



Workshop on Swachh Bharat Mission

Workshop Report

ERAF

Sept. – Oct.' 2018

SWM

ODF

ODF +

ODF ++



NITI Aayog
सर्वोत्कृष्ट समाज



Workshop on

Swachh Bharat Mission

| Know | Strategise | Plan | Manage |

NAHRD & ERAF

GOA' 2018 - September 27,28,29

About ERAF

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 including an eminent Water expert, Life Scientist, working with the IIT Bombay on environment issues, Environment Scientist, Mechanical Engineer with long experience in Power Sector, Social Scientist with experience in Participatory Planning and Management tools, Transaction Advisory Expert with vast experience in financial modelling and tender and agreement process management, and expert in Information Technology and Business Analysis. 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 liveable.

ERAF has planned a series of workshops on Swachh Bharat Mission (SBM) at national and state level with the support of the National Environmental Engineering and Research Institute (NEERI), Sulabh International, under non-financial support of the NITI Aayog.

Workshop on Swachh Bharat Mission

The first workshop, focused on **Swachh Bharat Mission**, was organized in **Goa** from **27th – 29th Sept.'18** in collaboration with the logistic partner, National Academy of Human Resources Development (NAHRD).

Workshop Objective

The objective of this workshop was to discuss the Legal Framework, Policy and Programmes related to SBM and to guide the participants on the technology options for achieving the objectives of the Mission through sharing good practices, site visit, and interactive panel discussion.

Workshop Summary Report

The workshop was targeted towards the officials of Local Bodies, Departments of State and Central Government, Pollution Control Boards, other government bodies such as Railways, SEZs and Port Trusts and Technical Solution Providers etc. to build their capacity. There were around 34 participants representing 19 organizations (**Annexure I**), including Urban Local Bodies, State Pollution Control Board, Port Trust, SEZ, University and Bank. In order to make the workshop a productive and interactive one the participants were asked to list the issues and challenges they faced in implementation of SBM, on day one itself. These issues were then further discussed and answered by the panellists on day two.

On **Day One**, the workshop opened with **Session One** – the Inaugural Session, with the welcome address by Mr. Rohit Agarwal of NAHRD and Mrs. Poornima Gupta, Managing Director, ERAF Environmental Research Foundation. This was followed with an inaugural address by Mr. Ajit Kumar Jain, IAS (Retd.) State Information Commissioner, Maharashtra, and Key Note addresses on Sanitation and Solid Waste Management by Dr. Sunil Kumar, NEERI, and

Dr. Krishna Lala, Sr. Project Manager, IIT - Bombay, Powai, Mumbai, respectively. Mr. Mishal Maganlal, YI Swachh Bharat Chairman, CII, Goa Chapter shared the activities undertaken by YI CII at Goa for Swachh Bharat Mission.

The **Day Two** agenda began with **Session Two** with a presentation of Dr. Ketna Matkar, SWM consultant – ERAF on overview of Solid Waste Management Rules, 2016, the Swachh Survekshan guidelines, Star Rating concept and importance of IEC in behaviour change and role of awareness generation and education. This was followed by a presentation on Integrated Solid Waste Management Planning by Mr. Pundlik Awate, former Chief Engineer (Projects) Municipal Corporation of Greater Mumbai. The inputs on composting technology options, field experience and good practices were provided by Mr. Saurabh Shah of Excel India whereas, Mr. S. Karthikeyan, Manager, Antony Asia presented different options of vehicles for collection and transportation of waste. This session also included a presentation on Project Planning, Financing and Implementation by Mr. Ajay Saxena, PPP Expert, Maharashtra. Mr. Saxena discussed the important parameters which need to be considered right from project conceptualization to its implementation stage and the importance of continued monitoring.

