District Environment Plan

Prepared By

Environment Department, Government of Maharashtra

Maharashtra Pollution Control Board

Beed

1.0 Preamble

Hon'ble National Green Tribunal vide order dated 26/09/2019 in O.A. No. 360 of 2018 filed by Shree Nath Sharma Vs Union of India and Others directed that CPCB shall facilitate the District Magistrates in preparation of District Environmental Plan by placing Model plan on its website. This model plan may be adopted as per local requirements by all Districts under supervision of District Magistrate.

The said Order also directs that Department of Environment in respective States / UTs should collect district plans to prepare State Environment Plan, which shall be monitored by respective Chief Secretaries of State/UT by 15/12/2019.

Based on State Environmental plans, CPCB and Ministry of Environment, Forest & Climate Change shall prepare National Environmental Plan, under the supervision of Secretary, MoEF&CC and Chairman, CPCB by 31/01/2020. The National Action Plan needs to be submitted before Hon'ble NGT 15/02/2020.

In compliance to above directions, CPCB has prepared a model District Environment Plan (DEP) that covers following thematic areas;

In compliance to above directions and as per the model DEP prepared by CPCB, Environment Action plan for Beed District is prepared.

2.0 Introduction

Beed district is an administrative district in the state of Maharashtra in India. The district headquarters are located at Beed. The district occupies an area of 10,693 km² and has a population of 2,585,049 as of 2011 census. Figure 1.0 gives a picture of Beed district in State of Maharashtra. Beed district is located in the central part of Maharashtra in Aurangabad division and forms a part of Marathawada region. The district lies between 18^{o} 27' and 19^{o} 27' North Latitudes and 74^{o} 49' and 76^{o} 44' East Longitudes.

The Godavari River forms the boundary of the district throughout the northern border. In 2011 census, the district has 11 tehsils, 9 towns and 1368 villages (including 11 uninhabited villages

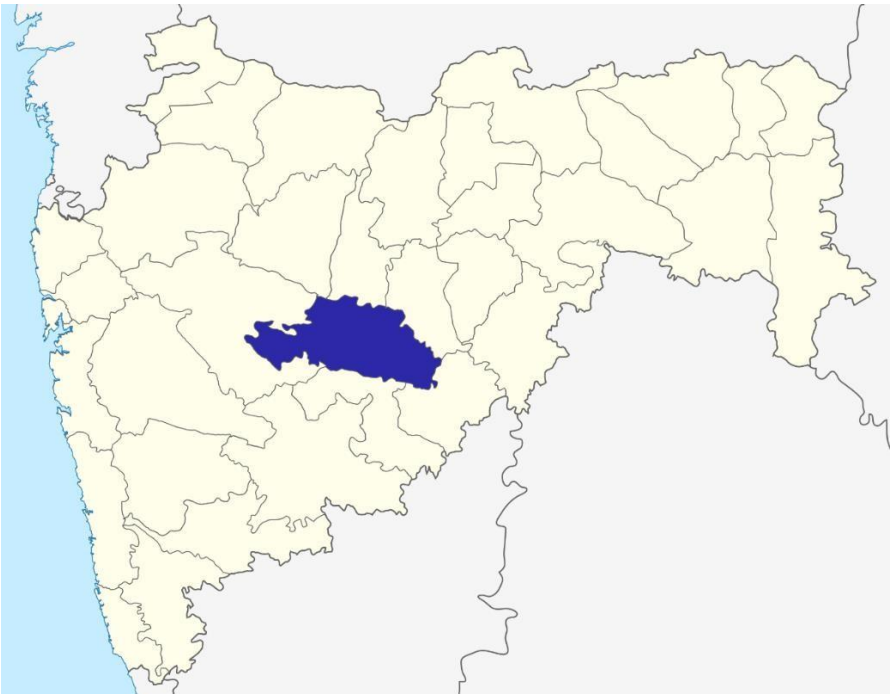

Figure 1.0 Location of Beed District in Maharashtra state

3.0 Waste Management Plan

Nearly all incidents generate waste, debris and materials. While the amount of waste varies between incidents, the generated waste is often greater than the amount of waste many communities handle each year. With the increasing population, management of Solid Waste in the country has emerged as a severe problem not only because of the environmental and aesthetic concerns but also because of the sheer quantities generated every day. It encompasses the legal and regulatory framework that relates to waste management encircling guidance on recycling.

