

STATE - LEVEL CONSULTATIVE WORKSHOP ON SWACHH BHARAT MISSION



WORKSHOP REPORT

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SAHYADRI STATE GUEST HOUSE

Report on State-Level Consultative Workshop on Swachh Bharat Mission, 2019

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Disclaimer

This report summarises the discussions held in an informal workshop setting. The views expressed are those of the individual participants who took part, and do not necessarily reflect those of their respective organisations or their funders or ERAF Environmental Research Foundation. Editor has taken utmost care to provide quality in this compilation. However, neither editor nor publisher is responsible for the representation of facts, adaptation of material and the personal views of the authors with respect to their compilation or for any consequences arising from the use of this material.

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**ERAF (2019) State-Level Consultative Workshop on Swachh Bharat Mission: Mumbai:
ERAF and MPCB**

ACKNOWLEDGEMENT

We are grateful to the Maharashtra Pollution Control Board for financially and technically supporting ERAF for the workshop.

We thank the Swachh Maharashtra Mission Directorate at the Urban Development Department (UDD-II) of the Govt. of Maharashtra for their invaluable support and guidance.

We also extend our thanks to NITI Aayog, and CSIR-NEERI for lending their support to this workshop.

A special thanks to Dr. Jyoti K. Parikh, Executive Director, IRADe, Dr. Malini Shankar, Ex. DG, Shipping, Government of India and Mr. V. Giriraj, Chairman State Finance Commission, Government of Maharashtra for sharing their valuable experiences and insights with the participants.

We are also thankful to all the guest speakers and experts for participating in the workshop and sharing their experiences and expertise with all our participants.

We thank the Officers of the Divisional Commissioners, Municipal Corporations, Municipal Councils, Nodal Officers of AMRUT cities and all other stakeholders for participating in the workshop and sharing their inputs in the discussion forum.

EXECUTIVE SUMMARY

A State-Level Consultative Workshop on Swachh Bharat Mission was organized for the ULBs of Maharashtra on 2nd February, 2019 at the Sahyadri State Guest House, Mumbai by ERAF Environmental Research Foundation (ERAF) and Maharashtra Pollution Control Board (MPCB) with the support of Swachh Maharashtra Mission at the Urban Development Department (UDD-II) of the Government of Maharashtra (GoM), NITI Aayog, and CSIR-NEERI of the Government of India (GoI).

The workshop saw participation of about 150 participants, of these 118 were from various ULBs, mainly Chief Officers, Senior Officials, Engineers, Sanitary Inspectors, responsible for the management of Solid Waste and Sanitation in their jurisdictions. Senior government officials, academicians and experts with several years of experience in the field of SLWM, representatives from NGO's, technology providers and Civil Society Groups also participated in the workshop.

The overall objective of the workshop was to identify issues and hurdles at implementation levels, faced by the ULBs in meeting the Mission mandate, and suggest sustainable solutions through a consultative mechanism, and provide recommendations to the State and Central Governments to take appropriate policy decisions wherever necessary.

The two technical sessions were specifically focused on solid waste management and sanitation respectively. Best practices adopted by cities and towns that have made marked progress under the SBM, and have been awarded in the previous Swachh Sarvekshans, and technology options were presented by Municipal Officials, service providers and senior experts in the field. The role of the regulatory body in management of solid and liquid waste was highlighted by the MPCB officials.

During the interactive session, participating ULBs were divided into four groups to discuss the issues and challenges encountered by them in the areas of - Segregation of waste and developing Material Recovery Facilities (MRF), Policy and Bye laws, Project planning and its sustainability and SLWM in slums. Moderators (expert in the subject) facilitated the discussions among the participants and in enlisting their issues which were later presented to the panelists and audience. The panel consisting of experts of ERAF, MPCB, Waste Management Research Centre, and State Finance Commission suggested solutions to some of the issues presented and took note of those issues that need policy intervention. These issues have been mentioned in the list of recommendations.

The workshop agenda, list of participants, brief bio of the speakers have been annexed at the end of the report.

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INTRODUCTION

BACKGROUND OF THE WORKSHOP

The Swachh Bharat Mission (SBM) was launched on 2nd October, 2014 with the objective to make India open defecation free and to ensure scientific management of solid and liquid waste by 2nd October, 2019 in 4041 ULBs. The Mission has seen considerable progress in this duration, in terms of Door step collection of waste and its scientific processing, construction of large number of toilets and many cities reaching the ODF status. However, the issues such as segregation of waste and waste reduction, ensuring sustainability of the use of toilets and scientific management of sewage and sludge are still far from the targets.