Session Three focussed on sanitation aspects of the SBM. After a brief overview of the SBM-Sanitation by Dr. Ketna Matkar, Dr. Lalit Kumar, the Hon. Vice President of Sulabh International, highlighted the importance of sanitation in the country and how SBM has positively impacted the society. He explained the technological options available in India for individual, public and community toilets for sustainable ODF status. Dr. Sunil Kumar, Senior Scientist from NEERI then spoke on ODF+ and ODF++ and discussed the importance of maintenance of toilets and treatment of the Solid Liquid Waste (Sewage & Sludge). He explained in detail about various sewage and grey water remediation technologies, including the phytoremediation technology (NEERI).

This was followed by the **Open Forum** with the panellists, comprising speakers from the three sessions. The issues and challenges in implementation of the SBM and SWM Rules, 2016, listed by the participants through the form (**Annexure III**) filled by them during session I, as well as others raised during the subject specific sessions were addressed by the panel of experts.

The table below summarises the issues discussed during the open forum of the workshop –

Sr.No.	Issues Raised	Suggested Way Forward
1.	Buffer Zone – Provision for siting waste processing and disposal facilities is difficult to follow with retrospective effect in case of existing facilities and landfill sites. The question was posted regarding the clarification on buffer zone.	<i>[Ref: Guidelines on the Provision of Buffer Zone Around Waste Processing and Disposal Facility, CPCB, April 2017]</i> Government intervention and advisory is required for application of guidelines and rules in retrospective.
2.	Collection of Waste – Clarification on the applicability of the Door to Door collection of waste to the ULBs as per rules.	As per Rule 15(b) SWM Rules, 2016 - arranging for door to door collection of segregated solid waste from all households including slums and informal

Sr.No.	Issues Raised	Suggested Way Forward
		<p>settlements, commercial, institutional and other non-residential premises is responsibility of ULB.</p> <p>In case of multi-storied buildings, large commercial complexes, malls, housing complexes, etc., this may be collected from the entry gate or any other designated location; but the arrangement from individual house/flat to the building gate is to be arranged by the society through appointed waste collectors.</p>
3.	<p>Waste Segregation and Processing –</p> <p>Participant of Mumbai Port Trust raised the issue of non-cooperation of the colony residents and sanitation staff to separate dry & wet waste.</p>	<p>Panellists suggested awareness generation among the sanitation staff and residents through targeted training workshops using effective IEC tools. It was suggested that if need arises then those who are not complying should be fined, the provision for such penalties should be made in the municipal bye-laws.</p>
4.	<p>Can mixed waste be collected?</p> <p>A question was raised by the representative of West Delhi Municipal Corporation that in case mixed waste is already accepted by the Waste to Energy or Waste to Compost plant operator then does a person still need to segregate.</p>	<p>Clarification was given on the point that while the present system may be continued for the time being, it is mandatory for the waste generators to segregate waste at source as per the SWM Rules, 2016 [Rule 3 (11) and (21)].</p> <p>Whatever the kind of treatment, segregation at source would help in improving the quality of feed waste for processing.</p>
5.	<p>Options for Non-biodegradable waste</p> <p>More clarity on the management of non-biodegradable waste was requested.</p>	<p>The information regarding segregation of dry waste into subcategories (BASIC+) like glass, metal, plastic, leather etc., was shared with the case study examples- Ambikapur, Mumbai Goa etc. Suggestions for setting up material recovery facilities and their importance in reducing the landfill burden and resource recovery were explained.</p>

