Environmental Status Report (2016-2017) For Amravati Municipal Corporation
By Core Project Engineers and Consultant Pvt. Ltd., Amravati

AMRAVATI MUNICIPAL CORPORATION

Environmental Status Report

2016-2017

CORE PROJECT™
Engineers and Consultant Pvt. Ltd.

Environmental Status Report

2016-2017

For

Amravati Municipal Corporation

By

Core Project Engineers and Consultant Pvt. Ltd.

Amravati

Director Desk

"We won't have a society if we destroy the environment".

Margaret Mead

I strongly believed that the economy and environment go hand in hand if we want to prolong growth. Environmental Status Report (ESR) of a city acts as an impact assessment tool, which must be strategic in nature and should have an objective of facilitating environmental incorporation and the assessment of the opportunities and risks of strategic actions. The success of any municipal project is strongly linked to the formulation of policies, planning and deliberates efforts to bring about the change in the society. The Environmental Status Report will emerge as a more comprehensive document to play an imperative role in aligning developmental policies in line with the environment.

While taking heed that corporate social responsibility goes beyond voluntarism and philanthropy, the continuity of such deeds is an important consideration. **“Core project primary focus of corporate social responsibility is the environment”.** Core Project CSR approaches under the Ministry of Corporate Affairs has notified Section 135 and Schedule VII of the Companies Act as well as the provisions of the Companies (Corporate Social Responsibility Policy) Rules, 2014 (CSR Rules) holistic and integrated with the core business strategy for addressing social and environmental impacts of businesses. There are a few broad categories of social responsibility that many of today's businesses are practicing we express our gratitude towards Environmental efforts. Businesses, regardless of size have a large carbon footprint. Any steps they can take to reduce those footprints are considered both good for the company and society as a whole.

I hope that eco-conscious actions of the citizens of Amravati city will go a long way in achieving the goal of sustainable cities and thus contribute towards a better future. I would dedicate this report to the people of the Amravati City by the people of Amravati city. Core Project aimed to develop the environmentally sustainable business facility within Amravati city and dedicatedly work for it.

Er. Pankaj Kashetwar
Core Project Engineers and Consultant Pvt. Ltd.

About:

Core Project Engineers and Consultant Pvt. Ltd. Amravati, contribute an absolute environmental solution. We are remarkably focused on our customer and provide a tailored approach to environmental work delivering balanced workable outcomes;

- We pride ourselves on customer confidence we deliver exceptional service through established and long-term relationships.
- We aim to exceed Client expectations, providing value for money, service delivery, and quality.
- We are cost effective, ensuring projects are delivered on time and on budget.
- We are a multi-skilled environmental consultancy.
- Our team is experienced and has expertise across all disciplines.
- We afford to equip excellence through quality staff that can be trusted to deliver.
- We provide the right environmental strategy and saves in the long term.
- We provide a balanced commercial outcome.
- We are experienced at navigating the technical and regulatory environment.

Declaration:

We hereby declare that the Environmental Status Report of AMC (Amravati Municipal Corporation) is a record of a work carried out by Core Project Engineers and Consultant Pvt. Ltd. which is based solely on the assessment of secondary data provided by various government departments within given time frame, ULBs (Urban Local Bodies), and observations recorded by CP Team during various site visits, consultations and interviews with concerned officials. The references taken from various published and unpublished reports are appropriately cited in the report.

The maps generated and incorporated in the entire report, including sections on water and land is based on the data attributes for the sub-categories of the land use pattern as per Standard classification. The data source for the concentrations of air pollutants has been procured from MPCB (Maharashtra Pollution Control Board) unless stated otherwise.

Details of the same are provided as annexes at the chapter end for reference. The section extracts its fundamental theories from literature review based on published papers, government reports and so on. The same are detailed in the chapter as relevant.

Core Project Engineers and Consultant Pvt. Ltd.

ACKNOWLEDGEMENT

Environmental Status Report related to health, living standard, and environment of the citizens and the Town. Due to rapid development and growing population, many Environmental and Social problems are created. Therefore Maharashtra Government has made it mandatory to prepare an Annual Environmental Status Report (ESR). According to the State Law (ACT No. LIX of 1949) As per clause 67(A) was inserted by Mah. 41 of 1994 of Mumbai Regional Municipal Corporation Act 1949, it is mandatory to present the current environment Status Report to the General Body of Local Authority. & Maharashtra Act No XL of 1965 (The Maharashtra Municipal Councils Nagar Panchyayat and Industrial Townships Act 1965) as per section 77 sub-section (1A) by Mah. 41 of 1994, s144 Council related 74th amendment in year 1992, have made the preparation of ESR.

Amravati City is emerging as a well established city in Maharashtra and its demographic and economic growth is accelerating. Considering the present situation and future needs, the improvement in the existing infrastructure and addition of new facilities has become essential. The content of this ESR may be referred during the designing and implementing new development projects. The basic facilities provided in different wards indicate city serviceable capacity.

We sincerely express our gratitude and immense respect to Shri. Hemantkumar Pawar Sir Commissioner, AMC, Amravati. We also thank Mr. Mahesh Deshmukh Sir, Environment Officer, and Deputy Commissioner (Admin) AMC, his guidance, directions, patience meticulous tasking and painstaking efforts helped us to wide a diverse mass of information and material into a cohesive and purposeful for completion of this work.

We thank all the concern departments from the Amravati Municipal Corporation who help us directly or indirectly, for successful completion of this report, we also express our gratitude towards the Department of Environmental Science, Shri. Shivaji Science College, Amravati for providing us the analysis report. We also thankful to Mr. Rahul Chute, Director Dnnovate design work on this report and Global Scientific Inc. Nagpur primary information about the report.

We acknowledge the help and co-operation of all those, whose names we may have inadvertently forgotten to mention here.

Core Project Engineers and Consultant Pvt. Ltd, Amravati.

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Executive Summary

1.0 Introduction

An Environmental Status Report is one of the forms of State of Environment (SoE) reporting with a primary function to classify the information and allow an efficient understanding of the complexities and interlink ages between environmental issues and causes. SoE outline is conventional and accepted worldwide, so as to complement the ESRs with universal standards. Amravati Municipal Corporation has made an effort to adopt DPSIR (Driving Force, Pressure, State, Impact, and Response for this ESR.

Background:

According to State Law **(ACT No. LIX of 1949)** As per clause 67 (A) was inserted by Mah. 41 of 1994 of Mumbai Regional Municipal Corporation Act 1949, it is mandatory to present the current environment Status Report to the General Body of Local Authority. & **Maharashtra Act No XL of 1965** (The Maharashtra Municipal Councils Nagar Panchyayat and Industrial Townships Act 1965) as per section 77 sub-section (1A) by Mah. 41 of 1994, s144 Council related 74^{th} amendment in year 1992, has made the preparation of ESR compulsory.

The government at the national and local level has been designing and formulating new and improved policies, it is important to understand the citizens' attitudes, perception, awareness, and opinion towards their local environment.

2.0 Amravati Introduction

Amravati city is geographically located at 20^0 56' North latitude 77^0 47' East longitudes. The average altitude is 340.76 m above MSL. The higher elevation area of the city is at 401.05m above MSL that is in the North East part of the city while the city is situated at the foot of the ranges between heights 336 m to 324 m above MSL. The total area of the Municipal Corporation is about 121.65 Sq. Km. and the population as per 2011 census record is 647057 lakh souls in the Amravati Municipal Corporation. The city is located on the National Highway NH-6 leading to Mumbai in the west and Kolkata in the east. Amravati has good road, rail connectivity with almost all important cities in India. It is extremely well connected to Nagpur, Mumbai, Kolkata, and Chennai.

Amravati Municipal Corporation:

The Amravati Municipal Committee forerunner of the Municipal Corporation was established on February 2nd, 1887 under Local Fund Act 1869 with Deputy Commissioner as the President. Under the Central Provinces and Berar Municipalities Act, 1922, every municipal committee constituted a body of elected councilors of each ward and was presided by a president elected from among the councilors.

The Amravati Municipal Corporation came into existence on August 15, 1983, comprising the areas of municipal committees of Amravati, Badnera and 17 adjoining villages which were part of the Zilla Parishad. The Amravati Zilla Parishad was constituted on 1 May 1962. The Amravati Municipal Corporation is headed by a Mayor who is assisted by the Deputy Mayor. Before March 1999 they had an office term of only one year, which has now been raised to 3 years. They carry out the work through various committees such as Standing Committee, a Law Committee, Education Committee, Women and Child Welfare Committee, City Development Committee and Four Zonal Committees for the four zones. Municipal Corporation was 121.65 sq km.

Administrative Structure of Amravati Municipal Corporation:

The administrative head of AMC is the Municipal Commissioner who is assisted by two Deputy Municipal Commissioners who are in turn assisted by five Assistant Municipal Commissioners and carry out the work through various Departmental Heads. The 26 municipal departments mainly are responsible for carrying the various activities & rendering services to the citizens of Amravati City. The Amravati city is divided in the 22 Prabhags grouped into 5 zones.

Basic Amenities:

AMC provides basic amenities like storm water management, solid waste collection and disposal, public toilets, crematoriums, roads, footpaths, public buildings and Biomedical waste collection and disposal facility the water supply Sewage treatment executed under Maharashtra Jiwan Pradhikaran etc. to the population residing in AMC area. AMC also provides facilities such as hospitals and dispensaries, public transport, education. These facilities are also provided by the private sector. In addition AMC extends services such as fire fighting, undertakes slum improvement, development and maintenance of parks, gardens and open grounds, public libraries, tree plantation, entertainment facilities, etc.

3.0 Description of Environment of Amravati City

Land used in the Development Plan of Amravati

Sr. No.	Landuse	Area (Ha)	Percentage with Developed Area	Percentage with Total Area
1	Residential	1892	43.80	15.55
2	Industrial	348	8.05	2.86
3	Commercial	59	1.36	0.48
4	Public /Semi Public	1036	23.98	8.51
5	Public Utility	60	1.38	0.48
6	Recreational Facilities	127	2.95	1.04
7	Transport and Communication	793	18.48	6.55
	Total Development Area	*4320*	*100.00*	*35.48*
8	Water Bodies	331	-	2.72
9	Forest Land	1167	-	9.59
10	Agricultural/Bagayat Land	4665	-	38.30
11	Vacant Land	1692	-	13.91
	Total Area	**12165**	**-**	**100.00**

Air Environment:

Results:

On the basis of the previous report, data obtained from M.P.C.B. & data submitted by Shri. Shivaji Science College, Amravati. Environment Department has prepared the report. The observed data from MPCB presented in **Tables 3.2.2-3.2.3-3.2.4** and Shri Shivaji Science Collegeth data are presented **Table 3.2.5 to 3.2.7**.

National Ambient Air Quality Monitoring Program at Amravati

Table 3.2.2

Terrace of Govt. Coll. Of Engineering, Electronic & Computer Building Amravati

SO_2 µg/m³			NOx µg/m³			RSPM µg/m³		
80.00			80.00			100.00		
Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
5	14	11.04	6	15	12.49	38	97	73.48

Table 3.2.3

Ambient Air Quality Monitored at Rajkamal Chowk, Amravati

Avg	Min	Max	Avg	Min	Max	Avg	Min	Max
13	7	17	14	9	18	141	83	203

Table 3.2.4

Ambient Air Quality Monitored at A-23 MIDC Amravati

Avg	Min	Max	Avg	Min	Max	Avg	Min	Max
8	16	12.21	9	18	13.28	68	125	108.08

Ambient Air Quantity Monitoring Results by Shivaji College Amravati

Table 3.2.5

Industrial Area

Date	RSPM	NOx	SO_2
Min	**84**	**5**	**8**
Max	**140**	**25**	**24**
Avg	**112**	**14**	**13**

Table 3.2.6

Residential Area

Date	RSPM	NOx	SO_2
Min	**70**	**8**	**BDL**
Max	**131**	**18**	**18**
Avg	**103**	**13**	**11**

Table 3.2.7

Commercial Area

Date	RSPM	NOx	SO_2
Min	**100**	**10**	**9**
Max	**172**	**26**	**24**
Avg	**134**	**17**	**16**

Noise Environment:

The noise levels have been monitored and assessed for including residential activity (14 locations), commercial activities (06 locations), silence zone (7 locations) and Industrial zone (2 locations) within the study area along the festival background levels of

noise (**Annexure – IC**). The equivalent noise levels at different residential locations the noise levels varied between 51-66 dB (A) in daytime and 42-46 dB (A) in the nighttime. The noise levels varied in the range of 64-78 dB (A) in daytime and 46-55 dB (A) in the nighttime. The Noise levels were found to be 46-63 dB (A) during daytime and 38-46 dB (A) during night time respectively. The Noise levels were found to be 66-68 dB(A) during daytime and 52-53 dB(A) during night time respectively.

Noise Area during Festival Season in Amravati:

Durga Festival: The Noise levels were found to be 65-74 dB (A) during daytime and 41-57 dB(A) during night time respectively. **Ganesh Festival: The** Noise levels were found to be 65-74 dB(A) during daytime and 49-61 dB(A) during night time respectively.

Water Environment:

Water Supply:

As per DPSIR, 'Sources of drinking water' indicator are used. This indicator has no unified objective and it differs from city to city. The sources of drinking water indicate exploitation of local aquifers and as well the quality of the drinking water that can influence human health. In some cases, water can be imported that shows dependence on different sources.

Population as per 2011 census	6.47 lakhs
Total Water Demand	a. For-2015: 113 MLD b. For-2029: 151 MLD c. For 2051: 200MLD
Total Connections	a. Private:85,000 b. General-1200
Pile Line	950 km
Storage	a. Open Land-3 b. Storage Tank-13
Avg. per capita/day Supply	135 lit per capita / day

Source: Amravati Water Supply Division

Results:

To assess the water quality of Amravati City water samples was collected from the surface water body, groundwater, and tap water. Sampling was carried out from Sept. 2016 to March 2017 By Shri Shivaji Science College, Amravati.The physic-chemical

characteristics are presented in **Table 3.4.1.** The pH of collecting water sample ranged between 7.2-7.8 indicating neutral to slightly alkaline. The conductivity and turbidity of water samples vary between 537 to 1106 µS/cm and 14 to 35.12 NTU respectively. The TDS, total hardness and total alkalinity were found to be in the range as 423 to 809 mg/l, 174 to 511 mg/l and 184 to 345 mg/l respectively. Nutrient concentration in the form of total phosphate and nitrate was found to be in the range of 0.33 to 0.48 mg/l and 0.09 to 1.54 mg/l which were well below the stipulated standard. The COD values in the Station IV,V &VI were found to be 17, 37 & 48 mg/l resp. The BOD values in the Station V &VI were found to be 8 & 18 mg/l respectively well within the stipulated standard.

Wastewater Management:

Presently around 92 MLD of waste water generated by the city is discharged into two main waste water stream called Amba Nala and Dalelpuri Nala. These two stream flows through the network in the city and confluence at a lalkhadi village in the peri urban area of Amravati city. Finally, this wastewater is discharged into the Pedhi River 15 km away from the city. The existing growth rate of the city demands more channels to carry the waste water generated by the increasing population. Assuming the rate of water supply as 120 lpcd and about 80% of the water withdrawal is supposed to be return as wastewater to the nearby surface water bodies. Google map of the Amravati Sewage treatment plant given in **Plate 3.4.1**. The details about the drainage system under **Amrut Yojana** given in **Annexure-VI**.

Summary of Demographic Structure in Study Area

Sr. No.	Demographic Parameters	Amravati Municipal Corporation
1	State	Maharashtra
2	District	Amravati
4	No. of Prabhags	22
5	No. of Prabhags Surveyed	-
6	Total Area of surveyed village(ha)	12165
7	Total No. of Households	136796
8	Total Population	647057
9	Density of Population (km²)	5319
10	Sex ratio (No. of female\1000 males)	961
11	Scheduled castes	111435(17.22%)
12	Scheduled Tribes	15955(2.47%)
13	Literate	535594(82.77%)
14	Main Worker	189628(29.31%)
15	Marginal Worker	18908(2.92%)
16	Non Worker	438521(67.77%)

Source: Primary Census Abstract– 2011, Amravati-District, State Maharashtra;

Biological Environment:

Cities play a key role in overall efforts to protect and manage vulnerable ecosystems and biodiversity. Just as the ecological footprint of a city can have a negative impact far beyond the boundaries of the city, certain urban actions can also have a far reaching positive impact. The arrangement of green areas in a city and their connection with the surrounding area is critical to sustainability.

The main objective of this study is to establish present baseline environmental conditions of the study area through available data/information supported by field studies, wherever necessary. The study has been carried by a primary survey of the project area, consult with the local habitats and secondary data review.

Plantation information in year 2016-2017:

- Total 6113 no different species planted in the year 2016-2017
- Road Site plantation 9180 No.
- From AMC fund 5000 additional plantations for green space development

The new action plan prepared under AMRUT scheme for the green belt development which is explained in the report.

Solid Waste Management:

Solid waste management is a worldwide phenomenon. It is a big challenge all over the world for human beings. Therefore, the present study was undertaken to find out the problems and prospects of Municipal solid waste in Amravati City. Amravati city has a total population 647057 and seventh most populous metropolitan area in Maharashtra.

Generation of Waste:

In Amravati, there are 5 zones within which 22 Prabhags are located. For sake of convenience of management of municipal solid waste, the waste generated, resources available etc. are referred to each prabhag and respective zonal office. The corporation performs its function as per the provisions of the act governing the municipal corporation in the state. It is based on the assumption that 240 grams per person per day of MSW generation. The zone wise population and a respective standard waste generation in 155.69 tonnes per day. But during the survey it was observed that the total waste generation in Amravati region is 200 tonnes per day, i.e. 308 gram per person which exceeding the standard limit. 44.31 tonnes extra waste generated.

