District Environment Plan

Prepared By

Environment Department, Government of Maharashtra

Maharashtra Pollution Control Board

Wardha

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 and as per the model DEP prepared by CPCB, Environment Action plan for the district is prepared.

2.0 Introduction

Wardha is a city and a Municipal Council in Wardha district in the Indian state of Maharashtra. It is the administrative headquarters of Wardha district. Wardha gets its name from the Wardha River which flows at the north, west and south boundaries of district. Founded in 1866, the town is now an important centre for the cotton trade. It was an important part of Gandhian Era.

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

Table 1 District Profile

Description	Details
Average Climate	Average Temperature: 27.3°C Average Rainfall: 1018mm.
Geographical Location	It falls in Survey of India degree sheet nos. 55K, L, 0, P between Latitudes 20"35' : 21"44'N and Longitudes 78"15' : 79"40'E.
Area	6309.00 Sq. km.
Boundaries	District boundaries are fixed by river Wardha and so the district is called Wardha. River Wardha flows along the entire northern, western and partly southern border of the district, separating it from Amravati and Yavatmal districts.
Languages Spoken	Marathi, Hindi and English are major languages
Population	Total: 1,300,774 [Male: 668,385 Female: 632,389] [According to 2011 Census Report]
Population Density	206 Per Sq. km.
Literacy Rate	86.99
Rivers	Wardha
ULBs	10 Numbers [6 Municipal Council + 4 Nagar Panchayat]
Municipal Corporations	-
Villages	1,376 Numbers
Statutory Towns	6 Numbers
Tahsils	8 Numbers Ashti, Karanja, Arvi, Seloo, Wardha, Deoli, Hinganghat, Samudrapur

Description	Details
Pin Code	442001

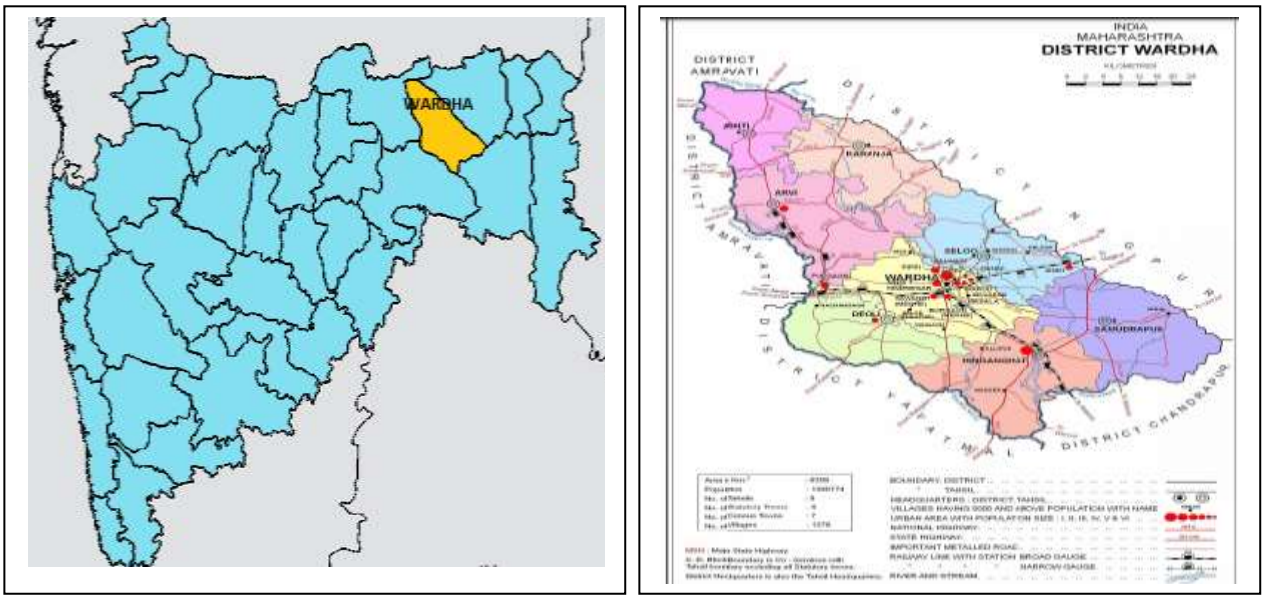

Figure 1 Location of District

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. 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 10 Urban Local Bodies [ULBs] in the district. **Table 2** represents the list of ULBs along with population.