There are various implementation issues observed at the level of ULBs. Though every ULB has its unique ecosystem, its own set of challenges and customised solutions are required for its problems, there are several policy and implementation issues observed across the cities and states. A multi-stakeholder consultation approach is needed to understand and evolve guidelines and sustainable solutions for such commonly observed issues. Such issues, if ignored, may become bottlenecks in fulfilling the objectives of the Mission. ***In this background the need to convene a national level and State level consultative workshop was felt. The national level workshop was held at Goa from 27th to 29th September 2018.***

OBJECTIVE OF THE WORKSHOP

ERAF and the MPCB organized a one-day State-Level Consultative Workshop on the Swachh Bharat Mission (SBM) on 2nd February, 2019 at Mumbai. The workshop aimed to help in bridging the gap between planning and implementation, and to help evolve sustainable strategies and suggest technological options through interactive consultation among stakeholders.

DESIGN OF THE WORKSHOP

The workshop sought for engagement of senior government officials of the Union and State Government Departments in charge of Swachh Bharat Mission, State Pollution Control Board, Environmental Research Institutions, and experts in the domain with the officials of Local Bodies, and technology solution providers and organizations working across the waste management value chain.

SUPPORTING PARTNERS

The workshop was supported by the Swachh Maharashtra Mission office of the Urban Development Department, Govt. of Maharashtra, the NITI Aayog and CSIR-NEERI.

COVERAGE OF ISSUES

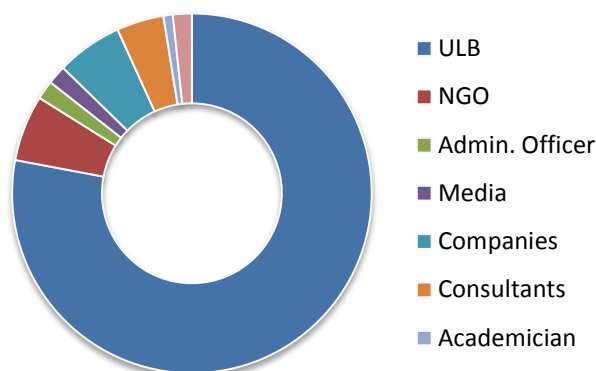
The workshop provided a platform for sharing some of the best practices in Solid Waste Management and Sanitation, specifically - Fecal Sludge Management, from Maharashtra and other states. There were discussions on financing options and the regulatory perspective for meeting the objectives of the SBM. Issues and challenges, related to implementation on these topics, were raised by the participants and solutions were suggested by the group of experts in the panel discussion.

PARTICIPANT PROFILE

The workshop aimed to bring together the ULBs, the monitoring and regulatory agencies of the State and Central Governments, technology experts and technology providers to a common platform to discuss sustainable solutions for facilitating the mandates of the SBM.

There were about **118 participants** from the ULBs mainly Chief Officers, Nodal Officers, Engineers, Sanitary Inspectors and few others (Fig. 1).

Fig. 1 Profile of Participants

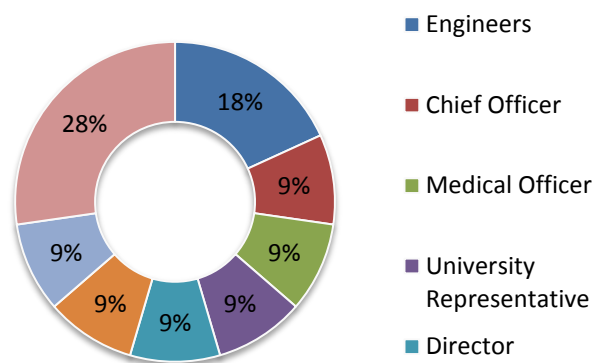


PROFILE OF SPEAKERS

SBM best practices being implemented by the urban local bodies in Maharashtra and other states were presented. The focus of the presentations was on planning, financing and sustainability aspects of those projects. GIS based planning, project financing, and regulator’s perspectives for SLWM were also planned during the technical sessions.

Accordingly, resource persons in the workshop consisted of state government officials, municipal representatives, project advisors, subject matter experts and technology providers. The profile of resource persons in the technical sessions on Solid Waste Management and Sanitation is as per (Fig. 2).

Fig. 2 Profile of Speakers



SUMMARY OF DISCUSSIONS

INAUGURAL SESSION

Chairperson –

Dr. Jyoti Parikh – Executive Director, IRADe

Panelists –

Ms. Poornima Gupta, MD, ERAF,

Mr. E. Ravendiran I.A.S, Member Secretary MPCB,

Dr. Rakesh Kumar, Director, CSIR-NEERI,

Mr. V. Giriraj, Chairman State Finance Commission, GoM,

Dr. Malini Shankar, Ex. DG Shipping, GoI, and former Principal Secretary, WSSD, GoM,

Mr. A. K. Jain, State Information Commissioner and former Principal Secretary, WSSD, GoM and

