

STATE - LEVEL CONSULTATIVE WORKSHOP ON
SWACHH BHARAT MISSION (GRAMIN)

| 16 MARCH 2019 | SAHYADRI GUESTHOUSE - MUMBAI |

WORKSHOP REPORT



ERAF Environmental Research Foundation and Water
Supply & Sanitation Department, GoM

State-Level Consultative Workshop on Swachh Bharat Mission (Gramin)

16th March, 2019



Environmental
Research
Foundation

STATE-LEVEL CONSULTATIVE WORKSHOP ON SWACHH BHARAT MISSION (GRAMIN)

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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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We also extend our thanks to CSIR-NEERI of the Government of India and UNICEF for lending their support to this workshop.

A special thanks to Mr. Rajiv Agarwal, Director General, All India Institute of Local Self Government (AIILSG), Mumbai, Mr. Shyamlal Goyal, Addl. Chief Secretary, Water Supply & Sanitation Department (WSSD) of the GoM, Mrs. Radhika Rastogi, Deputy Director General, National Institute of Rural Development (NIRD) and Panchayat Raj, Hyderabad, Dr. Rakesh Kumar, Director CSIR-NEERI, Mr. E. Ravendiran, Member Secretary, Maharashtra Pollution Control Board (MPCB), Mr. V. Giriraj, Chairman State Finance Commission, GoM, Dr. Abhay Mahajan, Deputy Secretary, WSSD & Project Director, Jalswarajya, for sharing their valuable experiences and insights with the participants.

We are thankful to all the guest speakers and experts for sharing their experiences and expertise during the various sessions through the day with all our participants.

We thank the Chief Executive Officers (CEOs), Dy. CEOs of the Zilla Parishads (ZPs), functionaries of the Gram Panchayats (GPs), Technology Providers and all other stakeholders for participating in the workshop and sharing their views in the discussion forum.

LIST OF ABBREVIATIONS AND ACRONYMS

Addl.	Additional
AIILSG	All India Institute of Local Self Government
BOD	Biological or Biochemical Oxygen Demand
CDM	Clean Development Mechanism
CEO	Chief Executive Officer
COD	Chemical Oxygen Demand
CSC	Community Sanitary Complex
CSIR	Council of Scientific & Industrial Research
CSR	Corporate Social Responsibility
CT	Community Toilet
DPR	Detailed Project Report
Dy.	Deputy
EPR	Extended Producer Responsibility
ERAF	Environmental Research Foundation
FSM	Fecal Sludge Management
G	Gramin
GIS	Geographic Information System
GoI	Government of India
GoM	Government of Maharashtra
GP	Gram Panchayat
Ha	Hectare
Hon.	Honorary
IEC	Information Education and Communication
MCGM	Municipal Corporation of Greater Mumbai
MJP	Maharashtra Jeevan Pradhikaran
MPCB	Maharashtra Pollution Control Board
NEERI	National Environmental Engineering Research Institute
NIRD	National Institute of Rural Development and Panchayati Raj
NP	Nagar Panchayat
O & M	Operations & Maintenance
ODF	Open Defecation Free
PPP	Public-Private Partnership
PT	Public Toilet
SBM	Swachh Bharat Mission
SLWM	Solid Liquid Waste Management
SOP	Standard Operating Procedure
STP	Sewage Treatment Plant
SWM	Solid Waste Management
WMRC	Waste Management & Research Centre
WSSD	Water Supply and Sanitation Department
ZP	Zilla Parishad

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(2018 – 2019)**

EXECUTIVE SUMMARY

A State-Level Consultative Workshop on Swachh Bharat Mission (Gramin) {SBM (G)} was organized for the Zilla Parishads in Maharashtra on 16th March, 2019 at the Sahyadri State Guest House, Mumbai by ERAF Environmental Research Foundation (ERAF) and Water Supply and Sanitation Department (WSSD) of the Government of Maharashtra (GoM), with the support of Swachh Maharashtra Mission (Gramin), UNICEF, India and CSIR-NEERI of the Government of India (GoI).

The workshop saw participation from Chief Executive Officers, Deputy Chief Executive Officers, senior functionaries from Zilla Parishads and Panchayat Samitis, senior officials from government, experts working for SLWM, representatives of technology providers and consultants.

The workshop was aimed at identifying issues and challenges faced by the Zilla Parishads (ZPs) and Gram Panchayats (GPs) in meeting the mandate of the SBM (G).

