

District Environment Plan



Prepared By



Environment Department, Government of Maharashtra



Maharashtra Pollution Control Board

Chandrapur

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.

2.0 Introduction

Chandrapur district (earlier known as Chanda) is a city. The Chandrapur district is a fort city founded by KhandkyaBallalSah, a Gond king of the 13th century. Chandrapur was the largest district in India until the Gadchiroli and Sironcha tehsils were split into separate districts in 1981. Chandrapur district is known for its Chandrapur Super Thermal Power Station, and its vast reserves of coal in Wardha Valley Coalfield. Chandrapur also has large reservoirs of limestone which is a raw material for cement manufacturing in the district.

Tadoba National Park in the district is one of India's twenty-eight Project Tiger reserves. It has an area of 11,443km² and population of 22,04,307 as per the census 2011. Chandrapur district comprises 23 census towns and 1836 villages spread over 15 Talukas. General Chandrapur district profile is presented in the **Table 1** and location is shown in **Figure 1**.

Table 1 Chandrapur District Profile

Description	Details
Average Climate	Hot and Dry summers and cold winters with the seasonal variation in the temperature being pretty large
Geographical Location	It is located between 19.30' N and 20.45' N latitude and at 78.46' E longitude.
Area	11,443 km ² (4,418 sq mi)
Boundaries	The district is surrounded by Bhandara and Nagpur districts at its northern side, Wardha and Yavatmal districts at its western side, Gadchiroli district on the eastern side and KomaramBheem and Adilabad districts of Telangana state on the southern side
Languages	Marathi is spoken by most of the people in Chandrapur. The native Gondi

Description	Details
Spoken	language is spoken by most of the Gonds in Chandrapur. Some people are also fluent in Hindi. A large section of population also speaks English.
Population	Total: 2,204,307; [According to 2011 Census Report]
Population Density	155 Per Sq. km.
Literacy Rate	59.41%
Rivers	Tapi River and Godavari River basins.
ULBs	16 Numbers
Sub Divisions	8 Numbers
Villages	1,836 Numbers
Statutory Towns	23 Numbers
Pin code	442401

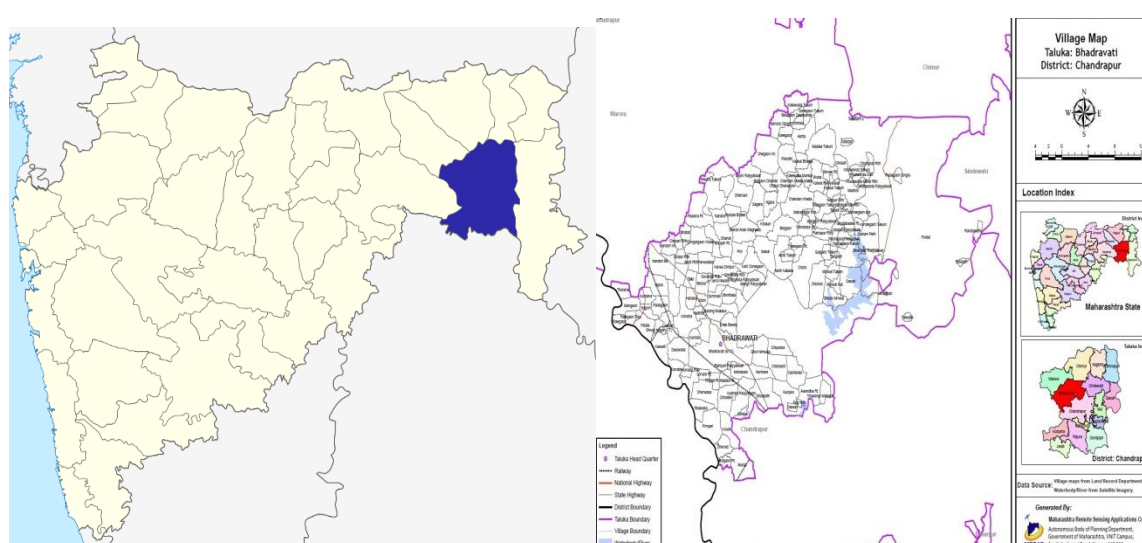


Figure 1 Location of Chandrapur District in Maharashtra State

3.0 Domestic Solid Waste Management Plan

According to the 2011 census, the population of Maharashtra was 11.24Cr; of this 45.22% are urban. 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 especially fast growing economies such as Maharashtra 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 Chandrapur 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 16 Urban Local Body [ULB] in Chandrapur district.

