

# District Environment Plan



Prepared By



Environment Department, Government of Maharashtra



Maharashtra Pollution Control Board

Washim

## **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 Washim District is prepared.

## **2.0 Introduction**

Washim is located in the eastern region of Vidharbha. Akola lies to its north, Amravati lies to its north-east, Hingoli lies to its south, Buldhana lies to its west, Yavatmal lies to its east. Washim was known earlier as Vatsagulma and it was the seat of power of the Vakataka dynasty. The antiquity of the town has given rise to a number of objects and places of interest in the town.

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

Table 1 District Profile

Description	Details
Average Climate	The average annual temperature is 26.2 <sup>0</sup> C
Geographical Location	Washim is located in the western region of Vidharbha. Akola lies to its north, Amravati lies to its north-east, Hingoli lies to its south, Buldhana lies to its west, Yavatmal lies to its east. River Penganga is the main river of the district. It flows through the Tehsil of Risod. Later it flows through the boundary of Washim and Hingoli districts.
Area	4901.19 Sq. km.
Boundaries	Akola district on North, Amravati district on the North - East, Hingoli district on South, Buldhana district on the West and Yavatmal district on the East.
Languages Spoken	Marathi, Hindi, English are major languages but all Indian languages are spoken
Population	Total: 1,197,160 Male: 620,302 Female: 576,858 [According to 2011 Census Report]
Population Density	244 Per Sq. km.
Literacy Rate	83.25
Rivers	Penganga, Kas, Arunavati, Katepurna
ULBs	6
Municipal Corporations	3 Numbers 1. Municipal Council Washim 2. Municipal Council Mangrulpir 3. Municipal Council Karanja
Sub districts	3 Numbers
Villages	789 Numbers
Statutory Towns	4 Numbers
Tahsils	6 Numbers Washim, Karanja, Risod, Malegaon, Manora and Mangrulpir
Pin code	444105

