

District Environment Plan



Prepared By



Environment Department, Government of Maharashtra



Maharashtra Pollution Control Board

Nashik

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 Nashik District is prepared.

2.0 Introduction

Nashik is an ancient holy city in the northern region of the Indian state of Maharashtra. Situated on the banks of river Godavari, Nashik is well known for being one of Hindu pilgrimage sites, that of Kumbh Mela which is held every 12 years. Nashik lies in the northern part of Maharashtra state at 584 m (1,916 ft)[8] from the mean sea level which gives it ideal temperature variation, particularly in winters.

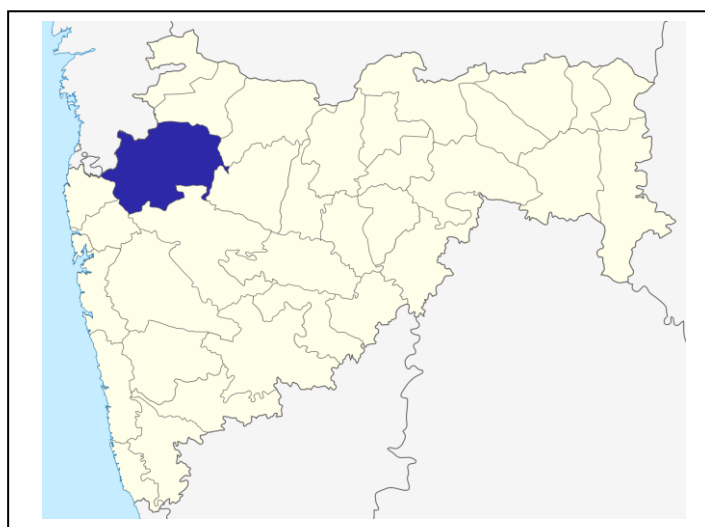


Figure 1 Location of Nashik District

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 Nashik 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 Nashik district. Following section gives insight about waste management of Nashik districts.

3.1 Domestic Solid Waste Management Plan

Nashik district is having 17 ULBs with 234 Wards. Municipal Solid Waste [Dry & Wet] generated from each ULBs and details of Other Types of Waste is presented below due to its less quantity and for easy representation. As per collected data, total solid waste generation of Nashik district is 910.81 MTD.

It seems that Wet waste comprises of approximately 46% of total waste generated of the district and Dry waste contributes 54%.

A] Street Sweeping Waste: Nashik district generates 3.025 MTD of Street Sweeping Waste. It is observed that out of 17 ULBs, data is not estimated for 4 ULBs.

B] Drain Silt Waste: Total quantity of Drain Silt Waste generated is 1.271 MTD. The quantity of Drain silt for 5 ULBs is not estimated. The maximum quantity of Drain silt is generated at Manmad and Sinnar.

C] Domestic Hazardous Waste (DHW): Total DHW quantity generated is 2.064 MTD. Maximum quantity of DHW is generated by Nashik with total quantity of 1.48 MTD. Domestic Hazardous waste is not estimated at Malegaon.

D] Other Waste (Horticulture, sanitary waste, etc.):Total Quantity of Horticulture, Sanitary and other waste is 42.18MTD.Maximum quantity of Other Waste is generated by Nashik with total quantity of 42.18MTD. Data is not available for other 14 ULBs.

E] Bulk Waste Generator: Nashik district is having total 22bulk Waste Generator with the highest numbers inNashikand total number of onsite facility provided for treatment of wet waste is 20. Inventory data for bulk waste generator is not available for Malegaon.

3.1.1 Compliance in Segregated Waste Collection

Total Waste generation from Nashik district is 910.85MTD and almost all waste is being segregated.

A] Waste Management Operations

Door to Door Collection

100% Door to Door collection facility is done at all locations other than Nashik where the 80% collection is done.

Mechanical & Manual Road Sweeping

Mechanical sweeping is not carried out in any of the ULB whereas manual sweeping is carried out at all 17 locations.

Segregated Waste Transport

100% of waste is being transport through segregated waste transport system at 9 ULBs and 70-80% is segregated at

Composting Operation

Out of 17ULBs, 7 ULBs carry out composting of the entire wet waste generated whereas, 7 ULBs composts a particular quantity of the wet waste and rest 3 have not yet started composting. Malegaon, Sugana and Dindori have not started with composting activity.

MRF Operation

Out of 17 ULBs, 16 ULBs is using Multi Re Use Facility to separate and prepare recyclable material whereas 1ULBs have not installed URF facility.

Reclamation of old dumpsites

10 ULBs are carrying out reclamation of old dump sites.

Linkage with Recyclers

All the 17 ULBs, 10 ULBs are having linkage with recycler.

Authorization of waste pickers

Out of 17ULBs, 15 ULBs have issued authorization to the waste pickers and is having ID cards for the same

Linkage with TSDF / CBMWTF

All the 15 ULBs have linkage with TSDF/CBMWTF

3.1.2 Adequacy of Infrastructure

It is observed that in Nashik district there are about 283 waste collection trolley, Mini collection trucks 41 numbers and Bulk transport trucks 3.3 Bio - Methanation units are there at Nashik, Nandgaon and Satana.236Composting units are available to treat wet waste.

3.2 C&D Waste Management Plan

The Construction and Demolition Waste [C&D Waste] generated by Nashikdistrict is about 9187.25MT/Annum. Locations are being identified for collection and disposal of the C&D waste generated.

3.3 Plastic Waste Management

Total Plastic waste generated by Nashik district is 93.3 MTD. In almost all ULBs, door to door collection and segregation system is implemented with 19 Plastic Waste Collection Centre. There are no Plastic Waste Pickers with the authorization for waste collection. Data for Plastic Manufacturer is not available whereas there are 11 Waste recyclers. PW Management Rules, 2016 is partially implemented in all the ULBs.