The workshop was spread over three technical sessions viz. (1) Session on Policies and Issues in SBM which included the discussion of legal framework for SBM, Issues with reference to toilets and the perspective of regulatory bodies for SLWM (2) Session on technologies in SLWM wherein the best practice models for sanitation and SWM were discussed along with the overview of various technologies in value chain for SLWM and (3) Session on Project Planning, Management and Private Sector participation.

During the interactive session, best practices of three Gram Panchayats were presented and there was an open session for participants to raise questions which were addressed by the senior officials of the WSSD and the Experts.

INTRODUCTION

Swachh Bharat Mission was launched by the Government of India in October 2014 with the objective of making the country Open Defecation Free (ODF) and ensuring scientific management of the Solid and Liquid Waste (SLW) by October 2019 to mark 150th birth anniversary of the father of the nation Mahatma Gandhi.

It seeks to improve the levels of cleanliness in rural areas through Solid and Liquid Waste Management (SLWM) activities and making Gram Panchayats Open Defecation Free (ODF), clean and sanitized.

Much has been achieved in the above direction, in terms of increase in House Hold (HH) toilets by 61%, with 2.47 lakh Gram Panchayats, 616 districts and 30 states and Union Territories becoming ODF. There are, however, issues related to sustainability of the ODF status. The independent studies by UNICEF highlight the hurdles in the sustainability of habits and ODF+ status. Several issues were highlighted in the 56th report of the Standing Committee on Rural Development (16th Lok Sabha).

Background of Workshop

ERAF organized a national level workshop on SBM in Goa in September 2018, followed by a State Level workshop for the ULBs in February 2019. Several policy and implementation level issues were raised, and many success stories were highlighted at these workshops. In consultation with the Water Supply and Sanitation Department of the Government of Maharashtra, it was decided to organize a consultative workshop for the Panchayat Raj institutions in Maharashtra.

Objective of Workshop

The workshop aimed at providing the platform to understand issues and challenges in SBM (G) and discuss the low-cost technology alternatives; few of these were successfully implemented by some of the GPs, for sustainable Solid and Liquid Waste Management (SLWM).

Profile of Speakers

The resource persons for the workshop consisted of State Government Officials, Industry Experts, Senior Officials from Central Government institutions, IIT Mumbai, Regulatory authorities, WASH representatives from the UNICEF and Advisors of ERAF.

SUMMARY OF THE WORKSHOP SESSIONS

Inaugural Session

Chairperson – Mr. Rajeev Agarwal, DG, AILSG

Panelists – Ms. Poornima Gupta, MD ERAF; Mr. Shyamlal Goyal, Add. Chief Secretary WSSD GoM; Dr. Abhay Mahajan, Dy. Secretary, WSSD & Project Director, Jalswarajya; Dr. Rakesh Kumar, Director, CSIR-NEERI; Mrs. Radhika Rastogi, Dy. Director NIRD and Panchayati Raj; Mr. E. Ravendiran, Member Secretary MPCB, Hyderabad; Mr. V. Giriraj, Chairman State Finance Commission, GoM

Ms. Jayalakshmi Chekkala, Ex. Joint Secretary WSSD, GoM anchored the sessions of the workshop.

Ms. Poornima Gupta, MD, ERAF welcomed the guests and participants and highlighted the objective of ERAF, and its activities. She emphasized on the importance of interactive dialogue between the regulatory authorities, implementers and other stakeholders including policy level suggestions in ensuring success of the SBM.

Dr. Abhay Mahajan Dy. Secretary, WSSD & Project Director, Jalswarajya talked about the progress in the construction of toilets under the SBM. He spoke about the defects in the construction of the toilet blocks and septic tanks constructed earlier, and the need to retrofit in order to maintain them and achieve the sustainable sanitation. The major issues highlighted by him were-need of IEC to induce behavior change and planning for projects for FSM treatment and Solid Waste Management.

Dr. Radhika Rastogi, Dy Director NIRD, Hyderabad gave an overview of the sanitation condition in India. She highlighted the need for improving the design of toilets and customizations to users' needs and to ensure easy maintenance and sustained usage. **Design and quality of toilet leaves much to be desired.** She underlined the need to involve women masons in training and construction of toilets. She also emphasized the need to highlight and correlate sanitation to health benefits.

Dr. Rakesh Kumar, Director, CSIR-NEERI shared his observations in the recently held Kumbh Mela and the gaps in the cleanliness and management of sanitation. He emphasized upon the designing of the toilet which is a very critical factor for ensuring its optimal utilization and maintenance of sanitary condition. As per him it is required to have a close loop system that ensures recycling of the treated waste. He highlighted the advantages of shallow sewers as an affordable option for black water of the Septic tanks.