Mr. Arun Palnitkar, Chairman, ERAF

Key points of the discussion –

- **Ms. Poornima Gupta** the Managing Director of ERAF gave the background overview for the workshop and its objectives, she emphasized on the importance of interactive dialogue between the ULBs, technology providers and the authorities to facilitate the success of Swachh Bharat Mission.
- Then **Mr. E. Ravendran (IAS), Member Secretary, MPCB**, touched upon some of the important aspects of the SBM such as behavior change mechanism, planning, implementation and sustainability and the need for technology driven guidelines for ensuring sustainability of projects. He also gave a brief overview of the status of solid waste management and sanitation in the state – of the 8.6 Million MT per annum waste generated only 30% is scientifically processes and

treated and of the 7000 MLD waste water generated only 40-45% is scientifically disposed; thus expressing a grave need for sustainable solutions for processing and treatment of both solid and liquid wastes.

- **Mr. A. K. Jain, State Information Commissioner, GoM**, who has been closely associated with the subject since his days as AMC, MCGM, briefly shared the history of SWM in the country. He highlighted the unique features of Swachh Bharat Mission, launched in 2014, and discussed the recommendations of the report of Chief Ministers' Committee, 2015, appointed to review the status of Sanitation in India. He underlined the importance of providing appropriate fiscal incentives to the technology providers for viability and sustainability of waste processing projects and suggested provision of tipping fees in the revenue budgets for effective management of waste.
- **Dr. Malini Shankar, former DG, Shipping, Government of India**, shared her experiences while working in Water Supply & Sanitation Department. She suggested setting up a of mobile toilets, which could be deployed by moving them from one (religious) gathering to next, thereby maximizing the use of the resources and pointed out the gaps in scientific processing of waste and reusing or disposing them.
- Then **Mr. V. Giriraj, Chairman, State Finance Commission, GoM**, suggested five financial measures to facilitate the SBM. He informed that there is

misclassification of the accounts which make it difficult to know per capita/per ward cost of SWM. **Ring fencing of the SWM & related expenditure** is required; it is achievable in 3-5 years and would help in drawing comparisons of performance of ULBs on waste management and help in finding out least cost alternatives. Next, he suggested, making arrangement for adequate space for composting and landfills, which could be done by **enabling policies** to support quick land acquisitions and long-term lease. To promote good practices, **provision of incentives**, for housing societies, ULBs etc., such as remission in house tax or waste management fee could be considered. Setting up **Technical Support Agencies** at the state-level and regional level will be helpful in providing training and handholding support to the ULBs. Giving the example of Ambikapur (Chhattisgarh) he suggested **linking SWM with urban employment and poverty alleviation programmes**, particularly for marginalized population.

- The session culminated with words of wisdom from the Chairperson, **Dr. Jyoti Parikh, Executive Director, IRADe**. She enlightened the audience by quoting '*Nainam Chindanti Sastrani Nainam Dahati Pavakah*', from the Bhagwat Gita, and relating scientific principles – *Mass and Energy can neither be created nor destroyed, they can be converted from one form to another* - to waste, its management and conversion to compost or energy. She also highlighted the need for consumer awareness to inculcate habits to minimize consumption. She emphasized on

elimination of manual scavenging by cleaning sludge mechanically. In terms of financial planning, she suggested drawing correlation between the cost of waste treatment and amount spent on the health programmes nationally and that the public and private sectors need to join hands - allowing the private sector to develop business models for waste management.

During the Inaugural Session an MoU was signed between CSIR-NEERI and ERAF to collaborate on projects relevant to environmentally sustainable development.

SESSION II – SOLID WASTE MANAGEMENT

Moderator –

Dr. Rakesh Kumar, Director CSIR-NEERI,
Dr. Krishna Lala, Sr. Project Manager, IIT Bombay, Mumbai

Panelists –

Mr. R.A. Rajeev IAS, Metropolitan Commissioner MMRDA,
Mr. Asad Warsi, Director, Eco Pro Environmental Services, Consultant Indore Municipal Corporation,
Dr. Ketaki Ghatge, Asst. Health Officer (SWM) Pune Municipal Corporation,
Mr. S. M. Chavanke, Superintendent Engineer, Nashik Municipal Corporation,
Mr. Ramdas Kokare, Chief Officer, Karjat Municipal Council and
Mr. Rahul Deshmukh, GIS Expert, ERAF

The session started with **Dr. Rakesh Kumar** briefly describing the role of NEERI in providing technical assistance and technology selection advice to the ULBs for the SBM. NEERI is also collaborating with smaller organizations which are committed to waste management. He then requested the members present on the dais to share

the experiences of their cities and towns with the participants.