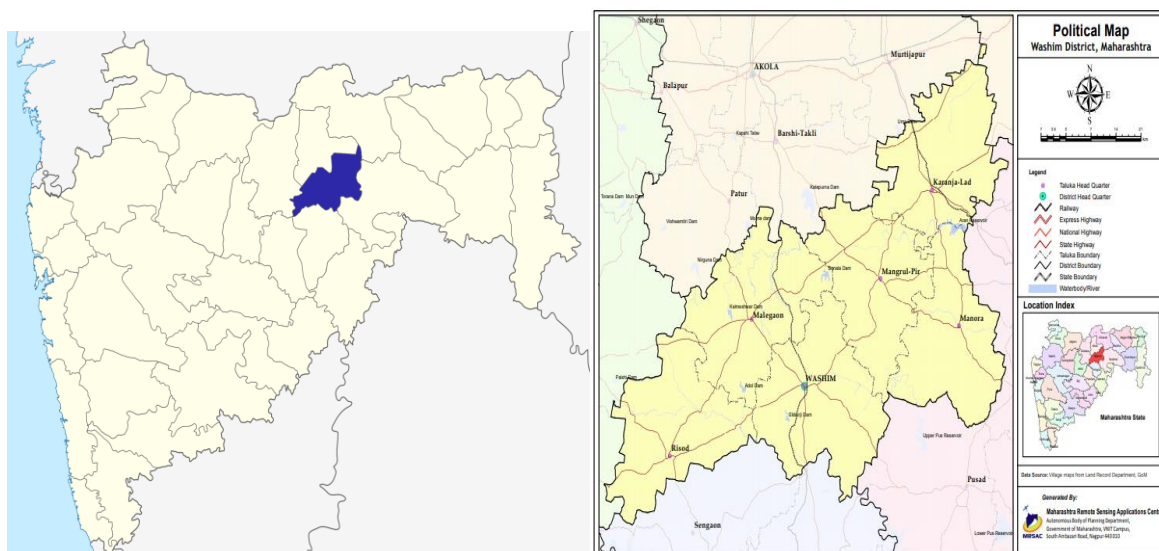


Figure 1 Location of Washim District

### 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.

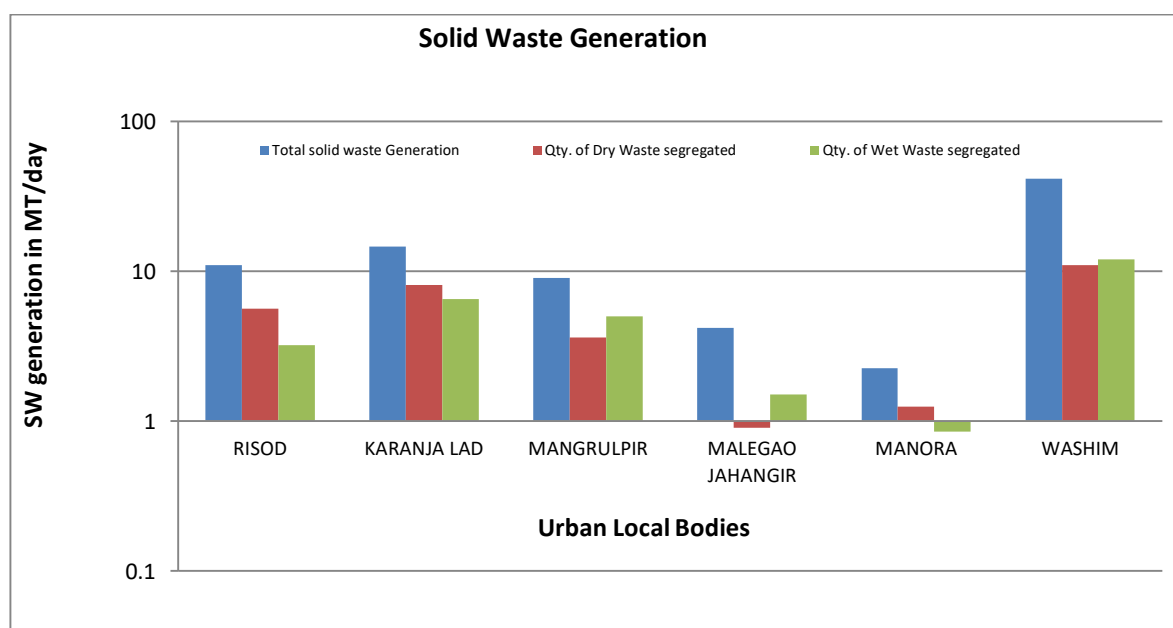
Solid waste management is among the basic essential services provided by municipal authorities in the country to keep cities clean. Primary sources of solid waste are local households, commercial establishments, hospitals, hotels, restaurants, and markets. Local Bodies are responsible for collection, storage, segregation, transportation and disposal of all solid waste generated in the city. There are 6 Urban Local Bodies [ULBs] in the district. **Table 2** represents the list of ULBs along with population. Following section gives insight about waste management of entire district.

**Table 2 Washim District Profile**

Sr. No.	Urban Local Bodies	Population
1.	Risod	34,136
2.	Karanja Lad	74,002
3.	Mangrulpir	30,983
4.	Malegaon Jahangir	21,290
5.	Manora	9,339
6.	Washim	78,387

### 3.1 Domestic Solid Waste Management Plan

Washim district is having 6 ULBs with 81 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 Washim district is 82.49MTD wherein, Dry Waste generation is 30.46MTD and Wet waste is 29.05MTD.