Mr. E. Ravendiran, Member Secretary, MPCB, spoke about the Environment Protection Act 1986 and the SWM Rules 2016. He said that until now the focus for SWM was in the urban areas as per the Rules 2016, wherein a lot of work has been done. The focus may be shifted now to the rural local bodies, which should undertake planning for effective implementation of the mandate of the SBM.

Mr. Shyamlal Goyal, Addl. Chief Secretary, WSSD, GoM, shared his views regarding the importance of the workshops like this which helps in reaching the problems at grass root levels and helps in learning new technologies and developing a strategic plan to deal with them. He spoke about the need to have separate management policies for Solid Waste Management, Liquid Waste Management And Fecal Sludge Management. There is no shortage of funds for the rural sector; this however should be effectively utilized. According to him all the funds should be distributed to the Gram Panchayat's with the guidelines to spend it wisely to achieve ODF+ and total sanitation.

Mr. V. Giriraj, Chairman, State Finance Commission, GoM, discussed the financial issues related to O&M of the water supply as availability of water is crucial for sustained sanitation. The data and information regarding piped water schemes is not sufficiently available with the Zilla Parishads. Site selection of location for the water supply source is of prime importance, pumping of water from the source accounts for major electric expenses. He suggested that the maintenance responsibility of the hand pumps should be shifted to the panchayats. For SWM processing he suggested that government should facilitate land availability for processing and disposal.

Chairperson of the inaugural Mr. Rajiv Agrawal, Director General, AILSG, **appreciated** the efforts of ERAF and highlighted the initiatives taken up by AILSG in the capacity building of the urban local bodies for sanitation and SWM. Giving example of the situation of city of Agra, he supported the concept of shallow sewers. The low-cost solutions are required for the SLWM and equally important is to work on the behavioral aspect and generating the feeling of ownership among all the stakeholders.

Session on Policies and Issues in SBM

Moderator – Dr. Krishna Lala, Senior Project Manager, IIT Bombay, Mumbai

Panelists – Mr. N. Gurav, Regional Officer, HQ, MPCB; Mr. Pundlik Awate, Former Chief Engineer (SWM Projects), MCGM; Mr. Yusuf Kabir, WASH specialist, UNICEF; Dr. Lalit Kumar, Hon. Sr. Vice President, Sulabh International.

Mr. N. Gurav, Regional Officer, HQ MPCB focused on the menace of plastic waste which has now infiltrated equally in the rural areas. The major issue related

to plastic waste is its correct disposal. Talking about the implications of noncompliance of SWM and Plastic Waste Management Rules, he quoted the example of Sangamner Nagar Parishad (NP), where even at the Nagar Panchayat level the NGT cases are filed against the local body. He strongly emphasized the need to have an action plan for SWM at rural level. He also talked about the need to involve comprehensive guidelines for the management of plastic waste and other packaging materials through Extended Producers' Responsibility (EPR).

Mr. Pundlik Awate, former Chief Engineer (SWM Projects) MCGM talked about the applicability of SWM Rules 2016 in the rural areas. He spoke about various types of waste that need to be covered under the SWM in the rural level, elaborating six categories. In the waste generated in the rural area, substantial quantity is agricultural biodegradable waste. The focus in the rural areas should be on prevention of littering, segregation of waste and house to house collection with an effective IEC strategy.

Mr. Yusuf Kabir, WASH Specialist, UNICEF highlighted the issues in construction and maintenance of toilets. His specific emphasis was on the validation of data on ODF. The major reasons in not achieving sustainable ODF are defective construction of toilets and septic tanks. It is very difficult to do the retrofitting for septic tanks, single pit toilets and the twin pit toilets having absence of "Y" junction. Water and sanitation cannot be looked in silos. People can use toilets sustainably and maintain sanitation standards if proper water facilities are available.

Dr. Lalit Kumar, Hon. Sr. Vice President, Sulabh International talked about the precautions to be taken when Public toilets are constructed in mission mode, this would prevent the need for retrofitting. The success of Sulabh Public Toilets (PT) and Community Toilets (CT) is round the clock monitoring and proper O & M. It is required to consider the socio-economic attributes of the locality while building the toilets. Toilet complexes need to be child, women and disabled friendly and built keeping in view the local preferences. It is required to provide an attendant's room and ensure water and electricity supply along with creation of sense of ownership for maintenance of CT/PT.