Indore Municipal Corporation (IMC) – 1st rank in Swachh Survekshan 2017 & 2018: Mr. Asad Warsi explained the elements of the strategy of IMC as follows-

Planning – political will power, planning, involvement of all the stakeholder groups and organizations, regular and targeted IEC, inter-departmental cohesion and micro planning at all the levels.

Financing – detailed cost benefit analysis; deployment of EPC, VGF and PPP models on case basis, and O&M on contractual basis

Implementation – detailed surveys, route plans, reconstructing work assignment chart, AADHAAR linking of workers, extensive training of staff, use of smart watch, reworking the frequency of collection, custom designing of the collection and transportation vehicles, redefining bulk waste generators with the daily output limit of 30kg instead of 100 kg. Transformation of old landfill site – legacy waste cleared within 6 months, freeing 100 acres of land!

Pune Municipal Corporation (PMC) – continued performance in waste management: Dr. Ketaki Ghatge explained the SWM in PMC -

Implementation - Ensuring waste segregation (almost 87%) and characterization, quantification, its separate collection; providing GPS equipped collection vehicles with social messages to motivate peoples' involvement; processing almost 70% of the waste daily – wet wastes (approx. 650 MT), dry wastes (Approx. 700MT) and mixed wastes

Formalization of workforce – approx. 3300 waste pickers integrated (e.g. SWaCH) for primary collection of segregated and mixed waste as well as sanitary waste; contribute to processing of 150 TPD

Other initiatives taken – Biomining of legacy waste, scientific covering of waste and leachate management at the existing landfill site; commissioning of 10 waste processing facilities, catering to about 1600 tons of wastes by December 2019.

Nashik Municipal Corporation (NMC) – Integrated Waste Management Facility (IWMF): Mr. S.M. Chavanke

Background - NMC commissioned the SWM facility in 2001 and managed till December 2016; however, lack of sufficient and skilled manpower, issues in timely availability of spares and material, and no set market for byproducts were common issues during this period

Change in strategy – In January 2017, plant was handed over for 30 years on DFBOT to the SPV – Nashik Waste Management Pvt. Ltd., Pune; after several repairs and modifications the IWMF now manages almost all MSW and there is continuous effort on exploring market for the byproducts.

Facilities and technologies – Weigh bridges, pre-sorting, composting, bio methanation, animal carcass incineration, pyrolysis, RDF fluff production and ozone-technology based leachate treatment; old landfill partially bioremediated, remaining part capped and green cover built; production of three grades of RDF.

Key learning – mere sale of byproducts does not ensure project sustainability; sale of RDF and compost is challenging and not often profitable; 100% Door to door collection and appropriate and timely

payment of tipping fee will facilitate sustainability of the project.

Municipal Councils of Vengurle, Karjat and Matheran – Towards zero Landfill: Mr. Ramdas Kokare described the initiatives taken to meet this objective

Interventions – awareness generation and IEC to all with special attention to training students, segregation of waste into 36 categories with help of locals, upcycling of dry waste by identification of local vendors and recyclers; use of plastic and thermocol in road construction; there is no legacy waste in dumping grounds at Vengurle and Karjat, landfill site now converted to tourist sites.

Application of GIS in waste management planning: Rahul Deshmukh shared the survey of Nagaon village in Thane district and underlined the following –

Advantages of GIS and drone survey – accuracy of data, almost real-time map and image based planning for SWM, Sanitation and water supply infrastructure; reduced capital costs, optimized collection routes and network, site suitability analysis for transfer stations, processing facilities and landfill site; reduced O&M costs with vehicle tracking, traffic analysis and repair maintenance assessment etc.

Waste Management and SBM: Mr. R.A Rajeev Highlighted the change brought about by SBM on SWM - much more support at state level to waste management initiatives; drastic improvement in levels of awareness, segregation, collection, transportation and road sweeping

Areas that still need attention – waste processing keeping in view the sustainability of the processing option and

its financial implication. He also emphasized the need for sufficient skilled manpower to facilitate and sustain the waste management process.

Financing Waste Management: Mr. Rajesh Kanade presented an analysis of expenditure by a few ULBs in Maharashtra on SWM using their SBM data:

Inference from results of sample study - 'Collection and transportation expenditure - Rs.47.30/- per household per month

- Processing expenditure for SWM - Rs. 23.65/- per month
- Average expenditure on SWM - Rs. 71/- per household per month

SESSION III SANITATION

Moderator –

Mr. Satish Narkar, Ex. Chief Engineer, and OSD Mumbai Sewage Disposal Project, MCGM

Panelists –

Mr. Manas Rath, Senior Advisor BORDA,
Mr. Aasim Mansuri, Senior Program Lead C-WAS CEPT University,

Mr. Bajirao Mali, Executive Engineer, Nashik Municipal Corporation,

Dr. Suneet Dabke, Proprietor and Technical Expert Concept Biotech

Mr. Satish Narkar initiated the technical session on Sanitation mentioning that Sewerage Management is an essential service under public health and sanitation entrusted to local bodies under municipal laws. For effective and efficient management of sewerage every aspect from sewage collection at point source to conveyance, treatment and its final disposal should be considered. He then asked the

experts on the panel to share their experiences with the participants.

