



Report of Workshop on

**Status of Law, Policy & Practices
Solid Waste Management in Bengaluru**

Organized by
Bruhat Bengaluru Mahanagara Palike
in collaboration with
Environment Support Group
On
31 May 2017 at IPP Hall,
Bruhat Bengaluru Mahanagara Palike, Bengaluru

**Report by:
Apoorva Patil
Namrata Kabra
Harsh Vardhan Bhati
Environment Support Group**

INDEX

Topic	Page No.
1. Report	3-22
2. Annexure A (Compilation of Laws, Judgments, Policies, Strategies, Frameworks, Reports, International and National Best Practices, Education material, etc relating to Solid Waste Management)	23-30

This report has been written and compiled by Apoorva Patil, Namrata Kabra, and Harsh Vardhan Bhati of Environment Support Group, Bengaluru. We also thank Pushpalatha and K. R. Mallesh for adding inputs in many ways in the preparation of this report.



Figure 1 Mr. Sarfaraz Khan, Joint Commissioner (Health and SWM) BBMP addressing the participants

A workshop was organized by Bruhat Bengaluru Mahanagara Palike in collaboration with Environment Support Group, Bengaluru at IPP Hall, Bruhat Bengaluru Mahanagara Palike, Bengaluru on May 31, 2017. The focus of this workshop was to appreciate major developments that had taken place in laws, policies and practices relating to municipal solid waste management, in light of the directions of the Hon'ble High Court of Karnataka in WP 46523/2012 (Environment Support Group and anr. vs. Bruhat Bengaluru Mahanagara Palike and ors., c/w WP 24739/2012) and consequent comprehensive reform of the applicable laws, in particular the Municipal Solid Waste Management Rules, 2016. Participants in the workshop included senior officers of the BBMP from health, engineering and administrative sections, Health link workers of BBMP, various civil society organizations focused on solid waste management, unions representing Pourakarmikas, etc.



Figure 0: Mr. Sarfaraz Khan, Joint Commissioner (Health and SWM) BBMP, Mr. Leo F. Saldanha, Coordinator, Environment Support Group, Dr. Swetha Rao Dhananka (right to left)

Dr. Sandhya, Nodal Health Officer, BBMP welcomed the gathering. Mr. Sarfaraz Khan, Joint Commissioner (Health and SWM), BBMP, Dr. Swetha Rao Dhananka and Mr. Leo Saldanha, Coordinator of Environment Support Group were invited to light the lamp and commence the workshop processes. Mr. Sarfaraz Khan then made introductory comments and explained how the workshop was a step towards achieving a Clean and Healthy Bengaluru.



Figure 2 Mr. Sarfaraz Khan, Joint Commissioner (Health and SWM) BBMP, Dr. Swetha Rao Dhananka, Mr. Leo F. Saldanha, Coordinator, Environment Support Group, Dr. Sandhya, Nodal Health Officer, BBMP (right to left)

Identifying Core Issues and Concerns: An interactive process



Figure 3 Dr. Swetha Rao Dhananka

Dr. Swetha Rao Dhananka initiated the workshop with an interactive session to help identify core issues and concerns around solid waste management. Swetha had undertaken a mini-survey with participants as they streamed into the hall to gather their perceptions of their work and of how the public perceives their work. As the perceptions were projected onto the screen, it became evident that the gap between self-perceptions and public perceptions were indeed wide, and this is the challenge that needed to be addressed. Swetha also provided a generic scale of the problem by walking the participants through its various dimensions and then bringing home the point of the problem of a consumptive society. For which she asked each participant to multiply their body weights by three and said that is how much waste each one generates in a year. This number was factored to appreciate the volume of waste generated by 1 crore people of Bangalore annually. Where does this waste end up?



Figure 4 Dr. Swetha Rao Dhananka

Most of the responses were on observed lines: by the road, in the lake, on farm land, in the drains, etc. In addition, given the widespread practice of burning waste, much of it ends up in the air. Swetha highlighted that modern risk to the environment are not limited to time and place. According to figures released by the Population Based Cancer Registry, Bangalore is the “Cancer Capital” of India in 2013. It is plausible that in addition to the enormous burden of automobile exhausts, the city's air is also highly toxic with the widespread burning of garbage.

Despite all these challenges, the speaker highlighted how the city is also a pioneer in finding viable solutions to this complex problem. A good part of this solution is to ensure effective segregation of waste at source, so that almost all of the organic waste is composted and the recyclables can be recovered without contamination and unnecessary and multiple handling. Based on this approach, Swetha urged the participants to consider appreciating the directions of the Karnataka High Court, and also the new Municipal Solid Waste Management Rules 2016. All this could be achieved only with an appropriate acknowledgment of Pourakarmika’s rights, she concluded.



