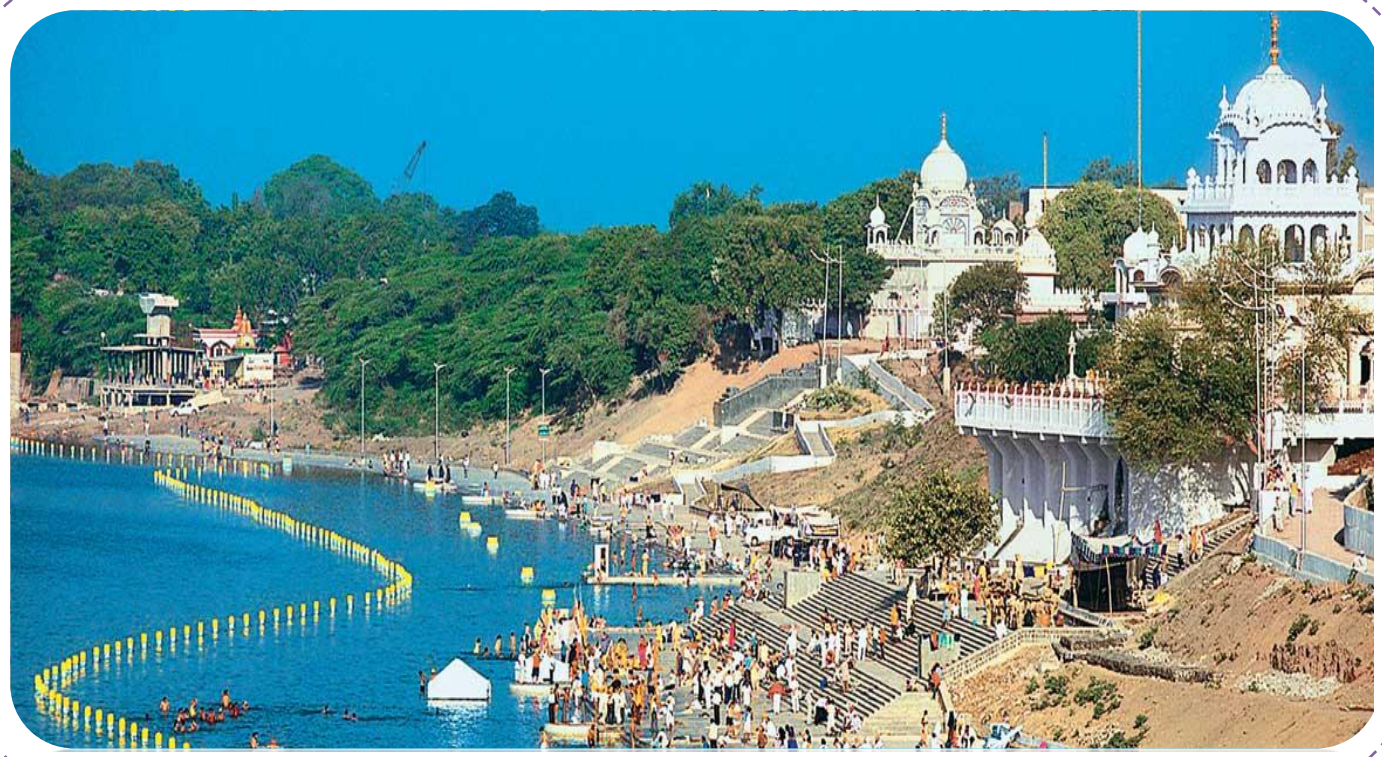
District Environment Plan



Prepared By

Environment Department, Government of Maharashtra

Maharashtra Pollution Control Board

Nanded

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 Nanded District is prepared.

2.0 Introduction

Nanded is a city in Maharashtra state, India. It is the eighth largest urban agglomeration of the state and the seventy-ninth most populous city in India. It is the second largest city in Marathwada subdivision. Nanded is the centre of governance of Nanded district.