3.4 Biomedical Waste Management

In Nashik District about, 83 Bedded hospital, 72 non-bedded hospitals, 108 clinics, 9 veterinary hospitals, 48 pathlabs, 51 dental clinics, 25 Blood banks, and 4 Bio-research lab is present. Other than above mentioned there are about 21 Bedded HCFs and 36 non-bedded HCFs

Total BMW generation from all above mentioned sources is 3500Kg/Day

Data of Common Facility is not available. The average BW taken by these facilities is 225Kg/Day.

Bar code system is provided for tracking the waste and about 740Kg/Dayof 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

Hazardous Waste quantity is not estimated for Nashik District

3.6 E Waste Management

1 E-waste authorized E-waste recycler / dismantler is there in the entire district. District Administrator has conducted District Level Awareness Campaigns for E-Waste at Manmad.

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 1**.

Table 1 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 ▪ Approximately 182GhantaGadi would be required 	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 ▪ Sanitary landfill are limited 	<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 	High
Plastic Waste	<ul style="list-style-type: none"> ▪ Limited understanding / interpretation of EPR / PRO ▪ Treatment technology 	<ul style="list-style-type: none"> ▪ Effective EPR Policy ▪ Initiation of 100% compliance to PW Rules at the earliest ▪ Pyrolysis, road making or Plastic 	High & Immediate

Sectors	Gaps	Action Points	Priority
	is not utilized for plastic waste	can also be given for co-processing in cement kiln	
C&D Waste	<ul style="list-style-type: none"> ▪ 2-3 of the ULB need to establish C&D Waste management system 	<ul style="list-style-type: none"> ▪ Minimum 1 such facility at each of the ULB to be established ▪ System for utilization of recovered material and processed C&D waste to be effectively implemented and monitored 	High
Biomedical Waste	<ul style="list-style-type: none"> ▪ Rooting and effective collection within 48hrs from the time of generation to be effectively handled ▪ Treatment facility lacks implementation of 2016 Notification in line with CPCB audited report ▪ Limited Inventorization 	<ul style="list-style-type: none"> ▪ Regular Inventorization through automatic / digital platform to be developed ▪ Up-gradation of existing facility to meet 2016 CPCB norms ▪ Additional at least 1-2 facilities to cover the of umbrella zone along with increasing burden on the existing coverage area to be planned ▪ Collection mechanism to be strengthen with additional vehicles to cover vast area and scattered HCF [miniscule quantity] 	Very High& Immediate
Hazardous Waste	<ul style="list-style-type: none"> ▪ Domestic HW being mixed with solid waste posing threat ▪ No separate handling 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

There are 3 Rivers from Nashik named Darna, Girna and Godavari with 100km in length. With respect to the data collated about 14.9MLD of untreated /partially treated sewage flows in to the riverine length thereby [posing challenge for attaining clean water in the river.

The 17 ULBs generate about 351.84MLD of sewage with an existing capacity of 312.5MLD of STP. However, it is also many a time the deficit as a representative of treatment capacity / capability. Even though MPCB has been eying 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.

On the other hand industrial effluent are much more regulated wherein 3.0MLD from 17 numbers of industry, limited to Nashik District are made to treat almost the entire effluent to the best possible norms as stipulated by their permits, monitored effectively and regularly with the aid of final disposal / treatment.

Finally, it is quintessential 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 and have included this features as their regulatory mandate though the irrigation department seems to be directly responsible for the same.

All the above needs to be combined with the effort of sensitization and awareness at all level in order to formulate and implement successful water quality management strategy though the same is limited to Nashik District as of now & a detailed Issue based management action plan is provided in **Table 2**.

Table 2 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 	High

		stoppage of dumping of solid waste in the surface water bodies	
Domestic	<ul style="list-style-type: none"> ▪ Correlation between generation and treatment often misleading ▪ Water budgeting exercise often missing ▪ Computation of water footprint missing ▪ Surveillance /Inventorization in cradle to grave approach absolutely never applied ▪ Limited collection system and treatment facility especially in remote area ▪ Often polluting water resources ▪ No established reuse options / reuse network 	<ul style="list-style-type: none"> ▪ Digital Platform to accommodate water budgeting / reuse potential ▪ Approximately 40MLD of STP needed ▪ Strengthen the sewage collection network to cover 100% Population ▪ Policy for reuse / recycle of treated wastewater 	Very high & Immediate
Industrial	<ul style="list-style-type: none"> ▪ Limited information of industries discharging wastewater in to the river ▪ Details of CETP not mentioned 	<ul style="list-style-type: none"> ▪ Need to know the details of CETP ▪ Digital compliance methodology to be developed ▪ Disposal system to be under constant surveillance 	High

5.0 Air Quality Management

As it is Nashik 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 4 manual & 1 CAAQM stations across the district.

It seems that PM₁₀ is Ambient Air is one of the prime reason of the concern and historically Nashik 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 3**.

Table 3 Action Plan for Air Quality Management

Sectors	Gaps	Action Points	Priority
Air	<ul style="list-style-type: none"> ▪ 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

Being directly under the promissory control of District Collector, the total lease land and the mining in Nashik district is 15.96Hectares. It is important to mention that the sand mining is carried out at Satana with due permission from respective authorities of MPCB and State Environment Department.

7.0 Noise Action Plan

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 4** spells potential management plan that could be taken up on priority by each of the ULBs.

Table 4 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 ▪ Noise monitoring station area not installed 	<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 ▪ Noise monitoring station shall be installed in District 	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.