, regular staff and hired resource persons.

SCBP also extended the Collaboration with Academic Institutes to further the agenda of capacity building under SCBP. NIUA initiated a multi-disciplinary engagement with academic institutes for:

1. Integration of non-sewered sanitation & FSSM into course curriculum – through electives, minor programmes, studio exercise, summer/ winter schools
2. Research and learning events on non-sewered sanitation & FSSM: Cap stone projects & dissertation at under graduate, post graduate and PhD level, workshops at state level, thematic learning events
3. Professional courses: thematic certificate courses – technology, management, Faculty Development Programmes

# CAPACITY BUILDING FOR NON SEWERED SANITATION SYSTEMS:

## State Level Normative Framework

Capacity Building for FSSM emerged as a priority for almost all partners of the NFSSMA members.

A review was undertaken in 2018 by Alliance partners under a Training Modules Review Committee(TMRC) to assess the scope of capacity building in terms of:

- identify priority stakeholders
- review training modules content and structure
- identify priority training institutes to revise/develop, and
- explore strategies for a scaled up and effective capacity building intervention.

A framework for FSSM Capacity Building at state level was also identified as a priority, as a guide for any organisation that is engaged in supporting rural or urban FSSM work in future.

### Capacity Building Goal :

To enable a paradigm shift in favour of decentralised and non-networked sanitation systems to achieve universal treatment of faecal waste and improvement in health and living conditions

### Recommended Approach/Steps

The framework is not meant to be prescriptive. Any support organisation can decide at which stage their state is in adopting non sewerer sanitation and decide where to intervene.

#### Step 1: Developing a State Perspective, Strategy and Approach

As a start-up activity, support a state government to undertake a study for a few towns (3 to 5 sample towns of different size and geography), to understand current status and challenges in urban sanitation at the town level. The study will look into the existing status of and proposed plans and investment for sewerage and STPs and likely coverage of town population, ULB structure and staffing for sanitation, status of ULB Finances and implications of user charges for sewerage infrastructure investments, water quality testing of water bodies and ground water, schedule and operations of desludging of septic tanks, etc.

The Study will also look into the recommendations for FSSM with Phase wise approach for different size and category of towns in a state. This study may provide a Needs Assessment perspective for capacity building – addressing critical aspects of 1. What needs

to be done at the state level to promote a Policy and Institutional environment, 2. What needs to be done at the Municipality level to provide an enabling framework and some incremental start steps to address the unsafe disposal of septage waste and finally 3. Training modules and priorities for city officials.

#### Step 2: Securing buy-in for FSSM at the highest Administrative, Technical and Political Levels

Unless there is buy-in at the highest level of the State Urban Development department, functionaries of most if not all small and medium towns may not be in a position to select an alternative treatment option for FSSM. There is no blueprint or sequential process that can be prescribed.

Exposure visit of senior officials to functioning Faecal Sludge Treatment Plants(now operational in some towns/states of India) is powerful advocacy. Short presentations and handout notes that highlight the issue of challenges after construction of toilets – are powerful advocacy for decentralised and non sewerer sanitation systems.

An MoU or a formal commitment to work on FSSM that the state signs with a support agency, can be helpful in forging commitment of the state.

#### Step 3: Developing a State FSSM Policy

Each State is expected to develop and issue the FSSM Implementation Strategy and Plan Guidelines. Based on the National FSSM Policy 2017, the state has to develop a state FSSM Policy. This provides an enabling environment and commitment from the highest level, for ULBs to take up FSSM. The policy will identify the issues of safe sanitation in urban areas and provides an outline for establishing and effectively operationalizing FSSM at state and city level.

The policy should address the enabling provisions in the form of suitable regulation and institutional framework, capacity building, education and awareness among all stakeholders.

#### Step 4: Developing Partnerships for Capacity Building and Training of Trainers

Once there is clarity of engagement, the following strategic planning can be done to design a state-specific training strategy and plan.