Solid waste management is among the basic essential services provided by municipal authorities in the country to keep cities clean. In Beed district primary sources of solid waste are local households, commercial establishments, hospitals, hotels, restaurants, and markets. Local Bodies are responsible for collection, storage, segregation, transportation and disposal of all solid waste generated in the city. There are 11 Urban Local Bodies [ULB's] in Beed district. Table 1 represents the list of ULB's along with population. Following section gives insight about waste management of Beed district.

Table 1 Beed District Profile

ULB1	Beed Municipal Council	203240
ULB2	Parli Vaijanath Municipal Council	90975
ULB3	Ambagogi Municipal Council	82513
ULB4	Majalgaon Municipal Council	49453
ULB5	Georai	33562
ULB6	Dharur	20417
ULB7	Kaij	30704
ULB8	Asthi	11972
ULB9	Patdoa	16569
ULB10	Wadvani	12848
ULB11	Shirur Kasar	5806

3.1 Quantification of Solid waste

Beed District comprises of 11 Urban Local Bodies [ULB] namely Beed Municipal Council, Parli Vaijanath Municipal Council, Ambagogi Municipal Council, Majalgaon Municipal Council, Georai, Dharur, Kaij, Patdoa, Wadvani, Shirur Kasar and Asthi. Beed Municipal Council comprise of higher population [i.e. 2,03,240] while Shirur Kasar depicts lower population of the district [i.e. 5,806].

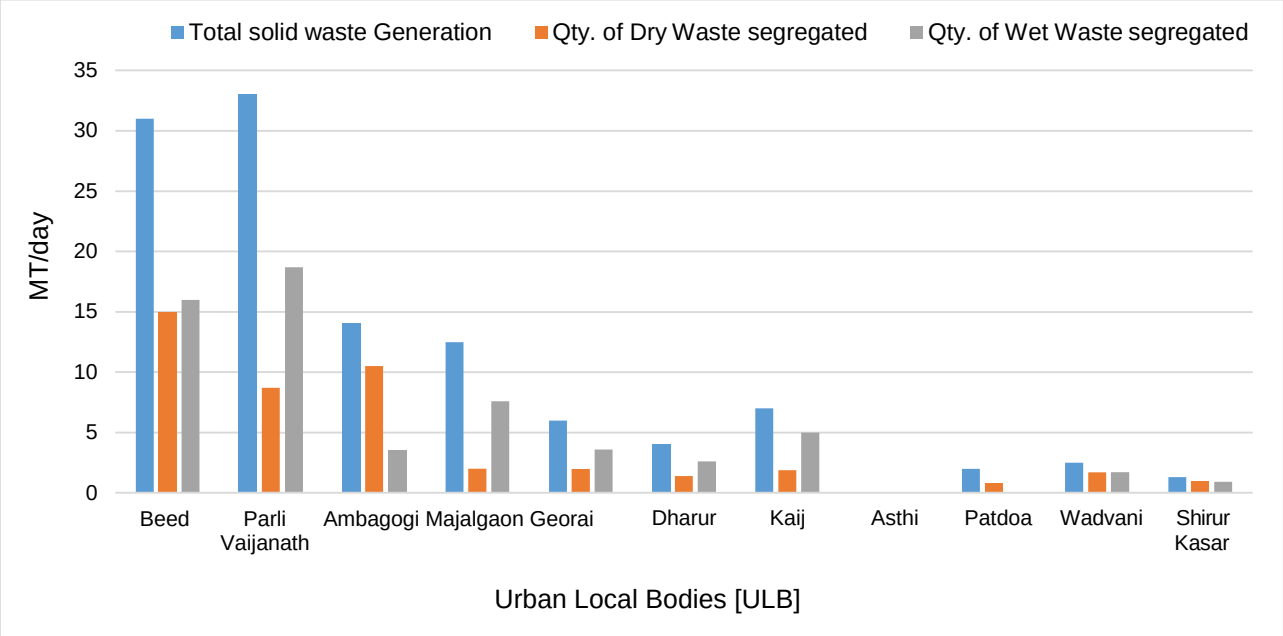

Figure 1.1 Domestic Solid Waste Generation

Fig 1.1 indicates the total solid waste generation of 11 ULB's of Beed district further categorizing it into dry and wet waste of each ULB.