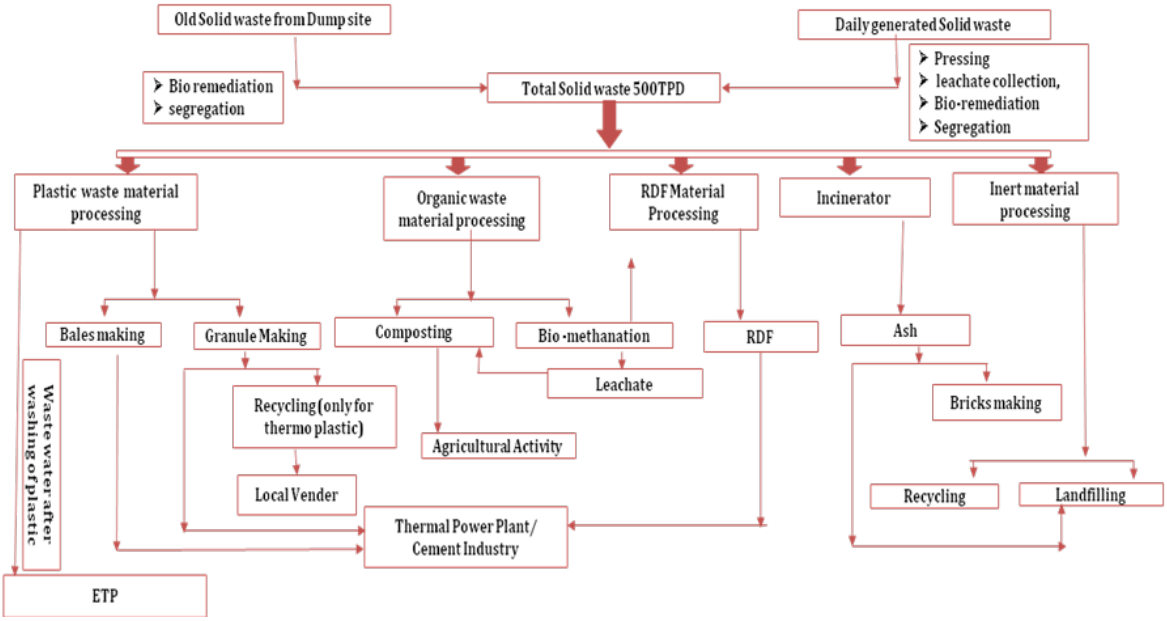
Facility for Collection and Transportation of MSW

Sr. No.	Particulars of Infrastructure	No.
1	Handcarts	90 Nos.
2	Ganti Katla(Mechanized)	350 Nos.
3	Ganti Katla (ordinary)	90 Nos.
4	Hydraulic Auto	43 Nos.
5	M.O.H	1
6	Medical officer	1
7	Doctor Incharge	1
8	Sanitary Superintendent	1
9	Senior Sanitary Inspector	5
10	Sanitary inspector	43
11	Mukadam deployed	86

Current Situation:

In order to put into practice an efficient, environmentally sound, and financially sustainable for Municipal Solid Waste Management System, which leads to significant improvements in cleanliness and hygienic conditions in the city, AMC has called for Request for Proposal RFP related to provide disposal and processing facility consultancy services. The services sought are to develop a MSW management strategy and action plan for treatment and disposal of MSW to develop the suitable structures for implementing the project through Public Private Partnership on design, Build, Finance, operates and Transfer (DBFOT) basis. The resolution number **wide 368 dated 25-11-2016** has passed by the standing committee for the total 500 TPD plant proposed for the scientific disposal of the 200 TPD daily waste and 300 TPD for old dumping waste which was under Agreement process But this project put on hold due misconception Detailed Project Report and Request for Proposal procedure. Which result very poor performance in Swachh Bharat Survey by AMC and continuing effects adversely due to unscientific disposal of the dumping site. AMC should take initiative to resolve this issue.

Proposed Infrastructure given below:



Process Flow Chart of Proposed Project

Sanitation Facilities:

Amravati Municipal Corporation has various types of sanitation equipments which are as follows:

Name of Instrument	Quantity
Bobcat Machines	3
Fogging Machine	1
Fogging Machine small	10
Spray Pump	100
Vacuum Emptier	3
Tractor	1
Water tanker	2
Compactor	2
Loader Tractor	2
JCB	1
Pole land	1
Truck Tripper	1
Hydraulic Auto	133
Ghanti Katla	356
Open trucks	18
Dumper placer	12

Vehicle Ownership:

The vehicle registration data for Amravati city is collected from RTO and new categoriwise register vehicle. There are around 48435 new registered vehicles in the Amravati city (2016-17) **Fig. 1**. The following observations are made based on data.

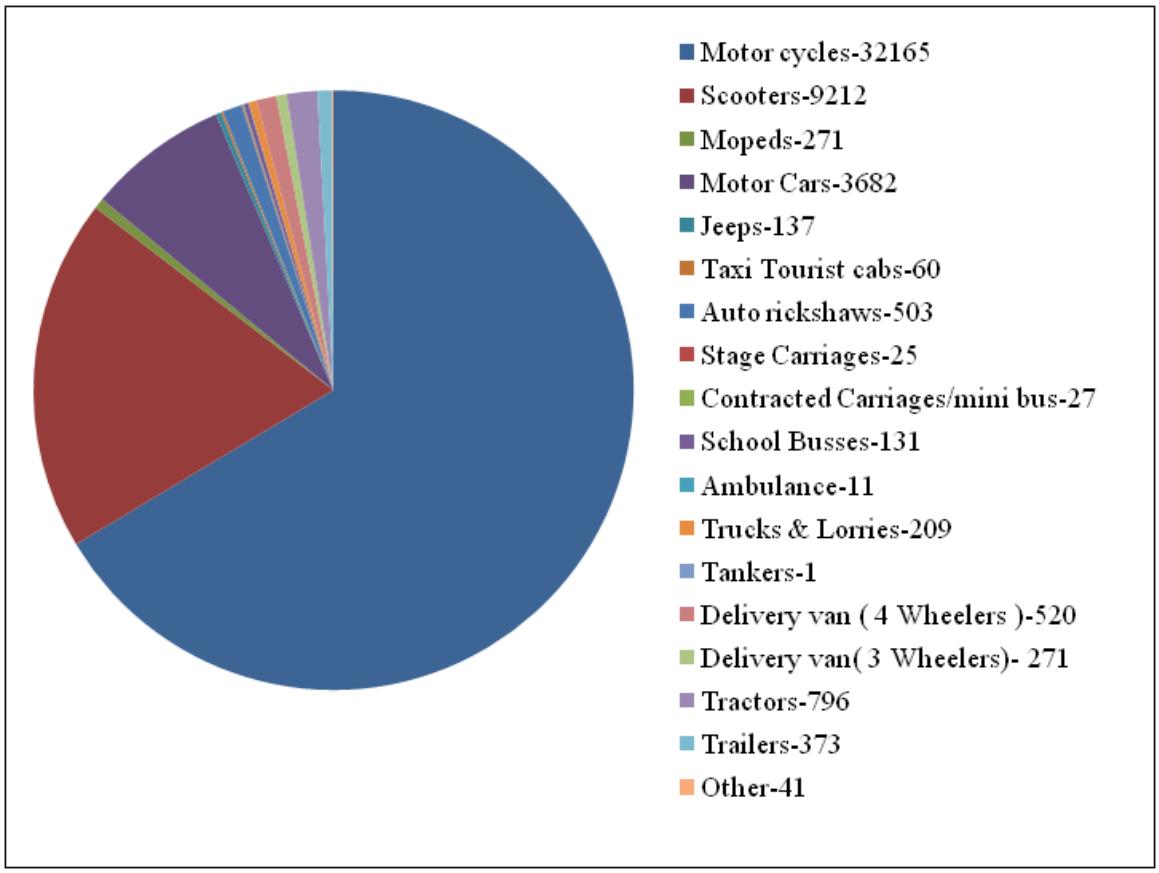


Fig. 1: New Vehicle Register at Amravati District 2016-2017

Statutory body legal compliances by AMC and its Action Plan:

Air Environment:

Direction: Air Pollution direction u/s 18(1) (b) and 31 (A) of the Air (Prevention and Control of Pollution Act, 1981.The received letter copy and AMC divisional order scan copy are enclosed in **Annexure-VII**.

Noise Environment:

As per the direction received from Govt. Maharashtra letter no Sakirn-2012/136/1 Environmental division, Ministry dated 05/09/2016. The Zone wise action committee along with Tahshildar three member committee formed for evaluation of illegal road side canopy for functions and festival and, resolve noise pollution complaints. The details are enclosed in **Annexure-VIII**.

Ban on Idol immersion:

As per Hon'ble High Bench Aurangabad gives the direction under Water Act 1974 ban on plaster of Paris (PoP) Idol immersion at water resources in Lake, Public well,etc. In this constraint AMC ban on plaster of Paris (PoP) Idol immersion in Chhatri Lake and Wadali Lake. The detail order given in **Annexure-IX**.

4.0 Environmental Management Plan

Budgetary Provisions:

The AMC may adopt these measures for the protection and betterment of the environment. The objective behind these measures is to assist the AMC to achieve flawless environmental improvements on continual basis. Accomplishment of these measures will help to maintain the overall environment in good condition and the people in the area will experience a good quality of life.

According to 13th Central Govt. Finance committee, i.e. letter no. T.V.O.1010/ PK11/2010/Finance Committee dated 9/3/2010 Budgetary Provision for State committee described for year 2014-2015 is 954.85 lakhs.

According to 14th Central Govt. Finance Committee A.M.C. has received Rs. 35 Cores for the different development works at City.

The received amount from the budget provision related to environmental concerned as mentioned below:

Solid Waste Management:

According to DPR the utilization of fund for purchasing for container tractor, trolley, mobile dust bean van, solid waste disposal facility and other materials.

Water Supply:

- Water supply and sanitation management and expansion, preparation of audit report, individual connection monitoring of meters
- Open disinfection free sanitation
- Minimum 20% reutilization of wastewater

Basic Amenities Development:

- Acquiring land according to action plan

- Construction of Hospitals and purchasing of its important instruments including Ambulance
- Development of Montessori, play grounds and shelter houses

What Step Should Amravati Municipal Corporation takes to minimize the Pollution in Amravati City?

- Promote Drive Smart
- Regular Pollution Check up Champs:
- Consider "going green"
- Plant a Garden
- Aware about Use Low-VOC or Water-based Paints
- Aware about Turn off Lights When not in Use
- Make use of Solar Energy
- Always Use Recyclable Products
- Use Both Sides of Paper
- Reuse Paper Bags
- Avoid Plastic Bags
- Choose Products With Minimal Packaging
- Use Broom Instead of Leaf Blower
- Don't Use Hazardous Chemicals
- Insulate the Leakages
- Get an Energy Audit Done
- Reduce, Reuse, Recycle
- Buy Items Made From Recycled Materials
- Buy Rechargeable Batteries
- Buy ENERGY STAR Products
- Use Cold Water Instead of Hot

- Contribute
- Talk to Local Representatives
- Educate Your Companions
- Join an Environmental Group

Recommendation Policies:

Financial Aspect:

- Improve municipal service standard on international level on the principal of pay & use.
- Develop essential service on PPP basis & monitor costing aspect.
- To provide garbage / debris or such inert material collection & transportation & its disposal facility on Pay& use basis.
- Municipal standard services such as water purification & supply, super health facility shall develop on PPP basis & Municipal authority having power to price control.
- The Imposition of special sanitary tax on hawkers / market places & commercial establishment & effective cost recovery by adding special sanitation tax either in cess tax/ vat tax by amending concern law.
- Develop performance base budgetary system & ULB is under obligation to publish its financial report in international profit & loss A/c.
- The Incentive to recycling industry.
- Conduct necessary survey & measures to improve living standard of the urban poor by providing health, educational & all other up social lifting scheme.

Public Participation:

- Public participation in information, education, communication, & awareness program.
- Involvement of professional communicator
- Hotline information

- SWM coordinator
- Strengthen the area committee by delegating necessary power development policies at area level & pass expenses incurred thereon, By this way ULB will be unique democratic features having adequate power to maintain essential municipal services and power to collect expenses incurred on municipal services similarly municipal

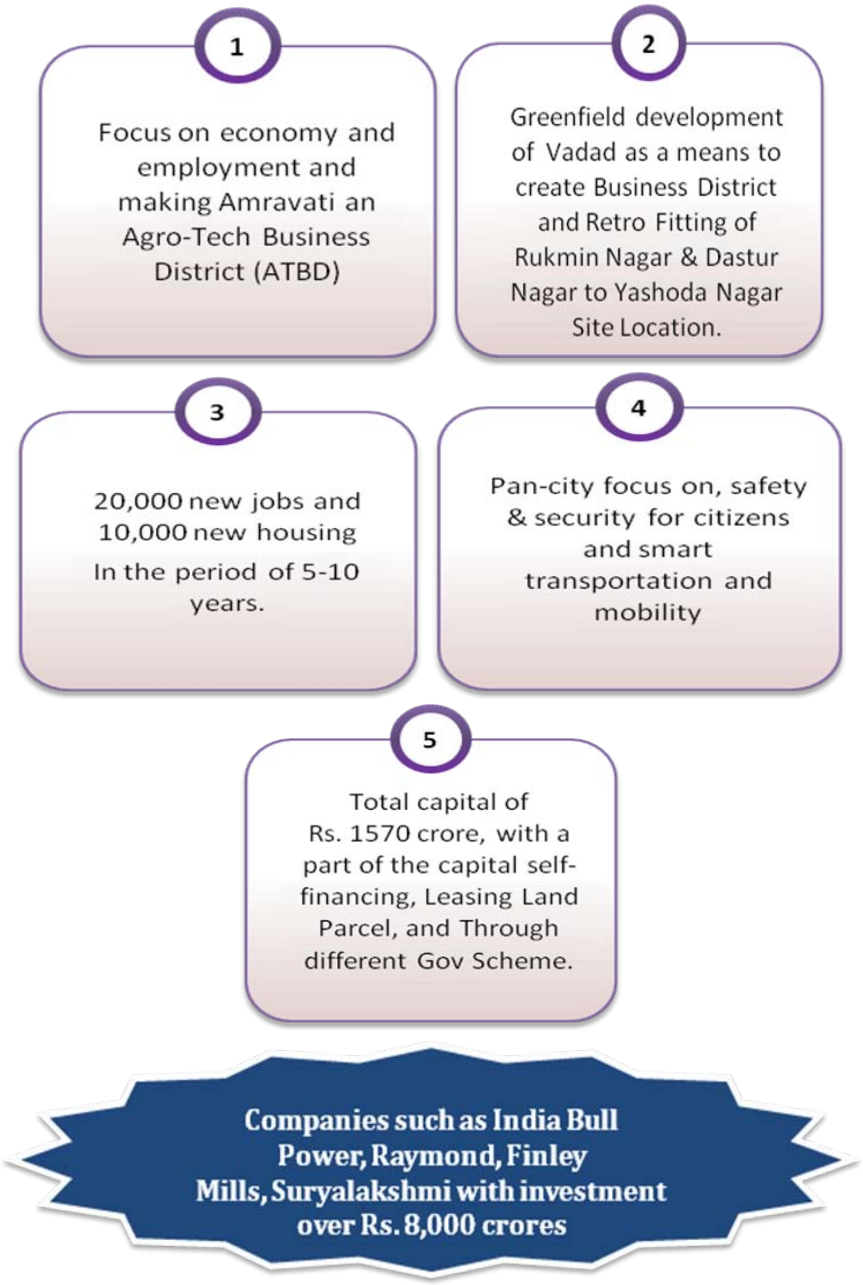
Amravati towards a Smart City:

With a 36% urban population, Amravati District is at a point of transition where the pace of urbanization will speed up. It is for this reason that we need to plan our urban areas well and cannot wait any longer to do so.

5.0 Amravati Smart City Vision

- "Make Amravati City the Agro-Tech Business District (ATBD) especially in textile Industry and in the process improves economic and social well being of the citizens; Make Amravati the city with the highest quality of life index" Amravati has huge industrial potential and the new textile park will further boost its industrial profile
- The City is rapidly expanding towards Badnera, 10 km to the south
- Growing as an industrial centre, with cotton mills leading the way. Home to Vidharbha Sugar Mills.
- At Nandgaon Peth/Saward: 2,700 MW Thermal Power Plant is coming up. Bharat Dynamics Limited (BDL) plans to make air defense missiles
- Significant warehousing potential with CWC presence and APMC godowns
- Amravati Airport to be developed by AAI
- Upcoming Railway Walgaon Factory will boost the scope of developing a lorry unit for wagons.

