

# District Environment Plan



Prepared By



Environment Department, Government of Maharashtra



Maharashtra Pollution Control Board

## Gadchiroli

## **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 G District is prepared.

## **2.0 Introduction**

Gadchiroli district was carved out on the 26th of August 1982 by the division of erstwhile Chandrapur district. Earlier, it was a part of Chandrapur District and only two places namely Gadchiroli and Sironcha were tahsils of Chandrapur District before the formation of Gadchiroli District. Gadchiroli tahsil was created in 1905 by transfer of Zamindari Estate from Brahmapuri and Chandrapur tahsil. In ancient times the region was ruled by the Rashtrakutas, the Chalukyas, the Yadavas of Deogiri and later the Gonds of Gadchiroli. In the 13th century Khandkya Ballal Shah founded Chandrapur.

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

**Table 1 Gadchiroli District Profile**

Description	Details
Geographical Location	It lies between 20° 10" North Latitude and 80° 00" East Longitude. Gadchiroli district is situated in the southeastern corner of Maharashtra,
Area	14,412 Sq. km.
Boundaries	Bounded by Chandrapur district to the west, Gondia district to the north, Chhattisgarh state to the east, and Telangana state to the south and southwest.
Languages Spoken	Marathi, Hindi, English are major languages but all Indian languages are spoken
Population	Total: 10,71,795; Male: 5,42,813 Female: 5,28,982 [According to 2011 Census Report]
Population Density	67Per Sq. km.
Literacy Rate	66.03
Rivers	Vainganga, Godavari, Pranhita, Dina.
ULBs	12 Numbers
Sub districts	12 Numbers
Villages	1,688 Numbers
Statutory Towns	2 Numbers
Tahsils	4 Numbers <b>Gadchiroli</b> , Dhanora, Chamorshi and Mulchera
Pin code	442605



**Figure 1 Location of Gadchiroli 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 Gadchiroli 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 12 Urban Local Bodies [ULBs]. in Gadchiroli district. **Table 2** represents the list of ULBs along with population. Following section gives insight about waste management of Gadchiroli districts.

**Table 2 Gadchiroli District Profile**

Sr. No.	Urban Local Bodies	Population
1.	Bhamragad Nagar Panchayat	7840
2.	Municipal Council, Gadchiroli	54152
3.	Municipal Council, Desai ganj	28781
4.	Municipal Council, Armori	25507
5.	Nagar Panchayat, Chamorshi	16953
6.	Nagar Panchayat, Etapalli	10158
7.	Nagar Panchayat, Aheri	16647
8.	Nagar Panchayat, Sironcha	10621
9.	Dhanora	6109
10.	Nagar Panchayat, Kurkheda	7430
11.	Nagar Panchayat, Korchi	3483
12.	Nagar Panchayat, Mulchera	1939

### 3.1 Domestic Solid Waste Management Plan

Gadchiroli district is having 12 ULBs with 17 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 Gadchiroli district is 50.17MTD. Wherein, Dry Waste generation is 26.19MTD and Wet waste is 23.98MTD.