Table 2 Name of ULBs with Population

Sr. No.	Urban Local Bodies	Population
1.	Municipal Council Hinganghat	101,805
2.	Municipal Council Shindi (Rly)	12,858
3.	Municipal Council Wardha	102,441
4.	Municipal Council Arvi	42,822
5.	Municipal Council Pulgaon	30,424
6.	Municipal Council Deoli	19,288
7.	Nagar Panchyat Seloo	14,740
8.	Nagar Panchayat, Ashti	11,716
9.	Nagar Panchayt Karanja	12,862
10.	Nagar Panchyat Samudrapur	7,656

3.1 Domestic Solid Waste Management Plan

There are total 10 ULBs with 171 Wards in the district. Details of Domestic Solid Waste including Dry & Wet waste of each ULBs is given in the **Figure 2** whereas **Figure 3** represent details of Other Types of Waste for ease of understanding. Overall domestic solid waste generation from the district is 103.08MTD out of which 46.35MTD is Dry Waste and 56.69MTD is Wet waste.

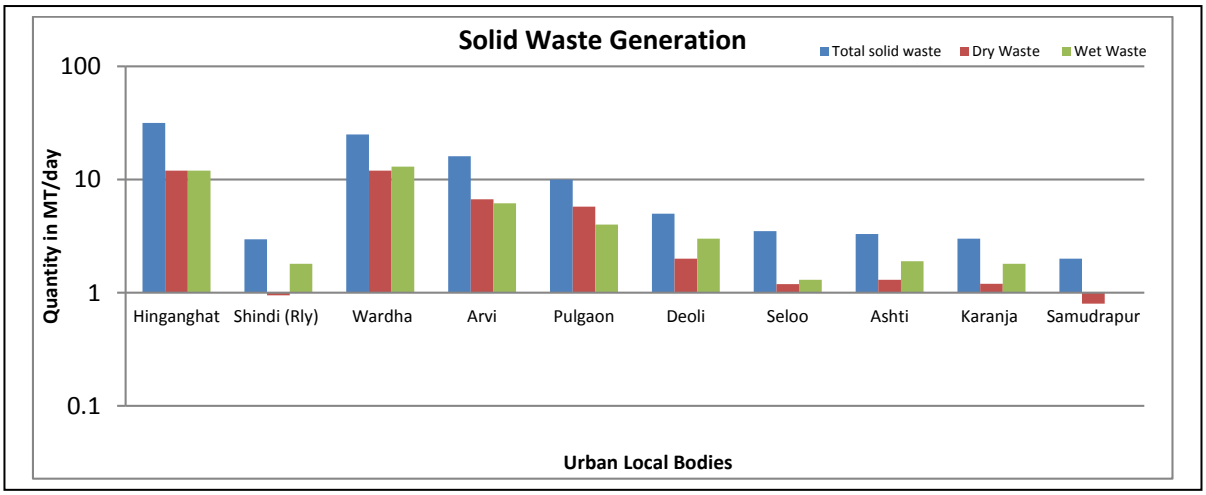

Figure 2 Details of Domestic Solid Waste Generation

6 Bulk Waste Generator are identified within the district. However only 4 number of onsite treatment facility is provided. Quantification of Other types of waste is presented as below;

A] Street Sweeping Waste: Total generation of Street Sweeping Waste is 26.65MTD**.** Wardha generates maximum quantity i.e. 24MTD and Deoli generates lowest quantity i.e. 0.1MTD.

B] Drain Silt Waste: Overall quantity of Drain Silt Waste is 18.5MTD. Wardha generates maximum quantity i.e. 15MTD and lowest quantity is generated by Karanja i.e. 0.001MTD.

C] Domestic Hazardous Waste (DHW): Domestic HW generation of districts seems very low with total quantity of 0.17MTD.