Faecal Sludge Management (FSM) at Devanahalli Municipal Council, Karnataka: Mr. Manas Rath described components of FSM -

Planning – household survey, toilet analysis and establishing the need for FSM facility at local level; plan for collection frequency, transport, treatment of faecal sludge & its successful disposal.

Policy interventions – regulating faecal sludge disposal, monitoring construction of pits and septic tanks to meet design norms, outsourcing of O&M of treatment plant and collection trucks, and increase in property tax to finance the project.

Technology and by-products - plant facilitates water separation, sludge digestion & biogas generation; Solar drying beds helped quicker drying of sludge to be used for farming.

Advantage – citizens pay lesser in taxes for regular desludging services than previous private and non-compliant methods, current system now being emulated in over 30 FSTPs in India.

Faecal Sludge and Septage Management (FSSM) at Sinnar Municipal Council, Maharashtra: Mr. Aasim Mansuri. Summary of his presentation is as follows -

Planning – scheduled emptying of septic tank on a 3-year cycle, collected waste to be treated at dedicated faecal sludge treatment plant (FSTP).

Financing CAPEX and OPEX – While investment of funds received under 14th Finance Commission could be used for capital expenditure for FSTP, the O&M cost may be financed out of local taxes,

sanitation tax levied on all properties and collected as a part of property tax. Provision to escrow bank accounts to ensure regular payments to service provider be built in performance based contracts.

Advantages - ensures, transparency and equity in service delivery for all residents; and financial and operational sustainability.

Waste to Energy – Nashik Municipal Corporation (NMC): Mr. Bajirao Mali explained Nashik Model -

Planning – pre-feasibility and feasibility studies for site, partner and design selection; DPR for operational model and business model; first of its kind for waste management in India.

Technology and financing – co-fermentation of food waste from hotels and restaurants and septage from community toilets and public toilets; major financial assistance by GIZ under CDM category; Project implementation on PPP model involving two private parties and NMC

Advantages – production of biogas, that is further converted to electricity and fed into grid, and manure.

Vermicomposting of Faecal Sludge: Dr. Suneet Dabke

Technology – treating sludge through vermicomposting - the earthworms ingest and digest the faecal sludge and their excreta is vermi-compost.

Advantages – effective, economical and decentralized system, easily implementable in smaller villages; also usable for industrial sludge treatment.

GROUP DISCUSSION

Acknowledging tremendous efforts being put in by the ULBs in achieving the objectives of the SBM, this 'State-level Consultative Workshop' focused on addressing the hurdles in achieving the targets. The aim of the group discussions was to facilitate interaction among the ULBs and other participants to share and learn from each other's experiences.

The discussion design -

Based on our research four major areas of concern were selected for the purpose of group discussion. To ensure focused discussions and given the time constraints, a list of sub-topics under each issue was provided to the groups. The group discussions were facilitated by moderators who had experience in working in these functional verticals.

The groups with their moderators -

- ❖ **Group 1: Segregation and MRF - optimizing the budget allocated for SWM**
Moderator - Mr. Sandeep Patel, NEPRA
- ❖ **Group 2: Designing bye-laws - facilitate implementation of the mandates**
Moderator - Mr. B.P. Patil, Ex. DMC, MCGM
- ❖ **Group 3: Project Planning & its Sustainability-selection of technologies, procurement options and O&M**
Moderator - Ajay Saxena, PPP expert, Maharashtra, Advisor to ERAFERAF
- ❖ **Group 4: Solid & Liquid Waste Management in Slums - Issues and Solutions**
Moderator - Mr. Anand Jagtap, OSD, Slum Sanitation Program, SWM, MCGM

The sub-topics taken up for discussion were as given below and salient outcomes of these deliberations are presented in the table -

- Policy/Bye Laws/Rules
- Implementation
- Administrative
- People participation
- IEC/Strategy
- Treatment & Technology
- Financial
- Other Issues

