

District Environment Plan



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Prepared By



Environment Department, Government of Maharashtra



Maharashtra Pollution Control Board

Amravati

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 direction and as per the model DEP prepared by CPCB, Environment Action plan for Amravati District is prepared.

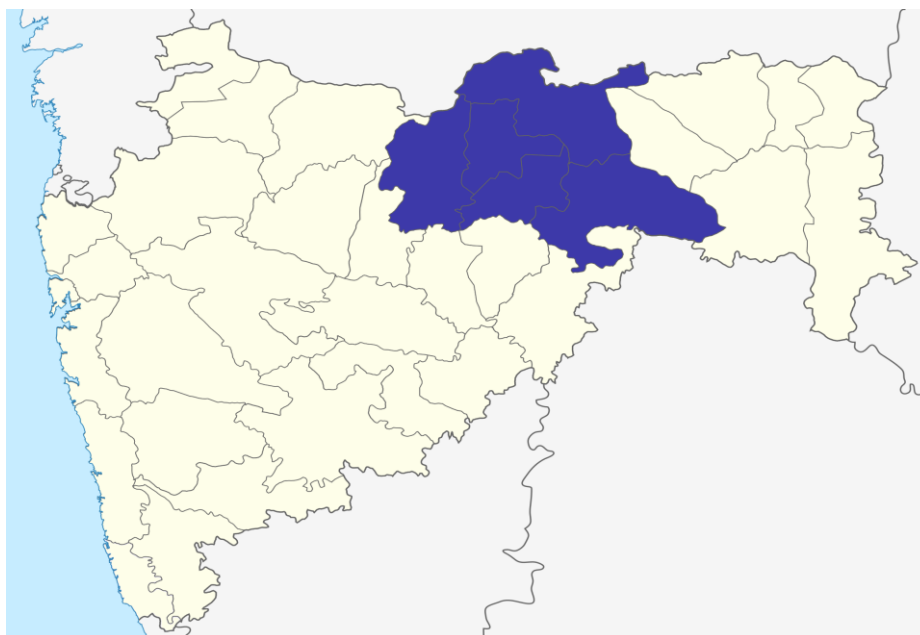
2.0 Introduction

The ancient name of Amravati is "Udumbravati", prakrut form of this is "Umbravati" and "Amravati" is known for many centuries with this name. Geography Amravati city is situated 340m above mean sea level. Pohara & Chirodi hills are in the east of the city. Maltekdi is one of the hills, which is inside the city. The height of Maltekdi is around 60 m & the statue of great maratha king, Shri Shivaji Maharaj is placed on the top of the hill. There are two lakes in the eastern part of the city, namely, Chhatri Talao & Wadali Talao. The city is located in the East Maharashtra. It is the main centre of west Vidarbha. It is on the Mumbai-Calcutta high way.

General Amravati district profile is presented in the **Table 1** and location is shown in **Figure 1**.

Table 1 Amravati District Profile

Description	Details
Average Climate	Summer: 27.3°C Rainfall: 808 mm.
Geographical Location	The district is situated between 20°32' and 21°46' north latitudes and 76°37' and 78°27' east longitudes.
Area	12,235 km ²
Languages Spoken	Marathi is mostly spoken
Population	Total: 2,888,445 Male: 1,480,768 Female: 1,407,677 [According to 2011 Census Report]
Population Density	213 Per Sq. km.
Literacy Rate	87.4
ULBs	15 Numbers
Villages	130 Numbers (1 town and 129 villages)
Pin code	444601-444607

**Figure 1 Location of Amravati District**

3.0 Waste Management Plan

Urban India is facing an ever increasing challenge of providing for the incremental infrastructural needs of a growing urban population. According to the 2011 census, the population of India was 1.21 billion; of this 31% live in cities. It is further projected that by 2050 half of India's population will live in cities. With this increasing population, management of Municipal Solid Waste (MSW) 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.

Solid waste management is among the basic essential services provided by municipal authorities in the country to keep cities clean. In Amravati city 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 15 Urban Local Bodies (ULBs) in Amravati district. **Table 2** represents the list of ULBs along with population. Following section gives insight about waste management of Amravati districts.