- Beed District constitutes of Total 11 ULB's. Total Solid Waste generated from Beed District is 104.56MTD out of which Beed Municipal Council being the ULB with largest population [2, 03,240] generates 31MTDay waste thus contributing to major portion of waste. Wherein, Dry waste is 44.98MTD and Wet waste is 59.58MTD segregated every day
- In accordance with Fig 1.1 the maximum Solid waste generating ULB is Beed Municipal Council at the tune of 31MTD out of which Dry and Wet waste is 15MTD & 18.7MTD at Beed & Parli Vaijanath Municipal Council respectively. Likewise, Minimum Solid Waste generating ULB is Patdoa at tune of 1.6 MTD out of which the dry waste is 0.8MTD & Wet waste is 0.8MTD at Patdoa.

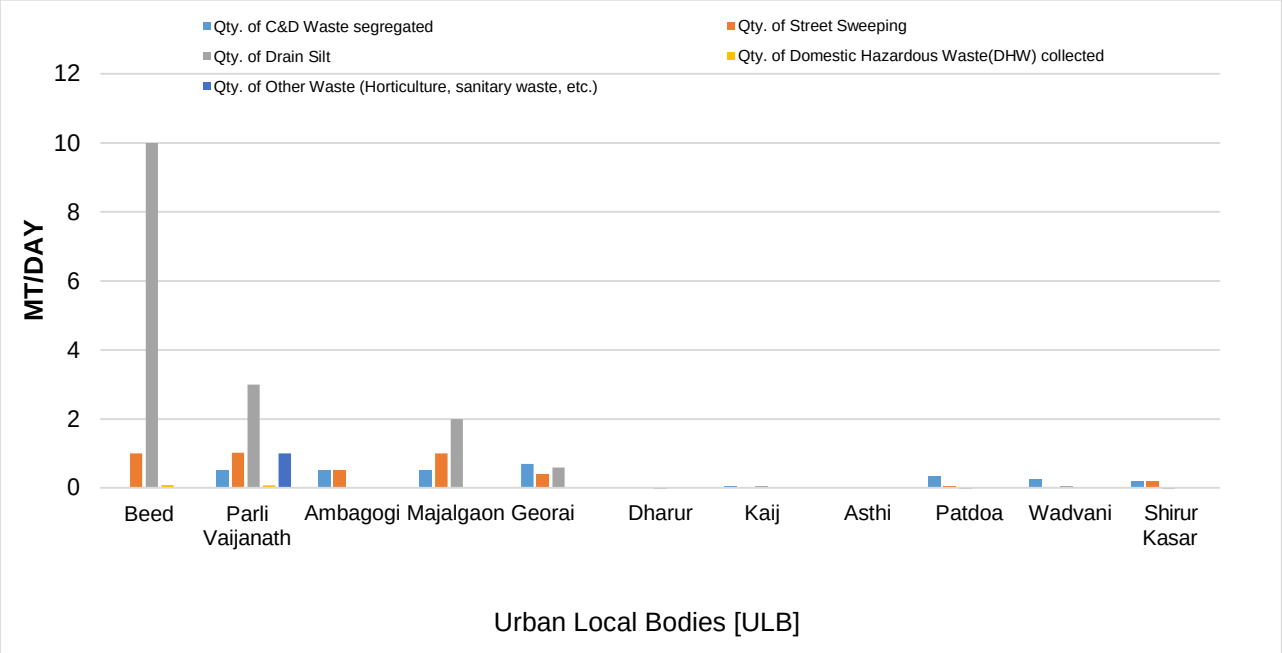

Figure 1.2 Other waste Generation

Fig 1.2 depicts the other solid waste generation of 11 ULB's of Beed district categorizing it into Street Sweeping, Drain silt, Domestic Hazardous Waste, Horticulture, sanitary waste, etc.
In line, with Fig 1.2 it can be seen that,

a. C & D Waste: Total C & D waste generation is 3.06MT/D wherein,

- ✓ Maximum generation is at Georai [i.e, 0.7MT/D]
- ✓ Minimum generation is at Dharur [i.e, 0.02MT/D]

b. Street Sweeping Waste: Total Street sweep generation is 4.22MT/D wherein,

- ✓ Maximum generation is at Parli Vaijanath Municipal Council [i.e, 1.02MT/D]
- ✓ Minimum generation is at Georai & Dharur [i.e, 0.02MT/D]

c. Drain Silt: Total Drain Slit waste generation is 15.77MT/D wherein,

- ✓ Maximum generate is at Beed Municipal Council [i.e, 10.0MT/D]
- ✓ Minimum generation is at Dharur, Patdoa & Shirur Kasar [i.e, 0.03MT/D]

d. Domestic Hazardous Waste (DHW): Total DHW generation is 0.20MT/D wherein,

- ✓ Maximum generation is at Beed Municipal Council [i.e, 0.09MT/D]
- ✓ Minimum generation is at Majalgaon Municipal Council [i.e, 0. 0.00025 MT/D]

e. Other Waste (Horticulture, sanitary waste, etc.): Total Other waste generation is 1.05MT/D wherein,