D] Other Waste (Horticulture, sanitary waste, etc.): Total Quantity of Horticulture, Sanitary and other waste is 0.2MTD.

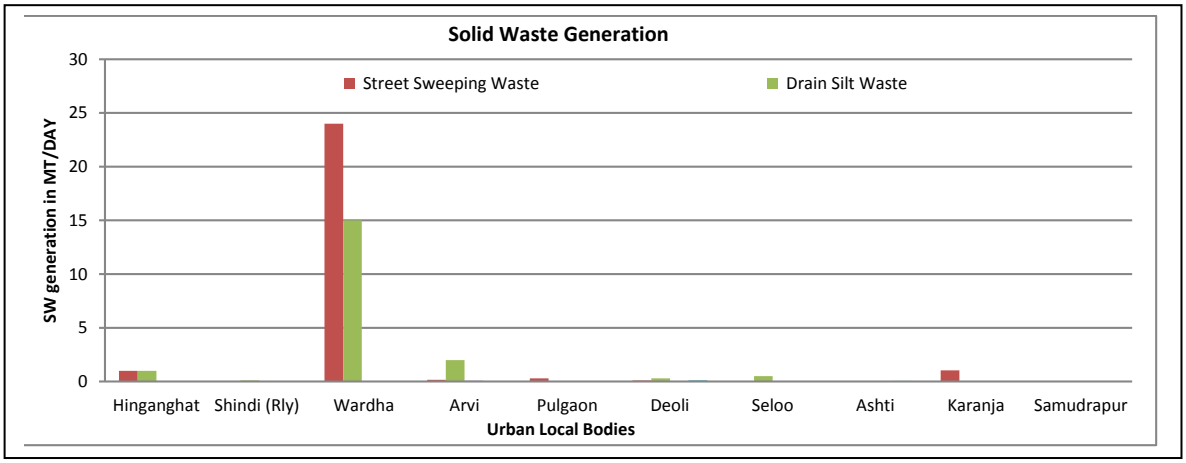

Figure 3 Details of Other Waste Generation

3.1.2 Adequacy of Infrastructure

Door to door collection system has implemented 100% in all 10 ULBs. All ULBs have initiated Mechanical Road Sweeping. 100% segregation of waste is being done in all ULBs. There are 6 old dump sites with total stored material of 9.46MT. Reclamation work of old dump site is initiated by all ULBs. Details of treatment facilities provided across the district is presented in **Figure 4**.