GROUP NO.	<u>GROUP 1</u>	<u>GROUP 2</u>	<u>GROUP 3</u>	<u>GROUP 4</u>
SUB-TOPIC	Segregation and MRF – optimizing the budget allocated for SWM	Designing bye-laws – facilitate implementation of the mandates	Project Planning & its Sustainability–selection of technologies, procurement options and O&M	Solid & Liquid Waste Management in Slums – Issues and Solutions
Policy/Bye Laws/Rules	<ul style="list-style-type: none"> • Lack of Awareness for ground staff at ULBs • No clause specifying requirement of training of staff • No inter linkages between rules and implementation to achieve disposal 	<ul style="list-style-type: none"> • Time given for feedback on draft bye-laws is short • User charge and fines – not uniform across the state • Lack of manpower for collection of user charges • Infrastructure setup and timelines need to be pre-existing before the implementation 	<ul style="list-style-type: none"> • Even if user charges defined in contract and byelaws, levying difficult due to political interference • No standard format for tender documents causing ambiguity and often severe losses to concessionaire resulting in project failure 	<ul style="list-style-type: none"> • Need for specific policy for Slum Sanitation • IHHL limited progress due involvement of multiple authorities and space constraint • Issues in implementing SWM Rules, 2016 – slums also consist 30% Bulk generators – overlap of two stakeholder groups • Need for regularization of all commercial activities • Need for Cleanliness and Sanitation Bye-laws for associating implications of sanitation and SWM on health
Implementation	<ul style="list-style-type: none"> • lack of guideline based on the geographical location and material flow (waste characterization) • need for environmental specialist during planning and selection of processing technology 	<ul style="list-style-type: none"> • Implementation of new mandate fails due to absence of Infrastructure which should exist before enforcement. • Absence of task force for collection of user charges, fines and penalties resulting in malpractices and mismanagement. 	<ul style="list-style-type: none"> • Interference of ULB General Body in collection of user charges restricts development of successful business model and thereby affects sustainability of contract. 	<ul style="list-style-type: none"> • Sustainable SLWM needs political support and people participation through knowledge dissemination • Several implementation hurdles seen due to conflict of interest between multiple authorities • Need for adequate space provision to ensure SLWM • Lack of skilled manpower

GROUP NO.	<u>GROUP 1</u>	<u>GROUP 2</u>	<u>GROUP 3</u>	<u>GROUP 4</u>
SUB-TOPIC	Segregation and MRF – optimizing the budget allocated for SWM	Designing bye-laws – facilitate implementation of the mandates	Project Planning & its Sustainability–selection of technologies, procurement options and O&M	Solid & Liquid Waste Management in Slums – Issues and Solutions
				for handling Composting-OWC, Cesspool vehicle
Administrative	<ul style="list-style-type: none"> In absence of awareness of technological knowhow and/or its advancements planning, budgeting and implementation done on assumptions. 	<ul style="list-style-type: none"> Lack of understanding of rules and bye-laws and technologies results in ineffective communication of the same to people resulting in poor governance. 	<ul style="list-style-type: none"> Need for strong institutional setup between ULB and technology providers to ensure viability of project. 	<ul style="list-style-type: none"> Need for administrative vision in providing training to the ground staff to handle technology being implemented and its O&M. Involving and training local political leaders – their support aids project success. Making long term plans facilitated by proper bidding process. Deploying sufficient manpower for implementation, monitoring and backup services to prevent system failure.
People participation	<ul style="list-style-type: none"> Due to lack of awareness and involvement of local political representatives setting enforcement system such as collection of user charges and other policy interventions difficult 		<ul style="list-style-type: none"> Lack of awareness on need for technology, user charges, levying of fines and penalties to all stakeholders leads to their mistrust in the ULBs and technology providers. 	<ul style="list-style-type: none"> Lack of literacy, awareness, ability to pay user fees or fines and shortage of water – people don't participate in training programs - thus unable to relate to direct benefit – thus left out of planning, implementation and decision-making – resulting in lack of trust in

GROUP NO.	<u>GROUP 1</u>	<u>GROUP 2</u>	<u>GROUP 3</u>	<u>GROUP 4</u>
SUB-TOPIC	Segregation and MRF – optimizing the budget allocated for SWM	Designing bye-laws – facilitate implementation of the mandates	Project Planning & its Sustainability–selection of technologies, procurement options and O&M	Solid & Liquid Waste Management in Slums – Issues and Solutions
				system
IEC/Strategy	<ul style="list-style-type: none"> • IEC materials, advertisement campaigns etc. generally not available in local language and hence are not effective in communication of message 	<ul style="list-style-type: none"> • IEC not specific to the target groups like institutes, RWA, Slums, Corporates etc. • IEC strategy should emphasise on awareness rules and byelaws among the citizens. • No incentivizes for appreciation and promotion of citizens for proactively adhering to the rules and bye-laws, thereby motivating others 		<ul style="list-style-type: none"> • Not adequate IEC material made specifically for slums hence behaviour change not achieved. • After IEC campaigns no handholding support for continued change
Treatment & Technology	<ul style="list-style-type: none"> • Often technologies selected without baseline study for qualitative and quantitative characterization of waste results in random selection of non-viable technology. • Absence of set selection procedure adds to the distress 		<ul style="list-style-type: none"> • Poor awareness about manuals and guidelines for selection of technology • Need for training and education on technology selection • Need for awareness, education and training on E-waste management • Need for setting up mechanism to manage household generated compost – collection and matching quality parameters 	<ul style="list-style-type: none"> • Need for O&M of CT/PT and IHHL • Absence of appropriate vehicles that can enter congested lanes • Theft of amenities of CT/PT • Treatment & Technology options suitable for limited space & low-income group lacking • Lack of infrastructure mapping and interlinking of networks results in high O&M costs and wastage of resources and time