3.1 Domestic Solid Waste Management Plan

Amravati district is having 16 ULBs with 214 Wards. Municipal Solid Waste (Dry & Wet) generated from each ULBs is given in the **Figure 2** and details of Other Types of Waste is presented in **Figure 3** due to its less quantity and for easy representation. As per collected data, total solid waste generation of Amravati district is 352.139MTD wherein, Dry Waste segregated is 55.12MTD and Wet waste segregated is 39.95MTD. Total non-segregated gap is 257.06MTD.

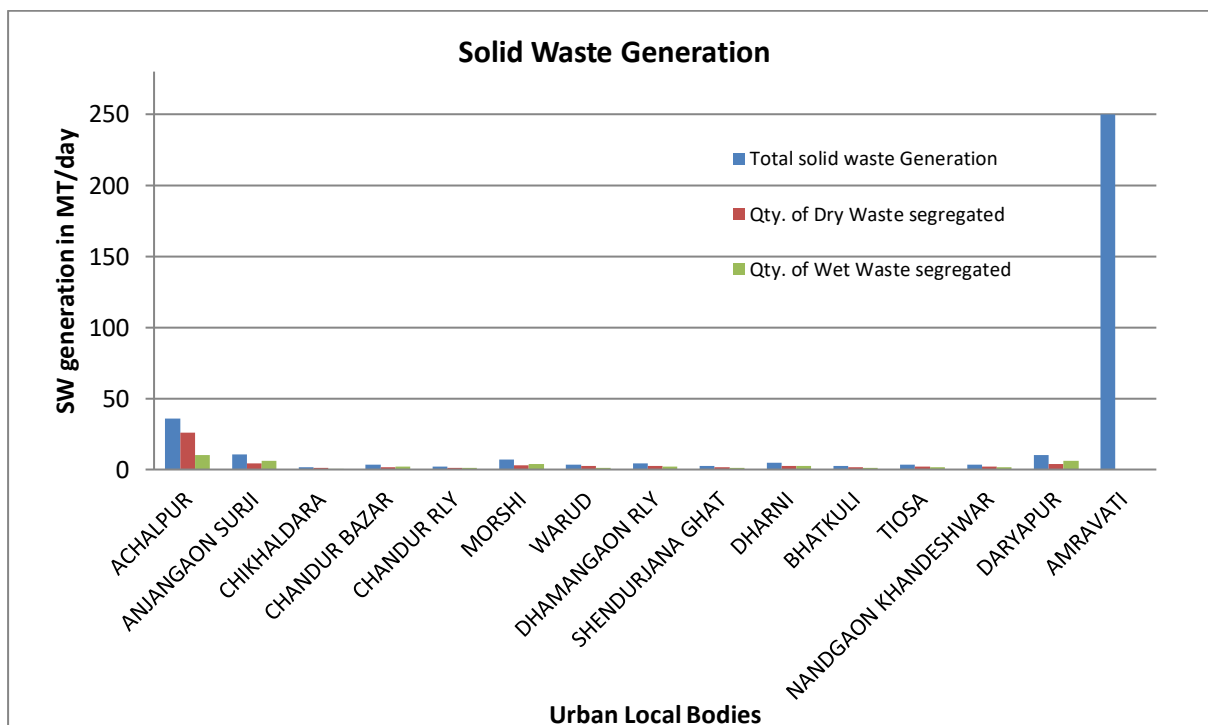


Figure 2 Solid Waste Generation of Amravati District

It is observed that Amravati Municipal Corporation stands on top with the highest quantity i.e. 250MTD. It is observed that the Collection of Dry and wet waste is not initiated by the Amravati Municipal Corporation. It is observed that quantity of solid waste generation is in line with the respective population of ULBs.

As per the data presented in the **Figure 3**, details of other types of waste generation is presented as below;

A] Street Sweeping Waste: Amravati district generates 1.38MTD of Street Sweeping Waste. Maximum quantity of Street Sweeping Waste is generated by Morshi with total quantity of 0.5MTD followed by Achalpur with 0.4MTD. It is also observed that the quantity of street sweeping data is not estimated for Amravati Municipal Corporation.

B] Drain Silt Waste: Total quantity of Drain Silt Waste generated is 3.192MTD. It seems that maximum quantity of Drain Silt Waste is generated by Chandur Bazar and Chandur Rly which accounts to 1MTD and minimum waste is generated by Daryapur, Anjangaon Surji and Chikhaldara. However, it is observed that quantity of Drain Silt waste is not estimated for Amravati Municipal Corporation.