Figure 5 BBMP Official (Workshop participant)

Dr. Vishwanath, Joint Commissioner (South) BBMP, joined in this discussion and articulate how critical it is for senior officials of BBMP to work with a positive attitude with Pourakarmikas and the wide public to attend to the growing problem of waste management. He said the public is increasingly receptive to the positive proposals being made which now the BBMP senior staff must ensure implementation of, by engaging with Pourakarmikas in a collegial way. He said senior officers of BBMP were highly motivated and are increasingly working on this issue with a lot of sincerity, passion and affection for workers and the wide public.



Figure 0: Dr. Vishwanath, Joint Commissioner (South) BBMP and Mr. Ramakanth (Expert SWMRT)

Contextualising the SWM efforts in light of Karnataka High Court orders, evolving law, policies and practices

Leo F. Saldanha took the participants on a journey of how solid waste issues have been addressed right from 1970s to the present day. He contextualized the progress made in solid waste management efforts in response to various reports of committees, courts orders, evolving laws, policies and practices. He began by sharing excerpts from the “Report of the Committee headed by Sri I. P. D. Salappa on the Improvement of Living and Working Conditions of Sweepers and Scavengers (April 1976)”.

Pourakarmikas	State/Municipality/Local Bodies
<ul style="list-style-type: none"> Be classified as Skilled Workers. Eligible for promotions to higher posts. Retirement age 58. Ergonomic work tools to be supplied. Sweeping area to be limited (not more than 15000 sq. ft. in densely-populated area). Manholes cleaners to be compensated 30% of salary as additional allowance. (Must be provided leather-tunic covering the entire body and gas-masks) Punishable offence if they do not send their children to school upto the age of 14 years. 	<ul style="list-style-type: none"> One full day holiday/week. Provide free housing, or loans to build Pourakarmikas’ houses. Strict supervisory control to ensure all worker support systems are in order. Proper sanitary maintenance of Pourakarmikas’ colonies. Transparent salary disbursement. Changing, rest and tool rooms to be provided for all workers, at all work stations. Medical check-ups once in three months by Medical officers. Public Health Department officials visit the Pourakarmikas’ colonies regularly to educate them on physical and social hygiene. Provide old age homes for Pourakarmikas.

The recommendations made in the Salappa Committee Report could easily be seen as relevant for current times. Which means, even after four decades, none of the recommendations had been adequately implemented, thus leaving open the question, what, if anything, has been done to secure workers rights in the intervening decades? But, he said, that we need not be very pessimistic as there have been manor strides made in addressing the solid waste management in Bangalore and elsewhere. For instance, the Supreme Court in response to PILs filed by B L Wadhwa and Almitra Patel set up a Committee to Report on “Solid Waste Management in Class 1 Cities in India”, and the report, submitted in 1999, had played a major role in standard settings. The positives of the Committee Report were recapped as promoting:

- Segregation and storage of waste at source, community bins in every community, promoted door to door collection of wet waste, recyclable doorstep collection by rag pickers-NGOs, promoted better tools
- Decentralization of solid waste management.
- Ban on throwing of waste in the open (street, foot-paths, open spaces, open drains or water bodies).
- Transportation of waste much synchronize with the system of primary collection and bulk waste storage facilities.
- Caution against using unproven and expensive technologies such as waste incineration and waste to energy.
- Public awareness strategy through information, education and communication.
- Protect health of citizens, workers and cattle.

The Committee Report also had various regressive features, such as promoting unfettered privatization of waste management, particularly by way of promoting contract labour management, promoted landfilling and also argued for quick Clearances for waste disposal sites. The committee had taken cognisance of the fact that most workers were from the lowest of low castes, and yet, instead of arguing to secure their rights, had instead promoted the possibility that human rights violations caused against them by senior officials need not be taken cognisance of, such as by rights ensured under the Scheduled Castes and

Scheduled Tribes (Prevention of Atrocities) Act. Besides, this Committee had paid scant attention the rights of workers, both occupational as well as statutory, such as being provided regular holidays.



Figure 6 Mr. Leo F. Saldanha

Leo highlighted how this process resulted in the Municipal Solid Waste Management Rules 2000. While much progress should have been achieved, it was largely the neglect of engaging the wide public in municipal governance, as mandated under the Constitutional 74th Amendment (Nagarpalika) Act, 1992, that the gap now exists in handling waste locally. Such failures called for the intervention of various active citizens groups, and their collective and concerted actions and appeals for intervention were favourably considered by the Karnataka High Court which appreciated the importance of systemic changes required. The Court's directions issued in WP 46523/2012 c/w WP 24739/2012, between 2012 and 2017, has systematically promoted the following:

1. The importance of ensuring Ward Committees are functional in addressing civic problems, such as solid waste management
2. The approach of taking responsibility for waste one generates as a the beginning of finding solutions
3. The importance of handling waste locally and in its segregated forms
4. The crucial need to abandon comprehensively the prevailing situation of dumping waste in landfills littered in villages around Bangalore, thus destroying sensitive farm lands, grazing pastures and ecologically sensitive areas.