3.1 Domestic Solid Waste Management Plan

Chandrapur district is having 16 ULB. As per collected data, total solid waste generation is 213.71 MTD. Wherein, Dry Waste generation is 97.6 MTD and Wet waste is 99.7 MTD.

It seems that ratio of dry to wet waste is almost equal with each forming almost 50% of the total solid waste. Mostly composting treatment is used for processing of SW in almost all ULB's.

3.1.1 Collection and Transport

In line with the total Solid waste generated, every ULB almost covers 100% Door to Door collection system including manual Road Sweeping though none of the ULB has yet initiated process of Mechanical sweeping yet. Except for Chandrapur MC which has 90% segregated waste transport, all other ULB's in the district has 100% segregated waste transport. Segregated wet waste is processed using composting to the tune of 100% except for Sindevahi where it is 50% & Jiwati with 60% processing capacities. Also, Chandrapur MC converts 80% of its segregated waste to compost. Interestingly, MRF is used in all the ULB's & each of them are scientifically managing landfills using sanitary standards of operations which is an exceptionally good indication for management of dry waste. The situation is further promising with reclamation of the old dumps being initiated in almost all the ULB's, wherever they are applicable. It seems the SWM is in good shape with many efforts such as linkages with Common facilities, authorization of waste pickers, awareness through involvement of NGO's, issuance of ID cards & many others from almost all ULB's in Chandrapur district.

3.2 C&D Waste Management Plan

The Construction and Demolition Waste [C&D Waste] generated by Chandrapur district is about 8.9 MT/D. Though issuance of permissions for Bulk Waste generators have been initiated in all the ULB's including establishment of deposition points & notification of by-laws for charges, none of the ULB's has facility to recycle C&D waste.

3.3 Plastic Waste Management

Plastics are integral part of society and have varied application. Total Plastic waste generated by Chandrapur district is 14.5 MTD. As stated earlier, all ULB's has 100% door to door collection & segregation system including MRF being used by each of the 16 ULB's.

District has 26 Plastic Waste Collection Centres with 98 authorizations of waste PW Pickers. Each ULB has established linkage with PRO's of producers & an NGO making it 6 each in numbers throughout the district.

Though there are 17 recyclers of PW, 15 of them are in Chandrapur MC with only 1 manufacturer in Ballarpur ULB. There PW doesn't undergo any Pyrolysis or road making utilization though about 59.1MT/month is sent to co-processing in cement kiln. District has implemented the PW Management Rules, 2016 in all its 16 ULB's 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 few producers associated with some of the ULB's providing about 10 Lakh each in 6 of the ULB's that are supported by Producers / Brand owners to ULBs to support Extended Producers Responsibility (EPR) for collection centres.

3.4 Biomedical Waste Management

There are about 917 BMW generators including 245 bedded hospitals, 357 c;linics, 162 vet hospitals & 80 pathlabs amongst others generating about 544kg/d of BMW waste which is completely treated with its treatment facility provided.

There is 1 Common Biomedical Waste Treatment and Disposal Facilities (CBMWTFs) located in Chandrapur MC probably catering all of the district & as per records seems to be adequate as there are no other captive facilities in any of the HCF's. Bar coding is 100% achieved through all ULB's & the CHWTSDF meets compliance standards including 100% pre-segregation.

3.5 Hazardous Waste Management

There are 92 haz waste generating industries in the district generating 4190MTA of haz waste of which 1924 MTA is incinerable & 1997MTA is recyclable whereas only about 269MTA finds its way to landfill. ULB's are not yet linked to CHWTSDF whereas linkages of industries is 100%.

3.6 E Waste Management

No Collection Centres are established by ULBs neither any ULBs have established by Producer under EPR scheme. There are no authorized E-Waste recyclers / Dismantler nor any Authorized E-Waste collectors.

Citizens are able to deposit E-Waste through Toll-free Numbers in the District with 7 collection centres already established though detailed inventory is not yet prepared & yet branded mobile companies have initiated collection mechanisms for e waste. There is no E-waste recycler nor the local bodies have linked up for same with anyone nor any kind of awareness campaigns yet done.

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 2**.