**Figure 2 Details of Domestic Solid Waste Generation**

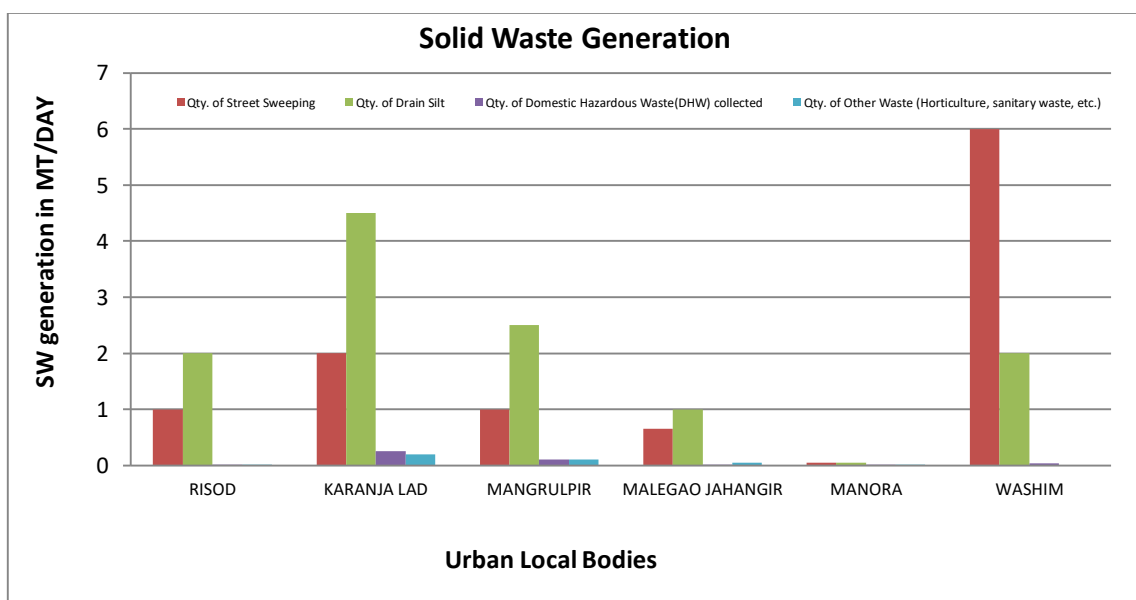
It seems that Wet waste comprises of approximately 36% of total waste generated of the district and Dry waste contributes 37%. Washim Municipal Corporation stands on top with the highest quantity i.e. 41.43MTD out of which dry waste is 11MTD and wet waste is 12MTD. Malegaon Jahangir Municipal Council generates lowest quantity i.e. 4.2MTD out of

which dry waste is 0.9MTD and wet waste is 1.5MTD. 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;

Washim district generates 10.7MTD of Street Sweeping Waste. Maximum quantity of Street Sweeping Waste is generated by Washim Corporation with total quantity of 6MTD followed by Karanjalad with 2MTD and Manora stands lowest with 0.05MTD.

Total quantity of Drain Silt Waste generated is 12.05MTD. It seems that maximum quantity of Drain Silt Waste is generated by Karanjalad with total quantity of 4.5MTD followed by Mangrulpir with 2.5MTD. Manora stands lowest with 0.05MTD.



**Figure 3 Other Waste Generation of Washim District**

Total DHW quantity generated is 0.41MTD. Maximum quantity of DHW is generated by Karanjalad with total quantity of 0.25MTD and 3 ULBs stands lowest with 0.001MTD each.

Total Quantity of Horticulture, Sanitary and other waste is 0.37MTD. Maximum quantity of Other Waste is generated by Karanjalad with total quantity of 0.2MTD. It is observed that Washim does not generate any waste.

Washim district is having total 5 bulk Waste Generator one in each Corporation except in Manora. These 4 ULBs also have on site facilities for Wet Waste.

### **3.1.1 Compliance in Segregated Waste Collection**

Total Waste generation from Washim district is 82.49MTD and almost all waste is being segregated.

#### **A] Waste Management Operations**

##### **Door to Door Collection**

Out of 6 ULBs, 5 of them have provided 100% door to door collection facility. Only Manora has provided 80% door to door collection facility respectively.