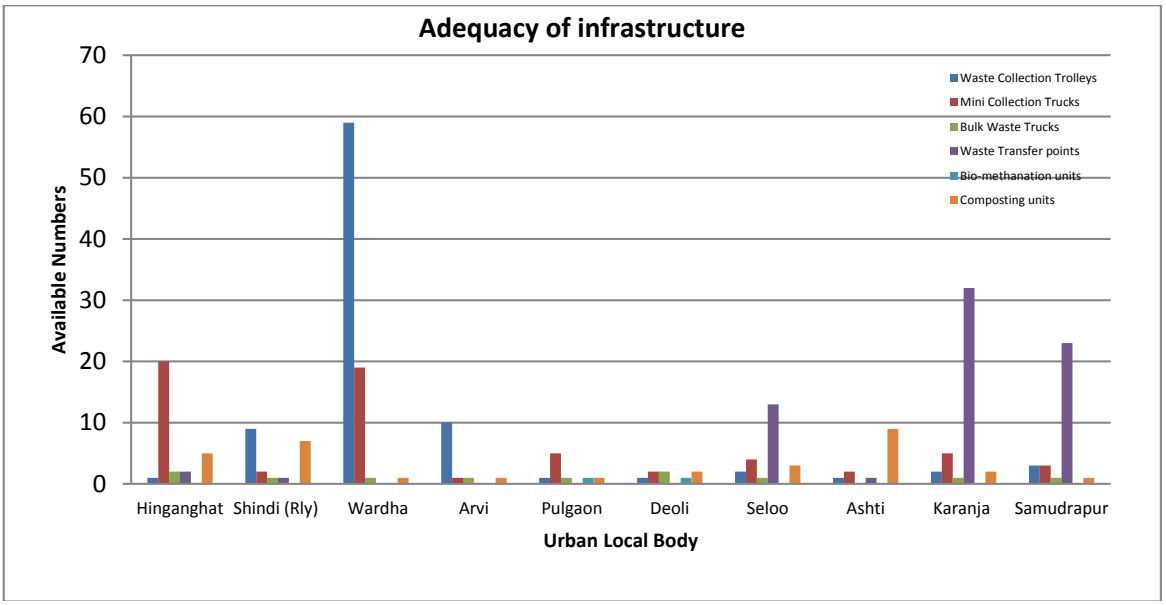

Figure 4 Adequacy of Solid Waste Infrastructure

District has provided 72 numbers of waste Transfer points for all types of waste collection & transportation and 4 waste deposition centres for DHW across the entire district. There are 89 Trolleys, 63, Mini Trucks, 11Bulk Trucks for collection and transportation of solid waste. However only 1 Sanitary Landfill site is available in Municipal Council of Hinganghat with capacity of 10.3MT. There are 32 Composting units with only 2 Bio-Methanation units. Most of the wet waste is treated through composting. District authorities has implemented Solid Waste Management Rules in all the ULBs.

3.2 C&D Waste Management Plan

District generates 3.636MTD of C&D Waste out of which 2MT is generated by Hinganghat Municipal Council alone. Identification of Deposition Points for deposition of C&D waste is initiated and are in process however till date, no facility is installed for recycling of C&D waste.

3.3 Plastic Waste Management

Overall Plastic waste generated in Wardha district is 3.87MTD. Municipal Council of Wardha generates maximum waste with 3MTD. Efficiency of door to door collection is 100% across the district however segregation is only 88%. There are total 8 Plastic Waste Collection Centre across the district with 36 Plastic Waste Pickers and 3 Plastic waste recycler and 3 Plastic manufactures. PW Management Rules, 2016 is implemented in all the ULBs. However no information is available related to programme conducted for mass awareness of public regarding plastic waste.

3.4 Biomedical Waste Management

There are total 358Health Care Facilities including bedded, non bedded hospitals, Veterinary hospitals, Pathology Labs, Clinics and Blood banks etc. Authorization is taken by 253 HCFs [90 Bedded & 163 Non bedded]. Total BMW generation from all HCFs are 644MT and all generated waste is treated in the common treatment facility exists in other district as there is neither Common Facility nor any Captive Disposal Facilities are available within the district. It seems that 100% pre segregation of waste is being done. Details are mentioned in **Figure 5.**