Establishment of 5 star industrial areas in Amravati:

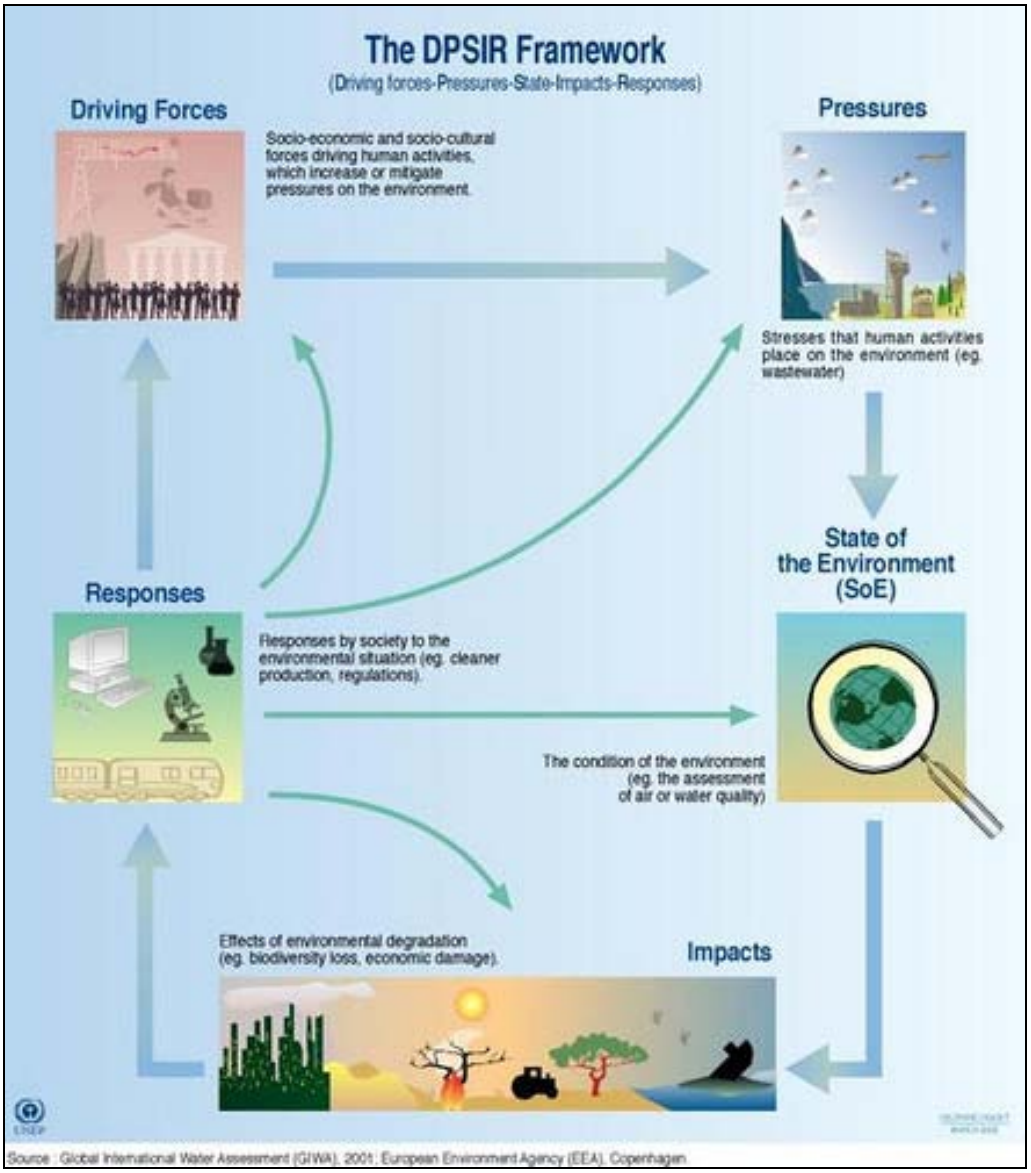


- 117 hectors government and 2693 hectors private, total 2810 Hectors of Land has been acquired by MIDC
- At the first stage, 1549 Hectors of land has been developed out of which 542 industrial and 22 commercial plots have been developed
- 510 plots for industrial and 3 plots, commercial has been distributed
- 500 hectors of land has been planned for textile park out of which 38 plots have been alloted.

Chapter 1
Introduction

1.1 Introduction

An Environmental Status Report is one of the forms of State of Environment (SoE) reporting with a primary function to classify the information and allow an efficient understanding of the complexities and interlink ages between environmental issues and causes. SoE outline is conventional and accepted worldwide, so as to complement the ESRs with universal standards. Amravati Municipal Corporation has made an effort to adopt DPSIR (Driving Force, Pressure, State, Impact, and Response for this ESR.



The views of citizens on different issues related to the environment and the daily problems they may face due to environmental degradation, provide insights which can help improve the situation in our cities. The government at the national and local level has been designing and formulating new and improved policies, it is important to understand the citizens' attitudes, perception, awareness, and opinion towards their local environment.

This data is often analyzed to show trends of environmental pollution, impacts of growth and possible environmental action planning in the city. ESR is one of the forms of State of Environment Reporting (SoE). Different regions across the world use varying terminologies to characterize their respective SoEs. Each type of SoE may have its own distinct characteristics. Some of the other forms of SoE are: Global Environmental Outlook, Environment Monitors, Environmental Atlas, Sustainability Report etc. These SoEs can be further categorized based on the scale or level of the scope of SoE reporting, namely: Global or Regional level, Country and State Level, City Level Corporate Level and Community Level.

1.2 Background

The Socio-economic development of a town is depending on the Facility management. This is related to health, living standard, and environment of the citizens and the Town. Due to rapid development and growing population, many Environmental and Social problems are created. Therefore Maharashtra Government has made it mandatory to prepare an Annual Environmental Status Report (ESR). According to State Law **(ACT No. LIX of 1949),** As per clause 67 (A) was inserted by Mah. 41 of 1994 of Mumbai Regional Municipal Corporation Act 1949, it is mandatory to present the current environment Status Report to the General Body of Local Authority. & **Maharashtra Act No XL of 1965** (The Maharashtra Municipal Councils Nagar Panchyayat and Industrial Townships Act 1965) as per section 77 sub-section (1A) by Mah. 41 of 1994, s144 Council related 74th amendment in year 1992, has made the preparation of ESR compulsory.

The views of citizens on different issues related to the environment and the daily problems they may face due to environmental degradation, provide insights which can help improve the situation in our cities. The government at the national and local level has been designing and formulating new and improved policies, it is important to

understand the citizens' attitudes, perception, awareness, and opinion towards their local environment.

1.3 History

Looking at the history of environmental reporting it can be said that a formal environmental reporting finds its roots in the Local Agenda 21 mandate that was passed in the Earth Summit in 1990 in Rio. Some initial attempts of environmental reporting are seen prior to the Summit. Under this mandate, ULBs required to undertake the preparation and publication of an annual ESR or equivalent. The ESR was expected to list city's environmental concerns, growth factors and the overall environmental degradation and improvements.

1.4 Purpose of ESR

ESRs are used to highlight the condition of the biophysical environment. ESRs also include analysis of trends or changes in the environment, analysis of the causes of these changes, assessment, and interpretation of the implications and impacts of these trends, and assessment of the actual and potential societal response to environmental problems. An effective ESR is one of the most valuable means of informing policy makers, the public, and other stakeholders on the status of natural resources and the sustainability of resource-use patterns. Today, ESRs have emerged from being solely environment oriented to being all encompassing, interfacing with economic and social elements. Hence, the ESR report has come to identify the key driving forces that influence environmental change and policies. For any ESR to be effective, it is very essential to understand the function of the ESR in serving the requirements of the targeted audience.

Accumulation of different pollutants and their exposure to human beings needs immediate attention of the policy makers, researchers and regulatory agencies. The present study suggests that it is necessary to monitor the air quality as well as the health effects at regular intervals at strategic locations.

The purpose of ESRs is as outlined below:

- ESRs are used to highlight the condition of the biophysical environment.
- ESRs also include analysis of trends or changes in the environment, analysis of the causes of these changes, assessment and interpretation of the

implications and impacts of these trends, and assessment of the actual and potential societal response to environmental problems.

- An effective ESR is one of the most valuable means of informing policy makers, the public, and other stakeholders on the status of natural resources and the sustainability of resource-use patterns.
- Today, ESRs have emerged from being solely environment oriented to being all encompassing, interfacing with economic and social elements. Hence, the ESR report has come to identify the key driving forces that influence environmental change and policies.

ESRs have been focusing on reactive decision making rather than proactive policy making. Mainstreaming of environmental considerations in the sectoral development remains outside the scope of the ESR, thus the recommendations made in the ESR remain unimplemented. The ESR framework, although compiles cross sectoral information and data, does not influence cross sectoral policies such as economic instruments (e.g. Tax rebates, incentives, etc).

The ESR does not address the implications of recommended Environmental Action Plans in terms of budgetary allocations. Financial deficiencies and non allocation of budgets for Action Plans remains as one of the constraints.

The DPSIR is an outcome of the PSR framework (Pressure State Response)

- Driving forces of environmental change (e.g. Rate of Industrialization)
- Pressure on the environment (e.g. Discharges of Industrial waste water)
- State of environment (e.g. Water quality of rivers and lakes)
- Impact on population, economy, ecosystems (e.g. Water unsuitable for drinking)
- Response of the society (e.g. Segregation of municipal solid waste)

The important purpose of this structure is to collect the information on different environmental harms and the aim of environmental indicators is to communicate such environmental information to decision makers and the general public.

The systematic outline of the ESR assists in drawing consequential inferences and guide responses towards environmental protection and improvement in the city. Amravati city has taken the efforts to adopt the DPSIR framework given in the guidelines, and thus initiated a step to become role model for the state.

1.5 Objective of ESR

The primary objectives of ESI study are to identify and assess the potential impacts of the daily town activity on the environment and proposed environmental management plans to mitigate adverse impact and enhance the beneficial impact recommend good practices. The overall objective is distinguished in the following is to the following key requirements:

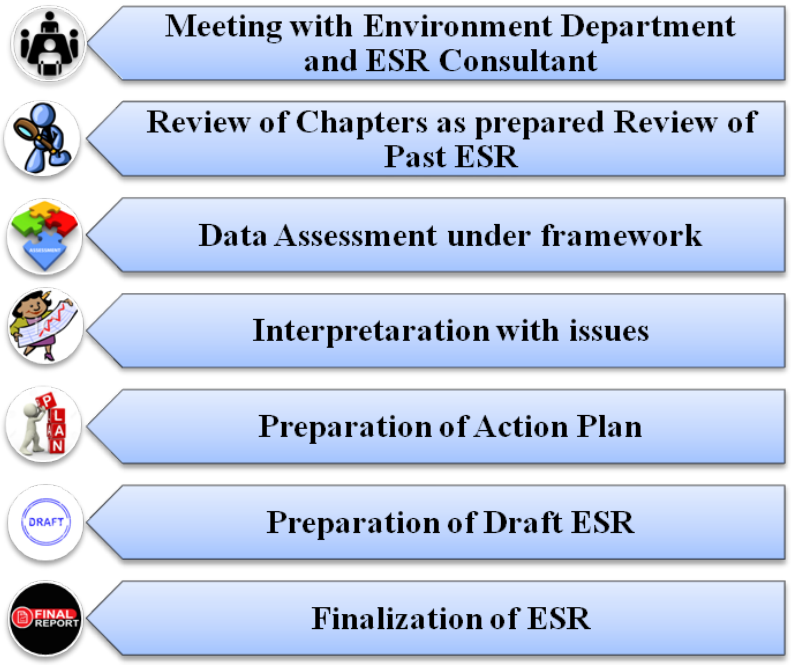
- To assist in drawing meaningful inferences about the status of the environment in a city
- To provide a logical decision making structure for responses (including appropriate resource allocation) to planners and policy makers
- To communicate the status of the environment as well as proposed actions to resolve identified issues to all stakeholders including citizens

1.6 ESR Preparation Process

The ESR preparation process involves stakeholders as participatory approach as per the MPCB's guidelines. The primary objective of stakeholder consultation is to identify the city's needs through consultations with a range of stakeholders. Existing status of the environment, infrastructural facilities existing and issues that need to be implemented by the planners or authorities with economic provision and budget for the implementation. Suggestions for implementation and mitigation measures to be adopted at each level of development were also presented and demonstrated for future improvement.

1.7 Methodology of ESR

The overall methodology followed for the preparation of this ESR is as follows:



AMC review prepared ESRs to understand the city, its environmental concerns, past and ongoing environmental initiatives by the authorities as well as the citizens.

The reviewed ESR covers following sections on status reporting:

- About the city
- Social Environment (demographic, infrastructural activities & developments)
- Air Environment
- Noise Environment
- Water Environment
- Bio-environment (Biodiversity)
- Solid Waste Management
- Important findings (issues)
- Environmental Management Plan

Wherever applicable, information from these sections has been incorporated under relevant sub-sections of the report.

1.8 Genesis of the Report

The rapid and proposed developments would change the available environmental resources and would be stressed unless suitable measures are taken. Various efforts are in practice to improve the environmental conditions of the city through augmentation of the proper distribution system, facilities for treatment of waste generated from the city, improvement in the roads under Nagarothan program, Slum Improvement, Solid waste collection and disposal system. This report represents the evaluation of the various developmental/infrastructural facilities available and analyzes the areas where action has to be taken in an environment friendly manner to avoid the unhealthy situation for the community.

The physical environment of the city constitutes Land, Climate, Vegetation, Forests, Wildlife, Wetlands, Infrastructure, Public services & utilities, Air pollution levels, Noise levels, Water pollution levels, Community facilities & services.The rapid and excessive development of the city results in deterioration of the physical environment that results in poor equality of life for citizen.

This fact is witnessed all over the world. Hence United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro in 1992 established "Agenda 21" for environmental sustainability. Sustainable development is that meets the needs of people without compromising the ability of future generations to meet their own needs. The conservation of natural resources is a strong component of sustainable development. It is thus essential to monitor the physical components of the environment in order to maintain the quality of life in the city and also to ensure sustainable development.

"Urban forestry, Protection of the environment and the Promotion of Ecological aspects" is one of the important additions in this list. Protection of environment and the Promotion of Ecological aspects is wide subject that includes many sectors and departments and crosses geographical boundaries. Department like water supply, sewerage, solid waste management, storm water drains, roads, traffic, wetlands, trees, gardens, social facilities, markets, buildings, factories, slum improvement, education are all concerned with the subject.

The ultimate aims of preparation of Environmental Status Report are:

- The achievement of healthier and fuller life, including desirable environment for betterment the citizen in the city. The long-range survival and welfare of society including life supporting environment.
- Introduction of environmental management at municipal level planning, Assessing environment on yearly basis and deciding priority for short and long-term environmental actions.

Thus Environmental Status Report while assessing the present status of environmental quality attempts to identify potential problem areas, devise strategies in terms of priority areas of corrective and preventive actions, enabling institutional mechanisms, and monitoring arrangements.

Chapter 2
Amravati Introduction

2.1 Amravati Introduction

Amravati is a city in the state of Maharashtra; India and the 8th most populous metropolitan area in Maharashtra. Amravati is also the headquarters of the Amravati "Amravati Division" which is one of the six divisions of the state of Maharashtra (Amravati and Nagpur divisions together of form Vidarbha region) Apart from Amravati district itself, following four districts also come under Amravati Division: 1. Akola, 2. Yavatmal, 3. Buldhana 4. Washim 5. Amravati

Amravati city is geographically located at 20°56' North latitude 77°47' East longitudes. The average altitude is 340.76 m above MSL. The higher elevation area of the city is at 401.05m above MSL that is in the North East part of the city while the city is situated at the foot of the ranges between heights 336 m to 324 m above MSL. The total area of the Municipal Corporation is about 121.65 Sq. Km. and the population as per 2011 census record is 647057 lakh souls in the Amravati Municipal Corporation. The city is located on the National Highway NH-6 leading to Mumbai in the west and Kolkata in the east. Amravati has good road, rail connectivity with almost all important cities in India. It is extremely well connected to Nagpur, Mumbai, Kolkata, and Chennai.