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

Table 1 Nanded District Profile

Description	Details
Average Climate	Climate of Nanded district is hot and dry. The mean annual rainfall of Nanded district ranges from 900 to 1100 mm. The highest rainfall was recorded in SW monsoon season ranging from 82 to 89 per cent of the total annual rainfall, in different talukas. The average annual temperature is 27.2 °C in Nanded-Waghala.
Geographical Location	The District of Nanded lies between 180 15 ' to 190 55' North latitudes and 770 to 78025' East longitudes. It covers an area of 10,332 sq km. It is located in the South Eastern part of the state. Nanded is bounded on the

Description	Details
	North by Yavatmal district, on the Eastern side lies Adilabad, Nirmal, Nizamabad and Kamareddy districts of Telangana state, and on the South lies Bidar of Karnataka state. Nanded also shares its boundaries with Latur on South West, Parbhani and Hingoli districts on the West. The area presents undulating topography with uneven hills, plateau, gentle slopes and valley planes. Physiographically, the district can be divided into 2 major parts, the hilly region on the North and North East and low-lying area on the banks of the rivers Godavari, Manjra, Manyad, Penganga etc.
Area	10,502 Sq.km
Boundaries	The district is bounded by Nizamabad, Kamareddy, Nirmal and Adilabad districts of Telangana on the east, by Bidar District of Karnataka falls on the south by Parbhani and Latur districts of Marathwada on the west, and Yavatmal District of Maharashtra's Vidarbha region on the north.
Languages Spoken	Marathi is the most widely spoken language in the district. Other languages used in the district are Hindi, English, Deccani Urdu, Kannada, Punjabi, etc
Population	Total Population: 3,361,292, Male: 14.81 Lakhs, Female : 13.94 Lakhs
Population Density	319 per Sq.km
Literacy Rate	75.45%
Rivers	Godavari
ULBs	16 Numbers + 1 Municipal Corporations
Municipal Corporations	1 Numbers Nanded Municipal Corporation [PMC]
Cantonment Boards	Not any
Sub districts	16 Numbers
Villages	1620 Numbers
Statutory Towns	4 Numbers
Tahsils	16 Numbers Nanded, Ardhapur, Bhokar, Biloli, Deglur, Dharmabad, Hadgaon, Himayatnagar, Kandhar, Kinwat, Loha, Mahur, Mudkhed, Mukhed, Naigaon, and Umri.
Pin code	431505 - 431809

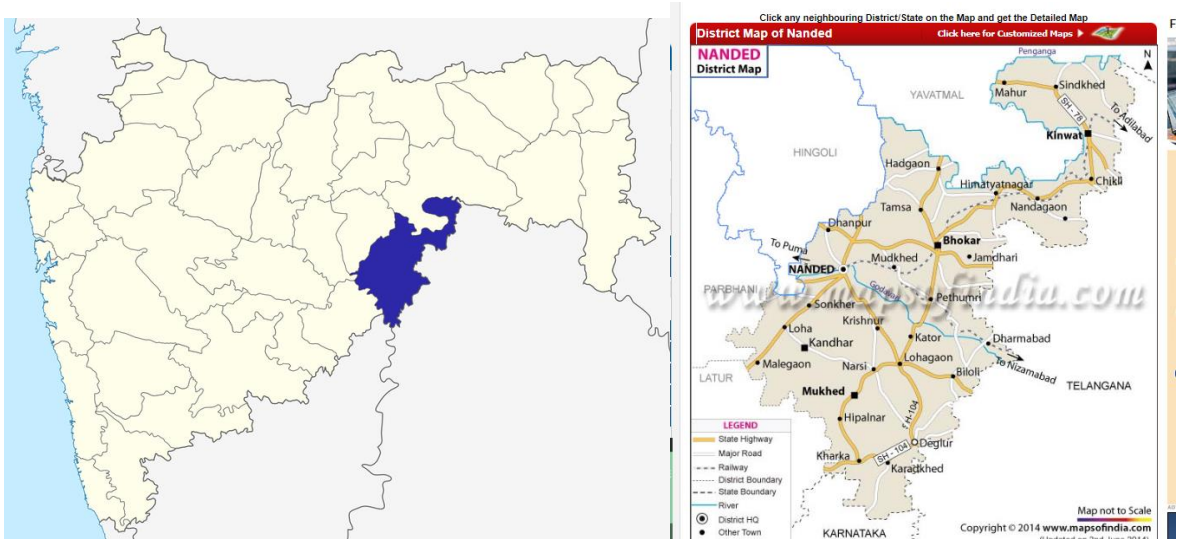


Figure 1 Location of Nanded District

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 Nanded 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 17 Urban Local Bodies [ULBs]. in Nanded district. **Table 2** represents the list of ULBs along with population. Following section gives insight about waste management of Nanded districts.