Figure 0: view of workshop participants

5. The approach of handling waste at source would provide major savings in transports costs, as waste would be handled locally and not be transported in trucks over tens of kilometres for disposal.
6. The idea waste management as a self-responsibility must be encouraged by incentives, and that the administration should not hesitate taking penal action when required.
7. The importance of public education, especially by intervening with environmental and public health education through forums such as cinemas, educational institutions, public offices, corporate organisations, etc.

Leo suggested that all these proposals were turned into directives by the High Court and as a result, Bangalore today had become a model for other metropolises to emulate. In fact, it is all these directives that have also become the new set of Municipal Solid Waste Management Rules, 2016. He highlighted how the Court has taken steps to remind citizens of their due roles.

a) Citizen's role mainly involved:

- Reminded citizen of their fundamental duties in maintaining environmental health and promoted segregation of waste at source, composting at source, recycling at source or in the ward, and landfilling only of inert materials.
- Effective Solid Waste Management systems are necessary to ensure protection of environment and human health.
- Inefficient solid waste management has a direct bearing on the standard of living of the citizens and public health as well as our environment.
- The best way of managing waste is not to create waste in the first place. Article 51A (g) of the Constitution imposes a duty on every citizen to uphold preservation of natural environment.

b) Bruhat Bengaluru Mahanagara Palike's role mainly involved:

- ! Promoted city-wide waste processing sites and discourage landfills specially in the rural areas.

- ! High court directed Municipality to ensure strict compliance of penal provision of Karnataka Municipal Corporation Act 1976 and Solid Waste Management Rules.
- ! Promoted transparency and accountability in vendor empanelment regarding processing of wet waste, Construction & Demolition waste, and sanitary waste and Animal waste.
- ! Promoted bulk generators to segregate waste at source, compost/bio-methanisation, organic waste, ensure proper recycling of waste on site.
- ! Directed BBMP to take steps to inform all the authorities to earmark a suitable Civic Amenity site in all the layouts to be sanctioned for setting up of solid waste processing centers.
- ! All details relating to solid waste management and its supervision to be made available online on BBMP website (various circulars and public notification of BBMP on SWM)

c) *Governance role* mainly involved:

- ! Landfills are only a temporary option and that the long-term measures have to be initiated by all the concerned Authorities as a permanent solution for handling garbage locally, and not consider that for disposal in remote locations with various unintended consequences.
- ! Dumping of garbage on the outskirts of Bangalore is not a solution to a clean Bangalore. In fact, garbage is generated is not waste in the real sense. If it is properly processed, it can be converted into manure, material and bio-energy.
- ! Promoted segregation and wet waste processing stations in each of the 198 wards in Bangalore.
- ! Push for implementation of Plastic Waste Management Rules, and various other laws relating to electronic and hazardous wastes.
- ! Promoted the role of Shuchimithra and active engagement of Resident Welfare Association (RWA).
- ! Initiated various programmes for educating and creating awareness among the citizens. Master Trainers have been trained on various aspects of solid waste management.
- ! In 1991, in *M. C. Mehta v. Union of India* (dated 22/11/1991), the Supreme Court of India decided that
“we do not want to project an impression that we are authorities on the subject, but we would suggest to the programme controlling authorities of the Doordarshan and the All India Radio to take proper steps to make interesting programmes and broadcast the same on the radio and exhibit the same on the television”.

Therefore, Karnataka High Court ordered Deputy Commissioner, Bengaluru Urban District to display a video clipping at theaters, to bring awareness among the public.

- ! Rehabilitation of lakes, prevention of dumping of solid waste and sewage, such as in Subramanyapura Lake.
- ! Promoted citizens/NGOs/worker’s cooperative engagement in collection and processing of waste.

Towards the end, Leo emphasized on five key points as a way forward:

- a) Comply with rules and regulations of solid waste management.
- b) Set an example at work and home by segregating waste at source.
- c) Engage in prevention of health risks for the Pourakarmikas.
- d) Pourakarmikas are skilled workers and must be treated professionally and as professionals.

This session was wrapped up by showing an ESG and Grass Root Films production “*Nagara Nyrmalya*”, directed by Shri G. S. Bhaskar, which is a beautiful and entertaining short film on the importance of waste segregation at source. Interestingly, though this film was made in 2000, it was found to be highly relevant to present times. And surprisingly, many of the BBMP officials admitted to not having seen this film before. They were extremely impressed with this film and observed:

- I. The film documented very well the plight of Pourakarmikas.

- II. Appreciated the very thought or vision of making such wonderful film 16 years ago.
- III. Suggested that such films should be shown in theatres or movie halls, schools or any IEC process.