GROUP NO.	<u>GROUP 1</u>	<u>GROUP 2</u>	<u>GROUP 3</u>	<u>GROUP 4</u>
SUB-TOPIC	Segregation and MRF – optimizing the budget allocated for SWM	Designing bye-laws – facilitate implementation of the mandates	Project Planning & its Sustainability–selection of technologies, procurement options and O&M	Solid & Liquid Waste Management in Slums – Issues and Solutions
Financial	<ul style="list-style-type: none"> • Lack of clarity on the availability of funds and knowledge on arrangement of VGF • Inability to select a suitable sustainable PPP Models. 	<ul style="list-style-type: none"> • Absence of uniform methodology to collect user charges and fines specified in bye-laws • No provision for increasing user charges if need be 	<ul style="list-style-type: none"> • No adequate provision for facilitating concessionaire to generate profits, important for sustainability of process 	<ul style="list-style-type: none"> • Insufficient funding for SLWM management in slums • Low-income group unable to pay sufficient user charges for the O&M
Other Issues		<ul style="list-style-type: none"> • Need for review and monitoring • No legal implication/ penalty for non-implementation of EPR • role of ULB and Service provider for collection and treatment of Biomedical Waste 	<ul style="list-style-type: none"> • No IT based monitoring of entire waste management chain, provides room for malpractices 	

PANEL DISCUSSION

Representatives from each of the above-mentioned groups presented the challenges faced by them while implementing processes compliant with the rules and guidelines to a panel comprising of experts from ERAF, MPCB, WMRC and State Finance Commission.

WAY FORWARD

All the issues and challenges raised by the participants have been summarized and recommendations given, that can be taken forward to the next level. For better understanding, they have been categorized under the following heads;

1. **Sensitization and Training**

- a. Suitable training programmes at the local levels for various stakeholders in SWM and Sanitation be conducted;
- b. Training must include understanding the SWM Rules – the roles and duties of ULBs, waste generators, and the appropriate technologies, relevant to the local situation;
- c. For effective training, IEC material in local language for the targeted audience should be developed;
- d. Major gap exists in understanding the regulator's requirements therefore a representative from the regulatory body would be useful in the training sessions;
- e. Training on financial planning and funding mechanisms suggested for all ULBs.

2. **Technology**

- a. Need to identify appropriate technologies which are implementable at the ULB level;

- b. The technology options identified for the ULB, should be approved by regulatory authority - like MPCB to ensure compliance with environmental norms;
- c. The ULB's should have information on technology and service providers;
- d. Information on various technologies to be made available on MPCB website for easy access to information to all concerned;
- e. The involvement of elected representatives in selection of appropriate technologies is crucial. Their concurrence at various stages such as planning, implementation will ensure smooth functioning. Therefore the elected representatives should be included in the training and consultation too;
- f. The ULBs must follow proper process for identification of land for treatment/processing/disposal facility. It is imperative to take into consideration all the environmental impacts and obtain necessary environmental clearance before implementation. Training on GIS based identification of land will be helpful to use this state-of-the-art technology.

3. **Support to ULBs for Implementation:**

- a. In identifying Technology Providers and Service providers with requisite skills;
- b. In Capacity building of ULBs in project development and tendering process. Standardized templates for tender

documents be developed which are not lengthy and complicated and are unambiguous;

- c. Handholding for at least a year to ensure the system to stabilize;

4. Legal Provisions

- a. Need for specific byelaws for Public Health and Sanitation, which would help in strengthening the waste management byelaws;
- b. The need for a special agency/cell for collection of user charge, fine and penalty was suggested. Such charges may be best collected through e-challans in the interest of the citizens.

5. Slums

- a. It was felt that besides solid waste, wastewater from public toilets and fecal sludge in slums, have adverse

environmental implications, and needed to be addressed;

- b. Towards this end, there is a need for a clear policy for Solid Liquid Waste Management (SLWM) for slums irrespective of the ownership of the land – e.g. Central Government, State Government or private owners.

6. Others

- a. Clarity is required regarding the provision on of collection and disposal of Sanitary Waste; MPCB may be requested to provide guidelines;
- b. Legal provisions for management of electronic waste generated at the household level need clarity;
- c. Implementation of Extended Producers' Responsibility needs to be streamlined by bringing all the concerned agencies on board.