Sr.No.	Issues Raised	Suggested Way Forward
6.	<p>Bye-Laws –</p> <p>All ULBs have been asked to draft their Bye-laws to ensure compliance of the SWM rules, 2016 and to levy service charges, fees and penalties. It is also an important part of the SBM-Swachh Sarvekshan ranking. Bye-laws require the approval of the general body of the ULB for being implemented. However, often, they are not inclined to adopt and pass resolution in this regard. Hence most ULBs still do not have their Bye-laws in place. The guidance to institutionalizing the bye-laws speedily was sought for.</p>	<p>It was suggested that the process of approval of Bye-Laws should be made time bound. User fee may strengthen revenues of the ULBs particularly those ULBs who are already stressed out in this regard.</p> <p><i>Advisory may be issued in this regard by the MoHUA</i></p>
7.	<p>Role of Industrial Development Corporations in SWM –</p> <p>Participants from the Industrial Development Corporation wanted to understand their role in SWM Rules and SBM, considering that they mainly deal with the industrial wastes and are to comply with the Chemical Waste and Hazardous Waste Rules.</p>	<p>They were guided to ensure segregation and treatment of municipal solid waste generated in their industrial estate areas, as bulk generators. This should not be confused with hazardous waste which is to be sent to the Common Hazardous Waste Treatment, Storage and Disposal Facilities (TSDFs) in the nearby area.</p>
8.	<p>Sanitation Services –</p> <p>The issues related to the providing of sanitation services, including sewerage network in slums, on land belonging to different authorities e.g. Railways, Ports or Private land were raised. The clarification of role of ULB to levy and recover user charges and the responsibilities of the land owners was sought for and discussed.</p>	<p>The suggested solution was to seek from the Government for the clarity on the role of owner of the land and ULB, so that the responsibility for sanitation services can be ensured.</p> <p><i>Guidelines in this regard may be issued</i></p>
9.	<p>Community and Public Toilets –</p> <p>The Municipal Corporation of Greater Mumbai raised the issue of seat to slum population ratio being very low.</p> <p>They also enquired about technology options for individual toilets for slums areas.</p>	<p>The suggestions for different models were given and alternative models like construction of multi-storeyed toilet complexes with proper connection to sewerage line were discussed considering the limitation of open spaces in slums.</p>
10.	<p>Septic tanks –</p> <p>The ULBs enquired about technology</p>	<p>Different options of drying beds or STP</p>

Sr.No.	Issues Raised	Suggested Way Forward
	options for treating the sludge removed from the septic tanks.	were discussed.
11.	Sewage Treatment – The options for the treatment of waste water (Sewage) were discussed	It was suggested that where ever the water table is low, twin-pit is the most suited option. Suitable modifications in design may be needed where the water table is shallow.
12.	CSR funding – It was enquired by a few ULBs if CSR funds received for solid waste management and sanitation can be separately reserved, and not merged with the common fund of the municipality, so that the relevant projects may be expedited with this funding.	It was clarified that, using its CSR funds, the sponsor agency can directly implement the project under guidance of the municipality. The representatives from Sulabh International and KSPCB shared a few of their experiences on the same.

The Open Forum was followed by the Valedictory Ceremony, wherein certificates, mementos and a flash drive containing all the presentations and soft copy of the handed out study material were given to all the participants by ERAF Environmental Research Foundation. The session concluded with a Vote of Thanks by Mr. Arun Palnitkar, Chairman ERAF Environmental Research Foundation.

On **Day Three** of the workshop the participants were taken for site visit to the Integrated Solid Waste Management (ISWM) Facility at Saligao in Goa. The site visit started with a short movie giving the background of the ISWM project. This was followed by a step-by-step explanation of each feature of the facility by the plant in-charge. The participants saw all their processes of solid waste management – waste tipping, mechanical segregation, manual sorting, biogas generation, composting, leachate management, bio-filtration of the exhaust air using coconut pits, bailing of recyclable waste as well as RDF feed, etc. They also visited the site monitoring office equipped with the SCADA system, and viewed the live streaming of all on-going processes in the facility, and the gas to energy – electricity conversion system.

Suggestions from Workshop

- Retrospective Effect of SWM Rules - Several Waste treatment and disposal facilities are in operation in different cities prior to the SWM Rules, 2016. They may not be in conformity with these Rules. The criteria of buffer zones may be difficult to apply with retrospective effect. Most ULBs are facing problems in applying these mandates and requirements retrospectively. The rules, guidelines, manual etc. need to focus on this aspect of waste management planning, and appropriate advisory may be issued.