Addressing Human Resources Challenges in resolving SWM situation –



Figure 7 Advocate Clifton D' Rozario

Advocate Clifton D' Rozario headed this panel session, which included Rangamma, a Contract Pourakarmika and Nirmala, General Secretary of BBMP Guttige Pourakarmikara Sangha. Clifton led Rangamma to speak, who in a heart melting speech, reported on the plight of Pourakarmika's especially those who are employed by the contractors and are not permanent employees. Rangamma said she had been working as a street sweeper for 17 years, and yet none of her human rights had been respected. And this, she said, is the condition of all workers who are employed by private contractors. She was clear that their condition would only improve if they were to be confirmed as permanent employees of BBMP, and all their Constitutional Rights and dignity was secured. So moving was her impassioned plea to understand the workers difficulties, that many in the audience were moved to tears. The key issues Rangamma highlighted were:

- a. Language used by the society and contractors against Pourakarmikas is extraordinarily disrespectful. 'Aren't we humans as well', she questioned.
- b. No medical facilities were extended to the workers, even if they had been provided ESI Cards.
- c. No disciplinary committee had to been set up to address grievances, especially sexual harassment at workplace.
- d. Changing rooms and restrooms are not provided, even though over 85% of the Pourakarmikas are women.



Figure 8 BBMP Officials (workshop participants)

- e. Lot of the female workers are facing health issues due to the poor design of the work tools and carts, and pulling and pushing of pushcarts filled with garbage has had serious repercussions on their health, particularly those of pregnant women and the elderly.
- f. No safeguards and protective gears are provided. And if they are, it is mainly as a ritual, to show senior officials and ministers when out on the visit.
- g. The workers have no voice, and no one from the authorities hear about their plight. It is only because they have now been organised as unions that some amount of listening is taking place, and there have been some improvements in securing regular and somewhat fairer wages than before.
- h. In general, once a Pourakarmika, one remains that for life and also across generations. There is no way out. And this impacts family lives quite extensively. Most Pourakarmikas don't make it into their sixties.

Clifton then addressed the legal aspects and the provisions of law which already exist, but are not enforced in addressing the plight of the Pourakarmikas. He highlighted how provisions of the Contract Labour Management Act, Sexual Harassment Act, Minimum Wages Act, etc are largely not complied with. Clifton reiterated that as per the Contract Labour Act, BBMP is the principal employer of the Pourakarmikas and it has all the duties and responsibilities with regard to the grievances of the Pourakarmikas. Particular provisions of the Contract Labour Act were brought to focus, in particular Sec 10 which argues against regular obligatory functions of the civic body being undertaken through contract labourers. Sec 21 speaks for the responsibility of the principal employer, which in the case of Pourakarmikas is BBMP, and it cannot at any stage exempt itself from responsibility of payment of wages claiming private contractors have not passed on the wages to workers. Such laws are meant to be complied with strictly, Clifton argued, and stated that the Pourakarmikas are essentially our 'Health Doctors', and we must extend all the respect they deserve, and yet we are treating them as though they are slaves.



Figure 0: Mr. Clifton **D' Rozario**, Mrs. Rangamma and Mrs. Nirmala (right to left)

In an ad-hoc response to this panel, Dr. Sandhya impromptu delivered a highly motivating response in which she beseeched BBMP officials to take responsibility of their employees. Dr.Sandhya added that if we take care of Pourakarmikas they will take care of us and it is because of their labouring that we have cleaner surroundings to live in. She urged for collective action to put an end to discriminatory and inhumane practices prevailing today.

Progressive ways to address SWM challenges -



Figure 9 Ms. Nalini Shekar of Hasirudala and Ms. Pinky Chandran of SWMRT



Post Lunch, Ms. Nalini Shekar of Hasirudala and Ms. Pinky Chandran of Solid Waste Management Round Table made a presentation on the Right of Waste Pickers and efforts to organise them. They highlighted the key steps that needed to be taken to transition the prevailing situation to a Clean Bangalore status:

- a. Segregation at source.
- b. Composting.
- c. Decentralisation of waste management.
- d. Collection & Transportation - Microplan. Separate wastes into wet, dry and sanitary.
- e. Inclusion of Waste pickers & other informals.
- f. Bulk generators & Vendors empanelment.
- g. Citizen Participation: Suchi Mitra.
- h. Master Trainers.
- i. Ward committees.
- j. Special Emphasis - Plastic Ban.
- k. Festival Waste Management.
- l. IEC- Trashonomics.
- m. Composting Santhe.
- n. 2 bin 1 Bag.
- o. Clean Bengaluru.

Summarisation and follow up:

The final session of the Workshop involved a panel discussion in which participants from various designations and the members of the panel were the participants of the Workshop.

