Faecal Sludge and Septage Management(FSSM) Policy in Navi Mumbai Municipal Corporation (NMMC)

Vision

The vision for Faecal Sludge and Septage Management in Navi Mumbai Municipal Corporation (NMMC) is: The City becomes totally sanitized, healthy and liveable and ensure sustenance of good sanitation habits with improved Onsite Sanitation Services together with faecal sludge and septage management to achieve optimum public health and maintain environment integrity.

Objectives

The key objective of the urban FSSM Policy is to set the context, priorities, and direction for, and to facilitate, citywide implementation of FSSM services such that safe and sustainable sanitation becomes a reality for all in each and every household, street, town and city. More specifically, the Policy will:

- Move Navi Mumbai on the path of mainstreaming FSSM by the year 2020, and ensure that all benefits of wide access to safe sanitation accrue to all citizens across the sanitation value chain from containment, extraction, transportation, treatment, and controlled disposal / re-use of all faecal sludge, septage and other liquid waste and their by-products and end-products.
- Suggest and identify ways and means, including the methods and resources, towards creating an enabling environment for realising safe and sustainable FSSM in Navi Mumbai.
- Define the roles and responsibilities of various government entities and agencies, and of other key stakeholders such as the private sector, civil society organizations and citizens for effective implementation of FSSM services throughout the city.
- Enable and support synergies among relevant Central Government programs such as SBM and AMRUT to realize safe and sustainable sanitation for all at the earliest, possibly by the year 2019.
- While not compromising the eventual compliance to the strict environmental discharge standards already set, recognizing the constraints in achieving these standards, adopt an appropriate, affordable and incremental approach towards achieving standards.
- Mitigate gender-based sanitation insecurity directly related to lack of toilet, reducing the health impacts and the involvement of both genders in the planning for and design of sanitation infrastructure.

Sewage treatment

- NMMC has a well-planned underground sewage network which caters to about 2,66,766 connections. The total length of sewer lines is 448.37 km. Nodal areas of the city are having sufficient sewage lines. NMMC is having a dedicated workforce of around 343 members working in sewerage department.

Sewage Treatment Facilities

- NMMC has7 sewage treatment plants for treatment of sewage generated in NMMC jurisdiction area. The total capacity of STPs accounts for 454 MLD. Daily around 210 MLD sewage gets generated and 100% of the sewage gets treated in STPs. The STP's possess Primary as well as Secondary treatment system based on advanced technology Cyclic Activated Sludge Treatment technology (Sequencing Batch Reactor (SBR)) process. The system operates in a batch reactor mode which eliminates all the inefficiencies of the continuous processes. The complete process takes place in a single reactor, within which all biological treatment steps take place sequentially. Water quality tests are conducted daily during secondary treatment at an ISO certified laboratory. A brief details of location & Capacity STP's in Navi Mumbai under NMMC is provided in following table:

List of functional Sewage Treatment Plants in NMMC area (2017-18)

Sr. No.	Node & Sector	Design Capacity (MLD)	Treatment technology
1	CBD Belapur - 12	19	Cyclic Activated Sludge Process (SBR Tech)
2	Nerul - 50	100	
3	Sanpada - 21	37.5	
4	Vashi - 18	100	
5	Koparkhairane - 14	87.5	
6	Ghansoli -15	30	
7	Airoli - 18	80	
Total		454	

Source: Environmental Laboratory, NMMC

Toilet containment typologies

Navi Mumbai Municipal Corporation has 3.09 lakh HHs. As per census 2011, 95.11% of the HHs have individual toilets. Around 4.89% of HHs are dependent on public or community toilet. As per the survey conducted by NMMC, 04 OD points were identified in Navi Mumbai Municipal Corporation. Most of the OD points are either located near waterbodies or slums. It was noted that open defecation is being practiced mostly by male members even after being provided individual toilets under SBM. This is mainly because of habits & family size.

Connectivity to sewer network is 95.11 %. More than 4.89% of HHs are dependent on onsite containment system (septic tank). 4% HHs have septic tank connected to soak-pits. Together, this could be a potential source of ground water pollution due to lack of safe distance from water source. Median of distance found between onsite system and open well or hand-pump or bore-well during survey is 4 m, which is lower than conventionally considered safe distance of 20m.