- ✓ Maximum generation is at Parli Vaijanath Municipal Council [i.e, 1.0MT/D]
- ✓ Minimum generation is at Beed, Majalgaon Municipal Council followed by Dharur [i.e, 0.02MT/D]

3.1.1 Collection and Transport

In line with the total Solid waste generated, only 2 ULB Beed Municipal Council & Majalgaon Municipal Council are provided with Dumpsite facility followed by 4 nos. of Sanitary Landfills. Beed district comprises of 138 wards. Qty. of Solid Waste stored at Majalgaon Municipal Council dumpsite is 1MTD.

There are in total 12 nos. of Bulk Waste generations in Beed district comprises of 6 ULB's providing 13 nos. of onsite facility for wet waste.

Out of all 11 ULB's 9 ULB's have 100 percent facility of door to door collection of Solid waste. Beed district has not initiated any Mechanical Road Sweeping facility among any of its ULB's rather district has 100 percent Manual Road sweeping facility. The district has 100 percent segregated waste transport for 9 ULB's. Segregated wet waste is further utilized for composting. Despite of 100 percent.

Segregation of the waste generated 4 ULB's are performing the Compositing operation while the remaining ULB's have not initiated the operation yet.

Material recovery facility (MRF) is introduced among 5 ULB's namely Beed, Parli Vaijanath, Majalgaon Municipal Corporations along with Georai and Dharur.

Further, only Parli Vaijanath Municipal Council and Georai are using Sanitary Landfill facility to safe decomposition of the solid waste collected.

Some of the ULB's have initiated authorization of waste pickers, and issuance of ID card of personnel's involved in management of solid waste.

Beed District has not initiated with Reclamation of old dump site and Linkage with waste to energy Boilers/Cement plants.

3.1.2 Adequacy of infrastructure

Availability of infrastructure to handle the waste generated from the Beed district is presented in Fig 1.3