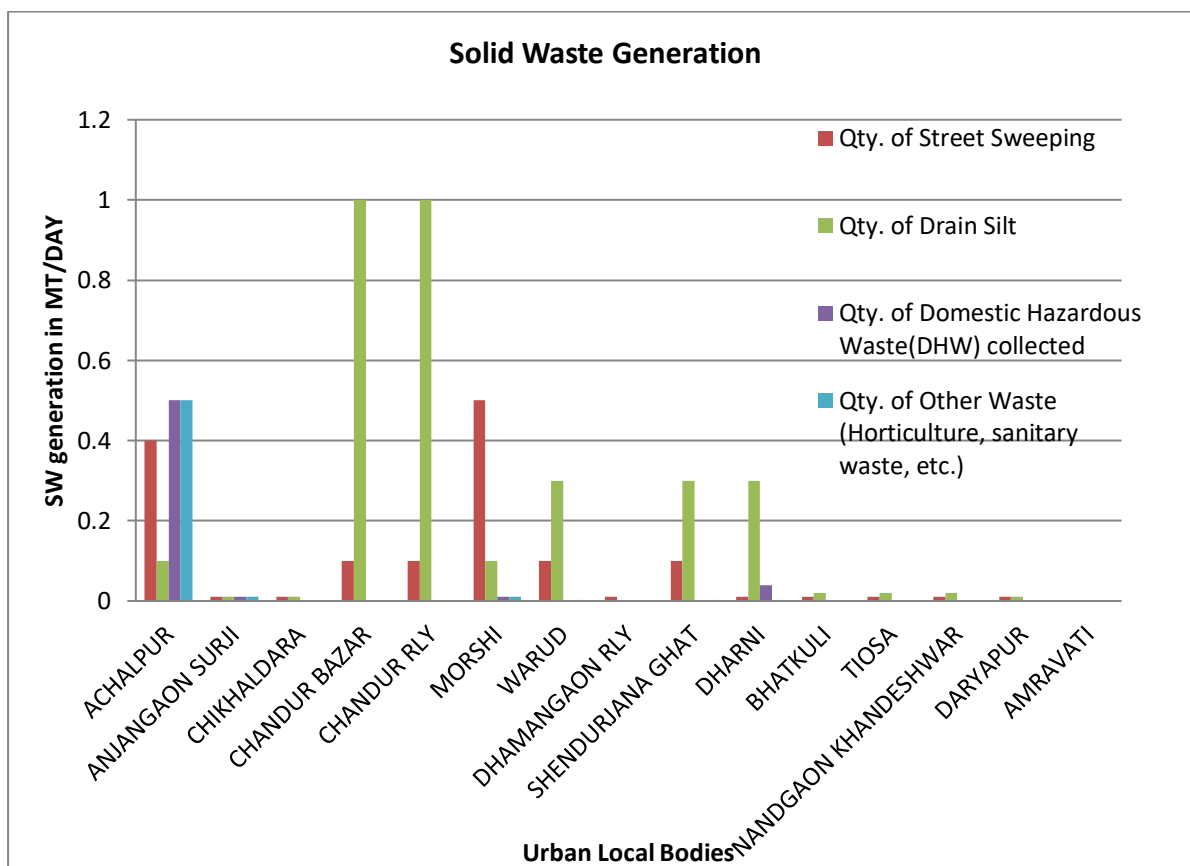


Figure 3 Other Waste Generation of Amravati District

C] Domestic Hazardous Waste (DHW): Total DHW quantity generated is 0.57MTD. Maximum quantity of DHW is generated by Achalpur with total quantity of 0.5MTD. It is observed that there is no facility provided at Amravati Municipal Corporation for collection of Domestic Hazardous Waste.

D] Other Waste (Horticulture, sanitary waste, etc.): Total Quantity of Horticulture, Sanitary and other waste is 0.534MTD. Maximum quantity of Other Waste is generated by Achalpur with total quantity of 0.5MTD. Data is not available for Amravati Municipal Corporation.