The state government has taken steps to implement Sewage treatment plant in order to treat and thereafter safely dispose or reuse the faecal waste.

The treatment plant is designed such that it has capacity to handle faecal waste generated for next 30 years. Incremental capacity required beyond this would is being planned to be covered through sewerage system. The Existing plant shall work on SBR approach with supernatant going to pond system for treatment while separated sludge shall be sent to unplanted drying bed to remove pathogens.

Sr.No.	Location	Capacity	Technology	Status
1	Septage Treatment Plant	454	SBR	Operational.

Specific Milestones

Leveraging FSSM to achieve 100% access to safe sanitation

- Promoting access to households with safe faecal sludge and septage management facilities (including proper disposal arrangements of liquid effluents)
- Promoting community-planned and managed faecal sludge and septage management wherever necessary, for groups of households
- Adequate availability and 100 % upkeep and management of Public Sanitation facilities in all Urban Areas, to rid them of environmental hazards and to safely manage their faecal sludge and septage.

Achieving Integrated Citywide Sanitation: Mainstreaming Sanitation

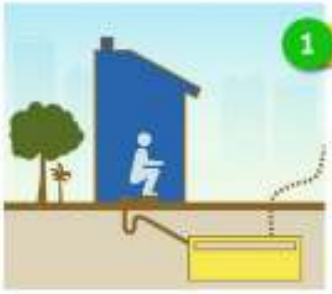
- Mainstream thinking, planning and implementing measures related to faecal sludge and septage management in all sectors and departmental domains as a cross-cutting issue, especially in all urban management endeavours.
- Strengthening national, state, city and local institutions (public, private and community) to accord priority to sanitation provision, including planning, implementation and O&M management.
- Extending access to proper faecal sludge and septage management facilities for poor communities and other disadvantaged settlements.

Sanitary and Safe Disposal

- Promoting proper functioning of faecal sludge and septage management systems and ensuring proper collection, transportation, treatment and disposal/reuse of the faecal sludge.
- Promoting recycle and reuse of treated sewage for non-potable applications wherever possible will be encouraged.
- Promoting proper design and construction of OSS facilities.

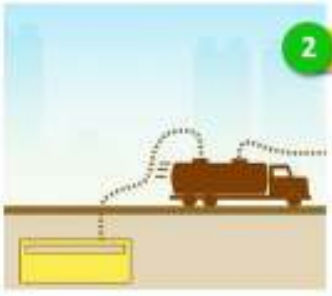
Awareness Generation and Behaviour Change

- Generating awareness about faecal sludge and septage management and its linkages with public and environmental health amongst communities and institutions including hazards from OSS liquid overflow.
- Promoting mechanisms to bring about and sustain behavioural changes aimed at adoption of healthy sanitation designs and practices, including the responsibility to ensure safe containment and management of faecal sludge and septage by urban households including liquid effluent.



1 Construction & Usage of toilets

- Don't defecate / urinate in the open
- Always use toilets
- Use your own toilet or visit the nearest public or community toilet
- Connect your toilet to scientific containment unit (e.g. Septic tanks)
- Do not connect your toilets to open / storm water drains



2 Desludging / Emptying of Septic tanks

- Empty your septic tank in a scheduled period (at least once in every 3 years)
- Do not connect the outlet of your septic tank to open / storm water drains
- Do not engage manual labourer to empty your containment unit / septic tank. It is illegal as per Manual Scavengers Act 2013

3 Transportation of Faecal sludge

- Avail mechanised septic tank / containment unit cleaning services (e.g. cesspool vehicles) only
- Avail cesspool services provided by BMC or BMC registered private cesspool operators only
- Cesspool vehicles are mandatory to transport septage / faecal sludge collected from septic tanks / containment units to dedicated Treatment Plant only

4 Treatment & Reuse

- Faecal sludge / septage once treated in the SeTP may be reused as soil conditioner after co-composting
- Treated sludge, if not reused, may be disposed off safely