- Municipal Bye laws – The SBM lays great emphasis on IEC and awareness creation. While such campaign is being pursued nationally, targeted IEC efforts are required at the city level. It is important to internalize provisions of SWM Rules in the bye-laws. However, most ULBs, even after drafting their bye-laws, in accordance with the Model Bye-laws, are unable to get them approved from their General Bodies. A time bound process needs to be mandated through appropriate advisory to the ULBs.
- Sanitation in Slums on Different Authorities - Slum sanitation in mega cities is a grave issue, especially with the land rights and ownerships of multiple agencies. Advisory on the roles of the municipality and the landowner authority, such as Railways, Ports, etc. may be useful.

ERAF is proposing to arrange another workshop in the series at Mumbai. We will request the officials of the concerned ministries and the Advisor SBM, NITI Aayog to join for the interactive sessions in that workshop so that more clarity on the above and similar other issues could emerge.

Ms Poornima Gupta

Managing Director-ERAF

Annexure I

Sr. No.	Participant	Organization
1.	Sh. Sachidananda Prusty, AGM	NABARD, Mumbai
2.	Sh. Shankar Sahu, AGM	NABARD, Mumbai
3.	Sh. Shrikant Lawande, ME-Grade III	CCP, Panaji
4.	Sh. Nilkhant Phadte, Municipal Inspector	CCP, Panaji
5.	Mr. Clive Paiva, Asst. Project Executive	CCP, Panaji
6.	Sh. Siddharth Srivastava, AM (HR)	SPMCIL, Nashik
7.	Dr. Surender K. Sharma, N.O. (SBM)	H.P.U. Shimla
8.	Sh. Gokulnath E V, ADC	CSEZ, Cochin
9.	Sh. Manikandan K, UDC	CSEZ, Cochin
10.	Sh. S.S. Shastry, Dy. C.E.	MPT, Mumbai
11.	Sh. Mohd. R.S. Qureshi, Sr. W.O.	MPT, Mumbai
12.	Dr. (Smt.) S.N. Mokal, Sr. Dy. CMO	MPT, Mumbai
13.	Sh. Balla Ventaka Surendranath,	S.I.VMC, Vijayawada
14.	Sh. V. Nagabhushanam,	S.I.VMC, Vijayawada
15.	Smt. Meena Jonwal, Mayor	UMC, Ujjain
16.	Sh. Yogendra Singh Patel, Dpty Comm.	UMC, Ujjain
17.	Sh. Tulsidas J. Goankar, EE	MPT, Goa
18.	Sh. R.P. Patil, EE	MIDC
19.	Sh. P.P. Kulkarni, EE	MIDC
20.	Sh. Prashant Gaikawad, Asst. Comm.	MCGM, Mumbai
21.	Sh. Ramakant Biradar, Asst. Comm.	MCGM, Mumbai
22.	Sh. Uddhav Chandanshive, Asst. Engineer	MCGM, Mumbai
23.	Sh. Parshuram Kurhade, Asst. Engineer	MCGM, Mumbai
24.	Sh. S. Karthikeyan, Manager	Antony Group
25.	Sh. Saurabh Shah, VP	Excel Industries
26.	Sh. Shanmukhappa, EO	KSPCB, Bangalore
27.	Sh. M.G. Yathish, RO	KSPCB, Bangalore
28.	Smt. Sarita Gupta, Suprevisor	MC Akbarpur
29.	Sh. Manoj Kumar Gupta	MC Akbarpur
30.	Sh. Suresh Kumar Maurya	MC Akbarpur
31.	Sh. R. Jayaraman, SE	GCC, Chennai
32.	Sh. J. Ramamurthy, EE	GCC, Chennai
33.	Sh. P. K. Hooda	North DMC
34.	Sh. Gupta	North DMC