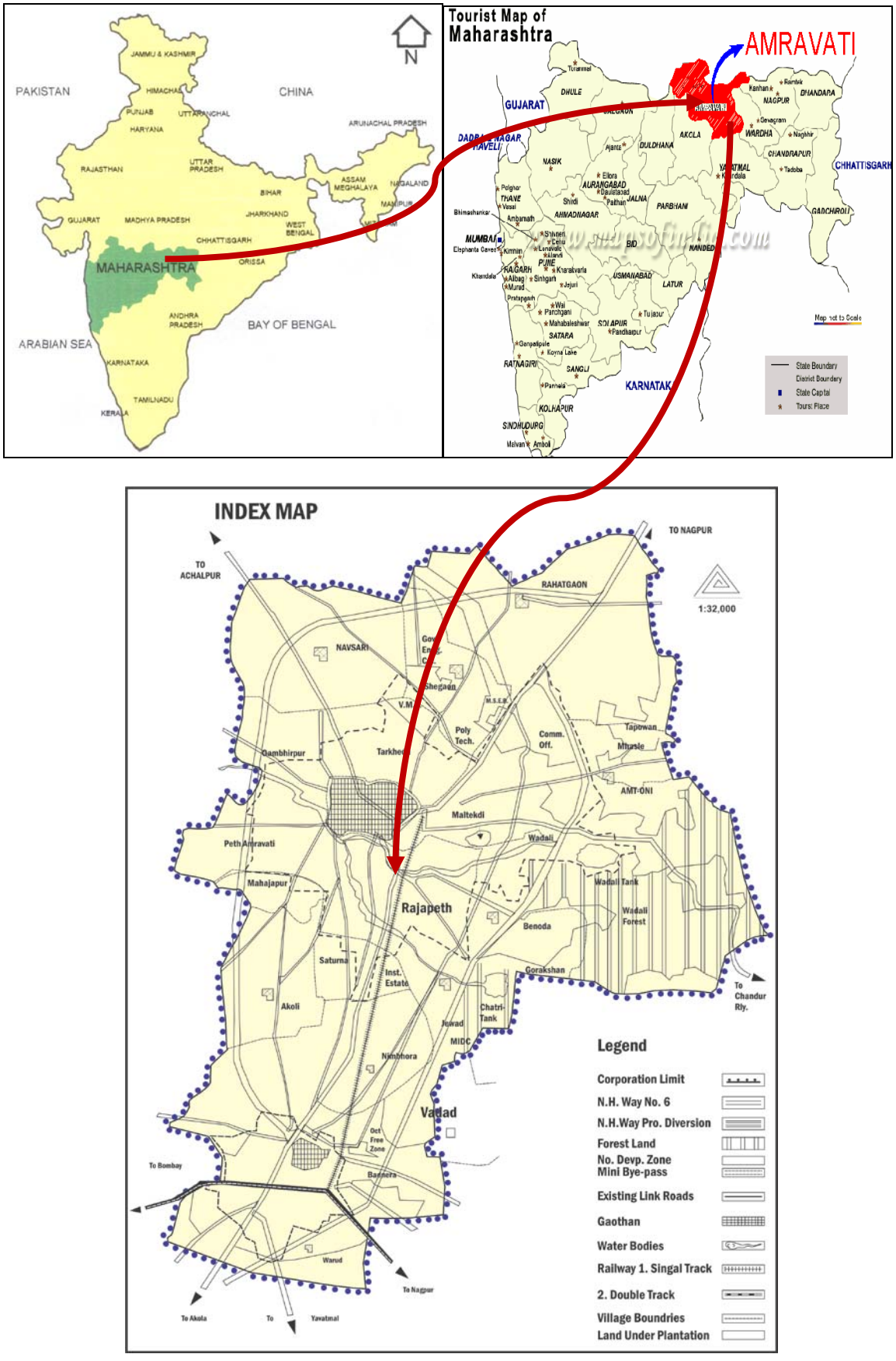


Fig. 2.1: Index Map of Amravati City

2.2 History

Historical Development: Amravati known as Indrapuri the Capital of Lord Indra is famous for its ancient culture. It is said that Amravati is named for its ancient Ambadevi temple. Udumbaravati was the ancient name of today's Amravati. It was due to the presence of ample number of Audumber trees in the region. The name was further abbreviated as Umbravati, Umravati & Amravati. The city has grown up rapidly at the end of the 18th century due to the growth in businesses. It was one of the richest towns of the area at that time.

The ancient proof of existence of Amravati can get from a stone carved inscription on the base of marble statue of God Adinath (Jain God) Rhishabhnath. This shows that, these statues were set up here in 1097. Govind Maha Prabhu visited Amravati in the 13th century, at the same time War had was under the rule of Deogiri's Hindu King (Yadav). In the 14th century, there was a famine (drought) in Amravati & people abandoned Amravati and left for Gujrat and Malva. In 1722, Chhatrapati Shahoo Maharaj presented Amravati and Badnera to Shri Ranoji Bhosle, by the time Amravati was known as Bhosle ki Amravati. The city was reconstructed and prospered by Ranoji Bhosle after the treaty of Devgaon and Anjangaon Surji and victory over Gavilgad (Fort of Chikhaldara). The Amravati city came in existence at the end of the 18th century. Union state of Nijam and Bosale ruled the Amravati city. From 1859 to 1871, many government buildings were coming into existence, which were built by the Britishers. A Railway station was constructed in 1859; commissioner bungalow in 1860, Small cause court in 1886, (today's S.D.O. OFFICE), the Tahsil office & the Main post office were built in 1871. During 1896, Shri Dadasaheb Khaparde, Shri Ranganath Pant Mudhodker, Sir Moropant Joshi, Shri Pralhad Pant Jog were the leaders in Amravati. The 13th Congress Conference was held at Amravati on 27-29 Dec' 1897 due to the efforts of these leaders.

Pictorial View of Amravati City Historical inheritance

2.3 Miscellanea

Shri Hanuman Vyayam Prasarak Mandal (HVPM) is a well known sport institute of Amravati. The Vidarbha Sahitya Sangha was founded in Amravati on 14 January 1923. A member of Hanuman Vyayam Prasarak Mandal, Shri Rajesh Muralidhar Mahatme (25 years) was the first person to enter the "Limca book of records" for his feat of cycling for 24 hours without a pause.

Amravati is the only city in Maharashtra of which history from the 11th Century is available The first Finance Minister of independent India Shri Chintamanrao alias C. D. Deshmukh was an Amravatian. It was divided into two districts, South Berar or Balaghat and North Berar. In 1956, due to the reorganization of the states, Amravati was transferred from Madhya Pradesh to Bombay state. Later in 1960, with the creation of Maharashtra, Amravati became one of its districts.

Indian independence, freedom fighters such as Rao Bahadur Raghunath Narasinha Mudholkar, Dadasaheb Khaparde, Moropant Vishvanath Joshi came from the city.

In 1897, the Indian National Congress assembled in Amravati. It was headed by Chettur Sankaran Nair. In an address he referred to the high-handedness of foreign administration, called for reforms and asked for self-government for India with Dominion Status. Freedom fighter Bhagat Singh hid for 3 days in Amravati during his underground stint. He is known to have frequently visited the Hanuman Akhada (Gym) in this time.

Old Amravati was once surrounded by four gates: Jawahar Gate, Kholapuri Gate, Nagpuri Gate and Amba Gate. The jewellery market (also known as Sarafa Bazaar) is located inside Jawahar Gate with renowned shops like Gajanan jewellers, Mangalam, Gawhane jewellers, Gogate Saraf, Soni jewellers, etc. There are two main parts inside the Fort wall, Bhaji Bazar and Budhwara, famous for Ganesh Chaturthi celebrations (The festival of Lord Ganesha).

The two well known Ganesh mandals of Bhaji Bazar are the Chhatrapati Shivaji Mandal and Sarvajanik Mandal. In Budhwara, the oldest Famous Ganesh Mandal of Vidarbh Shri Laxmikant Ganeshotsav Mandal (1916) and other Mandals are Azad Hind Mandal,Nilkanth Mandal,Shree Shivaji Mandal & Anant Mandal. Mandals are committees which organise various programs during the ten days Ganesh Chaturthi. There are well known temples located in old Amravati, examples include the Balkrishna temple, Someshwar Temple, Murlidhar and Bhrahmachari Maharaj Temple (Renovated by the Deodia family in 1938). The Laxmi Narayan Temple, Jain Shwetamber Temple, Kala Maroti Temple are all in Bhaji bazar. The Nilkanth Temple, Shri Krishna temple, Ekvira Devi temple, is in Budhwara. The Amba Devi and Ekvira Devi temple are at the Amba Gate and famous Jama Masjid in Sabunpura

2.4 Amravati Municipal Corporation

The Amravati Municipal Committee forerunner of the present Municipal Corporation was established on February 2nd, 1887 under Local Fund Act 1869 with Deputy Commissioner as the President. Under the Central Provinces and Berar Municipalities Act, 1922, every municipal committee constituted a body of elected councilors of each ward and was presided by a president elected from among the counselors.

The Amravati Municipal Corporation came into existence on August 15, 1983, comprising the areas of municipal committees of Amravati, Badnera and 17 adjoining villages which were part of the Zilla Parishad. The Amravati Zilla Parishad was constituted on 1 May 1962. The Amravati Municipal Corporation is headed by a Mayor who is assisted by the Deputy Mayor. Before March 1999 they had an office term of only one year, which has now been raised to 3 years. They carry out the work through various committees such as Standing Committee, a Law Committee, Education Committee, Women and Child Welfare Committee, City Development Committee and Four Zonal Committees for the four zones. Muncipal Corporation was 121.65 sq km.

2.5 Administrative Structure of Amravati Municipal Corporation

The administrative head of AMC is the Municipal Commissioner who is assisted by two Deputy Municipal Commissioners who are in turn assisted by five Assistant Municipal Commissioners and carry out the work through various Departmental Heads. The 26 municipal departments mainly are responsible for carrying the various activities & rendering services to the citizens of Amravati City. The Amravati city is divided into the 22 Prabhags grouped in 5 zones. The current functional hierarchy (macro level) is given below.

Administrative Structure:

(1) Municipal Commissioner

(2) Deputy Municipal Commissioners

(3) Assistant Municipal Commissioners

(4) Departmental Heads

a) General Administration

b) Municipal Secretary

c) Public Works

d) Town Planning

e) Water Supply & Removal of encroachments

f) Public Health and Sanitation

g) Accounts

h) Audit

i) Lighting

j) Community Development

k) Property Tax

l) Local Body Tax (LBT)

m) Market & License

n) Education

o) Fire

p) Labour

q) Law

r) Garden

s) Sports

t) Public Relations

u) Automobile

v) Record

w) Women and Child Development

x) Environment Department

y) Statistical Department

z) Computer Department

(5) Zonal Offices

a) Zone No 1 - Rampuri Camp

b) Zone No 2 - Main office

c) Zone No 3 - Hamalpura

d) Zone No 4 - Badnera

e) Zone No. 5- Bhajibazar

2.6 Connectivity

2.6.1 Bus Connectivity

Two wheelers and city buses run by the Amravati Municipal Corporation are the major forms of transport within the city. Auto rickshaws are also popular. The Maharashtra State Road Transport Corporation (MSRTC) provides transport services for intercity and interstate travel. Many private operators also ply on the highly travelled Amravati – Pune and Amravati – Indore route. Bus services to cities like Nagpur, Bhopal, Indore, Raipur, Jabalpur, Mumbai, Pune, Akola, Nanded, Aurangabad, Parbhani Solapur,Gondia, Shirdi,Hyderabad,Kolhapur, are also available.

The NH6, which runs from Hazira to Kolkata, passes through Amravati. New concept of Women's Special City bus in Amravati which is First in Vidarbha region.

2.6.2 Railway Connectivity

In Amravati there are 3 railway stations

1) Badnera railway station

2) Amravati railway station

3) Naya Amravati railway station

Amravati railway station is situated on the branch line from Badnera on Nagpur-Bhusawal section of Howrah-Nagpur-Mumbai line of Central Railways.

Now Amravati is connected by three Railway stations (Amravati Railway Station, Badnera Railway Station, New Amravati Railway Station on Narkhed route) Amravati railway station provides multiple shuttle services to Badnera throughout the day. Along with this, following trains originate from here.

- 12159 Amravati – Jabalpur Super Fast Express (Daily at 17:45)
- 12119 Amravati – Ajni (Nagpur) Intercity Express (Monday to Friday at 05:30)

- 12112 Amravati – Mumbai Superfast Express (Daily at 19:05)
- 59026 Amravati – Surat Fast Passenger (Monday, Friday, Saturday at 09:00)
- 09050 Amravati - Udhna Fast Passenger (TUE, WED, SUN at 06.55 HOLIDAY SPECIAL)
- 51261 Amravati – Wardha Passenger (Daily at 15:30)
- 51184 Amravati – Bhusaval Passenger (Daily at 13:00) (Narkher via NEW AMRAVATI skipping Amravati)
- 12766 Amravati – Tirupati Superfast Express (Monday and Thursday at 06:55)
- 11406 Amravati – Pune Express via Akola, Purna and Latur (Monday and Saturday at 18:30)
- 51136/51138/51140/51142/51146/51148/51150 Amravati – Badnera Passenger (Daily at 02:15, 03:55, 07:15, 11;45, 18:50, 20:25, 23:40)

2.6.3 Air Connectivity

Amravati Airport, located at Belora, 15 kilometers off NH-6 towards Akola, is operated by the Maharashtra Airport Development Company (MADC). Presently it has no commercial scheduled flights. The Nagpur Flying Club has applied to DGCA for

permission to shift its flying operations to Amravati airport. It also has a helipad facility. MADC is acquiring about 400 Hectares of land ford developing the airport and related facilities at an estimated cost of Rs.2.25 billion. Recently Amravati Airport has been handed over to Airport Authority of India for development. The other nearest Airport is Dr. Babasaheb Ambedkar International Airport in Nagpur, 160 Kms from Amravati.

2.7 Education

Amravati is known for quality educational in Vidarbha region with all Govt. and Private Infrastructure facilities available.

2.7.1 Schools

65 Schools served by Amravati Municipal Corporation, out of which 11 no. of schools have advanced e-learning facilities by the public and private sponsor programme. In future, AMC is planning to adopt e-learning facilities in all remaining municipal schools of the city. Inspite of Municipal Corporation there are no. of trust operated schools and private schools which are provide quality education. Some of them are enlisted below:

- Asmita Shikshan Mandal's Asmita Vidya Mandir
- Adarsha Prarthmik Shala
- Bhawarilal Samra English High School
- Deepa English Primary School
- Dnyanmata High School Amravati
- DRS Kids School
- Friends Urdu High School
- Friends English High School
- Golden Kids English High School
- Holy Cross Convent
- Indo Public School
- Friends Primary, High School & Jr. College
- Lathebai School

- Manibai Gujarati High School
- Mohanlal Samra Primary School
- Narayan Das Laddha High school New High School
- Niyazi Education Society
- Niyazi Primary,High School & Jr.College
- Oyster English School, Amravati. Pragati Vidyalaya
- Rajeshwari Vidya Mandir Association Education Society Saraswati Vidyalaya
- School of Scholars
- Shri Ganeshdasji Rathi Vidyalaya
- Shri Shivaji M.P.H.S.School, Amravat
- Shri Ramkrishna Krida Vidyalaya
- Shri Samarth High School
- St. Francis High School, Amravati
- St. Thomas English High School, Amravati
- Takhatmal English High School
- Vanita Samaj
- Nida High School
- Vikas Vidyalaya,Vilas Nagar,Amravati
- Bhagirathi High school, Amravati
- Sant Gadge Baba Vidya Mandir, Amravati
- Indrapuri Vidyalaya, Amravati
- Vidya Bharti Vidyalaya, Amravati

These schools are affiliated to Maharashtra State Board of Secondary and Higher Secondary Education (MSBSHSE).

- Navodaya Vidyalaya, Abyasa English School and Indo Public School follow CBSE pattern of learning.
- The Management of Abyasa English School has also decided to start an ICSE affiliated school, which will be known as Amravati Public School. The plan is in its initial stage.

2.7.2 Colleges

At the heart of the city is the well known government institute: The Govt. Vidarbha Institute of Science and Humanities, formerly Vidarbha Mahavidyalaya. It started out as King Edward College. It is the only college serving Amravati with maximum branches for humanities at the undergraduate and post-graduate level. The college has several renowned alumni. The institute has over 500 teaching and non-teaching staff, the maximum in any college under Amravati University.

More than 265 educational institutes operate under the management of Shivaji Education Society founded by Dr. Punjabrao Deshmukh.

Amravati is a major educational center in Central India. Major colleges affiliated to Sant Gadge Baba Amravati University include Government College of Pharmacy

Government College of Engineering, Amravati the Punjabrao Deshmukh first agricultural minister of India was from Amravati he was the father of Amravati education. and also established the Shri Shivaji education society which is old and most famous education society for quality of education. Shivaji education society is largest education society after Rayat education society in Asia.

- Government Polytechnic Amravati
- Sipna College of Engineering and Technology, Amravati
- P. R. Patil Group of Educational Institutes
- T.S.H.M.C HOMOEOPATHIC MEDICAL COLLEGE AMRAVATI Smt. Kesharbai Lahoti Mahavidyalaya
- V.Y.W.S. Dental College and Hospital, Amravati since 1989
- V.Y.W.S.'s Prof. Ram Meghe Institute of Technology & Research

- Prof Ram Meghe College of Engineering and Management.
- IBSS College of engineering & Dr. Rajendra Gode Polytechnic. Mardi Road Ghatkhed Amravati
- Degree College of Physical Education, Shree H.V.P. Mandal, Amravati
- Shree H.V.P. Mandal, Amravati was established in 1914 and is serving as a sports institution. Its members are known to have participated in the Indian independence movement. It has diversified its activities to the field of Ayurveda, education (in tribal areas), Engineering and Technology.
- In 2011, the prestigious Indian Institute of Mass Communication has set up its regional centre at Amravati University.
- New engineering colleges have sprung up in past few years including H.V.P.Mandal's College of Engg. & Technology, Sipna College of Engg. and Technology and P. R Patil Educational Institutes, IBSS college of engineering, Kamlatai Gawai College of engineering, Raisoni

2.8 Agriculture

Like the rest of Vidharbha, the economy in Amravati is mainly dependent on agriculture.

Food grains occupy the largest cultivable area, out of which, Sorghum occupies nearly 50%. It is also the main crop of the district occupying 20% of the irrigated land area and is mainly cultivated in the Tivsa, Nandgaon-Kandeshwar, Morshi, Warud and Chandur-Railway Talukas. Cotton is an important cash crop in the district as a large part of the planes has black soil suitable for cotton, known as Regur soil or black cotton soil. The district is always among the first three districts in the State in terms of total cultivated area and production of cotton. Red gram, wheat, green chickpea, sugarcane, green chilies, oranges, sweet lime and betel leaves are the other crops grown in the district. Amravati district is also famous for oranges and along with Nagpur, tops the production of oranges in the State.

2.9 Climate

Amravati zone comes in tropical wet and dry climate, summer hot and dry winter mild to cool. Summer stars from March to June, Monsoon from July to October and winter November to February. The average maximum and minimum temperature of the district is 44.4°C and 12.4ºC respectively. The average annual rain fall of the district 857.4 mm spread over 51 rain days.