##### **Mechanical Road Sweeping**

Mechanical sweeping is not carried out in any of the ULB. 6 ULBs have implemented Manual Road Sweeping is provided at all the facility.

##### **Segregated Waste Transport**

Almost 100% of waste is being transport through segregated waste transport system

##### **Composting Operation**

Washim district generates approximately 29.05MTD of wet waste and 2 ULBs compost the entire generated waste whereas the other compost a particular quantity of waste.

##### **MRF Operation**

Out of 6 ULBs, 3 ULBs is using Multi Re Use Facility to separate and prepare recyclable material whereas 3 ULBs have not installed URF facility.

##### **Use of Sanitary Landfill**

Only one ULB has started using the facility in which only 20% activity is carried out.

**Reclamation of old dumpsites**

Reclamation of old dump site using through bio mining process is done at 2 ULBs

**Linkage with Recyclers**

3 ULBs have linkage with recycler whereas 3 ULBs have not started the process yet.

**Authorization of waste pickers**

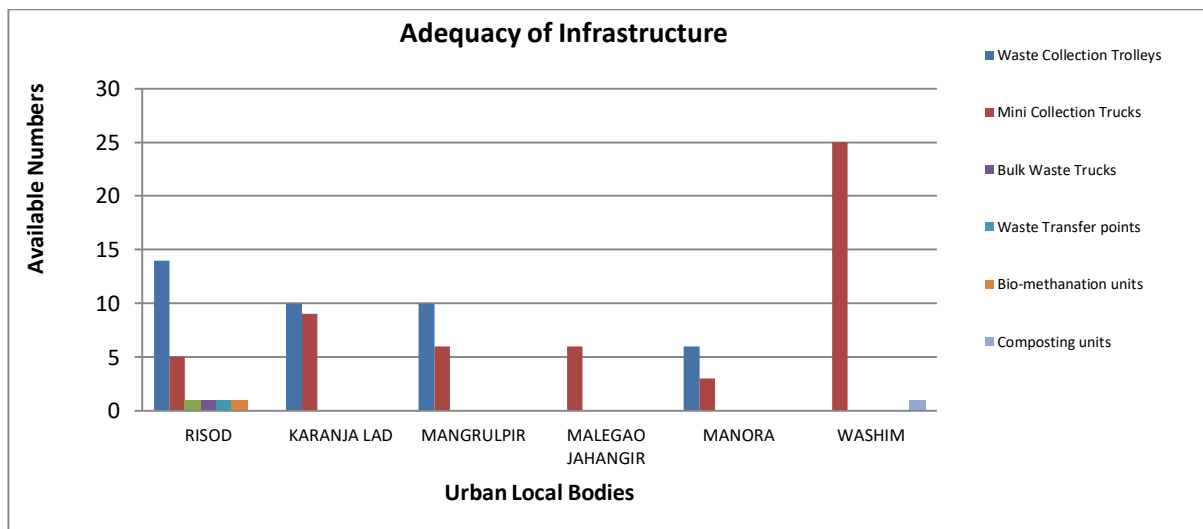
4 ULBs have issued authorization to the waste pickers