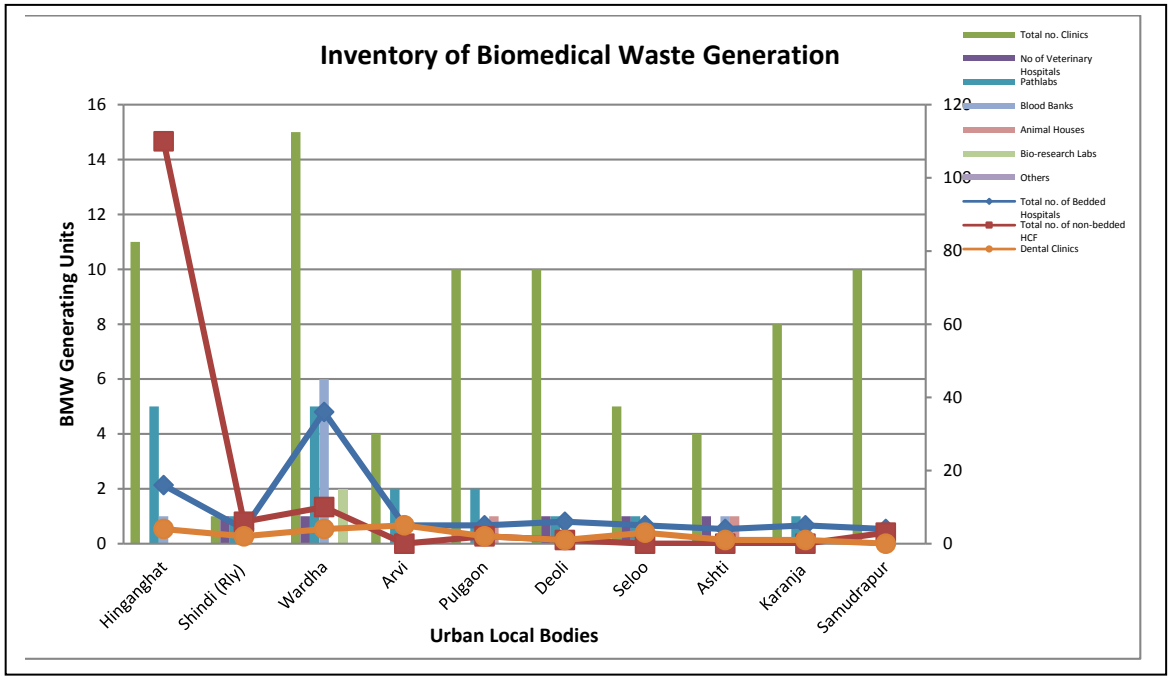

Figure 5 Inventory of BMW Generating Units

3.5 Hazardous Waste Management

There are 30 industries which generates Hazardous Waste to the tune of 3,288.15 MT/Annually. Out of which 218.5MT is sent for incineration, 2,793.02 MT is sent for land filling and 276.63MT is sent for recovery of re-utilizable materials. All industries are linked with TSDFs. However there is no Common Hazardous Waste TSDF is installed within the district area and generated waste is being treated in the Common Hazardous Waste TSDF present in the other district.

3.6 E Waste Management

No information regarding Collection Centres and Authorized E-Waste collectors is available.

3.7 Action Plan

As per the above data it is observed almost all ULBs are handling & disposing generated solid waste as per the Solid Waste Management Rules, however certain practices needs to be strengthen and can be improved by adopting precise and excitable action plan 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 ▪ Quantification of Domestic Hazardous Waste for few ULBs is not done	▪ 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, handling & Transport System	▪ Some of the places, efficiency of the collection system is not up to the mark ▪ In Hinganghat Municipal Council segregated transport is implanted only 30%	▪ Ideally most proven method of SWM is 3 Tier System with door to door, community and transfer station approach ▪ Additionally 2 Collection Trolley are required at Hinganghat ▪ Need to procure additional 1 Mini Collection Truck	Short to Mid Term
Infrastructure	▪ Mostly composting is the main treatment methodology ▪ Only 50.7MTD is treated and 52.38MTD is dumped directly ▪ Sanitary landfill is not installed in any ULBs ▪ No any RDF Facility installed in entire district	▪ Intermediate / Transfer station based decentralized waste treatment facility to be evaluated ▪ Need to provide at least one SLF per ULB, accordingly additional 5 SLF is required ▪ Need to install RDF facility at least one in each ULB ▪ Existing Composting facility can be further augmented with aid-on of at least one Bio-Methanation plant per ULBs. As on date there are 2 Bio-Methanation unit, additionally 8 unit would require	High
Plastic Waste	▪ Lack of SOP for not only quantification but also life cycle analysis [LCA] ▪ Limited understanding / interpretation of EPR / PRO ▪ No plastic is being used for road making, or for co processing in Cement kilin ▪ Segregation is only 88%	▪ 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 ▪ Mass awareness through ULBs ▪ Strengthen the segregation methodology to achieve 100% at source segregation	High & Immediate
C&D Waste	▪ No facility for C&D Waste Recycling Plant	▪ Minimum 1 such facility at each of the ULB to be established ▪ System for utilization of	High