E] Bulk Waste Generator: Amravati district is having total 12 bulk Waste Generator with the highest numbers in 3 bulk for Anjangaon Surji. Inventory data for bulk waste generator is not available for 3 ULBs Tiosa, Nandanhgaon Khandeshwar and Amravati Municipal Corporation.

3.1.1 Compliance in Segregated Waste Collection

Total Waste generation from Amravati district is 352.139MTD with few waste details not available as describes in above section.

A] Waste Management Operations

Door to Door Collection

All the 15 ULBs have provided 100% door to door collection facility.

Mechanical & Manual Road Sweeping

2 ULBs have implemented Mechanical Road Sweeping which is in range of 10-20% and rest of other ULBs have not provided Mechanical Road Sweeping facility.

On the other hand, 100% manual road sweeping is also taken place at all the ULBs except at Morshi where only 80% of Manual sweeping takes place.

Segregated Waste Transport

100% of segregated waste is being transported through segregated waste transport system, the unsegregated waste details are not available.

Composting Operation

Out of 15 ULBs, 6 ULBs carry out composting of the entire wet waste generated whereas, 6 ULBs composts a particular quantity of the wet waste. Anjangaon Surji, Nandangaon Kahndeshwar and Amravati Municipal corporation have not yet initiated the composting. It is observed that 7.2 MTD of wet waste is generated from Anjangaon Surji, Nandangaon Kahndeshwar and Amravati Municipal corporation wet waste generation details are not available.

MRF Operation

Out of 15 ULBs, 7 ULBs is using Material Recovery Facilities to separate and prepare recyclable material whereas 8 ULBs have not installed MRF facility.

Reclamation of old dumpsites

Achalpur is the only ULBs who is carrying out reclamation of old dump sites.

Linkage with Recyclers

All the 15 ULBs have linkage with recycler.

Authorization of waste pickers

All 15 ULBs have issued authorization to the waste pickers and is having ID cards for the same

Linkage with TSDF / CBMWTF

All the 15 ULBs have linkage with TSDF/CBMWTF

3.1.2 Adequacy of Infrastructure

Availability of infrastructure to handle the waste generated from the Amravati district is presented in **Figure 4**.