**Linkage with TSDF / CBMWTF**

3 ULBs have linkage with TSDF/ CBMWTF

**3.1.2 Adequacy of Infrastructure**

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



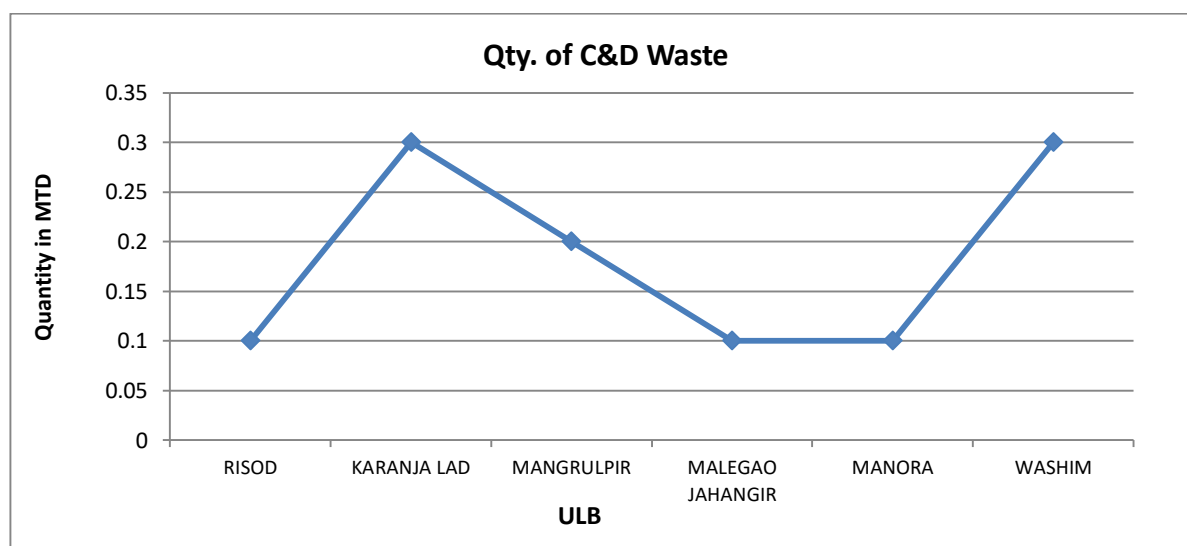
**Figure 4 Adequacy of SW Infrastructure**



It is observed that there is 1 waste Transfer points in Washim district with waste trolley of 48, Mini collection trucks 54 numbers. Composting units available to treat wet waste are 66. # sanitary landfill fills are provided in the entire district.

### 3.2 C&D Waste Management Plan

The Construction and Demolition Waste [C&D Waste] generated by Washim district is about 850.2Kg/Day. C&D Waste generated by each ULBs is presented in **Figure 5**. Washim and Karanjalad contribute maximum share of C&D waste to the tune of 300MTD. Least C&D waste is generated by Mangrulpir with the quantity of 0.2MTD.



**Figure 5 C&D Waste Generation of Washim District**

### 3.3 Plastic Waste Management

Total Plastic waste generated by Washim district is 0.64MTD. With 0.5MTD quantity, Washim Municipal Council is the highest plastic waste generator.

In almost all ULBs, 97% door to door collection system and 79% of segregation system is implemented with 6 Plastic Waste Collection Centre. There are 47 Plastic Waste Pickers with the authorization for waste collection. District has 2 Plastic Waste recyclers. PW Management Rules, 2016 is implemented in all the ULBs.

### 3.4 Biomedical Waste Management

450 hospitals present in the Washim district. Bedded hospital are 234 numbers, out of which only 117 HCF have taken authorization. 216 are non-bedded hospitals and HCFs. 325

Clinics and 6 Veterinary hospitals. Total BMW generation from all above mentioned sources are to the tune of 726kg/day.