Table 2 Nanded District Profile

Sr. No.	Urban Local Bodies	Population
1.	Nanded Municipal Corporation	550539
2.	Degloor Municipal Council	54493
3.	Dharmabad Municipal Council	33741
4.	Loha Municipal Council	24125
5.	Mukhed Municipal Council	27650
6.	Mudkhed Municipal Council	23517
7.	Biloli Municipal Council	14923
8.	Kinwat Municipal Council	28454
9.	Hadgaon Municipal Council	27433
10.	Bhokar Municipal Council	32899
11.	Kundalwadi Municipal Council	14760
12.	Kandhar Municipal Council	30000
13.	Umri Municipal Council	13501
14.	Ardhapur Municipal Council	26026
15.	Himayatnagar Municipal Council	20285
16.	Mahur Nagar Panchayat	11164
17.	Naigaon Nagar Panchayat	16719

3.1 Domestic Solid Waste Management Plan

Nanded district is having 17 ULBs with 233 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 Nanded district is 371.5MTD. wherein, Dry Waste generation is 167MTD and Wet waste is 204MTD. Bio-Methanation & Vermi composting is

practised in only 1 ULB whereas all the other ULBs follows Vermi composting practice. Out of the total only 173.6MT is treated every day whereas about 197MT is dumped as it is. Segregations extremely limited in almost 4 ULBs ranging from 40-60% whereas other ranges between 60-90% only Peth, Umri has 100% segregation. Collected waste is transported 100%.

3.1.2 Adequacy of Infrastructure

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

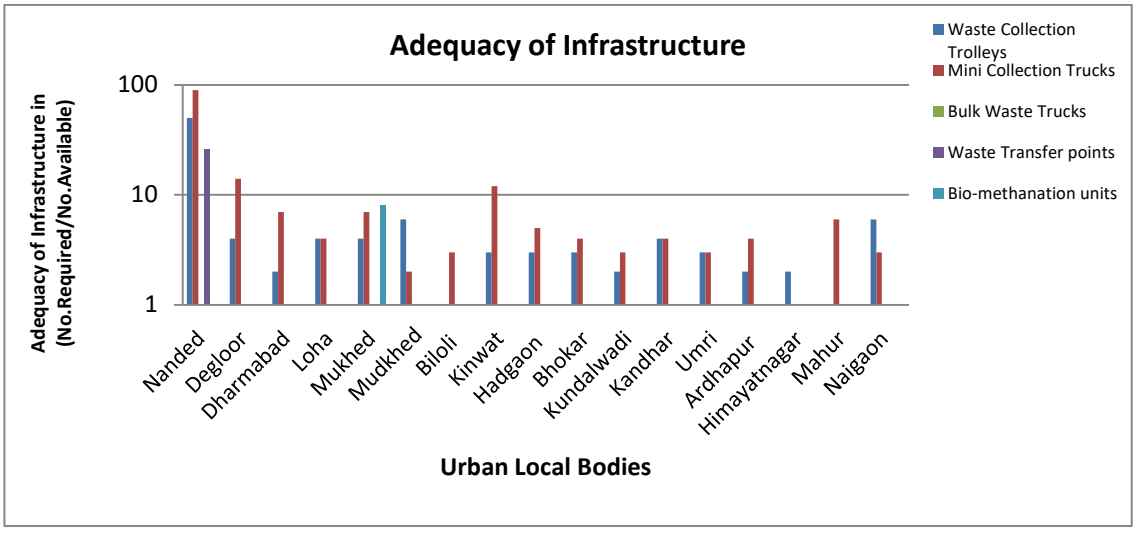


Figure 4 Adequacy of SW Infrastructure

It is observed that There are total 11 waste Transfer points in Nanded district with waste trolley of 99, Mini collection trucks 171 numbers and Bulk transport trucks 28. Composting units available to treat wet waste are 65

3.2 C&D Waste Management Plan

The Construction and Demolition Waste [C&D Waste] generated by Nanded district is about 3213MTA with No processing facility. In almost 95-98% is illegal dumping though small MCS have storage facilities which does not make overall difference in District level EMP.