2.10 Industrial Scenario of Amravati

Sr. No.	Head	Unit	Particulars
1.	Registered Industrial Unit	NO.	2708
2.	Total Industrial Unit	NO.	2708
3.	Registered Medium & Large Unit	NO.	47
4.	Total Industrial Unit under AMC Saturna and Gopal Nagar	NO.	504
5.	Employment In Large And Medium Industries	NO.	5240
6.	No. of Industrial Area	NO.	12
7.	Turnover of Small Scale Ind.	in lacs	20645.44
8.	Turnover of Medium & Large Scale Industries	in lacs	36376.00
Source : MSME			

2.11 Basic Amenities

AMC provides basic amenities like storm water management, solid waste collection and disposal, public toilets, crematoriums, roads, footpaths, public buildings and Biomedical waste collection and disposal facility the water supply Sewage treatment executed under Maharashtra Jiwan Pradhikaran etc. to the population residing in AMC area. AMC also provides facilities such as hospitals and dispensaries, public transport, education. These facilities are also provided by the private sector. In addition AMC extends services such as fire fighting, undertakes slum improvement, development and maintenance of parks, gardens and open grounds, public libraries, tree plantation, entertainment facilities, etc.

Chapter 3
Description of Environment of Amravati City

3.1 Landuse/Landcover

'Landuse Change' is an indicator given by DPSIR. Its objective is to reduce the urban spread out. The land, and the way it is managed, affects the entire environment. It is important to monitor changes in landuse, especially rapid urbanization and urban sprawl. There is a continual need to reconcile the requirements for additional land for important uses, such as housing, industry, commerce and retailing with a desire to protect the countryside and agriculture.

As per DPSIR indicators, the ideal floor area per person cannot be defined. Hence, individual cases should be considered. Floor area per person is a response indicator as well.

Indicator, 'Protected areas as percent of total areas' relates to conservation of biodiversity. Protected areas are a form of defense against changes in landuse and in other human activities; if unsustainable, they can pose a threat to ecosystems and landscapes, and lead to biodiversity changes including natural habitat loss.

Urban planning is a relatively new profession that has arisen from concerns for health and maintaining wellbeing through averting diseases and illnesses associated with overcrowding, poor sanitation, and exposure to environmental pollution.

The way cities and neighborhoods are designed affects whether or not it is easy for people to walk, cycle, participate in active recreation, use public transport, and interact with neighbors and their community. It is believed that urban planning decisions have a key role to play in combating growing levels of obesity and helping prevent lifestyle related diseases through facilitating physical activity and positive mental health.

Urban planning embodies a vision that conveys the aspirations of both the government and the people. The better aligned the collective vision from both the government and the people more realistic and implementable are the plans. It does not have to paint a lofty, unattainable goal but it should be attractive and contextual- making

use of the unique assets and characteristics of each place, community, or city. In fact, the more down to earth the vision is, and the more the people can relate to it, the better.

Urban planning is a coordination and communication instrument, the common document that brings together stakeholders. Just taking the example at the government level, arguments, trade-offs and compromises are better done at the table - the draft urban plan can be used as a starting point for discussions amongst agencies with different mandates and interests. Perhaps even more importantly, the final document reflects agreements and decisions from these discussions that should be upheld. it would, therefore, minimize potential conflicts amongst different agencies during implementation. This applies to all aspects of urban development from road, water, drainage, sewers, electricity and community services, health and education facilities to economic development direction and goals. Underlying this is the need for one main coordination agency and a clear division of work between the agencies as well as the various levels of government.

Environmental quality of any urban area is affected by two main factors. One of them is the prevalent use for land for different purposes and the other, the physical infrastructure. This Chapter deals with the first aspect. Different landuses generate different activities resulting into mixed uses and hence chaotic situations. Landuse planning has to be deliberated by the public authority for better quality of environment in terms of public health and hygiene. It is also necessary to avoid health hazards caused by mixing of contradictory landuses like residential and industrial. A careful study of the existing land use pattern is required for making any proposal in this direction.

District Amravati laying Earthquake Hazard Zone III (Base on Atlas India 2nd Edition, BMTPC).

3.1.1 Remote Sensing Studies

Remote Sensing technology has emerged as a powerful tool in providing reliable information on various natural resources at different levels of spatial details, it has played an important role in effective mapping and periodic monitoring of natural resources including environment.

With the availability of high resolution remote sensing data, newer areas of remote sensing applications have been identified, techniques of data processing have been improved and computer based image processing systems have become more effective.

3.1.1.1 Data Used

In order to strengthen the baseline information on existing land use pattern, the following data covering approx. 20°59'21.56"N-20°49'28.51"N latitude and 77°40'35"E - 77°50'18"E longitude are used.

A. Remote sensing data

Resource sat LISS III Imagery Data

B. Collateral data

Toposheets and Thematic Maps: Relevant toposheets in 1:50,000 scale of the Survey of India and landuse map in 1:1,000,000 scale published by the National Atlas and Thematic Mapping Organization (NATMO) were used for registration of the satellite data. These were also used as collateral data in the digital analysis and classification of the satellite data.

3.1.1.2 Methodology

Salient features of Methodology are given below:

- Acquisition of Satellite data
- Data loading
- Data processing
- Geo-referencing Image
- Rectification
- Supervised Classification of Land use /Land cover
- Ground Truth / field checks using Global Positioning System
- Masking

The spatial resolution and the spectral bands in which the sensor collects the remotely sensed data are two important parameters for any land use survey. A resource at LISS III offers spatial resolution of 23.5 m with the swath width of 141x 141 km. The data is collected in four visible bands namely Band 1 (Blue) (0.445 -0.516μ), Band 2

(Green) (0.506-0.595μ), Band 3 (Red) (0.632 -0.698μ), band 4(Near infrared) (0.757-0.853μ) and panchromatic Band (0.526 -0.929μ), with orbit repeat Approximately 3 days, 40° latitude. The shapes, sizes, colors, tone and texture of several geomorphic features are visible in Ikonos data. Four spectral bands provide a high degree of measurability through band combination including FCC generation, bands rationing, classification, etc. These features of the resources at data are particularly important for better comprehension and delineation of the land use classes.

The digital image processing was performed on ERDAS Imagine 13 System on the high-configured computer. This software package is a collection of image processing functions necessary for pre-processing, rectification, band combination, filtering, statistics, classification, etc. Apart from contrast stretching, there are large numbers of image processing functions that can be performed at this station. Arc Map 10.2 is used for final layout presentation.

The satellite data from the compact disc is loaded on the hard disk and by studying quick looks (the sampled image of the appropriate area); the sub-scene of the study area is extracted.

Supervised classification using all the spectral bands can separate fairly accurately, the different land use classes at level II on the basis of the spectral responses, which involve the following three steps:

(1) Acquisition of ground truth

(2) Calculation of the statistics of training area

(3) Classification using a maximum likelihood algorithm

The training areas for classification were homogeneous, well spread throughout the scene with bordering pixels excluded in processing. Several training sets have been used through the scene for similar land use classes. After evaluating the statistical parameters of training sets, the training areas were rectified by deleting no congruous training sets and creating new ones.

3.1.2 Results

Land use refers to man's activities on land, utilitarian in nature whereas land cover denotes the vegetation cover, water body cover and artificial constructions etc.

The landuse / landcover classification system standardized by the Department of Space, for mapping different agro-climatic zones have been adopted. This classification system has six major land use classes at level I and twenty-eight at level II (**Table 3.1.1**). The six major classes at level I was further enunciated in the following six categories:

Table 3.1.1

Land use/Land Cover Classification System

Sr. No.	Level – I		Level – II
1.	Built-up Land	1.1	Built-up land
		1.2	Road
		1.3	Railway
2.	Agricultural Land	2.1	Crop land
		2.2	Fallow (Residual)
3.	Forest	3.1	Evergreen/Semi-evergreen forest
		3.2	Deciduous forest
		3.3	Degraded/Scrub land
		3.4	Forest blank
		3.5	Forest plantation
		3.6	Mangrove
		3.7	Cropland in forest
4.	Wasteland	4.1	Salt affected land
		4.2	Waterlogged land
		4.3	Marshy/Swampy land
		4.4	Gullied/Ravenous land
		4.5	Land with or without scrub
		4.6	Sandy area (coastal and desert)
		4.6	Barren rocky/Stony Waste/sheetrock area
5.	Water bodies	5.1	River/Stream
		5.2	Lake/Reservoir
		5.3	Tank/Canal
6.	Others	6.1	Grassland/Grazing land
		6.2	Shifting cultivation

- **Built up Land:** It is defined as an area of human habitation developed due to non-agricultural use and that which has a cover of buildings, transport, communication utilities in association with water, vegetation and vacant lands.

- **Land with or without Scrub:** They occupy (relatively) higher topography like uplands or high grounds with or without scrub. These lands are generally prone to degradation or erosion. These exclude hilly and mountainous terrain.

- **Fallow Land:** It is described as agricultural land which is taken up for cultivation but is temporarily allowed to rest un-cropped for one or more

seasons, but not less than one year. These lands are particularly those which are seen devoid of crops at the time when the imagery is taken of both seasons.

- **Dense Evergreen Forest:** It is described as a forest, which comprises of thick and dense canopy of tall trees, which predominantly remain green throughout the year. It includes both coniferous and tropical broad-leaved evergreen trees. Semi-evergreen forest is a mixture of both deciduous and evergreen trees but the latter predominate
- **Water Bodies:** Area persistently covered by water such as river and Reservoir, lakes.

Landuse / landcover distribution in the study area 05 Feb -2013 has been estimated as given below using the above classification system and digital analysis techniques.

3.1.3 Land Use

As per the city sanitation plan report, the existing land use data in Amravati Municipal Corporation area has been analyzed under major land use zone such as residential, industrial, commercial, recreational, transport and communication, public and semi-public, public utility services and agricultural lands. The existing land use pattern as given in the development plan of Amravati is as given in table below. As per the information provided in the Development plan of Amravati the existing land use pattern reflects that the most predominant land use type is residential i.e. 1892 hectares (43.80% as compared to the developed area and 15% as compared to the total area), followed by public/semi public land use i.e.1036 hectares (23.98% as compared to the developed area and 8.51% as compared to the total area), followed by transport and communication i.e. 793 hectares (18.48% as compared to the developed area and 6.55% as compared to the total area). The other minor land use patterns are commercial (59 hectares), public utility (60 hectares), and recreational facilities (127 hectares). The proposed land use pattern as detailed in the development plan of Amravati is as shown in **Table 3.1.2** below:

Table 3.1.2

Land used in Development Plan of Amravati

Sr. No.	Landuse	Area (Ha)	Percentage with Developed Area	Percentage with Total Area
1	Residential	1892	43.80	15.55
2	Industrial	348	8.05	2.86
3	Commercial	59	1.36	0.48
4	Public /Semi Public	1036	23.98	8.51
5	Public Utility	60	1.38	0.48
6	Recreational Facilities	127	2.95	1.04
7	Transport and Communication	793	18.48	6.55
	Total Development Area	*4320*	*100.00*	*35.48*
8	Water Bodies	331	-	2.72
9	Forest Land	1167	-	9.59
10	Agricultural/Bagayat Land	4665	-	38.30
11	Vacant Land	1692	-	13.91
	Total Area	**12165**	**-**	**100.00**

3.1.4 Distribution of Land Use

The total geographical area within the limits of Municipal Corporation of Amravati is 121.65 sq.km. Out of which only 35.487 is developed area. The area mainly covers the residential development under Gaothan old town, newly developed slums and residential development, which is coming up around the city. It is observed that 43.80% of the developed area is under residential user, while the next user is public and semi-public - 23.98%. This is mainly because of Government and semi –government institutions and educational activities in the city, being a divisional head quarter and University Center. This is followed by Transport and communication –18.48%, mainly due to Railway Station and Railway Yard, linkage, bus depots and shops and important major roads viz., National and State Highways passing through the city and arterial roads in circulation with Corporation area. The developed area under industrial use is 8.05% to the total developed area. These industrial activities are mainly due to establishment of the Maharashtra Industrial Development Corporation (MIDC), Co-operative Industrial Estate at Saturna, Ginning and Pressing Mills, Oil Mills, Saw Mills and existing spread up industrial activities in the city.

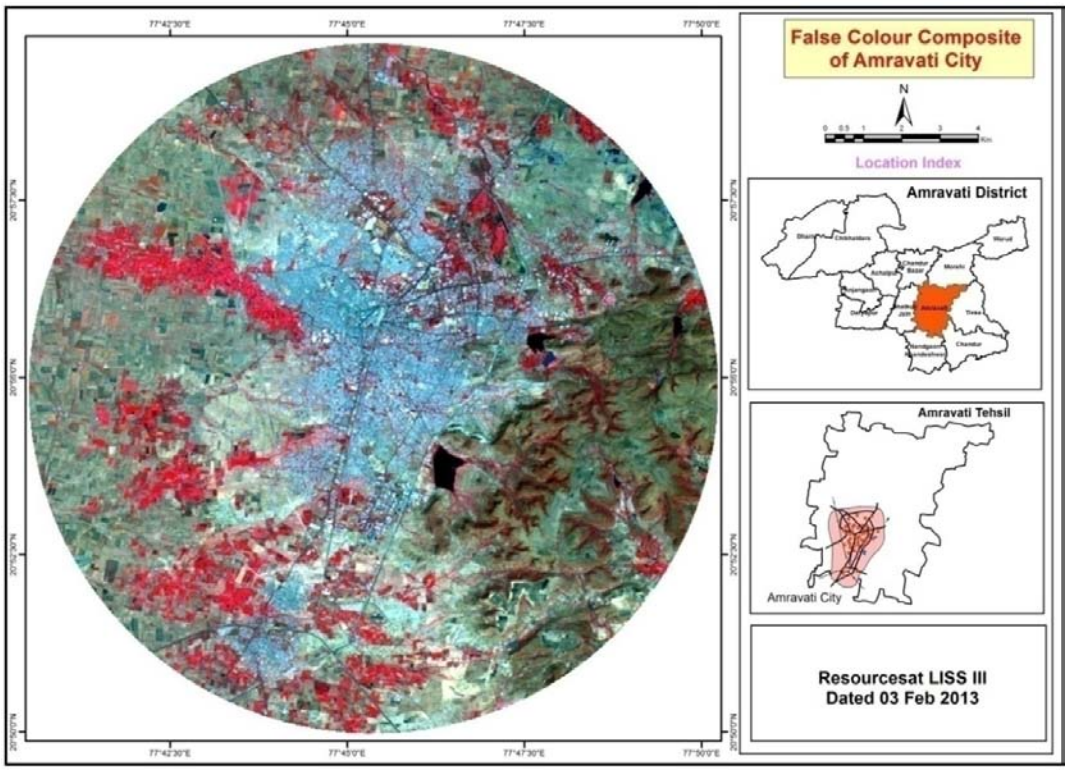
Recreational user is 2.95% of the total developed area. As per the planning standard laid down by the State govt., such recreational areas have to be to the extent of 0.6 ha. Per. Thousand population, excluding National Parks, Regional Parks and the areas left as open spaces in the layout etc. It is seen that this activity is low and about 0.38 ha

per thousand populations in the City of Amravati Municipal Corporation. The commercial user is developed mainly within the core area of the town. Amravati and Badnera in respect of trade and commerce including the activities of the Agricultural Produce Market, Vegetable Markets etc., The developed Public utility service user is 1.38%, which includes water supply, electricity, burial and cremation grounds, compost pits etc. The forest of Melghat occupies the Gavilgad ranges of Satpuda hills, which form the Catchment area of important rivers such as the Tapi and the Wardha. The terrain is hilly. These forests are teak, yielding big size timber. Forests in the plains meet the immediate requirements of agricultural population, such as fuel, small size timber, grass and grazing facilities. The major forest produce is timber. The minor forests produce constitutes various items such as bamboo, fuel, grass, minerals, horns and hides, tendu leaves and gums.

As per the development plan AMC proposed the growth of municipal area following as per pattern.

3.1.5 False Colour Composite

Plates 3.1.1 depict the false colour composite of Resources at LISS III showing 225 sq.km areas around Amravati City, Maharashtra. In the image, vegetation (dense vegetation, Land with shrub,) appears red, water bodies as blue. Attributes such as colour, tone, texture, shape and size are used to interpret the image visually. Morphologically the area is elevated terrain. The Built-up area visible clearly which reflect bluish colour in FCC. Sandy soil is also depicted in the imagery by its white color.