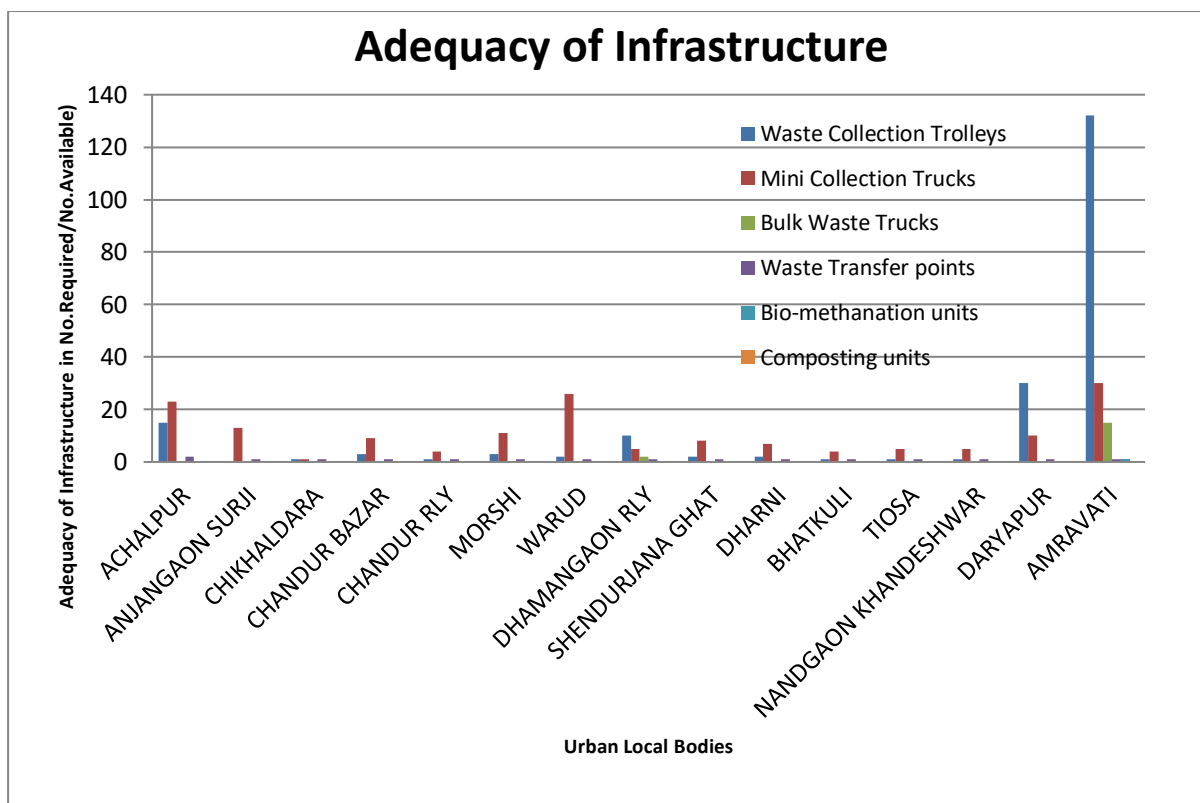


Figure 4 Adequacy of SW Infrastructure

It is observed that in Amravati district there are about 204 waste collection trolley, Mini collection trucks 161 numbers and Bulk transport trucks 25. 1 Bio - Methanation units at Amravati Municipal Corporation. 15 Composting units are available to treat wet waste.

3.2 C&D Waste Management Plan

The Construction and Demolition Waste [C&D Waste] generated by Amravati district is about 4,865 Kg/Day. C&D Waste generated by each ULBs is presented in **Figure 5**. Again being with most populated corporation, Amravati Municipal Corporation contribute maximum share of C&D waste to the tune of 3000Kg/Day. Least C&D waste is generated by Chikhaldara. All the 15ULBs have implemented the by-laws for C&D Waste Management. Also, locations are being identified for collection and disposal of the C&D waste generated.

3.3 Plastic Waste Management

Total Plastic waste generated by Amravati district is 14.9MTD. With 12.5MTD quantity, Amravati Municipal Corporation is the highest plastic waste generator. In almost all ULBs, door to door collection and segregation system is implemented with 19 Plastic Waste Collection Centre. There are 30 Plastic Waste Pickers with the authorization for waste

collection. Data for Plastic Manufacturer is not available whereas there are 17 Waste recyclers. PW Management Rules, 2016 is implemented in all the ULBs.

