

District Environment Plan



Prepared By



Environment Department, Government of Maharashtra



Maharashtra Pollution Control Board

Akola

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 Akola District is prepared.

2.0 Introduction

Akola is a city in Vidarbha region in the state of Maharashtra in central India. It is the 3rd largest city in Vidarbha, situated about 290 miles (580 km) east of the state capital, Mumbai, and 140 miles (250 km) west of the second capital .Akola is the administrative headquarters of Akola District located in Akola Division. Akola city is governed by the Akola Municipal Corporation

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

Table 1 Akola District Profile

Description	Details
Average Climate	Summer: 45.9°C. Winter :35.5°C. Rainfall: 750To 1000 mm.
Geographical Location	This district is situated between North 20.17 to 21.16 latitude and East 5.6 °C.The city of Akola is located in the north-central part of Maharashtra state, western India, on the banks of Morna River and it is an important district in Vidarbha region of Maharashtra State.
Area	5,428 Sq. km.
Boundaries	It is bounded on the north by Paratwada, to the east by Amravati and daryapur, to the south by Karanja and Chikhli, in west by Khamgaon and Shegaon.
Languages Spoken	Marathi, Hindi, English are major languages

Description	Details
Population	Total: 1,813,906. Male: 932,334 Female: 881,572 [According to 2011 Census Report]
Population Density	320 Per Sq. km.
Literacy Rate	88.05%
Rivers	Purna, Uma, Katepurna, Shahnur, Morna, Man, Aas and Vaan
Municipal Corporations	1 Numbers
Villages	1,877 Numbers
Statutory Towns	16 Numbers
Tahsils	7 Numbers Akola, Balapur, Patur, Barshitakali, Murtizapur, Akot and Telhara.
Pin code	444001, 444002, 444003, 444004, 444005, 444006, 444104, 444109, 444302

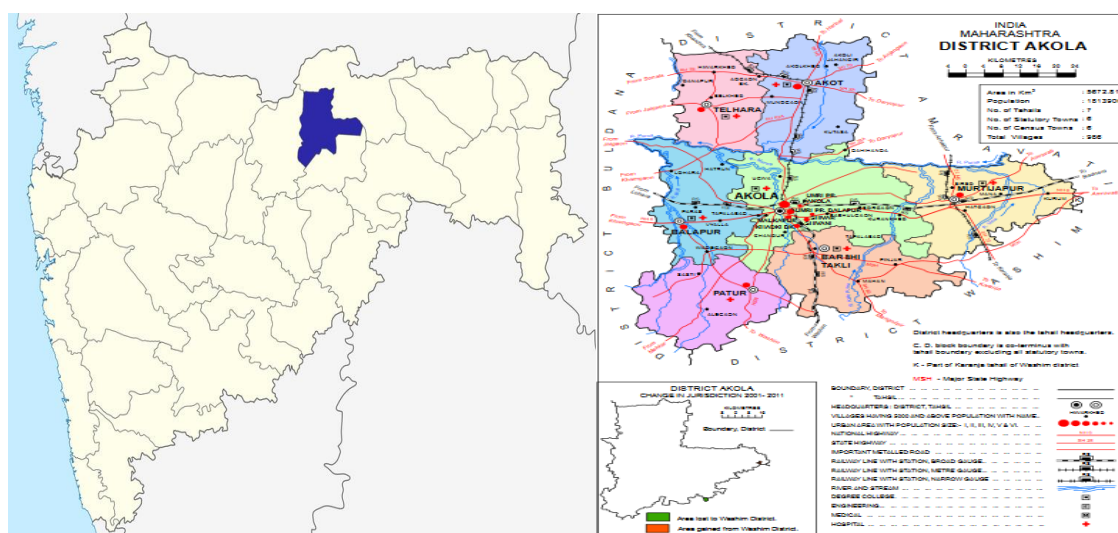


Figure 1 Location of Akola District

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 Akola 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 Akola district. **Table 2** represents the list of ULBs along with population. Following section gives insight about waste management of Akola districts.

3.1 Domestic Solid Waste Management Plan

Akola district is having 7 ULBs with 20 Wards. Municipal Solid Waste [Dry & Wet] generated from each ULBs and details of Other Types of Waste is presented below for easy representation. As per collected data, total solid waste generation of Akola district is 271.54MTD

It seems that Wet waste comprises of approximately 45% i.e 111.33MT/D of total waste generated of the district and Dry waste contributes 55% i.e 149.34. It is observed that Akola Municipal Corporation stands on top with the highest quantity i.e. 250MTD. It is observed that quantity of solid waste generation is in line with the respective population of ULBs.

A] Street Sweeping Waste: Akola district generates 7.665MTD of Street Sweeping Waste. Maximum quantity of Street Sweeping Waste is generated by Akola Municipal Corporation with total quantity of 56MTD.

B] Drain Silt Waste: Total quantity of Drain Silt Waste generated is 15.25MTD. It seems that maximum quantity of Drain Silt Waste is generated by Akola Municipal Corporation which accounts to 11MTD and minimum waste is generated by Balapur Municipal Corporation.