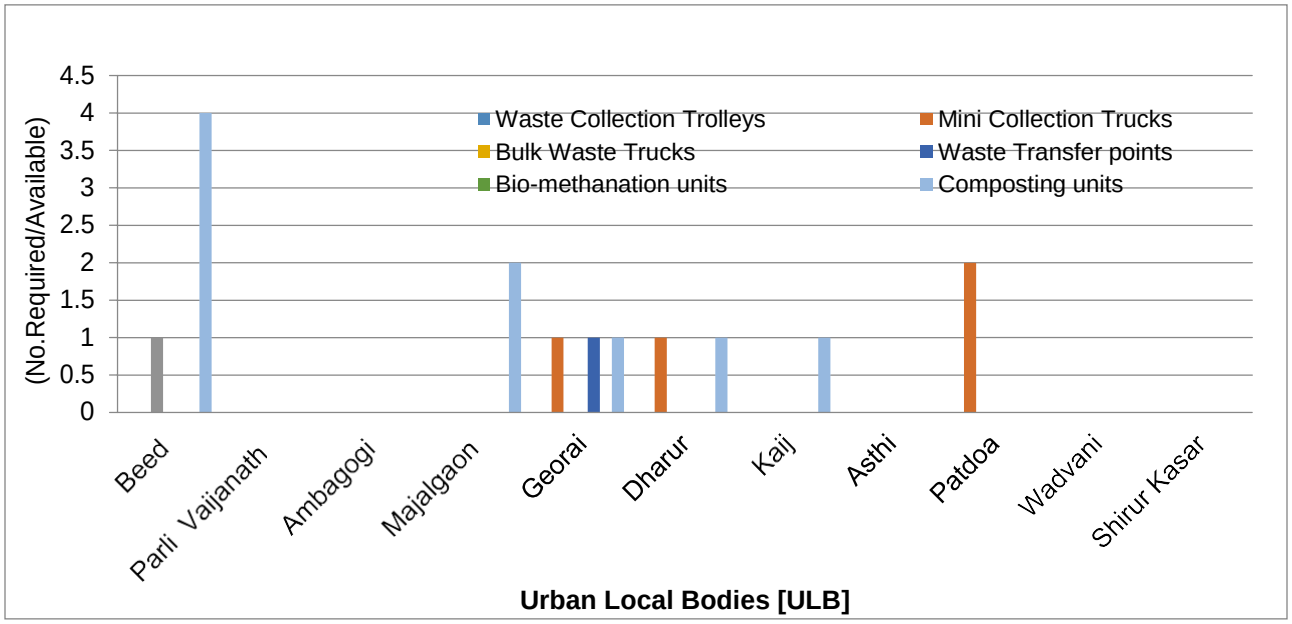

Figure 1.3 Adequacy of Infrastructure

Above graph depicts that Beed district do not have any trolley or mini truck solid waste collection facility for any of its ULB's. Among all the 11 ULB's 9 ULB's have the Segregated Transport system to collect the waste in the range of 80 to 95%. Further District doesn't provide the Bulk Waste Trucks, Bio-methanation units. District only have 1 Waste Transfer point at Georai.

There are in total 9 Composting units among 5 ULB's maximum at Beed Municipal Council. It can be concluded that some of the ULB's in The Beed district requires Refuse dry waste [RDF] facility.

Furthermore, it can be seen that ULB's requires other decomposition facilities like composting, windrow composting, home composting, Composting Pit in major Municipal Councils and other ULB's.

Each ULB's in Beed district ensure the implementation of applicable by-laws.

3.1.3 Financial allocation

The Total Capital Expenditure for all the 11 local bodies to carry out Solid Waste Management practise starting from Collection, Segregation, Transporation to respective facilities and implementation of those facilities like Composting units, Material Recovery Facility, Sanittay landfills, etc. is INR. 3.18 Crore whereas the operational cost for the same INR. 1.59Crore.

3.2 Plastic waste

Plastics are integral part of society and have varied application. Beed district generates 1.35MTD of Plastic waste from over 8 ULB's. All the ULB's have the 95% to 98% percent Door to Door collection and segregation facility. Few ULBs have installed Material Recovery Facility (MRF) to collect the Plastic waste.

There are 34 authorized Plastic Waste Picker and 5 Plastic Waste Collection Centers. Plastic Waste used in making roads at tune of 5.45MTM.

Beed District has implemented the PW Management Rules, 2016 in its 6 ULB's resulting in Sealing of units producing < 50-micron plastic, prohibiting sale of carry bags < 50 micron followed by Ban on Carry bags and other single use plastics as notified by State Government. On other hand, there are no producers associated with ULB's to produce Plastic nor any Infrastructure is supported by Producers / Brand owners to ULBs.

3.3 Construction and Demolition (C & D) waste Management.

The Ministry of Environment, Forest and Climate Change notified the Construction & Demolition Waste Management Rules, 2016 on 29 March 2016. The rules are an initiative to effectively tackle the issues of pollution and waste management.

Total qty. of C & D waste from 8 ULB's in Beed District is 1584.7Kg/D among with Beed, Parli Vaijanath and Majalgaon Municipal Council are the major contributor at tune of 500kg/D each. District has not Implement any scheme for permitting bulk waste generators. Issuance of Permissions by ULBs is not initiated in any of its local bodies.

It can be observed that, Beed district has not implemented any By-Laws for C&D Waste Management in any of its local bodies.

3.4 Biomedical Waste Management

Bio-medical waste refers to any waste, which is generated during the diagnosis, treatment or immunisation of human beings or animals or research activities pertaining there to or in the production or testing of biological or in health camps,etc. Fig 1.7 shows the graphical representation of Inventory of Bio medical waste generation .