(Source AMC-ESR: 2015-16)

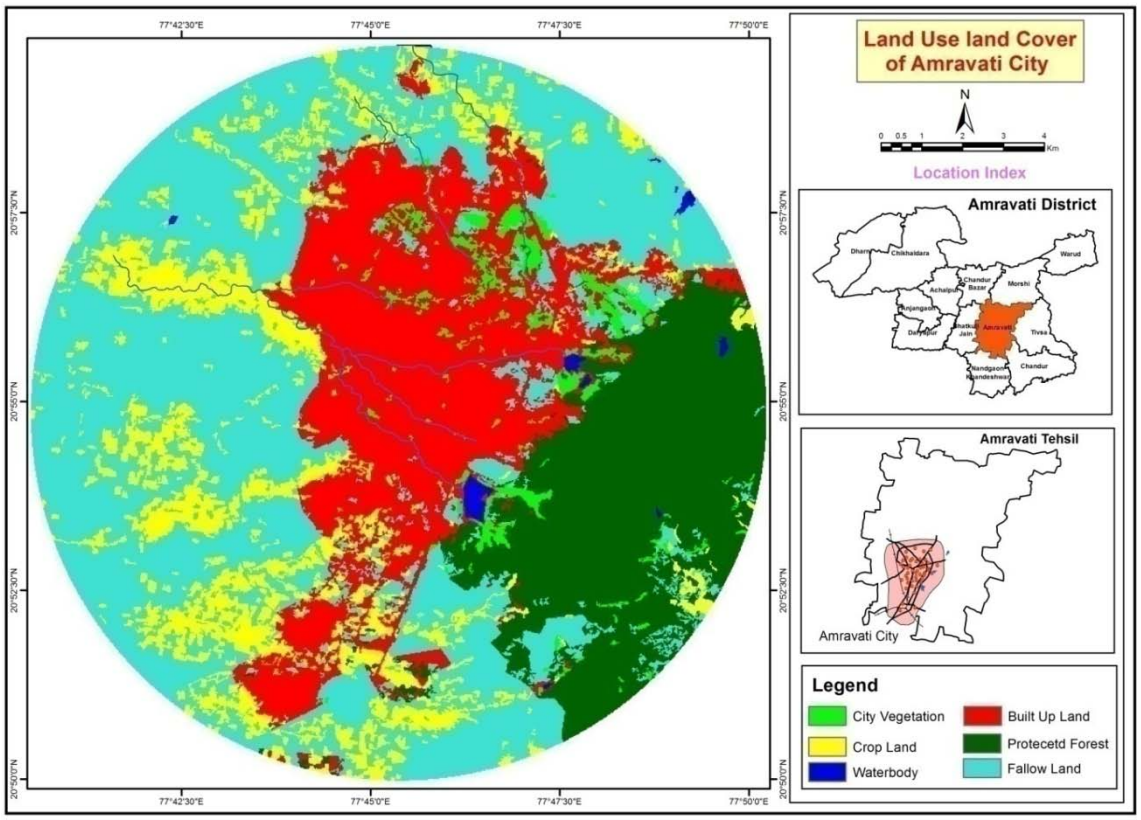
Plate 3.1.1: FCC of Study Area

3.1.6 Landuse / Landcover

It is the colour-coded output of supervised classification with colours assigned to various classes in the study area around the site. In this image, colours are assigned to various classes as given in legend. Six different classes are identified within the study area. The land use / land cover classification indicates 1.90% area covered by water body.

Agricultural land is indicated by the yellow colour showing 14.40%. The Protected forest area having 17.18 % of the area and assigned by the dark green colour while Built up land shows in red colour having 21.32% .The percentage of Fallow land is found to be 42.22% as assigned by Tan colour as well as City vegetation which is present in City shows 2.91% showing light green colour.

Review of **Plate 3.1.2** and **Table 3.1.2** indicates that the land use/land cover is distributed mainly over three categories that is Protected forest, Built up Land and Fallow land.



(Source AMC-ESR: 2015-2016)

Plate 3.1.2: Land Use Land Cover of Amravati City based on resource Sat. LISS III imagery data

Table 3.1.3

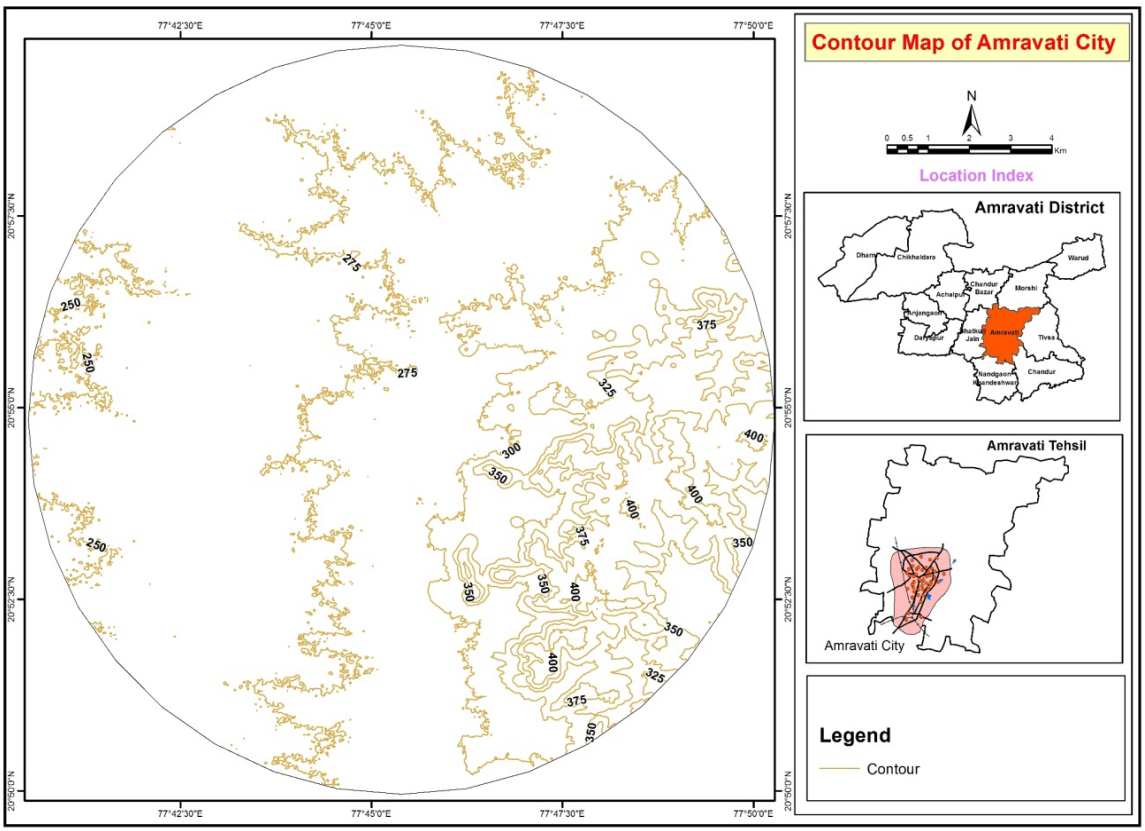
Inventory of Land use / Land cover

Sr. No.	Land use/Land cover Classes	Area in (Sq. Km)	Area in (%)
1	Protected Forest	38.67	17.18
2	City Vegetation	6.56	2.91
3	Crop Land	32.41	14.40
4	Fallow Land	95.01	42.22
5	Water Body	4.28	1.90
6	Built-up Land	48.05	21.35
	Total	**225**	**100**

3.1.7 Generation of Contour Map

The Contours are polylines that connects points of equal value of elevation. The elevation points were prepared from toposheets on a scale of 1:50000 collected from Survey of India (SOI). The collected toposheets were scanned and registered with tic points and rectified. Further, the rectified maps were projected. All individual projected maps were finally merged as a single layer. The contours were digitized with an interval

of 20m. The contour attribute table contains an elevation attribute for each contour polylines. The contour map was prepared using Arc Map of Arc GIS 10. Contour map is a useful surface representation because they enable to simultaneously visualize flat and steep areas, ridges, valleys shows in **Plate3.1.3** in the study area.

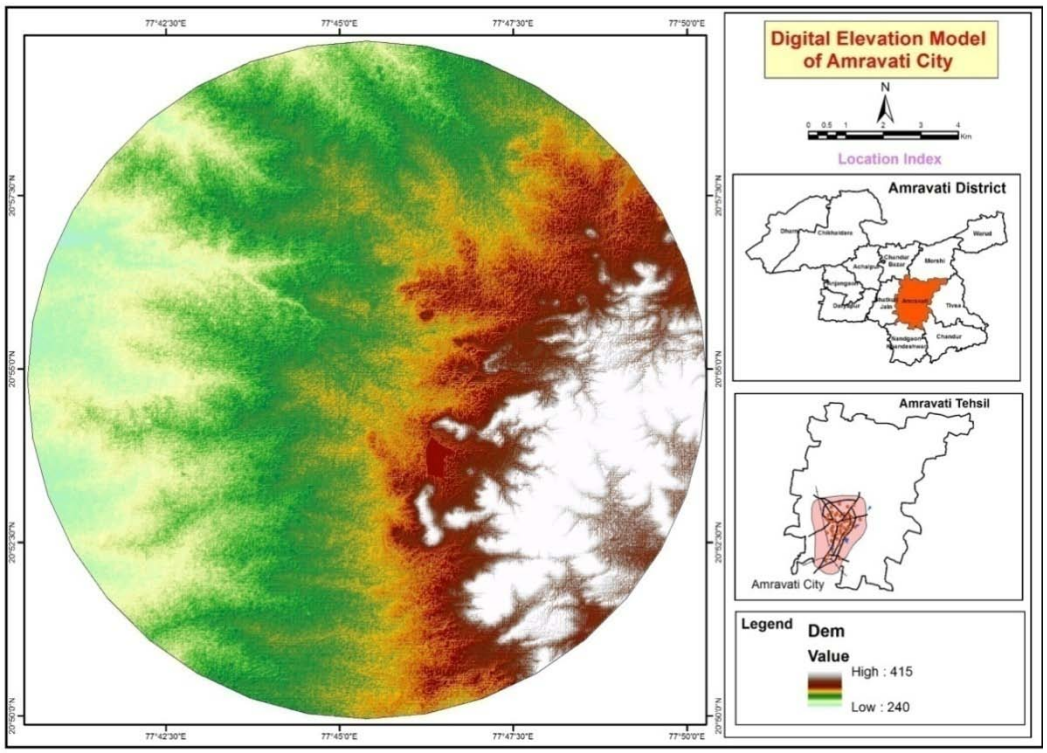


(Source AMC-ESR: 2015-2016)

Plate 3.1.3: Contour Map of Study Area

3.1.8 Digital Elevation Model (DEM)

A DEM is a raster representation of a continuous surface, usually referring to the surface of the earth. The DEM is used to refer specifically to a regular grid of spot heights. It is the simplest and most common form of digital representation of topography. The Digital Elevation model for the study area was generated from the Tin. In the Study Area Digital Elevation Model Shows Highest altitude is 415 meter and lowest height is 240 meter shows in **Plate 3.1.4**.

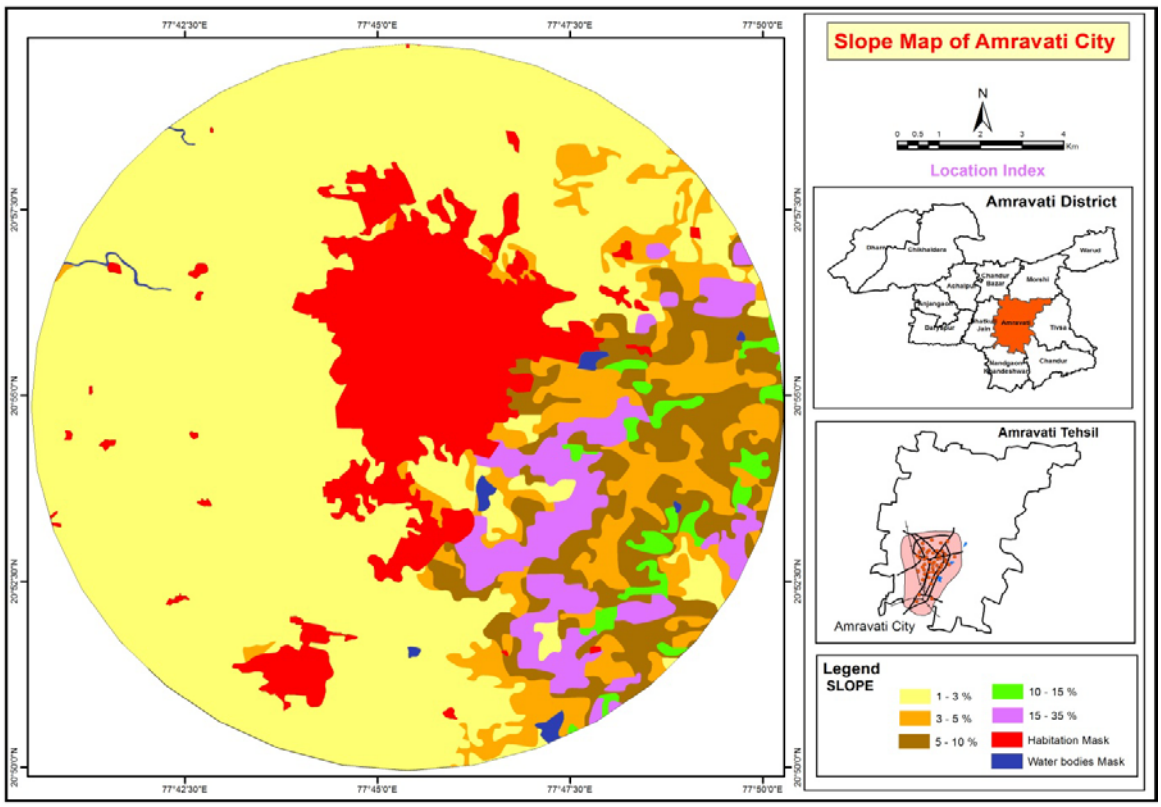


(Source AMC-ESR: 2015-2016)

Plate 3.1.4: Digital Elevation Model Map of Study Area

3.1.9 Generation of Slope Map

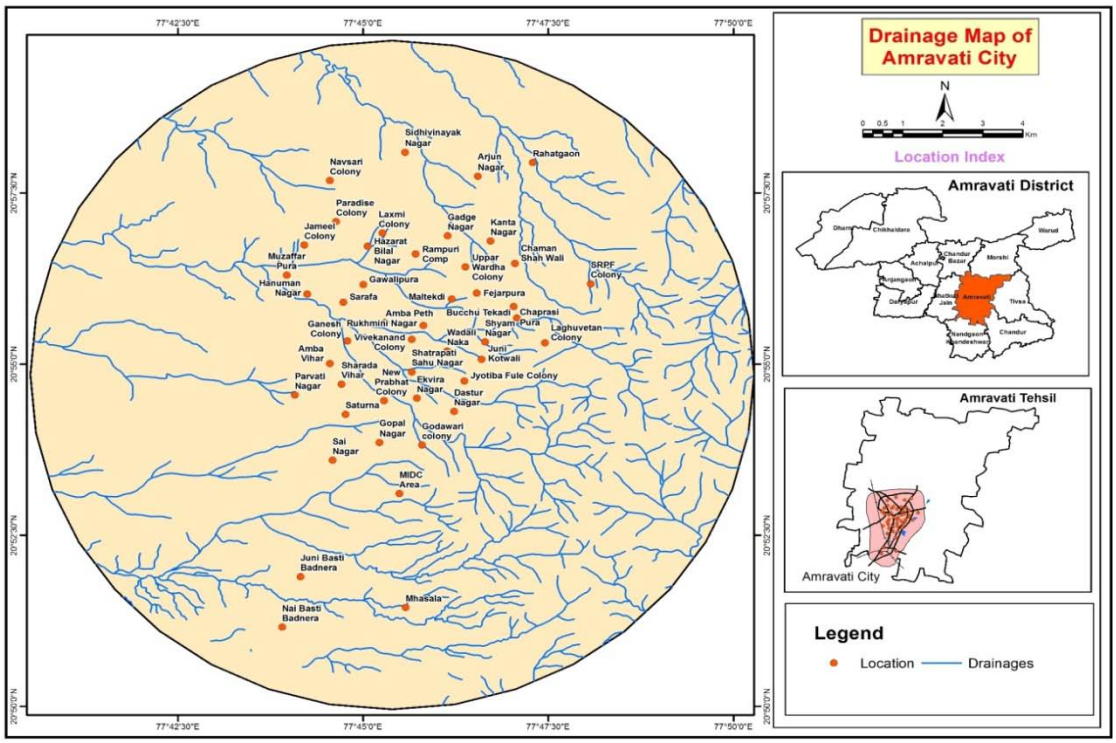
The Slope function in Arc GIS 10 calculates the maximum rate of change between each cell and its neighbours. Every cell in the output raster has a slope value. The lower the slope value indicates the terrain is flatter and the higher the slope value, the steeper the terrain. The output slope raster was calculated in both percent of slope and degree of slope. Slope map was prepared from the DEM. **Plate 3.1.5** shows the slope Map of study Area which is respectively 1-3%, 3-5%, 5-10%, 10-15%, and 15 - 35 %.



(Source AMC-ESR: 2015-2016)

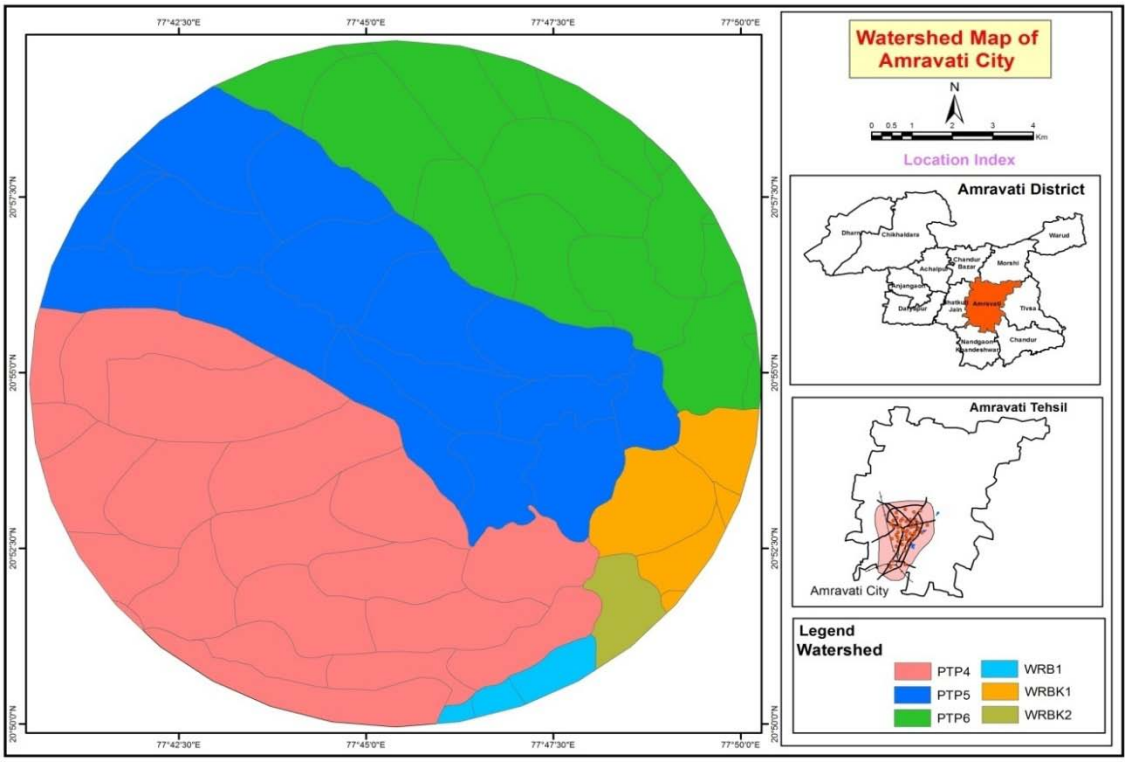
Plate 3.1.5: Slope Map of Study Area

Generation of watershed: Watershed of the study area was demarcated using the software Arc GIS. Drainage pattern was taken as the input data **Plate 3.1.6** shows the drainage Map of study area and **Plate 3.1.7** shows watershed of Study area which sub watershed of Pedhi and Kholad River according to Watershed management Plan Study area having **PTP 4, PTP 5, PTP 6** and WRB 1, WRBK 1, WRBK 2.