Identifying National Nodal Training Agencies empowered and funded to deliver trainings identified, their Train the trainers (ToT) done and appropriate state contextual learning and training content developed. State level studies contribute content for training modules. A set of training programmes can be decided with an attempt to merge them in the existing training calendar of the nodal training institutes. Some specific FSSM training and exposure visits can be supported over and above these.

Identifying State and National level Academic and Research Institutes who can partner and support the development of training content and also research on decentralised non-networked sanitation systems

Formal and Informal Partnerships developed for delivering a set of trainings: Orientation, Advanced Training, Train the trainers etc.

There is a list of 35 nodal national training institutes empanelled by the MoHUA, The ToTs of nodal training institutes for FSSM should focus on providing a conceptual clarity, establish the need for non sewerage sanitation systems, a basic understanding of technology approaches and their selection criteria and the operational potential of regular de sludging of septic tanks.

Developing content relevant to the particular state is best done in collaboration with partner academic institutes and experts. NFSSMA partners can provide the initial trainers for delivering training. Innovative exercise based content development should be a regular priority.

#### Step 5: Designing Targeted Capacity Building Modules and Method of delivery

A review process of all the training modules developed by all the partners of the National Faecal Sludge and Septage Management (NFSSMA) provided clarity on the priorities and standardisation of content for priority training modules.

The Training Modules Review Committee(TMRC) recommended the following Modules for review and revision as priority modules for ULB officials and para state agencies in the following sequence :

- I. FSM 0.1 Orientation training to maximum number of ULB and para state agencies staff: 1 Day
- II. FSM 0.2 Exposure visit cum Technical training on technology options for select ULBs and para state agencies: 2 Days
- III. FSM 0.3 Advanced Training on Technology: 3 Days

FSM 0.1. Experience of NIUA and CEPT shows that FSSM Orientation Modules should be conducted state wide for maximum number of ULBs for securing impact. These can be done at Division level for a cluster of ULBs and the whole state can be covered in an intensive 3 to 6 months orientation training drive. By bringing together a cluster of ULBs, peer to peer learning is also possible.

FSM 0.2. Given the successful establishment of Faecal Sludge Treatment Plants using different technologies, organising trainings that are a mix of classroom sessions and exposure visits, is an effective option. Hence an exposure visit based technology training module is recommended. This has a cost implication for travel, board and lodging. The strategy recommended by TMRC was that participants should be identified from the Orientation trainings. Only those participants are invited who showed interest in implementing some technical or even regulatory interventions to address FSSM. Participants can be a mix of technical and administrative staff of ULBs.

FSM 0.3. The purpose of this training module is to convey a wholistic understanding of the planning, designing and technology selection for setting up of an FSTP. It should have a one day field visit component. Participants should be from para state agencies and ULBs, engineers who are engaged in designing, implementation/setting up and in operations of FSTPs.

The TMRC is in the process of revising existing training modules and producing updated modules.

In addition to the above 3 Training Modules on FSSM, the officials may also attend more specialized training modules for private sector.

The TMRC review identified the inadequacy of long duration training modules to address multiple priorities. The TMRC also recognised the strengths of different Alliance partners and their ability to anchor separate modules where participants could go and complete a set of comprehensive trainings. Accordingly it was decided that a 3 set capacity building training module needs to be developed for private sector trainings.

IV. FSM 0.4 Finance and Contracting module : 2 days

V. FSM 0.5 Advanced Technology, Planning and Design module: 3 days

VI. FSM 0.6 Advanced Technology module for preparing DPRs: 4 days

These 3 set capacity building trainings can be conducted over a 6 month to one year period. The participants should demand and pay for atleast a part of the cost of training. However support may be needed to pay for these trainings. Content and curriculum of these training programmes also needs to be developed and updated on a regular basis.