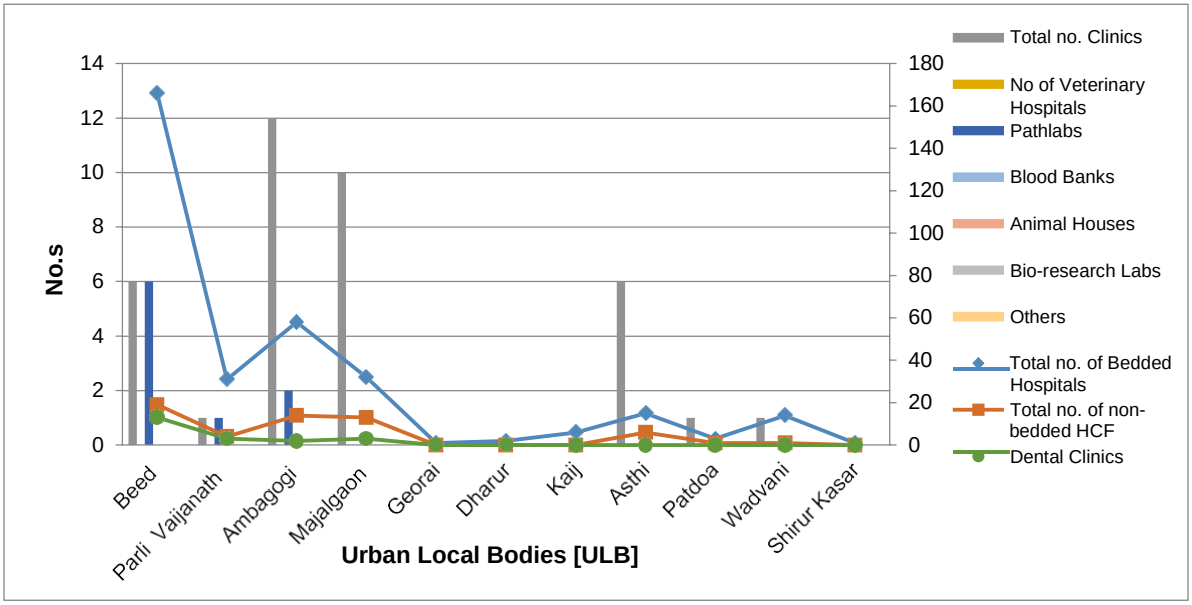

Figure 1.7 Inventory of Biomedical Waste Generation

It can be concluded that there are about 311 bedded hospitals in among all the 11 local bodies in Beed district whereas, 56 nos. of non-bedded hospitals. Threre are in total 35 nos. of clinics where maximum nos. are in Ambagogi Municipal Council. Beed district do have 21 nos. of Dental Clinics in its three Muncipal councils followed by 9 Pathalogoy labaratories . District do not have any Veterinary Hospitals, Blood Banks, Animal Houses, etc

No any Authorization has been done for HCFs by SPCBs / PCCs neither district have any common Biomedical Waste Treatment and Disposal Facilities (CBMWTFs). Beed district doesnot have any Linkage with other CBMWTFs for disposal of Bio-medical waste.

Beed has partial Barcode tracking system installed But Due to poor response by HCF its Not Working properly.

In Beed District partial Hospitals don't hand over waste with proper segregation thus only 60% of the total waste is segregated.

3.5 Hazardous Waste Management

There are only 2 Hazardous Waste generating industries in Beed District from where 24.7 MT/Annum of Hazardous waste is generated. Based on the type of waste it is further sent for treatment i.e either landfilling or Recyclable/Utilizable waste. As per standard norms each of these industries have displayed a board of Hazardous Waste generation in industry. Due to unavailability of Hazarodus waste disposal site, the generated waste is sent to CHWTSDF of other district within state.

3.6 E-Waste Waste Management

It is observed that the district has no E-waste collection facility. Citizen are able to deposit or provide E-Waste through Toll-free Numbers in the District. The top class mobile companies have provided their collection centres from where the discarded mobiles are collected. There is no E-waste recycler nor the local bodies have linked up for same with anyone. There is no any dismantler, recycler, producer are exiting in the Jurisdiction of Sub-Regional Office, Jalna to create awareness among the people The District administration arranges District level Awareness Campaigns.

3.7 Action Plan

As per the above mentioned observation, it seems that almost all ULBs are handling solid waste generated as per the Municipal Solid waste Management Rules, however there are certain issues that needs to be addressed for 100% implementation of the rules as mentioned in **Table 2**

Table 2 Action Plan for Solid Waste Management

Sectors	Gaps	Action Points	Priority
Domestic Solid Waste			
Quantification	▪ Methodology for solid waste quantification should be ascertained ▪ Quantification based on Income group, culture affluence and technology to be considered	▪ Mechanism for graded weighing system either through intermediate transfer station or at the common receiving station to be created. Usually one weigh bridge at any treatment / disposal location required ▪ Quadrate sampling methodology to be adopted in order to reduce quantity as well as quality	Immediate
Collection System & Transport System	▪ Some of the places, efficiency of the collection system is not up to the mark ▪ Almost 90MTD of waste is not collected at door to door	▪ Ideally most proven method of SWM is 3 Tier System with door to door, community and transfer station approach ▪ 100% efficiency to be achieved ▪ Intermediate ▪ Approximately 18 Ghanta Gadi would be required ▪ Additionally about 20 Compactors shall be sufficient for end to end collection and transfer	Short to Mid Term
Infrastructure	▪ Mostly composting is the main treatment methodology with about 100% coverage ▪ MRF facility is also available but limited to few ▪ Sanitary landfill are limited to 2-3 ULBs	▪ Intermediate / Transfer station based decentralized waste treatment facility to be evaluated ▪ Additional 20% alternative treatment such as bio-Methanation can be explored	
Plastic Waste	▪ Lack of SOP for not only quantification but also life cycle analysis [LCA] ▪ Limited understanding / interpretation of EPR / PRO ▪ Only two ULBs lacking implementation of PW notification	▪ Strengthening surveillance of life cycle assessment for type and quantity of Plastic Waste ▪ Effective EPR Policy ▪ Initiation of 100% compliance to PW Rules at the earliest	High & Immediate
C&D Waste	▪ 2-3 of the ULB need to establish C&D Waste management system	▪ Minimum 1 such facility at each of the ULB to be established ▪ System for utilization of recovered material and processed C&D waste to be effectively implemented and monitored	High
Biomedical	▪ Rooting and effective	▪ Regular Inventorization through	Very High