Session on Technologies in SLWM

Moderator – Mr. Satish Narkar, Ex. Chief Engineer and OSD MSDP at MCGM

Panelists – Mr. Anwar Ashraf, Project Engineer CDD Society, Dr. Suneet Dabke, Proprietor Concept Biotech, Mr. Mali, Executive Engineer Nashik Municipal Corporation, Mr. Ramdas Kokare, Chief Officer Karjat Municipal Council, Mrs. Ragini Jain, Founder and CEO Geetanjali Envirotech; Mr. Debartha, Director Sampurna(e)arth.

Key Points Highlighted

Mr. Anwar Ashraf, Project Engineer CDD Society shared the experience of successful implementation of the Fecal Sludge Management at Devanhalli Municipal Council, Karnataka. It is the first decentralized FSM plant in India. He talked about the details of planning, O & M, Cost parameters etc. The Liquid Waste generated by the plant is used for agriculture and for ground water recharge and the Solid Waste is used for Co-Composting. He said similar projects can be easily replicated in Maharashtra and in fact a few of the projects are already approved and under process.

Dr. Suneet Dabke, Proprietor Concept Biotech - Concept Biotech has been working extensively on the management of SLW through vermicomposting/vermifiltration. He explained cost effectiveness of this technology which is precisely the requirement in the rural areas. The technology is low cost, with no maintenance, helps in reusing treated water, conserves water and generates revenue. The plants established by Concept Biotech are generally based on CSR funding and is a sustainable model.

Mr. Mali, Executive Engineer Nashik Municipal Corporation presented the Co-Processing model for management of SLWM at Nashik. He talked about the CDM project which is financed under assistance by GIZ and other two partners under PPP framework. Capital funds have been provided by the GIZ and Vilholi Waste Management System Pvt. Ltd. This is first of its kind model in India wherein the food waste from all the hotels and restaurants and the septage from CT and PT is co-processed to generate biogas and electricity. This model can be replicated in clusters of villages.

Mr. Ramdas Kokare, CO Karjat Municipal Council explained the zero-landfill initiative at Vengurla Municipal Council, which was replicated at Karjat and Matheran City Councils. He emphasized on the importance of segregation at source and further sorting into multiple categories, separate collection and linkages with the recyclers. He claimed 100% recycling and that the landfill has been converted into a public park. He said that besides awareness generation through direct communication and IEC it is also required to do the capacity building of the staff and consider the garbage as National Resource. The important aspect of implementation of zero landfill strategy is a collection and transport plan for ensuring that different categories of waste are collected on different allocated days. The Zero Landfill model is workable when waste treatment and processing hierarchy is maintained and simultaneously the legacy waste from landfill/dumping site is bio-mined and remediated.

Mrs. Ragini Jain, Founder and CEO Geetanjali Envirotech shared her experience of projects involving collection of dry waste and its recycling in Mumbai. She highlighted the importance of Material Recovery Facility (MRF) and

up-cycling for management of solid waste. She said everything has value and waste should be considered as a resource and this should be communicated to the waste generators as well as the stakeholders in the collection and processing so that the waste is utilized optimally and processed and disposed off in an environmentally friendly way. The waste should also be used for generation of value-added products.

Mr. Debartha Banerjee, Director Sampurna(e)arth shared his experience about different composting methods and suitable options available for the rural sector. He emphasized that the preferable method for the rural sector is aerobic composting which can be done in various kinds of available models. The custom designing as per the quantity and type of waste (organic) can be worked out after an assessment study.

Vermicomposting

It is the process of using earthworms and microorganisms to turn kitchen waste into black and nutrient rich humus, a soil conditioner. Vermicompost is richer in plant nutrients as compared to normal composting. The efficiency of process depends upon the selection of proper earthworm species and their optimal growth.

Commonly used earthworm species- *Eisenia fetida*, *Perionyx excavatus*, *Lampito mauritii*, *Eudrilus eugeniae*, *Lumbricus rubellus*, *Pheretima elongata*, etc.

The food waste, kitchen waste which does not consist of following is used for vermicomposting:

- Meat waste, Greasy and oily food, Dairy products

Other feedstock ingredients allowed:

- Vegetable market waste, Garden waste, Cow dung, Agricultural waste

It requires a month's time for maturation of vermicast before use in field, when pre composted material used time for preparation of vermicompost is reduced to 7- 8 weeks, otherwise the total time required is 10 weeks to finish the entire process..