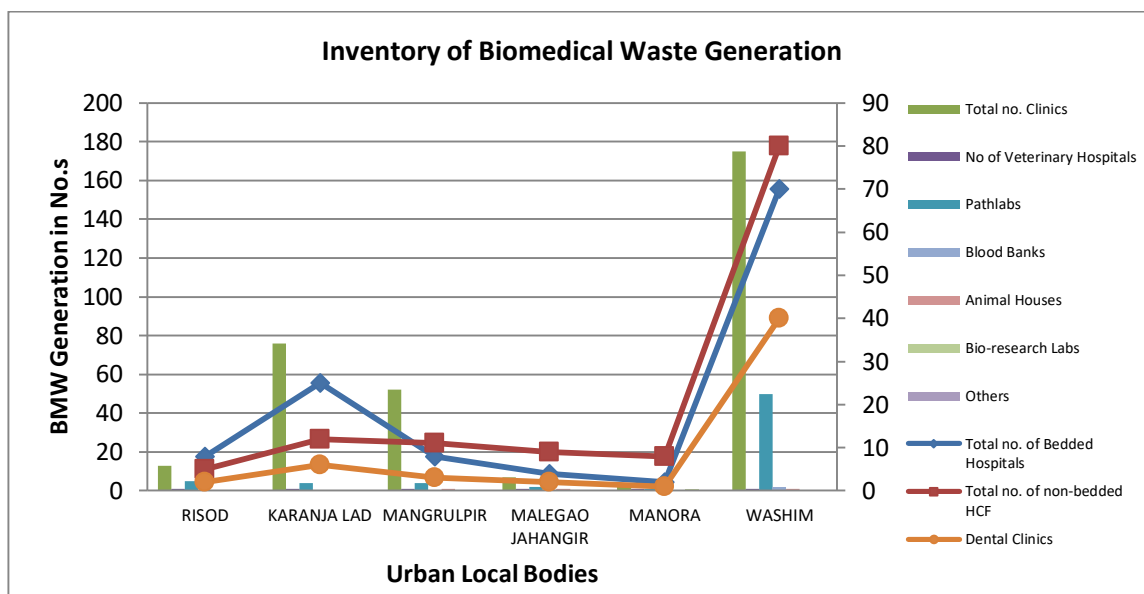


Figure 6 Details of Bio-Medical Waste Generation

There are no Common Facility available for treatment and disposal of BMW. There is requirement of at least one CBWTF in each ULB. Inventory of BMW generating units are mentioned in the **Figure 7**. 144Kg/Day of waste is generated for which no disposal site is provided.

### 3.5 Hazardous Waste Management

3 industries are present, generating 13.3MT/Annually out of which 6MT is sent for land filling and 7.3MT is sent for recovery of HW materials. All industries are authorized. HW generated is sent to the Common Treatment Storage Disposal Facility, present in other district for further disposal.

### 3.6 E Waste Management

Collection Centres are established by ULBs and 6 are established by Producer under EPR scheme. There are no number of authorized E-Waste recyclers / Dismantler and neither numbers are Authorized E-Waste collectors.

### 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
<b>Domestic Solid Waste</b>			
Quantification	<ul style="list-style-type: none"> <li>▪ Methodology for solid waste quantification should be ascertained</li> <li>▪ Quantification based on Income group, culture affluence and technology to be considered</li> </ul>	<ul style="list-style-type: none"> <li>▪ 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</li> <li>▪ Quadrate sampling methodology to be adopted in order to reduce quantity as well as quality</li> </ul>	Immediate
Collection System & Transport System	<ul style="list-style-type: none"> <li>▪ Some of the places, efficiency of the collection system is not up to the mark</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ideally most proven method of SWM is 3 Tier System with door to door, community and transfer station approach</li> <li>▪ 100% efficiency to be achieved</li> <li>▪ Intermediate</li> <li>▪ Approximately 17 Ghanta Gadi would be required</li> </ul>	Short to Mid Term
Infrastructure	<ul style="list-style-type: none"> <li>▪ Mostly composting is the main treatment methodology with about 80% coverage</li> <li>▪ MRF facility is also available but limited to few</li> <li>▪ Sanitary landfill are limited to 2-3 ULBs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Intermediate / Transfer station based decentralized waste treatment facility to be evaluated</li> <li>▪ Additional 20% alternative treatment such as bio-Methanation can be explored</li> </ul>	High
Plastic Waste	<ul style="list-style-type: none"> <li>▪ Lack of SOP for not only quantification</li> </ul>	<ul style="list-style-type: none"> <li>▪ Strengthening surveillance of life cycle assessment for type and</li> </ul>	High & Immediate