Sectors	Gaps	Action Points	Priority
		recovered material and processed C&D waste to be effectively implemented and monitored	
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 ▪ Zero Compliance w.r.t. provision of barcode ▪ Linkage with CBMWTFs is only 70%	▪ Regular Inventorization through automatic / digital platform to be developed ▪ Up-gradation of existing facility to meet 2016 CPCB norms ▪ Additional at least 1 facility 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] ▪ Process of Monitoring and review of onsite handling of BMW handling should be stringent and digital surveillance measures can be adopted to achieve 100% compliance ▪ Closure direction along with imposing environmental compensation should be initiated immediately in case of non compliance	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
E Waste	▪ Lack of inventory ▪ Limited understanding of E waste rule and management ▪ Neither segregation nor separate transfer / handling facility ▪ No Awareness programme conducted by ULBs & PROs	▪ 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	▪ Noise mapping to be carried out for zonation purposes ▪ At source control using ▪ physical or natural attenuation	High

Sectors	Gaps	Action Points	Priority
	▪ Excessive exposure during noise generating potential events/ festivals	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	

4.0 Water Quality Management Plan

Length of river stretch across the district is 12km in length and 269 drain / nalla are identified meeting the river. Total area covered by Lake and Ponds are 17485Ha. Total number of bore-well are 4,893, out of which permission is given for only 2901. Water quality of the region is monitored through water sampling and analysis for multiple parameters throughout the years and also represented digitally in form of WQI on various platform.

Overall 20.6MLD sewage is generated from all ULBs. There is no treatment facility is available. Generated sewage is left untreated which is a serious threat to the water resources and immediate requirement of at least 25MLD STP to treat the entire generated sewage of the district and prevent river pollution. There are 5 ULBs where no sewage network is established and only 28% of population of entire district is covered under the existing available sewage network.

There are 18 industries, generating 0.253MLD of wastewater. All industries are complying in terms of meeting discharge standards. There is no Common Effluent Treatment Facility in the district.

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. 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 ▪ 2901Bore-wells are being used without CGWB permission are identified but none of them have taken	▪ 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	High

Sectors	Gaps	Action Points	Priority
	permission to withdraw water	▪ Notices and actions needs to be taken against violator who are withdrawing water without permission ▪ Protection methods to be developed for creative stoppage of dumping of solid waste in the surface water bodies	
Domestic	▪ Correlation between generation and treatment often misleading ▪ Water budgeting exercise often missing ▪ Computation of water footprint missing ▪ It seems there is no STP installed within the district and entire sewage is being discharged in to the river without treatment ▪ Sewage network covers approximate 28% of entire population ▪ 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	▪ Digital Platform to accommodate water budgeting / reuse potential ▪ Approximately 25MLD of STP needed ▪ In situ treatment for 12 km Rivers stretches to be developed ▪ Need to construct sewage collection network to cover 100% Population ▪ Policy for reuse / recycle of treated wastewater	Very high & Immediate
Industrial	▪ Performance of CETP is questionable	▪ Need to explore option for provision of at least one CETP within the district ▪ Digital compliance methodology to be developed ▪ Disposal system to be under constant surveillance	High

5.0 Air Quality Management

There is neither manual nor continuous ambient air quality monitoring station is established within the district jurisdiction. Gap identified and action plan to be adopted with its priority for air quality of the district is presented in **Table 5**.

Table 5 Action Plan for Air Quality Management

Sectors	Gaps	Action Points	Priority
Air	▪ Neither Manual nor CAAQM station is	▪ Emission inventory and source apportionment supported with	High

Sectors	Gaps	Action Points	Priority
	installed ▪ Sectoral action plans not effectively established ▪ No provision for dust suppression vehicles	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 ▪ Provision of atleast one dust suppression vehicles per ULB ▪ Green barriers / Photo catalyst options to be evaluated ▪ Capacity building to be enhanced ▪ Compliance and specific mitigation measures need to initiated as per the requirement of Non Attainment Cities	

6.0 Mining Activity Management plan

Total area covered under mining is 2.698Sq.km. out of which 1.52km area is covered by sand mining. As on date 66 number of licenses for various Mining activates are issued by the respective authorities and all are complying with consent conditions.

7.0 Noise Action Plan

15 numbers Noise measuring devices are present with district administration. No Noise monitoring study is carried out in district. District authorities have partially installed Sign boards in towns and cities in silent zones. There is no complaints received on noise pollution in last 1 year.

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.