C] Domestic Hazardous Waste (DHW): Total DHW quantity generated is 1.263MTD. Maximum quantity of DHW is generated by Akola Municipal Corporation with total quantity of 1.24MTD. It is observed that there is no facility provided at Balapur Municipal Corporation for collection of Domestic Hazardous Waste.

D] Other Waste (Horticulture, sanitary waste, etc.): Total Quantity of Horticulture, Sanitary and other waste is 1.263MTD. Maximum quantity of Other Waste is generated by Akola Municipal Corporation with total quantity of 1.24MTD. It is observed that there is no facility provided at Balapur Municipal Corporation

E] Bulk Waste Generator: Akola district is having total 10 bulk Waste Generator with the highest numbers in Akola Municipal Corporation and total number of onsite facility provided for treatment of wet waste is 136.

3.1.1 Compliance in Segregated Waste Collection

Total Waste generation from Akola district is 271.54MTD and almost all waste is being segregated.

A] Waste Management Operations

Door to Door Collection

All the 7ULBs have provided 100% door to door collection facility.

Mechanical & Manual Road Sweeping

2 ULBs have implemented Mechanical Road Sweeping which is in range of 100% and the rest have provided only certain percentage of cleaning. Telhara Municipal Corporation has not initiated the activity. On the other hand 100% manual road sweeping is also taken place at all the ULBs.

Segregated Waste Transport

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

Composting Operation

Out of 7ULBs, 6ULBs carry out composting of the entire wet waste generated whereas, 1 ULBs has not started with the activity.

MRF Operation

Out of 7ULBs, 6ULBs carry are using Multi Re Use Facility to separate and prepare recyclable material whereas 1ULBs have not installed URF facility.

Reclamation of old dumpsites

4 ULBs are carrying out the acivity while 2 ULBs are under process.

Linkage with Recyclers

3 ULBs have initiated while 3 ULBs are not carrying out the activity.

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

1 ULBs have linkage with TSDF/CBMWTF

3.1.2 Adequacy of Infrastructure

It is observed that in Akola district there are about 33 waste collection trolley, Mini collection trucks 112 numbers and Bulk transport trucks 33. No Bio - Methanation units at Akola. 15 6 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 Akola district is about 1095MT/Annum. 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 Akola district is 14.9MTD. With 12.5MTD quantity, Akola 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.

3.4 Biomedical Waste Management

In Akola District about, 253 Bedded hospital, 146 non-bedded hospitals, 134 clinics, 3 veterinary hospitals, 29 pathlabs and 45 dental clinics are present. Other than above mentioned there are about 253 Bedded HCFs and 146 non-bedded HCFs

Total BMW generation from all above mentioned sources is 553Kg/Day.

Only 6 Common Facility is available for treatment and disposal of BMW with adequate facility. 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 ▪ Quadratesampling 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 	Short to Mid Term
Infrastructure	<ul style="list-style-type: none"> ▪ Mostly composting is the main treatment methodology ▪ MRF facility is also available but limited to few 	<ul style="list-style-type: none"> ▪ Intermediate / Transfer station based decentralized waste treatment facility to be evaluated ▪ 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

Sectors	Gaps	Action Points	Priority
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 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 ▪ Atleast one e waste processing unit in a district 	Very High & Immediate

4.0 Water Quality Management Plan

The 7 ULBs generate about 59.6MLD of domestic sewage and details of quantity of industrial sewage generation is currently not available. There are currently 15 industries operational generating industrial effluent of which 10 are have treated effluent parameters within the permissible limit and 5 industries are not meeting discharge standards.

A 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	<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 	<ul style="list-style-type: none"> ▪ Digital Platform to accommodate water budgeting / reuse potential ▪ Approximately 60MLD of STP needed ▪ Strengthen the sewage collection network to cover 100% Population ▪ Policy for reuse / recycle of treated wastewater 	Very high & Immediate

	<p>resources</p> <ul style="list-style-type: none"> ▪ No established reuse options / reuse network ▪ Limited details about sewage Treated system capacity and numbers. 		
Industrial	<ul style="list-style-type: none"> ▪ Limited information of industries discharging wastewater in to the river ▪ Effluent likely to be generated from 15 industries ▪ Almost 5 number of industries Non-compliance of in terms of meeting discharge standards ▪ CETP not provided 	<ul style="list-style-type: none"> ▪ Digital compliance methodology to be developed ▪ Disposal system to be under constant surveillance ▪ Need to provide CETP ▪ Effluent likely to be generated from 15 industries is required 	High

5.0 Air Quality Management

As it is Akola 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 Akola 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 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

As per the details shared the mining activity is not carried out in any of the ULBs

7.0 Noise Action Plan

Other than event base monitoring and special projects related / orders monitoring, MPCB carries out annual noise monitoring at 11 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 during noise generating potential events/ festivals 	<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 	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.