RECOMMENDATIONS

As a result of the consultations during the workshop, some issues that need intervention at the level of the State and Centre were realized. These issues have been listed here under -

- 1. Need for training and orientation of all stakeholders:** it is recommended to set up procedures to ensure training for all stakeholders – staff at the levels of the ULBs, technology providers, elected representatives and the common man. These should be in the nature of city consultations where all stakeholder groups are invited to participate and motivated to embrace their responsibilities towards SLWM. They must include the SLWM rules, roles and responsibilities of all stakeholders listed above, the importance of user charges and fines and brief explanation of the solution/technology being proposed, etc.
- 2. Ensuring thorough situation analysis for technology selection** – it is recommended that the possible technology options listed in the rules and manuals be discussed in the city level consultations. Waste minimization being the soul of the new SWM rules, the focus of the consultations should be on creating the value chain of waste segregation, decentralized processing and waste recycling through use of technology options appropriate for the local situation.
- 3. Encouraging ULBs to be involved the technology and/or service provider in planning:** The technology and/or service providers are equally responsible for the success or failure of the projects and therefore should be associated in the consultative process of project development. It is recommended that clear administrative guidelines for association between technology and/or service providers and State Government would facilitate Officers at the ULB levels to associate them for the benefit of the project.
- 4. Financial planning should include the O&M expenses:** The ULBs should not only have financial strength for capital funding but should also have regular revenue stream to meet the recurring operational costs. In case of service contract, the cost incurred by the private operator, will have to be reimbursed to him. Experience of several waste processing facilities has proved the assumption “waste pays for itself” wrong – a clear message to this effect needs to be sent to ULBs.
- 5. Identify financial provisions for SLWM in the ULBs:** it is recommended that the Municipal Budget should ensure adequate financial provisions for SLWM projects and include Project Planning, Development and Bid Process.
 - Considering the limitation of resources of the municipalities, it is imperative to levy waste management charges as stipulated in the SWM Rules and to ring fence the proceeds for meeting the operational cost.
 - Municipalities should also analyze the waste management cost and identify the

areas of savings with waste reduction at source.

6. **Developing templates for the procurement process:** It is recommended that the Centre should develop the templates for procurement process in simple terms. It could also help the tendering process and project implementation support. The Centre should work in tandem with the MPCB. There should be different templates for different major technology categories such as Compost, RDF, Waste to Energy, etc. and there should be flexibility to embrace different technology within that specific category.

7. **Setting-up a mechanism to guide ULBs in implementing the SLWM rules and the SBM mandate:** It is recommended that an organization such as NEERI and its associate set up a state level support mechanism or center to guide the ULBs in the implementation of the SLWM rules and the mandate of Swachh Bharat Mission. Technical institutions at the district or local level could be identified for further outreach. The state level center could work as an umbrella center and could train local institutions as master trainers.

8. **Setting-up incentivization mechanisms:** It is recommended that the waste generators who process the waste within their premises should be duly incentivized by giving them remission from user charges and by socially recognizing them.

9. **Enlisting of technology and service providers to ensure rule compliance -**

It may be worthwhile to list technology and service providers for different categories of technologies such as Composting, MRF, RDF, Waste to Energy. A process of technology evaluation by MPCB with the help of NEERI could be adopted for this purpose. If required, ERAF could support the process. The empanelment could be an open ended process to avoid monopolies.

10. **Collaborations:** it is suggested that institutions like ERAF with the support of MPCB could develop GIS based comprehensive SLWM planning for the ULBs to meet the mandates of the SBM and ensure sustained rule compliance.

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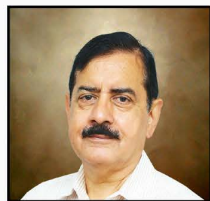
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ERAF Environmental Research Foundation (ERAF) is a non-profit entity, registered under Section-8 of the Companies Act 2013. It has been set up by a group of professionals from the fields of science, technology, administration, finance and business. ERAF has the advisory support of eminent researchers and practitioners in environment management and Municipal Governance. It is working in tandem with the government, city managers, citizen groups, scientists, and technology providers and also corporate houses to channelize their support to make our cities, towns and villages more livable.

AT ERAF, we promote sustainable solutions with which we can strengthen and expand upon the on-going change initiatives across sanitation and waste management sectors in the country. We aim to help understand the criteria for selecting the most suited solution from the gamut of alternatives available; we also help in planning and management using various tools and technologies and by incorporating behaviour science approaches to plug the gaps identified while implementing these projects



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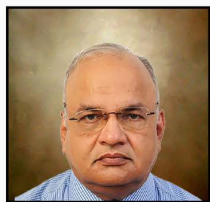
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