(Source AMC-ESR: 2015-2016)

Plate 3.1.6: Drainage Map of Study Area

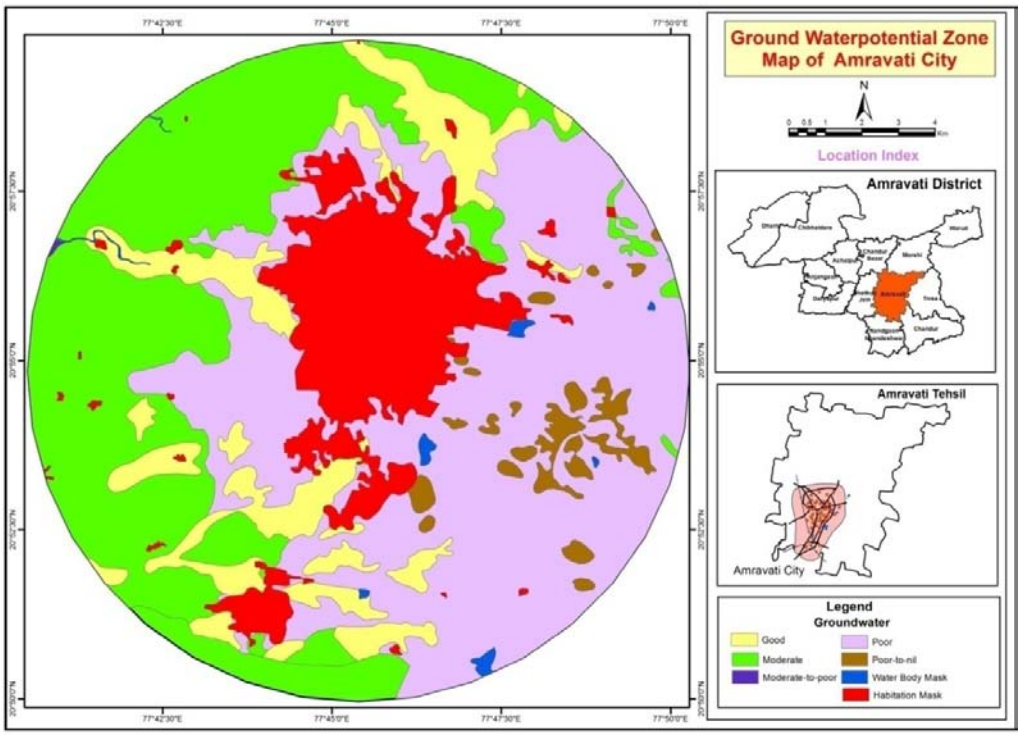


(Source AMC-ESR: 2015-2016)

Plate 3.1.7: Watershed Map of Study Area

3.1.10 Groundwater Potential Zones Map

Groundwater Potential Zones map of Study Area Shown in **Plate 3.1.8** having five different types of zone, they are, Good, Moderate, moderate to poor, poor and poor to nil. The Groundwater Potential Zone of Study area generated with the help of drainages, geomorphology and landuse/landcover with integration of Remote Sensing and GIS technique as well as Geology of that area plays an important role. Geomorphology of the study area having alluvial plain, Denudation Hills and Platues. During weighed overlay analysis, the ranking has been given for each individual parameter of each thematic map and weights of 25%, 35%, 30% and 10% were assigned according to their influence for Soil, Hydro-geomorphology, Landuse/Landcover, and Slope themes respectively and obtained the groundwater potential zones in terms of Good, Moderate, Moderate to Poor, Poor and Poor to nil zones in the form of a GIS map.



(Source AMC-ESR: 2015-2016)

Plate 3.1.8: Groundwater Potential Zone Map of Study Area

3.1.11 Geomorphology Map

Geomorphology as a science developed much later than geology, although several aspects of geomorphology are embedded in geological processes. Geomorphology deals with the genesis of relief forms of the surface of the earth's crust. Geomorphological mapping and necessary supporting data are crucial to developing countries that are usually under severe environmental and demographic strains.

Approaches and methods to map the variability of natural resources are important tools to properly guide spatial planning. In this paper a comprehensive and flexible new geomorphological combination legend that expands the possibilities of current geomorphological mapping concepts. The piece-by-piece legend forms a "geomorphological alphabet" that offers a high diversity of geomorphological information and a possibility for numerous combinations of information. This results in a scientific map that is rich in data and which is more informative than most previous maps but is based on a simple legend. The system is developed to also be used as a basis for applications in GIS. Plate 3.1.9 shows the Geomorphologcal Map of Study area it shows the three major components which is Alluvial Plain, Denudational Hill, and Plateau.

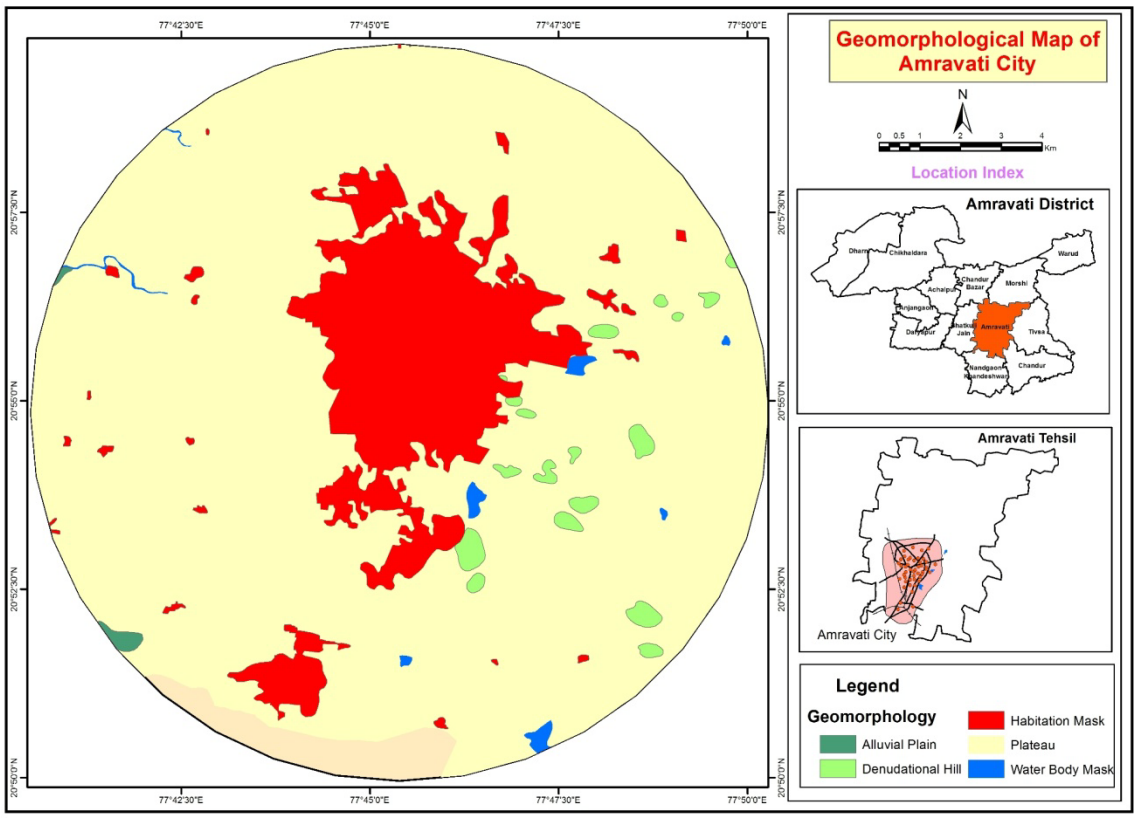
Alluvial Plain: An alluvial plain is a relatively flat land form and created by the deposition of highlands eroded due to weathering and water flow in the study area. The sediment from the hills is transported to the lower plain over a long period of time. It identified on the imageries dark reddish moderate to fine texture due to agriculture activities. Alluvial deposits of the area constitute gravel, sand, silt or clay sized unconsolidated material.

Denudational Hills: Denudational hills are the massive hills with resistant rock bodies that are formed due to differential erosion and weathering processes. These hills are composed of Vindhyan sediments which are fractured, jointed having no soil cover moderate to steep slope. On the satellite image, these landforms were identified by light or dark brownish with mix green colour due to thick forest cover.

Habitation Mask: A habitation Mask is an area of land that is occupied by human being. It is human settlement area. It is defined as an area of human habitation developed due to non-agricultural use and that which has a cover of buildings, transport, communication utilities in association with water, vegetation and vacant lands.

Plateau: A plateau is an elevated land. It is a flat topped table standing above the surrounding area. A plateau may have one or more sides with steep slopes.

Water Body: It is an area of impounded water, areal in extent and often with a regulated flow of water. It includes man-made reservoirs/lakes/tank/canals, besides natural lakes, rivers/streams, and creeks.



(Source AMC-ESR: 2015-2016)

Plate 3.1.9: Geomorphological Map of Study Area

3.2 Air Environment

According to DPSIR "Air Quality" indicator is used. To minimize air pollution and its harmful effects on health, vegetation, water, and soil is the objective of this indicator. Air quality is negatively affected by emissions from mobile and point sources; these are directly linked to energy consumption, environmental policy, city density and transport by motor vehicles and concentration of industries. Assessments of the impacts of air pollution are usually divided into categories such as human health, ecosystems and building materials.

According to DPSIR, "Emissions of acidifying substances" indicator is used. The objective of this indicator is to reduce emissions from stationary and mobile sources to meet the requests of air quality standards. Sulphur dioxide (SO_2), nitrogen oxides (NOx) and ammonia are examples of acidifying substance that are emitted into the air. Emissions from stationary and mobile sources place pressures on the air quality in a city. SO_2, NOx and ammonia, lead to acid rain and to changes in the chemical composition of soil and surface water after they are deposited. In addition, they affect flora and fauna.

World Health Organization (WHO) states that 24 lakh people all over the world die each year from causes directly attributable to air pollution, with 15 lakh of these deaths attributable to indoor air pollution. Direct causes of air pollution related deaths include aggravated asthma, bronchitis, emphysema, lung and heart diseases, and respiratory allergies.

3.2.1 Design of Network for Ambient Air Quality Monitoring

Ambient air quality data were collected through a well-designed air quality monitoring network. While designing the Ambient Air Quality Monitoring (AAQM) network the following criteria were taken into account:

- Topography of the study area
- Representation of regional background
- Populated and sensitive areas
- Screening of maximum ground level concentrations and distances of the likely occurrences as per climatologically normal
- Representation of valid cross sectional distribution in downwind direction

3.2.2 Air Quality Surveillance

An area within the limit of municipal corporation limit was considered as the study area for AAQM. Standard analytical procedures were used for collection of samples, analysis, and quantification of air quality parameters are enlisted in **Table 3.2.1**.

Table 3.2.1

Standard Analytical Procedures/ Methods used for Quantification of Air Quality Parameters (Detailed Standard in Annexure-I)

Parameter (unit)	Analytical Methods Followed	NAAQS (Duration)
Particulate Matter size of less than 10 microns or PM_{10} (µg/m³)	Gravimetric	100 (24 hours)
Particulate Matter of size less than 2.5 microns or $PM_{2.5}$ (µg/m³)	Gravimetric	60 (24 hours)
Sulphur Dioxide / SO_2 (µg/m³)	EPA : Improved West and Gaeke Method	80 (24 hours)
Oxides of Nitrogen / NOX (µg/m³)	Modified Jacobs-Hachheiser Method	80 (24 hours)
Ozone / O_3 (µg/m³)	Chemical Method	100 (8 hours)

3.2.3 Results

On the basis of previous report, data obtained from M.P.C.B. & data submitted by Shri. Shivaji Science College, Amravati. Environment Department has prepared the report. The observed data from MPCB presented in **Tables 3.2.2-3.2.3-3.2.4** and Shri Shivaji Science College data are presented **Table 3.2.5** to **3.2.7**.

3.2.3.1 National Ambient Air Quality Monitoring Program at Amravati

Table 3.2.2

Air Quality Monitored at Govt. College of Engineering

Location: Terrace of Govt. Coll. Of Engineering, Electronic & Computer Building Amravati

Sr. No.	Date	SO_2 µg/m³	NOx µg/m³	RSPM µg/m³
	Standards	**80.00**	**80.00**	**100.00**
August				
1	16-08-2016	12	13	68
2	18-08-2016	10	12	52
3	22-08-2016	12	14	86
4	25-08-2016	6	9	41
5	29-08-2016	14	15	79
October				
6	03-10-2016	11	13	58
7	06-10-2016	12	14	83
8	10-10-2016	11	12	73
9	13-10-2016	10	11	63

Sr. No.	Date	SO_2 µg/m³	NOx µg/m³	RSPM µg/m³
	Standards	**80.00**	**80.00**	**100.00**
10	17-10-2016	11	12	84
11	20-10-2016	11	12	76
12	24-10-2016	12	13	87
13	27-10-2016	13	14	91
November				
14	03-11-2016	12	13	67
15	07-11-2016	10	12	76
16	10-11-2016	13	14	60
17	14-11-2016	10	12	83
18	17-11-2016	13	14	62
19	21-11-2016	10	11	58
20	24-11-2016	11	12	86
21	28-11-2016	13	14	74
December				
22	01-12-2016	10	13	60
23	05-12-2016	12	14	80
24	08-12-2016	10	11	72
25	12-12-2016	12	13	56
26	15-12-2016	9	10	89
27	19-12-2016	10	11	81
28	22-12-2016	11	13	65
29	26-12-2016	13	12	94
30	29-12-2016	13	14	81
January				
31	02-01-2017	8	10	62
32	05-01-2017	10	12	73
33	09-01-2017	12	13	82
34	12-01-2017	11	12	76
35	16-01-2017	9	10	57
36	19-01-2017	11	12	85
37	23-01-2017	13	14	91
38	26-01-2017	9	10	60
February				
39	02-02-2017	12	13	68
40	06-02-2017	13	14	72
41	09-02-2017	10	11	56
42	13-02-2017	11	12	63
43	16-02-2017	12	13	84
44	20-02-2017	14	15	91
45	23-02-2017	13	14	86
46	27-02-2017	14	15	94
March				
47	02-03-2017	11	12	55
48	06-03-2017	13	15	78
49	09-03-2017	12	14	65

Sr. No.	Date	SO_2 µg/m³	NOx µg/m³	RSPM µg/m³
	Standards	**80.00**	**80.00**	**100.00**
50	13-03-2017	11	13	57
51	16-03-2017	14	15	60
52	20-03-2017	12	13	84
53	23-03-2017	11	12	68
54	27-03-2017	14	15	92
55	30-03-2017	13	14	88
Total		**Min Max Avg.**	**Min Max Avg.**	**Min Max Avg.**
55		**5 14 11.04**	**6 15 12.49**	**38 97 73.48**

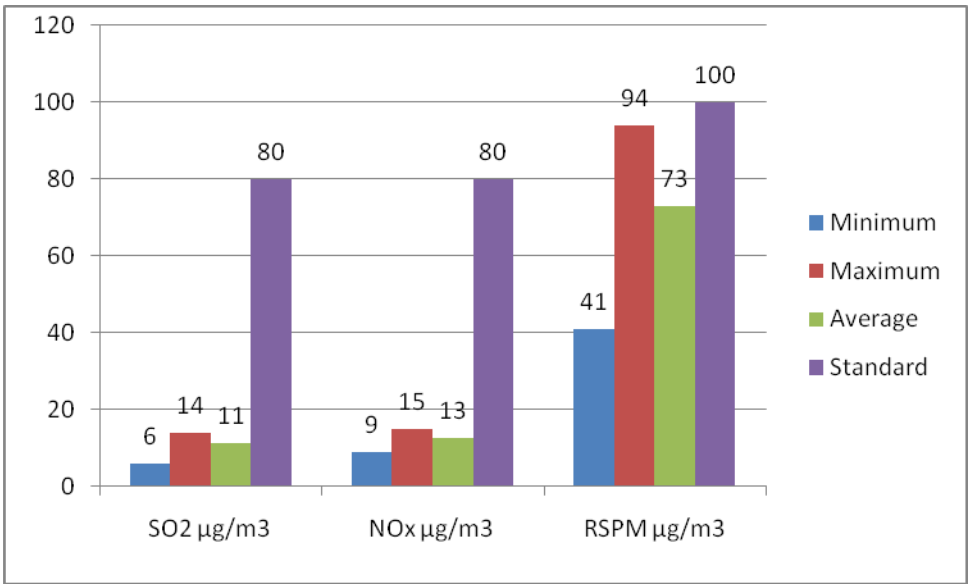


Fig. 3.2.1 Graphical representation of Air Quality Monitored at Govt. College of Engineering