Panel discussion:

Moderator- Dr. Swetha Rao Dhanaka

Panelists – Hemalatha, Chief Engineer

Ramakanth - Expert SWMRT

Vishnu – BBMP Official

Shobha Bhat & Shobha - Link Workers

Deepa – Engineer and Master Trainer

Points to discuss -

- BBMP internal process
- Coordination with other departments and agencies
- How to promote citizens' participation and cooperation



Figure 10 Sandya Narayan, SWMRT

Smt. Hemalata, Chief Engineer spoke how to streamline MSW, importance of MSW Rules in guiding us in managing waste and yet despite following all these norms, sometimes field results are not positive. The speaker spoke on how they have planned to proceed further, which included strengthening SWM team, creating a SWM Cell to close networking gaps and to improve ease of contact with teams across different divisions and wards. She also spoke of the importance of learning's from past experiences, and of the acute need for involving citizen in all aspects. She highlighted the efficiency improvements with the help of Suchi Mitras, and when every ward has been divided into two blocks to handle wet and dry separately. In effect, Micro plans need to be developed for each ward at the ward and sub-ward levels if the overall solid waste management effort of the city was to be secured sustainably. This involved provision and access to all information on BBMP website, spreading of awareness to public at large, involving and strengthening link workers and waste pickers, and improving drastically the working conditions of Pourakarmikas.

Mr. Vishnu said that we need to have a transparent and accountable approach in fixing existing gaps and weaknesses of the SWM system. He shared how it is common to notice that the Pourakarmikas are already at work early morning, but the contractors would not have turned up. Such lack of accountability induces systemic inefficiencies that add up to cause an overall mess, and this can be avoided with appropriate oversight, including by the public. He stressed the importance of taking leadership and managing the system by BBMP officials, of the need to engage local communities and associations in the effort, and to ensure documentation is accurate and accessible.



Figure 0: Panel discussion

Shobha Bhat & Shobha, Link Workers –

Link workers from SWM team work with Schools and help improve community awareness on public health and environmental issues. They shared that link workers were being trained to reach out to the public and bring them up to speed on how to respond to the situation. It has been a frustrating process though, as complaints flow back plenty, and they aren't easily remedied as the systems are not yet in place. They expressed the critical importance of BBMP officials not pointing fingers at each other, but of working to develop a collaborative spirit to handle the SWM challenges in every neighbourhood.



Figure 11 Mr. Leo F. Saldanha, Coordinator, Environment Support Group and Mr. Vinay Sreenivasa, Alternative Law Forum.

Deepa, Engineer and Master Trainer spoke of how low staff strength, low recruitment has imposed high work burdens on existing workforce. This affected overall efficiency. Many bright ideas to bring in public involvement, such as BBMP Compost Santhes that are highly successful, were handicapped by such systemic inefficiencies. She called for Corporators to be more supportive in such processes. She also stressed the importance of an improved grievance redressal mechanism, the need for strengthening master trainers zone wise and also of preparing Master trainers at Ward Committees.

Ramakanth, Expert on the BBMP Expert Committee on SWM and also representing Solid Waste Management Round Table, categorically stated that there had been no support for incineration based Waste to Energy projects in Bangalore. He urged BBMP to not yield to pressures and allow for such failed technologies, as they would comprehensively derail all good efforts that had been invested in thus far. He highlighted the plight of Pourakarmika and said there is an immediate need for providing changing rooms and rest rooms for Pourakarmikas. The workers must be satisfied in order to achieve the goal of SWM in Bengaluru. SWM cell must be comprehensively strengthened.

Mr. Manjunath Prasad, IAS, Commissioner Bengaluru, graced this session and thanked the officials, NGOs, workers and all present for making the workshop a success. He highlighted that:

- ! As on 30 May '17, 61 ward committees has been formed.
- ! RWA's and other organisations must work in collaboration with the Corporators, if the city was to be made healthy and clean.
- ! He categorically stated that without active citizens participation, Bangalore's cleanliness cannot be ensured.
- ! There are lot of vested interests on the ground which cause hurdles in SWM. In spite of all of these results should be shown.



Figure 12 Mr. Manjunath Prasad, IAS, Commissioner Bengaluru and Mr. Sarfaraz Khan, Joint Commissioner (Health and SWM) BBMP

- ! To ensure transparency, he said BBMP had decided to share all its SWM expenditures in the public domain by placing them on the BBMP website *suo moto*.
- ! He shared there was a lot of resistance to the sharing *suo moto* of Pourakarmika information on the BBMP website, and yet it was done to ensure transparency and accountability.
- ! Transport and contractor's information would also be shared in the public domain.
- ! BBMP is keen to welcome grass roots participation of NGO & other forms of citizen participation.
- ! The plan is to achieve 100% segregation of waste at source. For which, the effort is underway to set up dry waste collection centres.
- ! There were active efforts to ensure the improvement in work conditions of Pourakarmikas, and to provide them with all safety and appropriate work gear.
- ! He invited suggestions and recommendations all the time.