Sectors	Gaps	Action Points	Priority
Waste	collection within 48hrs from the time of generation to be effectively handled ▪ Treatment facility lacks implementation of 2016 Notification in line with CPCB audited report ▪ Limited Inventorization ▪	automatic / digital platform to be developed ▪ Up-gradation of existing facility to meet 2016 CPCB norms ▪ Additional at least 1-2 facilities to cover the of umbrella zone along with increasing burden on the existing coverage area to be planned ▪ Collection mechanism to be strengthen with additional vehicles to cover vast area and scattered HCF [miniscule quantity]	& Immediate
Hazardous Waste	▪ Domestic HW being mixed with solid waste posing threat ▪ No separate handling of domestic HW ▪ Not effective segregation at source	▪ Either decentralized 4 - 5 step segregation practices to be initiated or at least advisory for intermittent storage and collection of domestic HW to be initiated ▪ Inventory to be initiated and maintained	Very High & Immediate
E Waste	▪ Lack of inventory ▪ Limited understanding of E waste rule and management ▪ Neither segregation nor separate transfer / handling facility ▪	▪ Detailed inventory for domestic e waste under 26 different categories ▪ Mass awareness campaign ▪ Every ULB to have at least one E waste management center and minimum one collection / drop center in a radius of 25-30km ▪ At least one e waste processing unit in a district	Very High & Immediate

4.0 Water Quality Management Plan

There is one Rivers in Beed district named Bindusara with 40km in length. The 6 ULBs generate about 22.4MLD of sewage with an existing STP to treat the generated sewage. However it is also many a time the deficit as a representative of treatment capacity / capability. Rain water Harvesting is Iplemented in Each ULB of Beed district.

On the other hand industrial effluent are much more regulated wherein 5.8MLD from 15 nos. of industry are disposing the total 5.8 MLD IWW into Nalls/rivers. There is no Common Effluent Treatment Facilities available in Beed district.

Detailed Issue based management action plan is provided in Table 3.

Table 3 Action Plan for Water Quality Management

Sectors	Gaps	Action Points	Priority
Water Resources	▪ Limited information available on mapping of surface water resources in terms of quantity ▪ Limited Inventorization of quantity, usage, availability exploitation etc. ▪ Limited Rejuvenation / remediation of water bodies ▪ Solid waste dumping in the river bodies	▪ Thorough Mapping of resources to be taken up ▪ Extensive assessment of quality to be done ▪ Criticality indicators to be established for each water body/resource ▪ Extend water quality monitoring network to include representativeness ▪ Based on the criticality initiate Rejuvenation / remediation ▪ Online Monitoring system for surface water bodies to be established ▪ Protection methods to be developed for creative stoppage of dumping of solid waste in the surface water bodies	
Domestic	▪ Correlation between generation and treatment often misleading ▪ Water budgeting exercise often missing ▪ Computation of water footprint missing ▪ Surveillance /Inventorization in cradle to grave approach absolutely never applied ▪ Limited collection system and treatment facility especially in remote area ▪ Often polluting water resources ▪ No established reuse options / reuse network	▪ Digital Platform to accommodate water budgeting / reuse potential ▪ In situ treatment for River stretches to be developed ▪ Strengthen the sewage collection network to cover 100% Population ▪ Policy for reuse / recycle of treated wastewater	Very high & Immediate
Industrial	▪ Limited information of industries discharging wastewater in to the river ▪ No provision of CETP ▪ All 15 number of industries Noncompliance of in terms of meeting discharge standards	▪ Digital compliance methodology to be developed ▪ Disposal system to be under constant surveillance	

5.0 Air Quality Management Plan

As it is Beed district being one of the outgrowing areas in Maharashtra, Air quality assessment and sectoral management needs are ought to be essentially planned and executed. However, CPCB & MPCB through their NAMP & SAMP program has not set up manual nor any CAAQM stations across the district.