Additional training needs to be provided for :

- Community engagement awareness
- Addressing sanitation workers safety and ending manual scavenging
- Operation and Maintenance of FSTPs. For operators of treatment plants.
- Training modules for Masons and contractors
- Short modules for Elected representatives
- Specialised Certificate Courses for professionals

## Step 6: Promoting new research, documentation and dissemination

The purpose of research and studies should be to engage the para-state agencies and the administrative wing, in appreciating the necessity of enabling norms and regulations, improving the efficiency of existing STPs and for facilitating co-treatment of septage with STPs and general awareness and interest in addressing the urban sanitation challenges.

Learning events and workshops promoting more peer to peer learning opportunities within a state and across other countries of such research work will be an effective capacity building exercise much better than formal classroom training for staff with long years of experience of practical challenges.

## Step 7: Developing an Operational Strategy for FSSM:

Different states may need different approaches for capacity building. What works in one state may not work in another, given the varying geographical, socio-economic, administrative and sanitation status. This step can begin with the state support agency initiating a few steps on its own and then eventually succeeding in making the State Urban Development Department initiate to hire a team of staff on its payroll or constitute a cell or a Programme Management Unit to support and implement a strategy for FSSM for the entire state.

Hands-on support for implementing incremental FSSM improvements at the town level will be a critical capacity building input. It is imperative to strengthen the ULBs

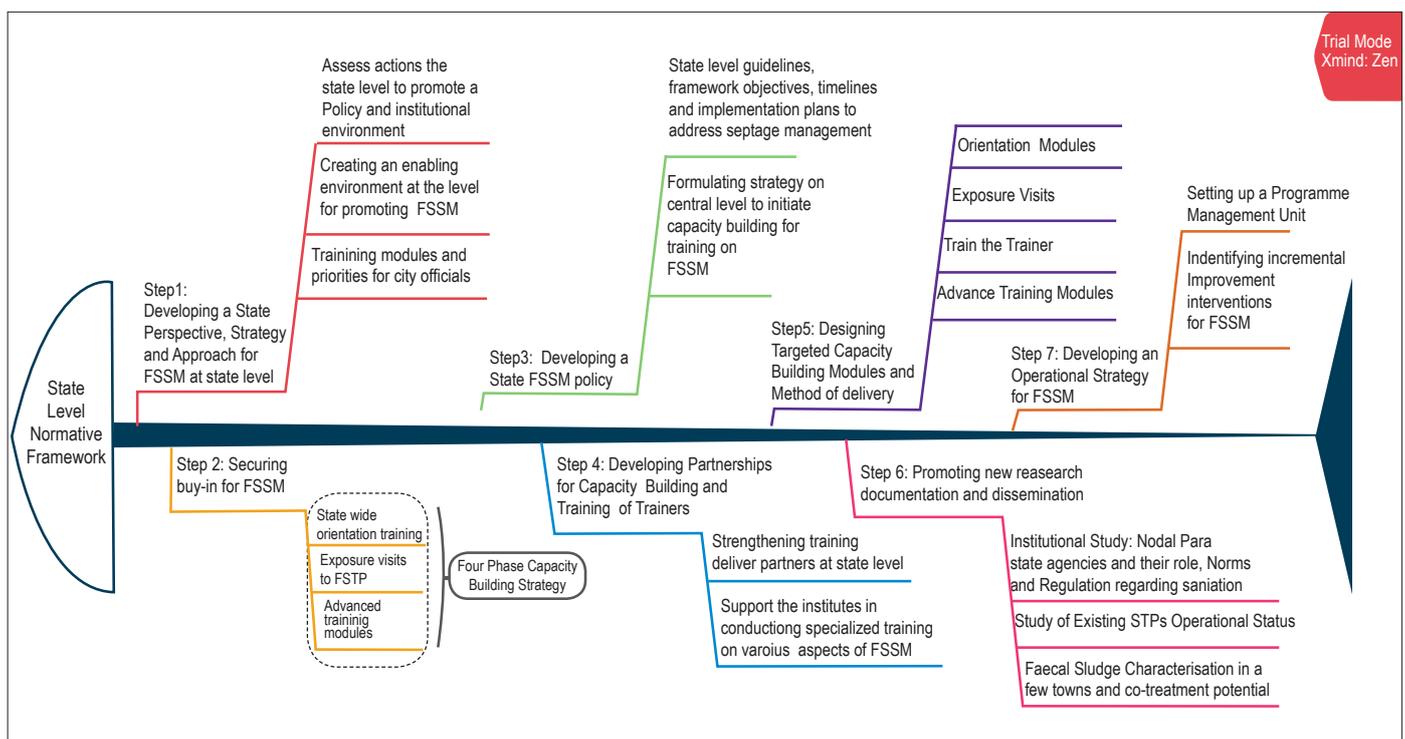
by creating a cadre of permanent professional staff for town planning that can also handle FSSM. In the absence of permanent staff hiring, facilitate the hiring of a professional team of town planners and managers at the state level for ULBs to support them in planning and implementation.