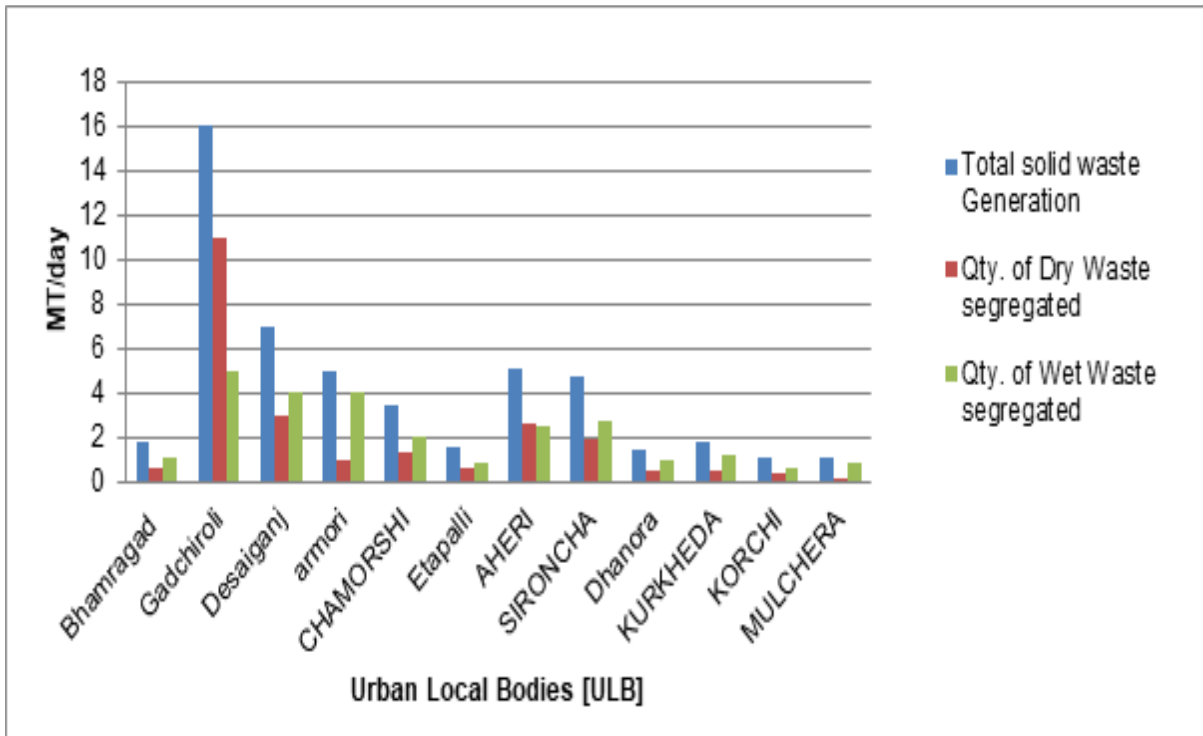


Figure 2 Solid Waste Generation of Gadchiroli District

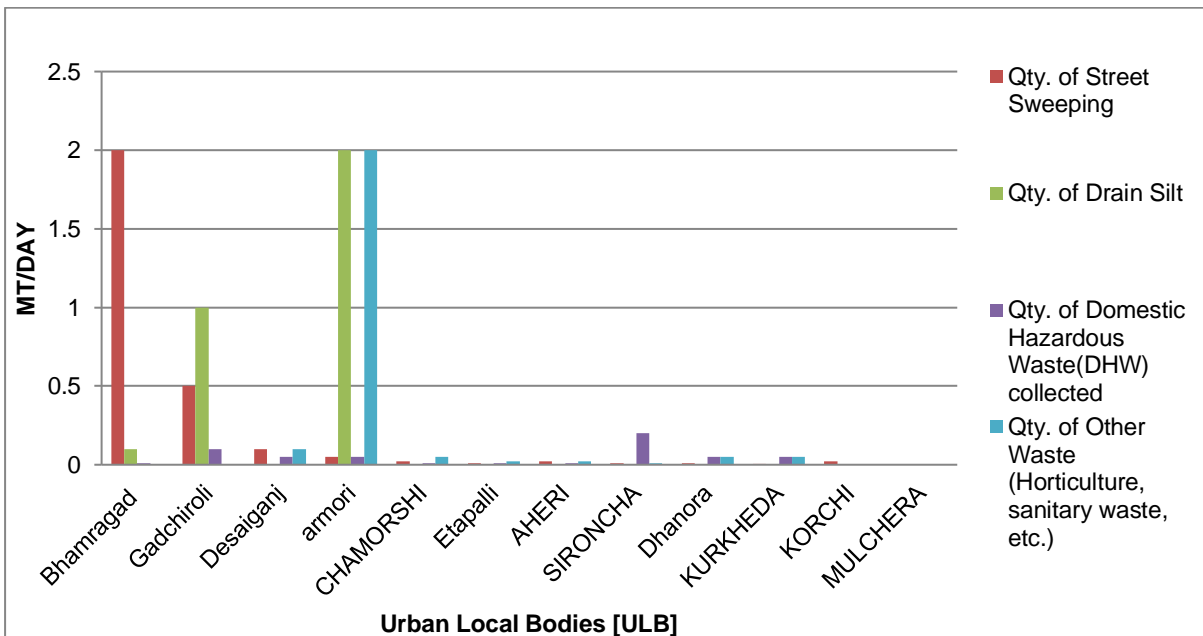


Figure 3 Other Solid waste Generation

It seems that Wet waste comprises of approximately 47.79% of total waste generated of the district and Dry waste contributes 52.20%. Gadchiroli Municipal Corporation stands on top with the highest quantity i.e. 16MTD out of which dry waste is 5MTD and wet waste is 11MTD. Mulchera Nagar Pancayat generates lowest quantity of total Solid waste i.e. 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:** Gadchiroli district generates 2.74MTD of Street Sweeping Waste. Maximum quantity of Street Sweeping Waste is generated by Bhamragad Nagar Panchayat with total quantity of 2MTD followed by Gadchiroli Municipal Council with 0.5MTD and Mulchera Nagar Panchayat stands lowest with 0.002MTD.

**B] Drain Silt Waste:** Total quantity of Drain Silt Waste generated is 3.1MTD. It seems that maximum quantity of Drain Silt Waste is generated by Armori, Municipal Council with total quantity of 2MTD followed by Gadchiroli Municipal Corporation with 1MTD. Bhamragad Nagar Panchayat stands lowest with 0.1MTD. However, it is observed that other than the mentioned ULBs quantity of Drain Silt waste is not estimated by other ULBs like Wadsa, Chamorshi, Etapalli, etc.

**C] Domestic Hazardous Waste (DHW):** Total DHW quantity generated is 0.54MTD. Maximum quantity of DHW is generated Sironcha, Nagar Pancayat with total quantity of 0.2MTD and Korchi, Nagar Panchayat stands lowest with 0.003MTD. Data is not available for Mulchera, Nagar Panchayat.