- ! He did admit that there was a lot of resistance to appointment of Clean-up Marshals, despite directions from the Karnataka High Court. Mr. Prasad said that the overall effort is to empower any citizen to become a clean-up marshal and help penalise polluters.



Figure 13 Mr. Manjunath Prasad, IAS, Commissioner Bengaluru, Mr. Sarfaraz Khan, Joint Commissioner (Health and SWM) BBMP, and Mr. Leo F. Saldanha, Coordinator, Environment Support Group (right to left)

Outcomes of workshop –

Dr.Swetha and Mr.Leo summed up the workshop by revisiting the key issues

- Empower Pourakarmika's, provide all facilities and ensure they are treated as professional workers with all dues paid regularly.
- More incentives for officials and active recognition of best practices.
- More media campaigns to ensure public do get the message frequently and repeatedly
- Include student, civil society and artists in public education efforts
- Engage in documentation of BBMPs work and ensure it is reported so that the negative stereotyping is a thing of the past.
- Include module on SWM in education at very young age
- Debate on incremental change and substantial change
- Ensure penal provisions, such as fines, are imposed to bring the public to conform with MSW Rules, 2016.

Mr. Sarfaraz Khan concluded the day's workshop by assuring that BBMP would immediately take many reforms, particularly keeping Pourakarmika interests in mind. He also endorsed the importance of a special effort to develop appropriate equipment for collection, handling, transport, storage and treatment of waste.

Referring to the comprehensive Reader that ESG developed for the Workshop, Mr. Khan said this needs to be turned into an Handbook so that the knowledge is transmitted easily. He said that BBMP would

immediately take steps for a massive media campaign and education intervention on SWM across Bangalore and thanking ESG for organising the workshop, requested that similar workshops are held in every zone.

Mr. K.R Mallesh proposed a Vote of Thanks.

ANNEXURE- A

Compilation of Laws, Judgments, Policies, Strategies, Frameworks, Reports, International and National Best Practices, Education material, etc relating to Solid Waste Management

Compiled by: **Environment Support Group, Bengaluru (www.esgindia.org)**

For: Training Workshops on Solid Waste Management organized by Bruhat Bengaluru Mahanagara Palike (BBMP) and Environment Support Group (ESG)

Sl.No	Name	Contents	Pages
1	Statutes, Rules & Notifications	The Environment Protection Act (EPA), 1986	15
		Environment Protection Rules, 1986	11
		Environment Protection (Second Amendment) Rules, 1998	13
		Environment Protection (First Amendment) Rules, 2006	07
		Environment Protection (Amendment) Rules, 2012	04
		Environment Protection (Third Amendment) Rules, 2014	02
		Environment Protection (Fifth Amendment) Rules, 2014	07
		Environment Protection (Fifth Amendment) Rules, 2016	05
	Waste Management Rules	Bio-medical Waste Rules (1988, 2016)	12, 63
		Construction and Demolition Rules (2016)	15
		E-waste Rules (2011, 2016)	23, 42
		Hazardous Waste Rules (2008, 2016)	67, 68
		Plastic Rules (2011, 2016)	13, 31
		Solid Waste Management Rules (2000, 2016)	25, 91
		Batteries Management And Handling Waste Rules (2001, 2010)	07, 03
	Other EPA Rules	Chemical Accidents Rules (1996, 2015)	61, 03
		Coastal Regulation Zone Rules (1991 & 2003)	14
		Coastal Regulation Zone Rules, 2011	28
		Manufacture of Hazardous Chemical Rules, 1989	58
		Genetically Engineered Cells Rules, 1999	22
		Ozone Rules (2000, 2014)	64, 16
		Plastic Manufacture, Sale, Usage Rules (1999 & 2003)	07
		Wetland Conservation Rules, 2010	08
	EPA Notifications	Environment Impact Assessment (14 Notifications)	758
		The Air Prevention and Control of Pollution Act (1981 & 1987)	14
	Air Rules	Air Prevention and Control of Pollution Rules, 1982	21
		Air Prevention and Control of Pollution Rules, 1983	24