Table 2 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"> ▪ Quadratesampling methodology to be adopted in order to reduce quantity as well as quality ▪ Haz. waste from domestic quantities may be estimated 	Immediate
Infrastructure	<ul style="list-style-type: none"> ▪ Mostly composting is the main treatment methodology with about 80% coverage 	<ul style="list-style-type: none"> ▪ Additional 20% alternative treatment such as biomethanation can be explored at some of the ULB's where it is needed 	High
Plastic Waste	<ul style="list-style-type: none"> ▪ Extend EPR / PRO further to every ULB's more extensively ▪ Only 2 ULBs has PW recyclers 	<ul style="list-style-type: none"> ▪ 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 at each of the ULB's 	High & Immediate
C&D Waste	<ul style="list-style-type: none"> ▪ All ULBs need to establish C&D Waste 	<ul style="list-style-type: none"> ▪ Minimum 1 such facility at each of the ULB to be established 	High

Sectors	Gaps	Action Points	Priority
	management system	<ul style="list-style-type: none"> ▪ System for utilization of recovered material and processed C&D waste to be effectively implemented and monitored 	
Biomedical Waste	<ul style="list-style-type: none"> ▪ Rooting and effective collection within 48hrs from the time of generation to be effectively handled 	<ul style="list-style-type: none"> ▪ Regular Inventorization through automatic / digital platform to be developed ▪ 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 of domestic HW ▪ Not effective segregation at source 	<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 of domestic HW to be initiated ▪ Inventory to be initiated and maintained 	Very High & Immediate
E Waste	<ul style="list-style-type: none"> ▪ Lack of inventory ▪ Limited understanding of E waste rule and management ▪ Neither segregation nor separate transfer / handling facility 	<ul style="list-style-type: none"> ▪ 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 are 2 Rivers in flowing through Chandrapur district with 42kms riverine length of Wardha & 186kms of Wainganga Rivers. The district also houses about 16Nos of lakes / ponds with almost 10260 Nos. of ground waste extracting bore wells; all of which have been granted permissions for same. It seems that GW potential is adequate in the entire district & none of the GW falls within the ambit of polluted areas with DM office having access to all such relevant data. ULB generate about 62.3MLD of sewage with only 36MLD of STP capacity.

There's is one industrial township present in District. Even though river side open defecation & dumping of solids on river banks are fully controlled with idol immersion measures adopted, oil spill management is yet to find its way into river management in this district.

Industrial effluent are much more regulated wherein the generation being 220.3MLD mainly from TPP & yet only 37MLD of treated effluent is discharged into Wardha River. There is no Common Effluent Treatment Facilities available in Chandrapur 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	<ul style="list-style-type: none"> ▪ 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 	<ul style="list-style-type: none"> ▪ 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 	High

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 ▪ Only 10% population covered with sewer collection network 	<ul style="list-style-type: none"> ▪ Digital Platform to accommodate water budgeting / reuse potential ▪ Approximately 51.5MLD of STP needed ▪ 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	37MLD of treated effluent finds way through nallah into river	<ul style="list-style-type: none"> ▪ Digital compliance methodology to be developed ▪ Disposal system to be under constant surveillance ▪ Reuse policy & trading of water may be devised for ZLD 	High

5.0 Air Quality Management

Chandrapur district being one of the most polluted areas due to TPP, mining, cement & other industrial activities, air quality assessment and sectoral management needs are ought to be essentially planned and executed. There are 6 manually operated & 2 CAAQM stations across the district.

PM₁₀ is Ambient Air is one of the prime reason of the concern and historically Chandrapur has been in the centre of controversy with regards its air quality management especially with 1 Non-attainment city in this district with action plan already prepared. 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 facie 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 in each of the ULB's. PUC's cover almost 60% of the ULB's with 6% of

the ULB's having dust suppression mechanisms & the district as a whole has SOP for forest fires though about 12 industries are under strict vigilance for not meeting air quality standards.

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	<ul style="list-style-type: none"> ▪ Limited CAAQMS available ▪ 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 atleast 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 	High

6.0 Mining Activity Management plan

Chanrapur district is rich in minerals & is known for its mining activities with 68 sand ghats, 2 each of Sand stowing & Iron ore whereas 30 coal & 7 limestone mines with about 158 mining leases already in operation. Almost 9.9sq.km & 1.97sq.km of area is covered under major & minor minerals respectively. Sand mining is a known activity along river bed of about 3.9sq.km. There are existing 151 EC granted & active as of now that are meeting all the standards & conditions specified therein though there are about 7 compliants & about 4 mining operations are suspended due to violations.

7.0 Noise Action Plan

The district administration itself has about 34 devices to monitor noise along with 2 of them with MPCB and ample capability to measure noise levels. The raised public concerns are evident from 27 different complaints in past 1 year about noise pollution all of which have been redressed with effective sign boards for silent zones displayed throughout. **Table 5** presents potential management plan that could be taken up on priority by ULBs.

Table 5 Action Plan for Noise Pollution Management

Sectors	Gaps	Action Points	Priority
Noise	<ul style="list-style-type: none"> ▪ Noise monitoring study is not carried out in the district 	<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 ▪ 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 	Immediate

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 devise 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