**D] Other Waste (Horticulture, sanitary waste, etc.):** Total Quantity of Horticulture, Sanitary and other waste is 2.3MTD. Maximum quantity of Other Waste is generated by Municipal council of Armori with total quantity of 2MTD and Korchi, Nagar Panchayat generates lowest quantity i.e. 0.003MTD. As per the available data it can be seen that the Bhamragad, Gadchiroli & Mulchera Nagar Panchayat do not generate the waste

**E] Bulk Waste Generator:** Gadchiroli district do not have any Bulk waste generator.

### 3.1.1 Compliance in Segregated Waste Collection

Total Waste generation from Gadchiroli district is 50.17MTD and almost all waste is being segregated.

#### A] Waste Management Operations

##### Door to Door Collection

In district all the 12 ULBs, have provided 100% door to door collection facility.

##### Mechanical Road Sweeping

None of the Local bodies have initiated the Mechanical Road Sweeping Collection method instead district has adopted the Manual Sweeping method.

#### B] Segregated Waste Transport

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

#### C] Digesters [Biomethanation]

None of the Local body has installed digesters for Biomethanation.

#### D] Composting Operation

Gadchiroli district generates approximately 23.98MTD of wet waste and Out of which 80% is treated through composting.

#### E] MRF Operation

Out of 12 ULBs, 4 ULBs is using Multi Re Use Facility to separate and prepare recyclable material whereas 8 ULBs have not installed URF facility.

#### F] Use of Sanitary Landfill

Out of 12 ULBs, 4 ULBs have provision of Sanitary Landfill

#### G] Reclamation of old dumpsites

Gadchiroli District has initiated the Reclamation of old dumpsites

#### H] Linkage with Waste to Energy Boilers / Cement Plants

Only 5 ULBs have linkage with waste to energy boiler / cement plant

**I] Linkage with Recyclers**

No ULB have not started the process yet.