## Conclusion

The entire capacity building support engagement for a state, as explained in the note, may be planned and delivered in a 2 year time frame.

State governments may however demand technical support for developing Detailed Project Reports(DPRs) and technical guidance for selection of appropriate and low cost technology options. A guidance note on technology options and selection criteria is available separately.

Priority should be to develop capacity of the para state technical agency to change its approach from centralised STPs to non networked sanitation systems solutions and more decentralised STPs and FSTPs. Capacity building and advocacy together play a great role in this. Alongwith communication and awareness raising about the urgency, need and a critical mindset to look for solutions that are most relevant for India. Non sewerd sanitation systems are not a temporary solution to the water stressed and fast urbanising India, these are perhaps the need of the hour as the most appropriate solutions to achieve multiple SDG goals and national development indices and gaols.



	Training Modules	Elected Representatives / Chairpersons / Mayors and Ward Councillor	Executive Officers Commissioners of Small Towns	Mid Level Engineers	Junior Technical and Administrative StaffSanitary Inspectors, etc.	Commissioners, Senior Officials, Senior Engineers	Pollution Control Board	Town planners
FSSM 0.1	Orientation Training	Half day Training on Roles of Elected Representative, 74 <sup>th</sup> AmendmentRoles of Elected Representatives in relation to FSSM	One day orientation for mixed group of audience - urbanisation, integrated waste water management, city wide inclusive sanitation, sanitation safety planning		Sensitisation/ consultation - need to develop videos, posters, handouts on case studies	Half day consultation/ workshop on policy, regulations and financingAdvocacy material - policy briefs, handouts/ fact sheet on existing/ upcoming FSTPs,Co-treatment videos on FSSM and FSTPs	Half day consultation/ workshop on regulatory and statutory aspects of FSSM and FSTP management	4,041 One day Orientation Training on linkage between urbanisation and sanitation. Linkage between planning tools/ documentsRules & legislations of the two interconnected sector - land use planning and sanitation
FSSM 0.2	Exposure Visits	Two day training and exposure visit along with EO (one day class room, one day site visit). Policy and regulations, basic technology financing for FSSM	One day orientation for mixed group of audience - urbanisation, integrated waste water management, city wide inclusive sanitation, sanitation safety planning	Three day Training and Exposure visit - 2 day class room & one day exposure Technology options for emptying, transportation, treatment and co-treatment of septage at STPsprocurement and funding estimation	One day exposure visit to state level good practice on solid and liquid waste management	Two day peer learning/ Twinning programme Exposure visit to FSTP & interaction with senior state/ ULB officials	Two day Training and Exposure visit on on regulatory and statutory aspects of FSSM and FSTP management - one day class room & one day exposure	
FSSM 0.3	Advanced Training		Three day Advanced Training - two day class rom, one day field visitAssessment and planning, design of treatment module, O&M, financing, DPR review, financing and procurement	Three day Advanced Training - two day class rom, one day field visitAssessment and planning, design of treatment module, O&M, financing, DPR review, financing and procurement		International exposure visit		475