		Air Notifications	10 Notifications	15
		Water Acts	The Water Prevention and Control of Pollution Act, 1974	31
			The Water Prevention and Control of Pollution Cess Act, 1977	11
		Water Rules	Water Prevention and Control of Pollution Rules, 1975	38
			Central Board for Prevention and Control of Water Pollution Rules (1975 & 1976)	03
			Water Prevention and Control of Pollution Cess Rules, 1978	12
			Water Prevention and Control of Pollution Rules, 2011	04
		Water Notifications	15 Notifications	23
			The Karnataka Municipal Corporation (KMC) Act, 1976	396
			The KMC Ward Committee Rules, 2016	04
			The Karnataka Ground Water Act, 2011	19
			The Karnataka Lake Conservation And Development Act, 2014	11
			The National Commission for Safai Karmacharis Act, 1993	04
			The Karnataka Safai Karmachari Act, 2012	07
			The Prohibition of Manual Scavengers Act, 2013	15
			The Contract Labor Regulation Act, 1970	16
			The Street Vendors Act, 2014	14
			The Minimum Wages Act, 1948	23
			The Indian Penal Code 1860	227
			The Criminal Procedure Code 1973	387
2	High Court Orders in WP No. 46523/2012 c/w WP No 24739/2012		Karnataka High Court Orders in Solid Waste Management Case	122
3	BBMP SWM Department	Public Notifications	Handling of Bulk Generators Waste (2012)	02
			Delivery & Collection of MSW within BBMP Area (2012)	03
			Indian Household Waste- Categories & their Management (2012)	02
			Guidelines for Bufferzones around Landfill Sites (2014)	04
			Guidelines for Construction and Demolition Waste in ULB (2014)	03
			Guidelines for Management of MSW in Big Campuses/Education Institutions (2014)	03
			Dry Waste Collection Centres (2015, English)	01
			Dry Waste Collection Centres (2015, Kannada)	01
			Disposal of Construction and Demolition (Undated, Kannada)	01
			Disposal of Construction and Demolition (2016, Kannada)	02
			Empanelment of Service Providers for Bulk Waste Management (2016)	01
			Govt Notifies New SWM Rules (2016)	04
			Removal of Encroachments (2016, Kannada)	02
			Waste Segregation at Source (2016, Kannada)	02
		Circulars	Ban on Plastics Below 40 microns (2011, Kannada)	02
			Action to be taken for proper SWM in the city (2015, Kannada)	03
			Effective usage of Walkie-Talkie (2015, Kannada)	01
			Eradication of Black Spots (2015, Kannada)	02
			Waste Segregation at source (2015, Kannada)	02

			Ban on Plastics & Penalty Imposed on Defaulters. (2016)	04
			Conversion of Dry Leaves Generated in BBMP Parks to Compost (2016, Kannada)	03
			Display of BBMP Officers Details in Public Domain (2016, Kannada)	04
			Effective Operation & Maintenance of MSW Plants (2016)	04
			Handling of Domestic Hazardous Waste (2016, Kannada)	02
			Insurance of MSW Plants (2016)	02
			Intensive Cleaning Program in Low Lying Area (2016, Kannada)	03
			Involvement of Education Institutions Under Swachh Bharat Mission (2016, Kannada)	05
			Involvement of Health Officers Staff in SWM (2016, Kannada)	05
			Involvement of Suchi Mitras in SWM Transportation (2016, Kannada)	03
			Odour Control & Disposal of RDF (2016)	02
			Press Note on Compulsory Waste Segregation at Source (2016, Kannada)	02
			Submission of Details Regarding Intensive Cleaning Campaign Identified Places (2016, Kannada)	02
			Transportation of MSW to Designated Places (2016, Kannada)	01
4	KMC SWM Department	SWM Circulars	Technical Sanction (2009, Kannada)	2
			Empowered Committee (2010, Kannada)	4
			Revised State Level Plastic Advisory Committee (2011, Kannada)	4
			Revised SWM Technical Committee (2012, Kannada)	4
			Plastic Ban (2016, Kannada)	5
			SBM Enhancement (2017, Kannada)	3
		SWM Reports	SWM Action Plan (2014, Kannada)	24
5	Reports	I.P.D Salappa Committee Report on the Improvement of Living & Working Conditions of Sweepers & Scavengers (1976)		175
		Bangalore's Toxic Legacy- Investigating Mavallipura's Illegal Landfills Report by Sruthi S, Bhargavi S Rao & Mallesh K. R. (2010)		48
		ESG Field Visit Report on State of Pourakarmikas in Bengaluru by Mallesh K.R, Pushpa, Harshvardhan B, Apoorva.V.P, Namrata & Sushant. (2017)		17
		CPCB MSW Annual Report (2014-15)		70
		CPCB Report on Status of SWM in Southern States (Undated)		63
		Supreme Court Report on SWM in Class I Cities in India (1999)		204
		BBMP Expert Committee on Central Public Health & Environmental Engineering Organization SWM Manual (2000)		663
		BBMP Expert Committee on Municipal Waste Management- A Future With No Landfills (2013)		42
		CAG Performance Report on SWM (2014)		205
		GAIA Report – Waste Incineration : A Dying Technology (2003)		107
6	Strategy for SWM in Bengaluru	BBMP Strategy for A Clean Bengaluru (2015)		20
		ESG Strategy- To Make Bengaluru A Waste less City (2012)		10
7	Waste management Guidelines	Swachh Bharat Mission guidelines (2014)		53
		BBMP Guidelines on SWM (2015)	Guidelines for Construction & Demolition Waste (2016)	17
			Protocol for Declaration of Cities as Open Defecation Free (2016)	03