**J] Authorization of waste pickers**

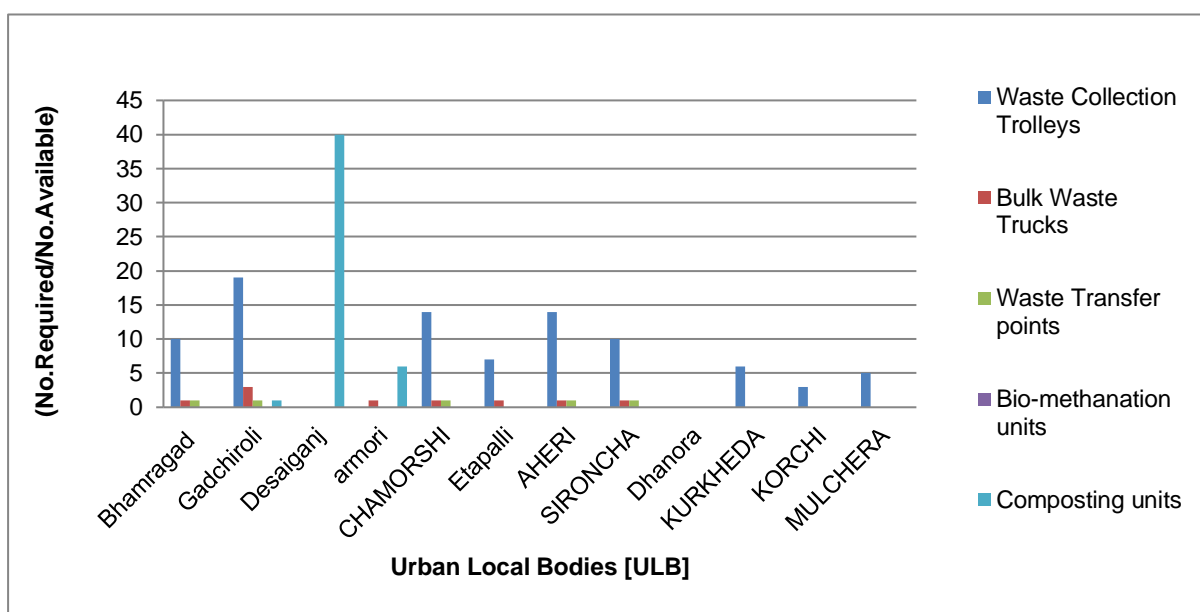
Except Gadchiroli, Municipal Council & Bhamragad Nagar Panchayat no other local body have issued authorization to the waste pickers