3.3 Plastic Waste Management

Total Plastic waste generated by Nanded district is 3.35MTD. In almost all ULBs, door to door collection and segregation system is almost 100% implemented with 1 Plastic Waste Collection Centre. There are 224 Plastic Waste Pickers with the authorization for waste collection and 2 Plastic Waste Recyclers. No Pyrolysis oil plant facility for Treatment and recycling of generated plastic waste in direct.

3.4 Biomedical Waste Management

995 hospitals present in the Nanded district. Bedded hospitals are 745 numbers, out of which only 745 HCF have taken authorization. 702 are non-bedded hospitals, out of which 1971 have taken authorization *[Figure seems mismatch*]. 323 Clinics and 23 Veterinary hospitals. Total BMW generation from all above mentioned sources are to the tune of 463kg/day.

There is 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.**

3.5 Hazardous Waste Management

23 number of industry are established and generating 1,018.88MT/Annually out of which 33.55MT is Incinerable 563.92MT is of land fillable HW and 421.41MT is sent for recovery of recyclable material. No Common Treatment Storage Disposal Facility in District but waste sent to other district in state. All industries have taken authorization.

3.6 E Waste Management

No data available on E waste generation, collection and recycling.

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	▪ Methodology for solid waste quantification should be ascertained ▪ Quantification based on Income group, culture affluence and technology to be considered	▪ 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 ▪ Quadrate sampling methodology to be adopted in order to reduce quantity as well as quality	Immediate
Collection System & Transport System	▪ Some of the places, efficiency of the collection system is not up to the mark ▪ Overall 25% collection is lacking	▪ Ideally most proven method of SWM is 3 Tier System with door to door, community and transfer station approach ▪ Need to increase 25% efficiency in collection ▪ 100% efficiency to be achieved ▪ Intermediate	Short to Mid Term
Infrastructure	▪ Mostly composting is the main treatment methodology with about 80% coverage ▪ MRF facility is also available but limited to few ▪ Sanitary landfill are limited to 2-3 ULBs	▪ 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	▪ Lack of SOP for not only quantification but also life cycle analysis [LCA] ▪ Limited understanding /	▪ 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	High & Immediate

Sectors	Gaps	Action Points	Priority
	interpretation of EPR / PRO ▪ Only two ULBs lacking implementation of PW notification		
C&D Waste	▪ 2-3 of the ULB need to establish C&D Waste management system	▪ 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	▪ 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 ▪	▪ 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	▪ Domestic HW being mixed with solid waste posing threat ▪ No separate handling of domestic HW ▪ Not effective segregation at source	▪ 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

Sectors	Gaps	Action Points	Priority
E Waste	▪ Lack of inventory ▪ Limited understanding of E waste rule and management ▪ Neither segregation nor separate transfer / handling facility ▪	▪ 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
Noise	▪ Most of the source related noise areas show exposure beyond compliance ▪ Excessive exposure during noise generating potential events/ festivals ▪	▪ 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

4.0 Water Quality Management Plan

There is Godavari Rivers in Nanded district with 144 km in length. The 17 ULBs generate about 102.7MLD of sewage with an existing capacity of 48 MLD of STP.

Industrial effluent is much more regulated wherein 5.6 MLD from 46 numbers of industry.

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	▪ 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 ▪ Solid waste dumping i the river bodies	▪ 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	▪ Correlation between generation and treatment often misleading ▪ Water budgeting exercise often missing	▪ Digital Platform to accommodate water budgeting / reuse potential ▪ Approximately 60MLD of STP needed	Very high & Immediate

	▪ 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	▪ In situ treatment for rivers stretches to be developed ▪ Strengthen the sewage collection network to cover 100% Population ▪ Policy for reuse / recycle of treated wastewater	
Industrial	▪ Performance of CETP is questionable	▪ CETP performance to be more effective in line with various orders of regulatory bodies / courts ▪ Digital compliance methodology to be developed ▪ Disposal system to be under constant surveillance	High

5.0 Air Quality Management

As it is Nanded 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 PM_{10} is Ambient Air is one of the prime reason of the concern. An exceedance factor 2 to 2.1 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 primafacea 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	▪ Most of the places PM_{10} seems to exceed by a factor of around 2 - 2.1 ▪ Limited CAAQMS to establish / corroborate inferences ▪ Sectoral action plans not effectively established	▪ 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 Nanded district is 1.05 Hectares. It is important to mention that the total sand mining in Nanded is 1.2903 kms with the 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 40 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.