Sectors	Gaps	Action Points	Priority
	<p>but also life cycle analysis [LCA]</p> <ul style="list-style-type: none"> <li>▪ Limited understanding / interpretation of EPR / PRO</li> <li>▪ Segregation is Only 70%</li> </ul>	<p>quantity of Plastic Waste</p> <ul style="list-style-type: none"> <li>▪ Effective EPR Policy</li> <li>▪ Initiation of 100% compliance to PW Rules at the earliest</li> </ul>	
C&D Waste	<ul style="list-style-type: none"> <li>▪ 2-3 of the ULB need to establish C&amp;D Waste management system</li> </ul>	<ul style="list-style-type: none"> <li>▪ Minimum 1 such facility at each of the ULB to be established</li> <li>▪ System for utilization of recovered material and processed C&amp;D waste to be effectively implemented and monitored</li> </ul>	High
Biomedical Waste	<ul style="list-style-type: none"> <li>▪ Rooting and effective collection within 48hrs from the time of generation to be effectively handled</li> <li>▪ Treatment facility lacks implementation of 2016 Notification in line with CPCB audited report</li> <li>▪ Limited Inventorization</li> </ul>	<ul style="list-style-type: none"> <li>▪ Regular Inventorization through automatic / digital platform to be developed</li> <li>▪ Up-gradation of existing facility to meet 2016 CPCB norms</li> <li>▪ Additional facilities to cover the of umbrella zone along with increasing burden on the existing coverage area to be planned</li> <li>▪ Collection mechanism to be strengthen with additional vehicles to cover vast area and scattered HCF [miniscule quantity ]</li> </ul>	Very High & Immediate

Sectors	Gaps	Action Points	Priority
Hazardous Waste	<ul style="list-style-type: none"> <li>▪ Domestic HW being mixed with solid waste posing threat</li> <li>▪ No separate handling of domestic HW</li> <li>▪ Not effective segregation of DHW at source</li> </ul>	<ul style="list-style-type: none"> <li>▪ 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</li> <li>▪ Inventory to be initiated and maintained</li> </ul>	Very High & Immediate
E Waste	<ul style="list-style-type: none"> <li>▪ Lack of inventory</li> <li>▪ Limited understanding of E waste rule and management</li> <li>▪ Neither segregation nor separate transfer / handling facility</li> </ul>	<ul style="list-style-type: none"> <li>▪ Detailed inventory for domestic e waste under 26 different categories</li> <li>▪ Mass awareness campaign</li> <li>▪ Every ULB to have at least one E waste management centre and minimum one collection / drop centre in a radius of 25-30km</li> <li>▪ Atleast one e waste processing unit in a district</li> </ul>	Very High & Immediate

#### 4.0 Water Quality Management Plan

The 6 ULBs generate about 12MLD of sewage with no STP. Total number of bore-well estimated are 854. Permission details of these bore-wells operation from ULBs is not available. Domestic sewage treatment facility details not available currently.

Industrial effluent is much more regulated with 0.388MLD of effluent is generated from 4 numbers and currently all industries are meeting effluent discharge standards. Presently no CETP system is operational in the region.

It is essential as part of the ULBs to map HFL, demarcate and protect flood plains especially in light of the erratic precipitation witness in the recent years in some of the ULBS have already included this features as their regulatory mandate though the irrigation department seems to be directly responsible for the same.