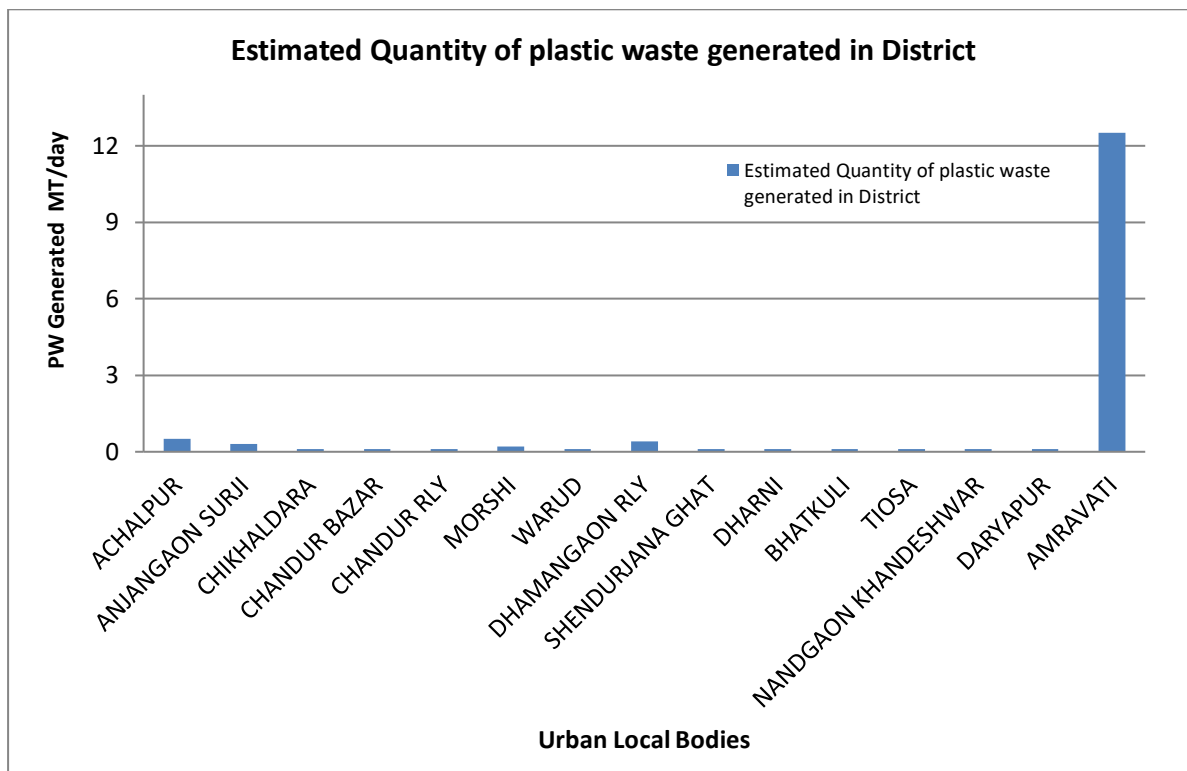


Figure 6 Details of Plastic Solid Waste Generation

3.4 Biomedical Waste Management

In Amravati District about, 307 Bedded hospitals, 196 non-bedded hospitals, 341 clinics, 17 veterinary hospitals, 33 path labs, 51 dental clinics, 7 Blood banks, 4 animal house and 1 Bio-research lab is present. Other than above mentioned there are about 307 Bedded HCFs and 196 non-bedded HCFs