Magic Pit

A Magic pit, also known as a soak away or leach pit, is a covered, porous-walled chamber that allows water to slowly soak into the ground. Pre-settled effluent from a collection is discharged to the underground chamber from which it infiltrates into the surrounding soil.

The magic pits are constructed to allow collection of waste water from the kitchen and bathrooms in a hygienic manner, thereby not letting it to flow down the roads and open public places.

Advantages of Magic Pit:

Drainage free villages. • Mosquito free villages. • Can be built and repaired with locally available materials. • Technique simple to apply for all users. • Small land area is required. • Low capital costs; low operating costs. • Recharging groundwater bodies.

Session on Project Planning, Management and Private Sector Participation

Moderator – Mr. Ajay Saxena, PPP Expert GoM and Advisor ERAF

Panelists – Mr. Ajay Saxena ERAF, Mr. Rahul Deshmukh GIS Expert ERAF

Mr. Ajay Saxena, PPP Expert GoM, Advisor ERAF spoke about the involvement of private sector in the project planning and management. He said that when a private party is involved then certain parameters like transparency and competitiveness in the entire process right from project development, bidding is essential. The planning should be scientifically done with prior risk assessment and interventions to reduce the risk. It is required to have a standardized format or template for the project development and DPR preparation, this would improve the quality and ensure incorporation of all the essential parameters which would help in the sustainability and accountability of the project proponent.

Mr. Rahul Deshmukh, GIS Expert, ERAF talked about application of GIS technology intervention in making a plan for SLWM in rural areas, its implementation and monitoring. The use of GIS technology along with drone survey helps in collection of accurate and high-quality data. This data base can be linked to GIS plans and using appropriate software SWM and drainage plans can be evolved keeping cost parameters in mind. This not only makes the entire process fast but also makes the entire process very economical and accurate. The GIS can be applied for site suitability analysis, making a transportation plan, developing sanitation and water supply infrastructure, pinpointing locations or parts in need of maintenance and repair. Replying to a query he estimated a cost of drone survey about Rs.1000/ha compared to the non-drone survey which is costing 1260/ha, breaking the perception barrier that technology which makes the process fast is not necessarily costly.

PANEL DISCUSSION

Session Chair – Mr. A. K. Jain, Former State Information Commissioner, GoM

Panelists –Mr. Shyamlal Goyal, Addl. Chief Secretary, WSSD; Dr. Abhay Mahajan, Dy. Secretary, WSSD & Project Director, Jalswarajya; Mr. Yusuf Kabir, WASH Specialist, UNICEF; Mr. Ajay Saxena, PPP Expert GoM, Adviser ERAF; Dr. S.V. Dahasahasra, Former Member Secretary, MJP, Water and GIS Expert, ERAF; Dr. Sneha Palnitkar, CEO, WMRC at AIILSG, Mumbai

Presentation on Best Practices

The Panel discussion began with short presentations on the best practices from Sangli, Malegaon and Satara districts.

Grey Water Management at Sangli:

Mr. Deepak Patil, Sanitation Expert SBM, talked about the grey water management which is done in an innovative way by his team at Sangli. The technique is known as SANG-LEAKER pit (type of Magic pit), the technology used is a combination of leach pit and soak pit which has an added inspection chamber (applied for Patent).

The pit is made with simple plastic drum and is cost effective, easy to construct, easy to handle, requires less maintenance, is unbreakable and noncorrosive which requires handling by semiskilled workers.

Rurban, Malegaon Zilla Parishad:

Mr. Vijay Gawali explained how they are working on the integrated cluster plan and have adopted the Integrated Wetland Technology Based Sewage Treatment plant. The technology has been provided by IIT Bombay and incubated by company – EMERGY Enviro Pvt. Ltd. The technology is very effective in reducing the COD/BOD and faecal coliforms.

Banwadi Gram Panchayat, Satara:

Mr. Ajay Raut, DWSM presented the best practices for management of their organic wastes through vermin-composting and recycling of their dry waste. They are using vermicomposting technology for organic-wet waste. The GP is generating good revenue by selling vermi – compost.