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

**Table 4 Action Plan for Water Quality Management**

<b>Sectors</b>	<b>Gaps</b>	<b>Action Points</b>	<b>Priority</b>
Water Resources	<ul style="list-style-type: none"> <li>▪ Limited information available on mapping of surface water resources in terms of quantity</li> <li>▪ Limited Inventorization of quantity, usage, availability exploitation etc.</li> <li>▪ Limited Rejuvenation / remediation of water bodies</li> <li>▪ Solid waste dumping in the river bodies</li> </ul>	<ul style="list-style-type: none"> <li>▪ Thorough Mapping of resources to be taken up</li> <li>▪ Extensive assessment of quality to be done</li> <li>▪ Criticality indicators to be established for each water body/resource</li> <li>▪ Extend water quality monitoring network to include representativeness</li> <li>▪ Based on the criticality initiate Rejuvenation / remediation</li> <li>▪ Online Monitoring system for surface water bodies to be established</li> <li>▪ Protection methods to be developed for creative stoppage of dumping of solid waste in the surface water bodies</li> </ul>	High
Domestic	<ul style="list-style-type: none"> <li>▪ Correlation between generation and treatment often misleading</li> <li>▪ Water budgeting exercise often missing</li> <li>▪ Computation of water footprint missing</li> <li>▪ Surveillance /Inventorization in cradle to grave approach absolutely never applied</li> <li>▪ Limited collection system and treatment facility</li> </ul>	<ul style="list-style-type: none"> <li>▪ Digital Platform to accommodate water budgeting / reuse potential</li> <li>▪ In situ treatment for River stretches to be developed</li> <li>▪ Strengthen the sewage collection network to cover 100% Population</li> <li>▪ Policy for reuse / recycle of treated wastewater</li> </ul>	Very high & Immediate

	<p>especially in remote area</p> <ul style="list-style-type: none"> <li>▪ Often polluting water resources</li> <li>▪ No established reuse options / reuse network</li> </ul>		
Industrial	<ul style="list-style-type: none"> <li>▪ Limited information of industries discharging wastewater in to the river</li> <li>▪ Performance of CETP is questionable</li> <li>▪ Almost 66 number of industries Non-compliance of in terms of meeting discharge standards</li> </ul>	<ul style="list-style-type: none"> <li>▪ CETP performance to be more effective in line with various orders of regulatory bodies / courts</li> <li>▪ Digital compliance methodology to be developed</li> <li>▪ Disposal system to be under constant surveillance</li> </ul>	High

## 5.0 Air Quality Management

As it is Washim 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 no manual & neither CAAQM stations across the district.

It seems that PM10 is Ambient Air is one of the prime reason of the concern and historically Washim 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 priamafece 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"> <li>▪ Most of the places PM<sub>10</sub> seems to exceed by a factor of around 2 - 4</li> <li>▪ Limited CAAQMS to establish / corroborate inferences</li> <li>▪ Sectoral action plans not effectively established</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emission inventory and source apportionment supported with dispersion and health based iterative process for science based AQM strategy to be established</li> <li>▪ 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</li> <li>▪ Fugitive emission control system for hot spot emission control to be installed</li> <li>▪ Green barriers / Photo catalyst options to be evaluated</li> <li>▪ Capacity building to be enhanced</li> </ul>	High

## 6.0 Mining Activity Management plan

Being directly under the promissory control of District Collector, the total lease land and the mining in Washim district is 0.7505 Hectares. It is important to mention that sand mining is carried out in Washim with due permission from respective authorities of MPCB and State Environment Department.

## 7.0 Noise Action Plan

Other than event base monitoring and special projects related / orders monitoring, MPCB carries out annual noise monitoring at 8 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"> <li>▪ Most of the source related noise areas show exposure beyond compliance</li> <li>▪ Excessive exposure during noise generating potential events/ festivals</li> <li>▪</li> </ul>	<ul style="list-style-type: none"> <li>▪ Noise mapping to be carried out for zonation purposes</li> <li>▪ At source control using physical or natural attenuation methods to be adopted</li> <li>▪ In the path noise control methodologies using noise absorbers creating zone of inhibition / silence zone to be done</li> <li>▪ End of the pipe measures such as PEs acoustic enclosures etc. to be adopted</li> <li>▪ Event based noise control policy to be effectively implemented</li> </ul>	High