Total BMW generation from all above mentioned sources is not given for any ULBs

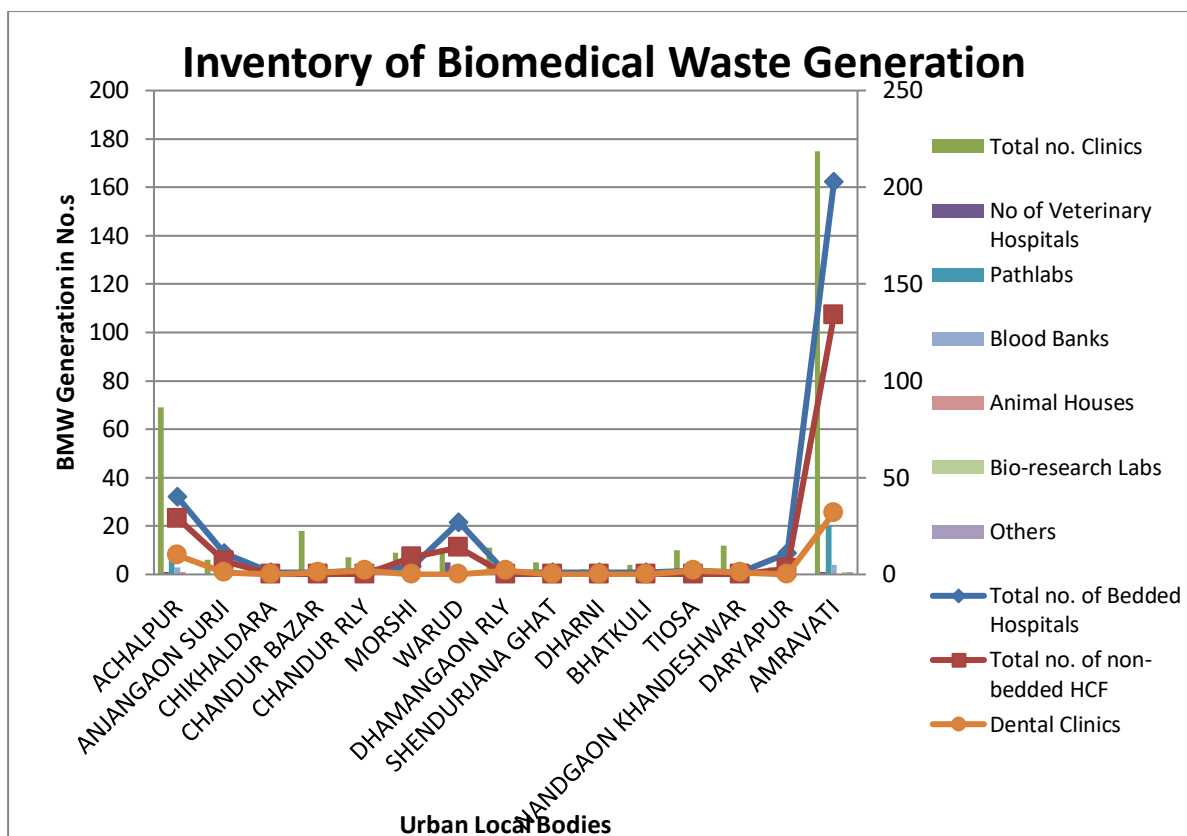


Figure 7 Details of Bio-Medical Waste Generation

Only 1 Common Facility is available for treatment and disposal of BMW and average BW taken by these facilities is 200Kg/Hr and 100Kg/Hr standby. There is requirement of at least one CBWTF in each ULB. Inventory of BMW generating units are mentioned in the **Figure 7**. Bar code system is provided for tracking the waste and about 740Kg/Day of Bio-Medical Waste is up lifted from all 15ULBs. The waste is segregated on site prior to disposal and each of the medical facility is having linkage with CBMWTF

3.5 Hazardous Waste Management

35 Number of industry is established generating 1459MT/Annually out of which 80MT/Annum is Incinerable and 1379MT/Annum is given for land fill. One Common Treatment Storage Disposal Facility is present. Number of industries generating waste needs to be checked as it is said that only 35 industries are generating Hazardous waste whereas 71 industries have displayed Hazardous Waste Generation board in front of industries gate.

3.6 E Waste Management

No Collection Centres are established nor the district is having linkage with authorized E-waste recycler / dismantler. District Administrator has conducted 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 3**.

Table 3 Action Plan for Solid Waste Management

Sectors	Gaps	Action Points	Priority
Domestic Solid Waste			
Quantification	<ul style="list-style-type: none"> ▪ Methodology for solid waste quantification should be ascertained ▪ Quantification based on Income group, culture affluence and technology to be considered 	<ul style="list-style-type: none"> ▪ 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	<ul style="list-style-type: none"> ▪ Some of the places, efficiency of the collection system is not up to the mark 	<ul style="list-style-type: none"> ▪ 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 61 Ghanta Gadi would be required 	Short to Mid Term
Infrastructure	<ul style="list-style-type: none"> ▪ Mostly composting is the main treatment methodology 	<ul style="list-style-type: none"> ▪ Intermediate / Transfer station based decentralized waste treatment facility to be evaluated 	High

Sectors	Gaps	Action Points	Priority
	<ul style="list-style-type: none"> ▪ MRF facility is also available but limited to few ▪ Sanitary landfill are limited 	<ul style="list-style-type: none"> ▪ Additional 20% alternative treatment such as bio-Methanation can be explored 	
Plastic Waste	<ul style="list-style-type: none"> ▪ Limited understanding / interpretation of EPR / PRO ▪ Treatment technology is not utilized for plastic waste 	<ul style="list-style-type: none"> ▪ Effective EPR Policy ▪ Initiation of 100% compliance to PW Rules at the earliest ▪ Pyrolysis, road making or Plastic can also be given for co-processing in cement kiln 	High & Immediate
C&D Waste	<ul style="list-style-type: none"> ▪ 2-3 of the ULB need to establish C&D Waste management system 	<ul style="list-style-type: none"> ▪ 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 Waste	<ul style="list-style-type: none"> ▪ Rooting and effective 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 	<ul style="list-style-type: none"> ▪ Regular Inventorization through 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] 	Very High& Immediate
Hazardous Waste	<ul style="list-style-type: none"> ▪ Domestic HW being mixed with solid waste posing threat ▪ No separate handling 	<ul style="list-style-type: none"> ▪ Either decentralized 4 - 5 step segregation practices to be initiated or at least advisory for intermittent storage and collection 	Very High& Immediate

Sectors	Gaps	Action Points	Priority
	of domestic HW ▪ Not effective segregation at source	of domestic HW to be initiated ▪ Inventory to be initiated and maintained	
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 centre and minimum one collection / drop centre 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 River in Amravati named Pediti with 86km in length. With respect to the data collated about 37.48 MLD of untreated /partially treated sewage flows in to the riverine length thereby posing challenge for attaining clean water in the river.