ISSUES, CHALLENGES AND RECOMMENDATIONS

The issues and challenges raised by the participants were addressed by the panel, suggestions and recommendations were given as follows:

1. With the last lap of SBM (G) in progress, it is required for most of the GPs to **prepare capital investment plans for Solid and Liquid Waste Management and achieve sustainability of ODF**. This may require guidance and handholding for preparation of project reports, procurement and implementation. Special attention is needed on Fecal Sludge Management and Grey and Black Water Management. It was suggested that one option was to evolve type plans or templates for representative type of villages, which could be validated and then can be customized through a consultative process at the local level.
2. **Availability of funds for capital works and maintenance, with at GP level-** It was discussed that the Government has provided capital grant based on population slabs subject maximum of Rs. 20 lakhs to each GP. This fund could be supplemented by CSR funds or other sources to some extent. However, no provision for Operation and Maintenance has been made. The guidelines in the Government resolution of 28th August 2013 mandate a ratio of 30:70 for investment on transportation and processing of waste. Therefore, right from the planning stage preference should be given to low cost options. Also, the provisioning for O&M will be essential for sustainability of the projects and the SBM. The grants of the 14th Finance Commission, and levying sanitation fee may be considered for this purpose. It was agreed that waste management is a revenue generating activity. Its cost has to be **Funds for procurement of transportation vehicles**-Guidance was provided on the point that the

transportation vehicles can be purchased through the financial assistance provided by central government for the purpose under various schemes. GP funds are not to be utilized for this.

3. **Capacity building for the preparation of Detailed Project Report** – It was suggested that organization like CSIR-NEERI could provide technical support to the executing agencies at State-level along with their knowledge partners. District level and block level technical support agencies could be trained at the regional and district levels for making village level sanitation plans, right from collecting baseline data, selection of technology, preparation of DPR including O&M plan, bidding process and development of infrastructure. Experts from the district level such as from engineering colleges, Universities could also be roped in for these services. Besides this, if the ZP can make a standardized template for the DPR then this would reduce the financial burden of the GP which are having limited funds. The templates can be prepared based on the geographical location and population density which can then be further refined, and custom designed by the GPs. This would ensure timely preparation and implementation of such plans. Templates available for village level planning could be used for community participation and supplement the framework provided through the above templates.
4. **Selection of Waste Processing Technology-** It is agreed that as far as possible, decentralized processing/treatment of waste is possible in villages. Only 20% of the GP's in Maharashtra are densely populated, otherwise they are highly scattered. In such cases the decentralized treatment is an economically viable option. For biodegradable Solid Waste, individual household composting should be preferred as decentralized method. Recyclable waste could be collected, and recyclers could be roped in to collect such waste in a cluster of villages. For Liquid Waste Management, low cost technologies like Vermi-filtration, Magic pit, Sangleaker pit could be considered. Shallow sewers could be considered in urbanizing, peri-urban and thickly populated villages.
5. **Fecal Sludge management-** the preference should be given to construction of twin pit toilets so that no desludging is required, minimizing the cost and this is also beneficial to the environment. However, the impact of twin pits on the ground water needs to be examined. In case there is single pit or defunct toilet, retrofitting can be done to convert it to functional twin pit toilet. The places where septic tanks are present, it is required to do regular and mechanized desludging through outsourcing.
6. **Community Toilets/Public Toilets** – the toilets should be having STP plant nearby for the treatment of black water and a low-cost desludging/treatment option as is showcased in the workshop by technology providers. There should be special provision for physically disabled, children and old persons with separate gender toilets. There should be provision for attendant room,

electricity supply, water supply and collection, transportation and disposal of solid waste. Considering high usage of CT/PT the cost norms for such toilets should be reviewed to ensure higher quality of construction material which will be longer lasting and would be self-cleansing, requiring less maintenance and less water.

7. **Standard Operating Procedures** – It was recommended to get a compendium prepared for best practices in rural setup as per the geographical attributes, availability of water, electricity and socio-economic parameters. The documents should list economically viable alternatives requiring less manpower handling and maintenance. The SOPs should be prepared and validated at the district and village levels.

Other recommendations to implement the mandate of SBM (G)

Gaps in Swachh Bharat Mission targets needs to be identified and appropriate measures must be incorporated in the present status.

1. Emphasis to be given to behavioral change communication strategy to ensure sustainable usage. The identification and analysis of reasons to not use toilets should be done and strategy should be made accordingly. Local examples should be quoted as role models and along with education and awareness generation emphasis should be laid down on the benefits, it can be related to health, safety, financial losses etc. The existing IEC material from the SBM (G) portal can be utilized or alternatively new IEC material can be developed based on the local needs.
2. Designing of toilets should be done keeping in mind the availability of water, the physical attributes of the family, the health status. Women should be consulted while designing and constructing the toilets, or alternatively involving the women mason helps in getting better designs incorporating the points which would ensure better usage (E.g. Height and health status of women would decide the level or height of the platform of toilet).
3. Ensuring availability of water-To ensure utilization of toilets and maintenance of hygiene status it is required to ensure adequate supply of water. Also, design should be made in such a way that it utilizes minimal amount of water. Twin pit toilets should be preferred and provision for utilization of grey water should be done.
4. Community toilets / Community Sanitary Complexes should be promoted as also highlighted in the 56th report (Lok Sabha) on SBM (G). It is recommended to construct the CSC's at designated places to cater to a large population. The