**K] Linkage with TSDF / CBMWTF**

No ULB is has any Linkage with TSDF/CBMWTF

**3.1.2 Adequacy of Infrastructure**

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



**Figure 4 Adequacy of SW Infrastructure**

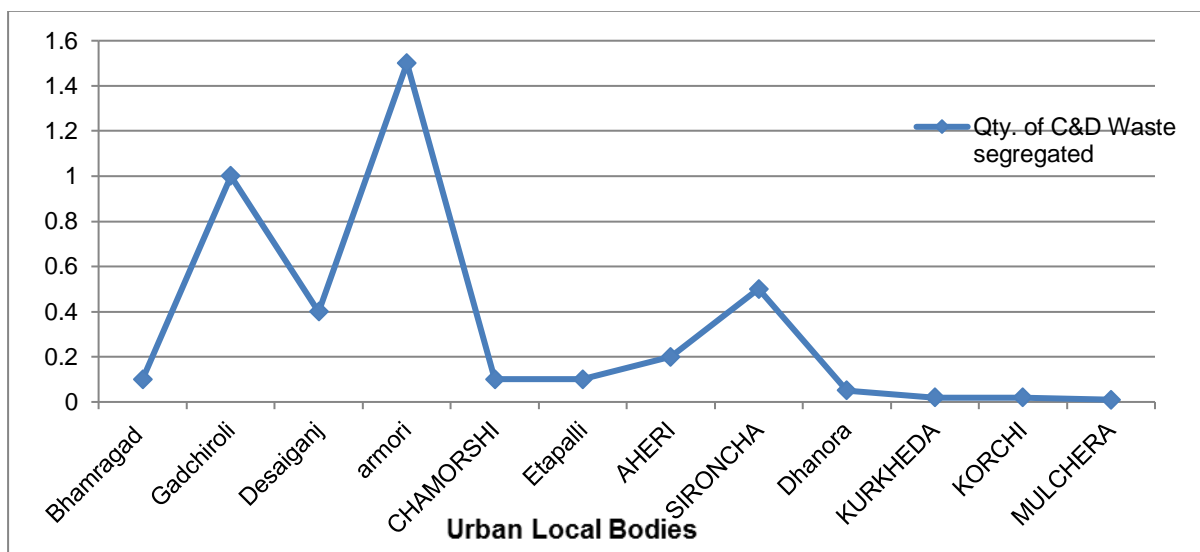
It is observed that there are in total 5 waste Transfer points in Gadchiroli district with waste trolley of 88 nos., with the facility of Mini collection trucks and 9 nos. of Bulk transport trucks. There are no Bio - Methanation units. Composting units available to treat wet waste are 47. There are 2 Waste Deposit Centers in Gadchiroli district. As per record, out of 12 ULBs, only 2 ULBs i.e. Municipal Council, Gadchiroli & Wadsa, municipal Council has implemented the Solid Waste Management Rules.



### 3.2 C&D Waste Management Plan

The Construction and Demolition Waste [C&D Waste] generated by Gadchiroli district is about 3.1MTD. C&D Waste generated by each ULBs is presented in **Figure 5**. Armori contribute maximum share of C&D waste to the tune of 1.5MTD. Nearly about in 5 ULBs of Gadchiroli district Establishment of Deposition Points are established by identifying the C&D deposition points. No waste recycling facility is provided in the district yet.

Not all but some of the local bodies have implemented By-laws

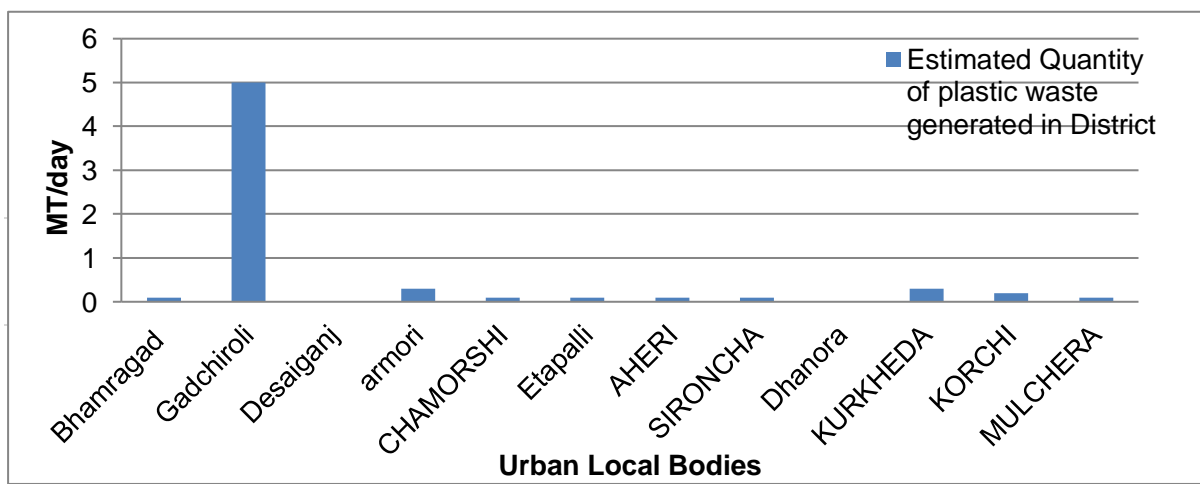


**Figure 5 C&D Waste Generation of Gadchiroli District**

### 3.3 Plastic Waste Management

Total Plastic waste generated by Gadchiroli district is 6.4MTD. With 180MTD quantity, Gadchiroli Municipal Council is the highest plastic waste generator generates 5MTD of plastic waste.