The 15 ULBs generate about 111.98 MLD of sewage with an existing capacity of 74.5MLD of STP. However, it is also many a time the deficit as a representative of treatment capacity / capability.

Industrial effluent is much more regulated wherein 2.1MLD from 18 numbers of industry, limited to Amravati District are made to treat almost the entire effluent to the best possible norms as stipulated by their permits, monitored effectively and regularly with the aid of final disposal / treatment in the 1 CETP.

Detailed Issue based management action plan is provided in **Table 4**.

Table 4 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	▪ Thorough Mapping of resources to be taken up ▪ Extensive assessment of quality to be done	High

Sectors	Gaps	Action Points	Priority
	<p>quantity, usage, availability exploitation etc.</p> <ul style="list-style-type: none"> ▪ Limited Rejuvenation / remediation of water bodies 	<ul style="list-style-type: none"> ▪ 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	<ul style="list-style-type: none"> ▪ 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 	<ul style="list-style-type: none"> ▪ Digital Platform to accommodate water budgeting / reuse potential ▪ Approximately 40MLD of STP needed ▪ Strengthen the sewage collection network to cover 100% Population ▪ Policy for reuse / recycle of treated wastewater 	Very high & Immediate
Industrial	<ul style="list-style-type: none"> ▪ Limited information of 	<ul style="list-style-type: none"> ▪ CETP performance to be 	High

Sectors	Gaps	Action Points	Priority
	<p>industries discharging wastewater in to the river</p> <ul style="list-style-type: none"> ▪ Performance of CETP is questionable ▪ Almost 66 number of industries Non-compliance of in terms of meeting discharge standards 	<p>more effective in line with various orders of regulatory bodies / courts</p> <ul style="list-style-type: none"> ▪ Digital compliance methodology to be developed ▪ Disposal system to be under constant surveillance 	

5.0 Air Quality Management

As it is Amravati district being one of the most vibrant and outgrowing areas in Maharashtra, Air quality assessment and sectoral management needs are ought to be essentially planned and executed. Both CPCB & MPCB through their NAMP & SAMP programme has set up 3 manual & no CAAQM stations across the district.

It seems that PM10 is Ambient Air is one of the prime reason of the concern and historically Amravati has been in the centre of controversy with regards its air quality management. An exceedance factor 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 facia of every ULB shall be to establish at least one such Ambient Air Monitoring Station and coordinate / collaborate with other monitoring organisation to provide for advisory to general public towards health associations and risk of exposure.

Inventory and policy formulation action plan is stated in **Table 5**.

Table 5 Action Plan for Air Quality Management

Sectors	Gaps	Action Points	Priority
Air	<ul style="list-style-type: none"> ▪ No CAAQMS to establish / corroborate inferences ▪ Sectoral action plans not effectively established 	<ul style="list-style-type: none"> ▪ 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 	High

		<p>include criteria pollutants with minimum one location to include parameters of 2009 CPCB notification and meteorological data including cloud cover</p> <ul style="list-style-type: none"> ▪ 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 	
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6.0 Mining Activity Management plan

Being directly under the promissory control of District Collector, the total lease land and the mining in Amravati district is 219.627Hectares. It is important to mention that the sand mining is carried out at Amravati with due permission from respective authorities of MPCB and State Environment Department. Recently enough 12 numbers of non-complying units have been served with the notices.

7.0 Noise Action Plan

Other than event base monitoring and special projects related / orders monitoring, MPCB carries out annual noise monitoring at 23 locations. Noise quality reveals mainly source specific non-compliance 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 6 spells potential management plan that could be taken up on priority by each of the ULBs.

Table 6 Noise Action Plan

Sectors	Gaps	Action Points	Priority
Noise	<ul style="list-style-type: none"> ▪ Most of the source related noise areas show exposure beyond compliance ▪ Excessive exposure 	<ul style="list-style-type: none"> ▪ Noise mapping to be carried out for zonation purposes ▪ At source control using ▪ Physical or natural attenuation methods to be adopted 	High

	<p>during noise generating potential events/ festivals</p>	<ul style="list-style-type: none"> ▪ 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 	
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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 practise 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.