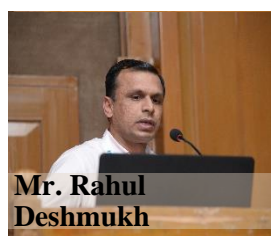
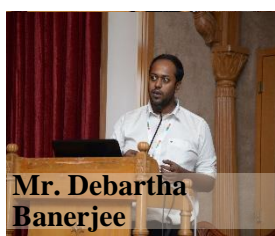
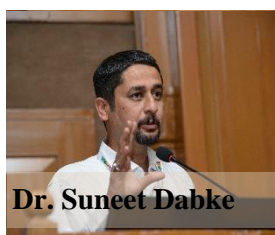
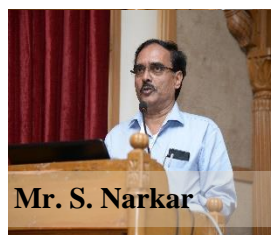
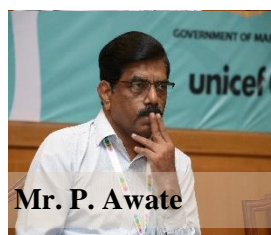
CSC's should have proper infrastructure and the maintenance should be taken over by the GP's.

5. There are no specific plans of optimal utilization of funds for SLWM by the GP's at many places and hence it is recommended to have a template document at GP level for representative villages which could be easily adopted at village level.
6. As there is no money earmarked for O & M, it is recommended to utilize the funds from 14th FCC for this.
7. There is a need to develop a legal framework for sanitation for the rural sector in terms of model by-laws for the GPs mandating responsibilities of GPs and residents in SLWM.

CONCLUSION

ERAF recommends that all the above points should be considered for policy level discussion and decisions in order to reach the objectives of sustainable sanitation. We are thankful once again to WSSD to have supported the above workshop and all our partners, experts, institutions who shared their knowledge and experience in the workshop.

PHOTOGRAPHS-SPEAKERS



PHOTOGRAPHS-SESSIONS



Registration



Inaugural Session



Inaugural Session



Session on Policies and Issues in SBM



Participation



Session on Technologies in SLWM



Session on Project Planning, Management & Private Sector Participation



Panel Discussion



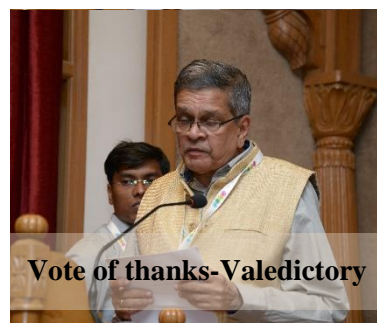
Moderator-Panel Discussion



Open Forum-Discussion



Valedictory Session



Vote of thanks-Valedictory

EXCERPTS FROM THE FIFTY SIXTH REPORT OF THE STANDING COMMITTEE ON RURAL DEVELOPMENT

(2018 – 2019)

The report was presented by the Chairman of the Committee Standing Committee on Rural Development (2018-19), Mr. Ponnusamy Venugopal on 30th Dec.'18 in the Lok Sabha. The report deals with the action taken on the 14 observations/recommendations of the 51st report on SBM (G) in the States/UTs which was presented in Lok Sabha in the month of July'18.

The following points were considered to be the major constraints in achieving the targets of SBM (G):

- Lack of availability of water
- Lack of availability of other construction materials
- Construction of Sewers with reference to the construction of IHHL if the twin pit options are not feasible
- Lack of sustainability of OSF status
- Lack of management of SLW
- State of defunct toilets and its data inadequacy

The committee had made following recommendations to the Union Ministry of Drinking Water and Sanitation:

- Emphasis should be given to the construction of more CSCs at designated places which would help in covering a larger population. Besides, if these are having proper infrastructure it would ensure larger outreach. It was also recommended to develop mechanism to incentivize the GPs so that proper maintenance of these CSCs is undertaken.
- Review and evaluate data regularly
- Prioritize the provision of availability of water
- Devise new and effective strategies for SLWM