Annexure II

THREE DAY INTERACTIVE WORKSHOP ON THE SWACHH BHARAT MISSION		
SESSION I: INAUGURATION AND INTRODUCTIONS		
15:30 – 16:30	Introduction to the SBM Workshop	Mr. Rohit Agarwal (NAHRD) Mrs. Poornima Gupta (ERAF)
	Inauguration of the workshop	Mr. A. K. Jain, I.A.S. (Retd.) (SIC, Govt. of Maharashtra)
	Keynote address on ODF, ODF Plus & ODF Plus	Dr. Rakesh Kumar, (Director, CSIR, NEERI)
	Keynote address on SWM	Dr. Krishna Lala, (Sr. Project Manager, IIT - Bombay, Powai, Mumbai)
16:30 -16:45	Sharing experiences in implementing SBM	Mr Mishal Maganlal CII, Yi Swachh Bharat Chairman
SESSION II: SOLID WASTE MANAGEMENT		
10:00 – 10:45	Overview on Solid Waste Management <ul style="list-style-type: none">Revisiting the Rules of 2016 and Amendment of 2018 and Case Studies	Dr. Ketna Atul Matkar, Waste Management Expert, ERAF
10:45 – 11:15	Preparation of Integrated Solid Waste Management Plan	Mr. Pundlik Awate, Former Chief Engineer (SWM – Projects), MCGM
11:15 – 11:30	Technologies in waste management - Processing	Mr. Saurabh Shah, Excel Industry
11:30 – 11:45	Technologies in waste management - Transportation	Mr. Karthikeyan, Anthony Group
11:45 – 13:30	Group Discussion Issues, challenges and/or hurdles faced by the participants and ideas and suggestions they would like to propose.	
Break for Lunch		
SESSION III: SANITATION (ODF & ODF PLUS)		
14:30 – 14:45	Overview on Sanitation (ODF & ODF plus) <ul style="list-style-type: none">The objectives and mandates of the SBM	Dr. Ketna Atul Matkar Waste Management Expert,
14:45 – 15:30	Technologies in Toilet Construction	Dr. Lalit Kumar Hon. Sr. Vice President (Sulabh International)
15:30 – 16:15	Technologies in Sanitation – SLWM	Dr. Sunil Kumar Senior Scientist, (NEERI)
Break for Tea		
16:30 – 17:00	Project Planning, Financing and Implementation	Mr. Ajay Saxena PPP Expert, Maharashtra
17:00 – 17:30	Open Forum Questions and answer session on issues and challenges in implementation of the SBM and evolving ways for overcoming these hurdles.	
SESSION IV: SITE VISIT		
10:00 – 13:00	Site Visit to the Solid Waste Management Facility at Saligao	

Annexure III

Let's engage in a fruitful discussion!

Name: _____

Designation: _____

Agency representing: _____



Email:

In order to make the sessions more productive, we request you to kindly share your expectations from this workshop on the subjects of the Swachh Bharat Mission and Solid Waste Management Rules, 2016.

Photographs



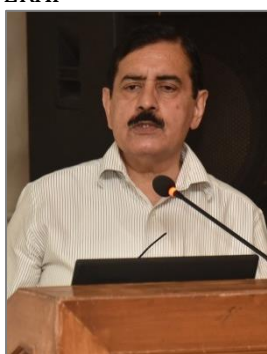
**Poornima Gupta, MD,
ERAF**



**Dr. Ketna A. Matkar,
ERAF**



**Dr. Krishna Lala,
IIT - Powai, Mumbai**



**Mr. A. K. Jain, I.A.S.
(Retd.)
SIC, GoM**



**Dr. Lalit Kumar, Hon. VP
Sulabh International**



**Dr. Sunil Kumar,
NEERI**



**Dr. Arun Palnitkar,
Chairman, ERAF**



**Mr. Ajay Saxena, PPP-
Expert, Maharashtra**



**Mr. Pundlik Awate,
Former CE (Proj.), MCGM**



**Mr. Saurabh Shah,
Excel Industries**



**Mr. S. Karthikeyan,
Antony Asia**





Visit To the Integrated Solid Waste Management Facility, Saligao