In all ULBs, 100% door to door collection and segregation system is implemented with 5 Plastic Waste Collection Centre. There are 54 Plastic Waste Pickers with the authorization for waste collection. While district do not contribute in Plastic Pyrolysis. Gadchiroli do not have any Plastic manufacturers nor any Plastic pyrolysis oil plants. Nevertheless, Local



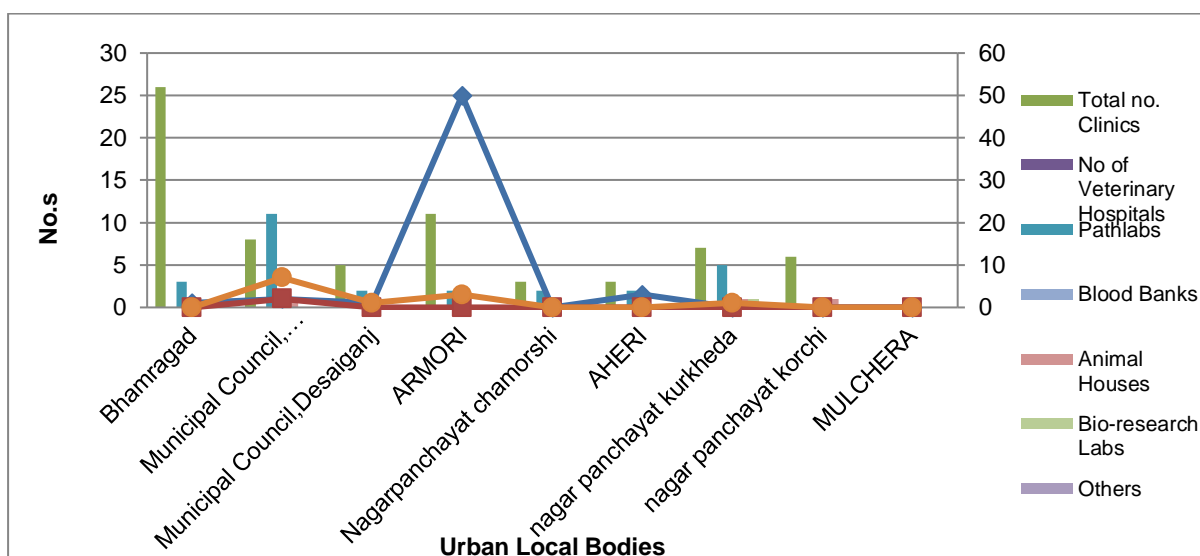
bodies in Gadchiroli district uses its collected plastic waste in Co-processing in Cement Kiln at tune of 12MTM. Availability of facilities for recycling or utilization of PW in Gadchiroli district is represented in below **Fig 6**.

**Figure 6 Details of Plastic Solid Waste Generation**

Gadchiroli 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.

### 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.



**Figure 7 Inventory of Biomedical Waste Generation**

In Gadchiroli district, bedded hospital are 114 numbers, out of which all of the HCF have taken authorization. 142 are non-bedded hospitals, which have taken authorization 138 Clinics and 138 Veterinary hospitals. District do not have any Pathology Laboratories, Blood Banks, Animal Houses, etc.

There are 2 Common Facility available for treatment and disposal of BMW and average BW taken by these facilities are 200kg/day. There is requirement of at least one CBWTF in each ULB. Inventory of BMW generating units are mentioned in the **Figure 7**.

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

In Gadchiroli District partial Hospitals don't hand over waste with proper segregation thus only 100% of the total waste is segregated.