The point B specifically recommending the construction and maintenance of CSCs as taken from the report

Community Sanitary Complexes (CSCs) [Recommendation Serial No. 2.6 (Para No.6)]

9. In the context of Community Sanitary Complexes (CSCs), the Committee had recommended as under:- As per the goal of the Swachh Bharat Mission (Gramin), the Government is committed to achieve the dream of 'Swachh Bharat' by October, 2019, which indeed is a noble and welfare vision for the health and well-being of the citizens of the Country. The Committee, delving deep, into the bottlenecks faced by the Ministry in the realization of the goal could find that among major challenges, the type and sizes of rural houses also threw constraints like (water availability, sewer feasibility issues etc.) in constructing individual household latrines. Therefore, the Committee are of the opinion that to ward off such challenges, MDWS should, instead, concentrate on the idea of construction of more Community Sanitary Complexes (CSCs) at designated places with proper infrastructure that could cater to large population. The information by the Ministry shows that the progress of construction of Community Sanitary Complexes (CSCs) is not very encouraging. The Ministry must examine the reasons for such a poor response to the Community Sanitary Complexes keeping in view the issues of maintenance and sustainability of such Complexes also. The Committee also found that wherever operational, these CSCs were being run by the Gram Panchayats. It was also felt by the Committee that modalities can be devised by the MDWS to provide due incentives to the Gram Panchayats for maintenance of CSCs so that non-sustenance of such complexes do not take place. In view of the above, the Committee strongly recommends the Ministry to construct more CSCs alongwith developing a mechanism of incentivizing the GPs for maintenance of such CSCs."

10. The Ministry in their action taken reply have stated as under :- Ordinarily Sanitary Complexes are to be constructed only when there is lack of space in the village for construction of household toilets, and only on the specific demand of the Gram Panchayats, after ensuring that adequate Operation and Maintenance arrangements are in place. Operation and maintenance of Community Sanitary Complexes is a challenge which is met through constant follow up with States, urging them to ensure proper O&M through Gram Panchayats. The ongoing behavior change campaign is also likely to lead to change in community-wide sanitation behaviours which generates a social mobilization for upkeep of sanitation infrastructure of the village as well."

11. Keeping in view the various bottlenecks like water availability, sewer feasibility issues etc. in constructing Individual Household Latrines (IHHL), the Committee felt that to ward off such challenges, Ministry should concentrate on the idea of more Community Sanitary Complexes at designated places with proper infrastructure that could cater to large population. Therefore, the Committee had strongly recommended the Ministry to construct more CSCs along with developing a mechanism of incentivizing the Gram Panchayats for maintenance of such CSCs. The Committee regret to note the casual manner in which the recommendation of the Committee is taken by the Ministry which is evident from the reply furnished by them which merely states that ordinarily Sanitary Complexes are to be constructed only when there is lack of space in the village for construction of household toilets, and only on the specific demand of the Gram Panchayats, after ensuring that adequate Operation and Maintenance arrangements are in place. The Committee are unhappy that the Ministry has failed to realize the gravity and intention of the recommendation which aims at having a pragmatic approach for solving a large scale problem by providing a viable alternative to the villages where providing/constructing Individual Household with water/latrines pose various challenges. It is also noteworthy to mention that the Ministry has remained silent on the issue of incentivizing the GPs for such CSCs. Therefore, the Committee strongly reiterate its earlier recommendation and urge the Ministry to look into the matter of construction of CSCs with a fresher approach and also devise some mechanism for incentivizing the GPs for maintenance of such CSCs. The Committee may also be apprised of the follow up action in this regard.

REFERENCES:

1. <http://www.indiaenvironmentportal.org.in/files/file/Shortened%20Swachch%20Bharat.pdf>
2. <https://www.downtoearth.org.in/news/waste/despite-toilets-in-place-a-quarter-of-rural-population-stuck-to-open-defecation-62770>
3. http://www.indiaenvironmentportal.org.in/files/file/Rural_Development.pdf
4. <http://www.indiaenvironmentportal.org.in/files/file/Swachh%20Bharat%20Mission%20-%20Gramin%20in%20StatesUTs.pdf>
5. <https://tspri.cgg.gov.in/downloads/Presentations/MAGIC-PITS-SOAK-PITS.pdf>
6. <https://mgnregasuccess.wordpress.com/2018/05/06/hygiene-with-magic-soak-pit/>

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 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 behavior science approaches to plug the gaps identified while implementing these projects.



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