		Kerala Suchitwa Mission Technical Hand Book for Waste Management				210		
8	Court Cases	ESG Lake Cases		Judgment in W.P. 817/08		64		
				Judgment in W.P. 1841/06		15		
				G.O. in CCC Nos. 1336 & 1401 of 2013		03		
				G.O.s in 1336/13		08		
		Justice N.K. Patil Report on Lakes in Karnataka		ESG Submission in W.P. 817/08		45		
				Report Submitted by Committee in W.P. 817/08		26		
				Justice Patil Report & Annexures – “Preservation of Lakes in the City of Bangalore” (2011)		37		
		Forward Foundation NGT & SC Case		Judgment in O.A. 222/14 (2015)		108		
				Judgment in O.A. 222/14 (2016)		74		
				SC Order in C.A. 5016/16 (2016)		05		
NGT Suo Moto Bellandur Lake Case		Order in O.A. 217/17 and 125/17 (2017)		13				
		Order in O.A. 217/17 and 125/17 (2017)		04				
		Supreme Court Sukhdev Vihar Case		Petitions, Order and Annexures in W.P. 9909/2009 (2010)		80		
9	Case Studies	BBMP Case Studies		Dry Leaf & Garden Waste Composting (Undated, English)		02		
				Dry Leaf & Garden Waste Composting (Undated, Kannada)		02		
		International Case Studies		Europe	European Commission Success Stories on Composting & Separate Collection (2000)	70		
					Recycling in Rome using Recycling Banks (Undated)	02		
				Vietnam	Vietnam Factories to Turn Waste into Art (2016)	04		
				WESSA	My Carbon Foot Print (2016)	29		
					Stepping up to the Sustainable Development Goals (2016)	44		
				WEIGO	From Informal to Providers, Brazil (2016)	12		
				SACODI Project	Gudelines for Hazardous Waste Part I (2006)	239		
					Gudelines for Hazardous Waste Part II (2006)	162		
		Thanal Case Study		Zero Waste Kovalam		26		
		ESG Case Study		How Can We Learn From Other Cities Across The World (ppt)		18		
		10	Short Films on SWM	ESG Films	Nagar Nymalya (Kannada with English Subtitles)	Directed by G.S.Bhaskar	Grass Root Productions	12 min 43 sec
					Ramesh Arvind message on SWM (Kannada+ English)	Directed by G.S.Bhaskar	Grass Root Productions	1 min 07 sec
Namooru Chandadooru (Kannada with English Subtitles)	Directed by B.Jayashree & G.S.Bhaskar					17 min 37 sec		

			English Subtitles)			
		National Films	Plastic Cow (English)	Directed by Kunal Vohra	Winsome Constance Kindness Trust, Karuna Society for Animals & Nature and Altair Films Production	33 min 53 sec
			Nisarga Runa (English)	Directed by Shrikant Agawane	Stree Mukti Sanghtana	10 min 49 sec
			Tamil Nadu(TN): Semi Underground Bins (Hindi)		TN Municipal Administration & Water Supply	1 min 30 sec
			Asia's Cleanest Village (Hindi)		OMG! Yeh Mera India	4 min 01 sec
			Home Composting (Instrumental)	Directed by Shibu Nair	Thanal Production	3 min 35 sec
			Kakoos	Directed by Divya		1 hr
		International Films	Japan (English)	Waste Collection in Japan		1 min 08 sec
				Japan Waste Management & Recycling Technology	Created by Japan Environment Sanitation Centre	14 in 14 sec
				How This Town Produces No Trash	Directed by Irene Carolina, Herrera. Seeker Stories	5 min 05 sec
			New Zealand (NZ) (English)	NZ Waste Management Overview	Created by NZ Waste Management Department	4 min 48 sec
				Waste Management NZ	Created by NZ Waste Management Department	2 min 25 sec
			Columbia (English Subtitles)	The Waste Pickers of Bogota	Directed by Sara C, Andres M, Yanni Z. Minca Films Production.	12 min 10 sec
			Story of Stuff (English)	Story of Stuff	Directed by Louis Fox. Free Range Studios	21 min 19 sec
				Story of Electronics	Directed by Louis Fox. Free Range Studios	7 min 46 sec
				Story of Solutions	Directed by Louis Fox. Free	9 min 07 sec

			Range Studios
11	Songs	Garbage Gumma Songs on Solid Waste Management (Kannada) by Golhalli Shivprasad Produced by Grass Roots Production and ESG	35 min 41 sec
		Edited Version of Garbage Gumma Songs on Solid Waste Management (Kannada) by Golhalli Shivprasad Produced by Grass Roots Production and ESG	30 min 48 sec
12	Posters/Comic Books	Swachh Bharat Sanitation Posters	16 posters
		BBMP SWM Posters	6 posters
		SWMRT Awareness Posters	6 posters
		ESG SWM Posters	8 posters
		Thanal Posters on Pot Composting	16