An exceedance factor like Identifying prominent air polluting sources such as Unpaved roads, burning of waste stubble in Beed reveals as per the monitored data that needs immediate attention as is the case in most of the areas of India. In view of the same the prima facie of every ULB's shall be to establish at least one such Ambient Air Monitoring Station and coordinate / collaborate with other monitoring organization to provide for advisory to general public towards health associations and risk of exposure.

District provides 60% Vehicle pollution check centers, while 10% of Dust Suppression Vehicles Action plans are prepared for non-attainment cities. District has access to air quality data from SPCBs & CPCB through Dashboard. No Mobile App / Online based air pollution complaint redressing system of SPCBs.

Inventory and policy formulation action plan is stated in **Table 4.**

Table 4 Action Plan for Air Quality Management

Sectors	Gaps	Action Points	Priority
Air	▪ Limited CAAQMS to establish / corroborate inferences ▪ Sectoral action plans not effectively established	▪ Emission inventory and source apportionment supported with dispersion and health based iterative process for science based AQM strategy to be established ▪ Each ULB to have at least one urban and one rural CAAQMS or three manual stations at least to include criteria pollutants with minimum one location to include parameters of 2009 CPCB notification and meteorological data including cloud cover ▪ Fugitive emission control system for hot spot emission control to be installed ▪ Green barriers / Photo catalyst options to be evaluated ▪ Capacity building to be enhanced	

6.0 Mining Activity Management plan

Mining waste is the high-volume material that originates from the processes of excavation, dressing and further physical and chemical processing of wide range of metalliferous and non-metalliferous minerals by opencast and deep shaft methods. Beed district has Sand mining and stone mining activities carried out among its local bodies. There are in total 58 Stone Quarry in the district. 62 Hectar of area is covered under mining activity, Sand mining is done near River Bed areas.

It can be observed that all the 58 Mining areas are meeting Environmental Clearance Conditions. No any Mining operations are suspended for violations to environmental norms nor any odd directions are issued by SPCBs for the mining areas in the district.

7.0 Noise Pollution Management Plan

The goal of noise management is to maintain low noise exposures, such that human health and well-being are protected. The specific objectives of noise management are to develop criteria for the maximum safe noise exposure levels, and to promote noise assessment and control as part of environmental health programmes.

There are in Total 30 No. of noise measuring devices with district administration to monitor the noise levels while 1 noise measuring devices with SPCBs. There are No complaints received on noise pollution in last 1 year for Beed district. District ocassinally implemnt ambient noise standards in residential and silent zones. No Noise monitoring study is carried out in Beed district. Noise quality reveals mainly source specific noncompliance such as traffic related in most of the kerb side analysis. Though zoning categories and regulations therein are particularly specified, in limitation of noise regulations has always been challenge to the regulatory authority. **Table 5** spells potential management plan that could be taken up on priority by each of the ULBs.

Table 5 Action Plan for Noise Pollution Management

Sectors	Gaps	Action Points	Priority
Noise	▪ Most of the source related noise areas show exposure beyond compliance ▪ Excessive exposure during noise generating potential events/ festivals ▪	▪ Noise mapping to be carried out for zonation purposes ▪ At source control using ▪ physical or natural attenuation methods to be adopted ▪ In the path noise control methodologies using noise absorbers creating zone of inhibition / silence zone to be done ▪ End of the pipe measures such as	

		PEs acoustic enclosures etc. to be adopted ▪ Event based noise control policy to be effectively implemented	

8.0 Conclusion

There seems to be vast data gaps and a detailed exercise to collate and validate data gathered through this process needs to be urgently taken up in addition to the adopting a holistic & inclusive consultative process of gathering information, collating & converging it in order to be able to device strategies of future. Also, it is equally important that projection for at least next 20 years be done in order to evaluate management plans for futuristic view to meet the objective of such vast exercise. Digital data availability needs to be one of the prime tasks of government & methods of its validation be created with scope for improvement in near future. The practice needs to be a continual one to be updated regularly in order to monitor progress and effectiveness of this process & shall be linked with financial allocations being designed to be promoted by government of the day. With regards to action plans, the priorities shall be aligned based on sustainability objectives.