### 3.5 Hazardous Waste Management

4 Number of industry is established generating 768MT/Annually out of which 762MT is of land fillable HW and 2MT/A is Recyclable /utilizable HW. As per standard norms each of these industries have displayed a board of Hazardous Waste generation in industry. Due to unavailability of Hazardous waste disposal site, the generated waste is sent to CHWTSDF of other district within state.

### 3.6 E Waste Management

It is observed that the district has no E-waste collection facility. District does not the 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. No campaigns are held for the awareness of people

### 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 need 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</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</li> </ul>	Immediate

Sectors	Gaps	Action Points	Priority
	<p>ascertained</p> <ul style="list-style-type: none"> <li>▪ Quantification based on Income group, culture affluence and technology to be considered</li> </ul>	<p>to be created. Usually one weigh bridge at any treatment / disposal location required</p> <ul style="list-style-type: none"> <li>▪ Quadratesampling methodology to be adopted in order to reduce quantity as well as quality</li> </ul>	
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> <li>▪ Almost 50.17MTD of waste is not collected at door to door</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 10GhantaGadi would be required</li> <li>▪ Additionally Compactors shall be sufficient for end to end collection and transfer</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> </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>	
lastic Waste	<ul style="list-style-type: none"> <li>▪ Lack of SOP for not only quantification but also life cycle analysis [LCA]</li> <li>▪ Limited understanding / interpretation of</li> </ul>	<ul style="list-style-type: none"> <li>▪ Strengthening surveillance of life cycle assessment for type and quantity of Plastic Waste</li> <li>▪ Effective EPR Policy</li> <li>▪ Initiation of 100% compliance to PW Rules at the earliest</li> </ul>	High & Immediate

Sectors	Gaps	Action Points	Priority
	<p>EPR / PRO</p> <ul style="list-style-type: none"> <li>▪ Only two ULBs lacking implementation of PW notification</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> <li>▪</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 at least 1-2 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
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</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</li> </ul>	Very High& Immediate

Sectors	Gaps	Action Points	Priority
	segregation at source	maintained	
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

There is 1 Rivers in Gadchiroli district with 105 km in length. In Gadchiroli district generate about 11.2 no STP leaving a deficit of 100%. However, it is also many a time the deficit as a representative of treatment capacity / capability. Even though MPCB has been eyeing to formulate policy w.r.t. reuse treated sewage as a regulation, lack of reuse conveyance system and more often than not due to the limited options of reutilization of treated sewage worsened with consistent output quality of treated sewage only leads to complicated disposal options.

Industrial effluent is much more regulated wherein 0.5 MLD from 58 numbers of industry, 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 0 number of CETP.

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 i 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> </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

Sectors	Gaps	Action Points	Priority
	<ul style="list-style-type: none"> <li>▪ Limited collection system and treatment facility especially in remote area</li> <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>▪ No CETP is provided</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>	

## 5.0 Air Quality Management

As it is Gadchiroli 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 0 manual & 0 CAAQM stations across the district.

An exceedance factor like Identifying prominent air polluting sources such Unpaved roads, burning of waste stubble in Gadchiroli 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'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.

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.



District provides 60% Vehicle pollution check centres, while 10% of Dust Suppression Vehicles.

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 PM10 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

Gadchiroli district comprises of different types of mining activity such as Sand Mining 33 nos., Iron ore mining 2 nos. Area covered under mining is Iron Ore Area - 349.71 Ha. Sand Area - 34.92 Ha. Quartz/Quartzite Area - 20.0 Ha. Sand mining is also carried out in Gadchiroli district for River bed - 5661.91sq/km of area.

It can be observed that all the 78 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 Action 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 10 No. of noise measuring devices with district administration to monitor the noise levels while 2 noise measuring devices with SPCBs. There are 6 complaints received on noise pollution in last 1 year for Gadchiroli district thus readdressing the 6 of them.. District ocassionally implemnt ambient noise standards in residential and silent zones. No Noise monitoring study is carried out in Gadchiroli 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	<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

## 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.