Table 3.2.3

Ambient Air Quality Monitored at Rajkamal Chowk, Amravati

Location :Vanita Samaj Building	Type :Rural & other Areas
Program Name :NAMP	Status: In operation
Frequency: Two days in a week	

Sr. No	Date	SO_2 µg/m³	NO_x µg/m³	RSPM µg/m³
	Standards	**80.00**	**80.00**	**100.00**
August				
1	03-08-2016	7	9	83
2	06-08-2016	12	13	126
3	10-08-2016	13	14	131
4	13-08-2016	14	15	148
5	17-08-2016	16	17	152
6	20-08-2016	8	9	96

Sr. No	Date	SO_2 µg/m³	NO_x µg/m³	RSPM µg/m³
	Standards	**80.00**	**80.00**	**100.00**
7	24-08-2016	13	14	139
8	27-08-2016	14	16	158
9	31-08-2016	7	9	109
October				
10	01-10-2016	8	9	101
11	05-10-2016	14	15	143
12	08-10-2016	11	12	112
13	12-10-2016	15	16	148
14	15-10-2016	15	17	155
15	19-10-2016	16	16	162
16	22-10-2016	13	14	146
17	26-10-2016	14	15	169
18	29-10-2016	16	17	203
November				
19	02-11-2016	14	15	159
20	05-11-2016	12	14	137
21	09-11-2016	15	17	163
22	12-11-2016	12	13	145
23	16-11-2016	13	14	127
24	19-11-2016	14	15	152
25	23-11-2016	13	14	134
26	26-11-2016	16	16	140
27	30-11-2016	12	14	126
December				
28	03-12-2016	12	14	132
29	07-12-2016	15	16	156
30	10-12-2016	14	15	141
31	14-12-2016	12	13	125
32	17-12-2016	14	15	137
33	21-12-2016	16	17	160
34	24-12-2016	13	14	153
35	28-12-2016	12	13	129
36	31-12-2016	14	15	146
January				
37	04-01-2017	11	13	138
38	07-01-2017	15	16	147
39	11-01-2017	11	12	128
40	14-01-2017	15	16	156
41	18-01-2017	13	14	136
42	21-01-2017	14	16	145
43	25-01-2017	17	18	161
44	28-01-2017	14	15	152

Sr. No	Date	SO_2 µg/m³			NO_x µg/m³			RSPM µg/m³		
	Standards	**80.00**			**80.00**			**100.00**		
February										
45	01-02-2017	13			14			135		
46	04-02-2017	12			13			128		
47	08-02-2017	14			15			137		
48	11-02-2017	8			9			97		
49	15-02-2017	11			13			129		
50	18-02-2017	13			14			153		
51	22-02-2017	15			16			162		
52	25-02-2017	14			15			146		
March										
53	01-03-2017	13			14			146		
54	04-03-2017	11			12			127		
55	08-03-2017	14			15			152		
56	11-03-2017	12			13			139		
57	15-03-2017	16			17			160		
58	18-03-2017	15			16			154		
59	22-03-2017	11			12			131		
60	25-03-2017	12			13			143		
61	29-03-2017	14			15			155		
		Avg	**Min**	**Max**	**Avg**	**Min**	**Max**	**Avg**	**Min**	**Max**
		13	7	17	14	9	18	141	83	203

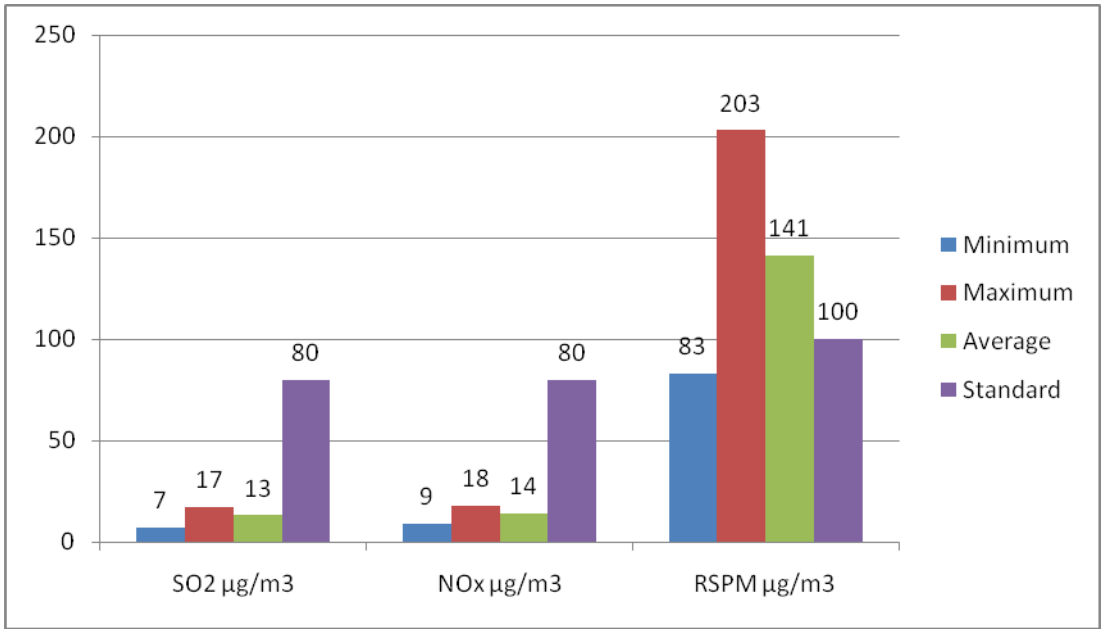


Fig. 3.2 Ambient Air Quality Monitored at Rajkamal Chowk, Amravati

Table 3.2.4

Ambient Air Quality Monitored at A-23 MIDC Amravati

Location: Building of Apurva Oil Industries	Type: Industrial
Program Name: NAMP	Status: In operation
Frequency: Two days in a week	

Sr. No	Date	SO_2 µg/m³	NO_x µg/m³	RSPM µg/m³
	Standards	**80.00**	**80.00**	**100.00**
August				
1	09-08-2017	11	12	105
2	16-08-2017	10	11	96
3	19-08-2017	13	14	109
4	23-08-2017	15	16	118
5	26-08-2017	10	12	103
6	30-08-2017	13	15	115
September				
7	NA	NA	NA	NA
8	NA	NA	NA	NA
9	NA	NA	NA	NA
10	NA	NA	NA	NA
11	NA	NA	NA	NA
12	NA	NA	NA	NA
13	NA	NA	NA	NA
14	NA	NA	NA	NA
15	NA	NA	NA	NA
October				
16	04-10-2017	10	11	97
17	07-10-2017	13	14	104
18	11-10-2017	8	9	70
19	28-10-2017	14	15	108
November				
20	01-11-2017	13	14	116
21	04-11-2017	12	13	109
22	08-11-2017	10	12	99
23	11-11-2017	12	15	119
24	15-11-2017	12	13	105
25	18-11-2017	10	11	95
26	22-11-2017	13	14	113
27	25-11-2017	11	12	104
28	29-11-2017	10	11	97
December				
29	02-12-2017	12	13	103
30	06-12-2017	14	15	110
31	09-12-2017	15	16	116
32	13-12-2017	11	12	96
33	16-12-2017	8	09	68
34	20-12-2017	12	13	107
35	23-12-2017	14	15	114
36	27-12-2017	16	18	120

Sr. No	Date	SO_2 µg/m³			NO_x µg/m³			RSPM µg/m³		
	Standards	**80.00**			**80.00**			**100.00**		
37	30-12-2017	13			14			108		
January										
38	03-01-2017	11			12			106		
39	06-01-2017	13			14			114		
40	10-01-2017	10			11			102		
41	13-01-2017	15			16			121		
42	17-01-2017	13			14			115		
43	20-01-2017	11			12			104		
44	27-01-2017	12			13			111		
45	31-01-2017	09			10			98		
February										
46	03-02-2017	10			11			105		
47	07-02-2017	13			14			116		
48	10-02-2017	12			13			108		
49	14-02-2017	14			15			119		
50	17-02-2017	16			17			125		
51	21-02-2017	12			13			112		
52	24-02-2017	11			12			107		
53	28-02-2017	13			14			117		
March										
54	03-03-2017	13			14			112		
55	04-03-2016	10			1			115		
56	08-03-2016	11			12			109		
57	07-03-2017	10			11			103		
58	10-03-2017	14			15			116		
59	14-03-2017	12			13			108		
60	17-03-2017	15			16			124		
61	21-03-2017	13			14			114		
	24-03-2017	11			12			107		
	28-03-2017	13			14			118		
	31-03-2017	14			15			122		
Total		**Avg.**	**Min**	**Max**	**Avg.**	**Min**	**Max**	**Avg.**	**Min**	**Max**
55		8	16	12.21	9	18	13.28	68	125	108.08

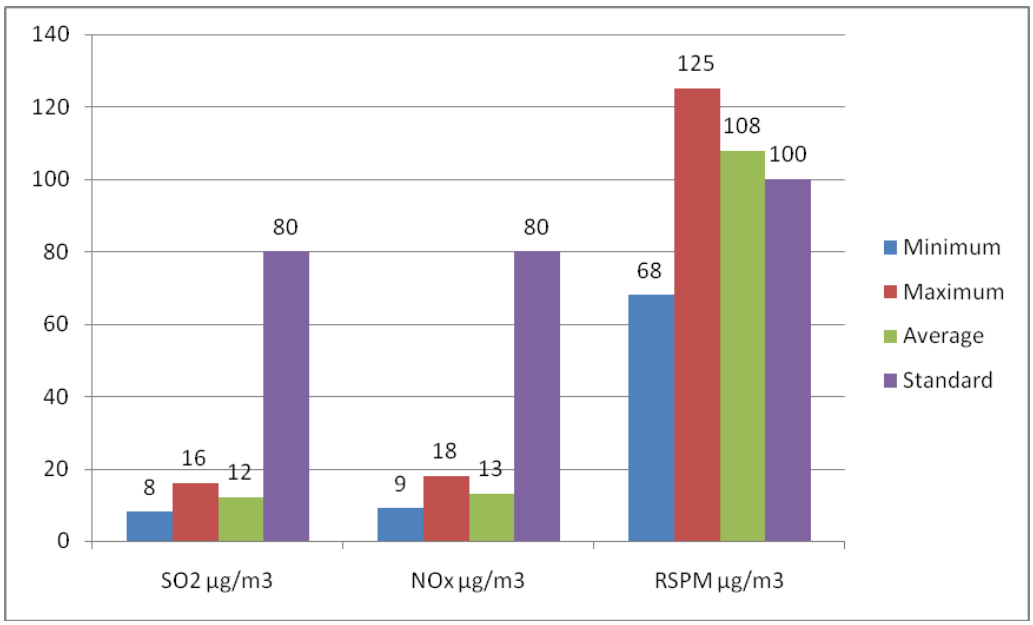


Fig. 3.3 Ambient Air Quality Monitored at A-23 MIDC Amravati

3.2.3.2 Ambient Air Quantity Monitoring Results by Shri Shivaji College Amravati

Table 3.2.5

Industrial Area

Date	RSPM	NOx	SO_2
April			
5/4/2016	120	12	11
12/4/2016	130	13	12
19/4/2016	107	11	10
26/4/2016	100	12	11
May			
3/5/2016	119	13	12
10/5/2016	140	14	12
17/5/2016	108	12	11
24/5/2016	129	13	12
31/5/2016	135	14	11
June			
7/6/2016	110	14	12
14/6/2016	126	13	11
21/6/2016	99	10	9
28/6/2016	86	9	8
July			
5/7/2016	100	13	12
12/7/2016	84	14	13
19/7/2016	115	10	8

Table 3.2.5
Industrial Area

Date	RSPM	NOx	SO_2
26/7/2016	96	12	11
August			
2/8/2016	110	5	14
9/8/2016	120	14	12
16/8/2016	107	13	11
23/8/2016	96	11	10
30/8/2016	100	12	11
September			
6/9/2016	115	14	13
13/9/2016	125	16	14
20/9/2016	108	17	16
27/9/2016	96	15	13
October			
4/10/2016	96	14	13
11/10/2016	107	16	14
18/10/2016	115	17	16
25/10/2016	120	18	17
November			
1/11/2016	116	17	16
8/11/2016	109	16	14
15/11/2016	99	18	17
22/11/2016	115	15	14
29/11/2016	120	16	15
December			
6/12/2016	120	14	13
13/12/2016	116	16	15
20/12/2016	100	14	12
27/12/2016	106	15	13
January			
3/1/2017	100	15	14
10/1/2017	110	18	16
17/1/2017	130	22	20
24/1/2017	106	25	24
February			
7/2/2017	107	14	13
14/2/2017	120	16	14
21/2/2017	136	13	12
28/2/2017	110	18	16
March			
7/3/2017	114	16	15

Table 3.2.5 Industrial Area			
Date	**RSPM**	**NOx**	**SO_2**
14/3/2017	125	14	14
21/3/2017	110	10	10
28/3/2017	100	13	12
Min	**84**	**5**	**8**
Max	**140**	**25**	**24**
Avg	**112**	**14**	**13**

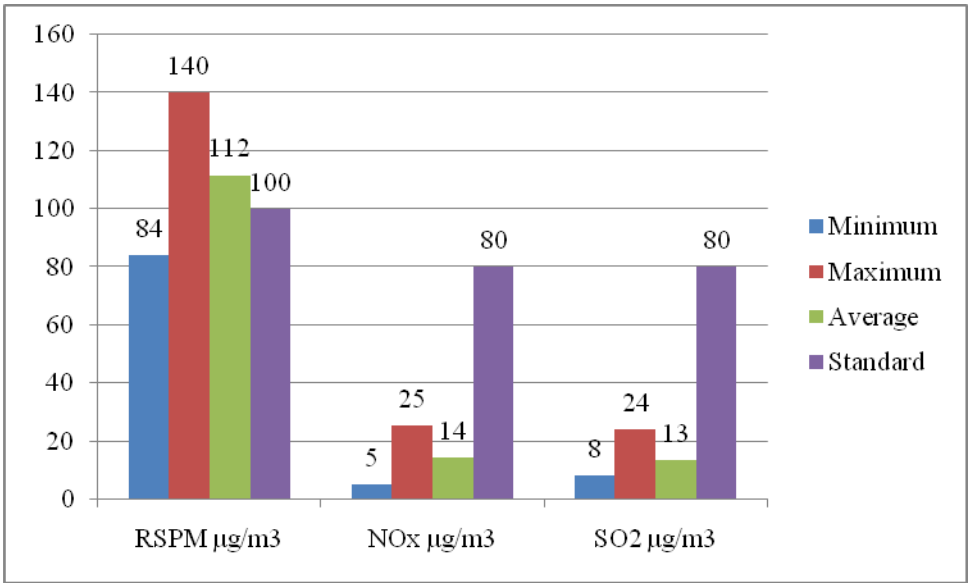


Fig. 3.4: Ambient Air Quality Monitored at Industrial Area by S.S.S.C. Amravati

Table 3.2.6 Residential Area			
Date	**RSPM**	**NOx**	**SO_2**
April			
7/4/2016	107	11	10
14/4/2016	126	12	11
21/4/2016	130	11	10
28/4/2016	116	10	9
May			
5/5/2016	99	10	9
12/5/2016	107	11	10
19/5/2016	126	12	10
26/5/2016	130	12	11
June			
2/6/2016	119	13	12

Table 3.2.6
Residential Area

Date	RSPM	NOx	SO_2
9/6/2016	106	12	11
16/6/2016	99	11	10
23/6/2016	77	9	18
30/6/2016	71	8	BDL
July			
7/7/2016	75	12	10
14/7/2016	70	14	12
21/7/2016	95	13	11
28/7/2016	92	11	9
August			
4/8/2016	100	12	10
11/8/2016	107	13	12
18/8/2016	110	10	9
25/8/2016	88	15	13
September			
8/9/2016	105	13	12
15/9/2016	97	12	10
22/9/2016	85	14	13
29/9/2016	100	12	11
October			
6/10/2016	115	14	13
13/10/2016	100	15	14
20/10/2016	96	13	11
27/10/2016	107	14	13
November			
3/11/2016	96	15	14
10/11/2016	88	14	12
17/11/2016	100	13	12
24/11/2016	108	15	13
December			
1/12/2016	100	10	9
8/12/2016	76	9	8
15/12/2016	116	14	12
22/12/2016	100	11	10
29/12/2016	87	9	7
January			
5/1/2017	99	14	13
12/1/2017	107	16	16
19/1/2017	110	18	17
26/1/2017	100	10	10

Table 3.2.6 Residential Area			
Date	**RSPM**	**NOx**	**SO_2**
February			
2/2/2017	106	14	13
9/2/2017	114	14	12
16/2/2017	100	13	11
23/2/2017	118	16	15
March			
9/3/2017	86	12	10
16/3/2017	117	16	14
23/3/2017	131	16	15
30/3/2017	120	14	12
Min	**70**	**8**	**BDL**
Max	**131**	**18**	**18**
Avg.	**103**	**13**	**11**

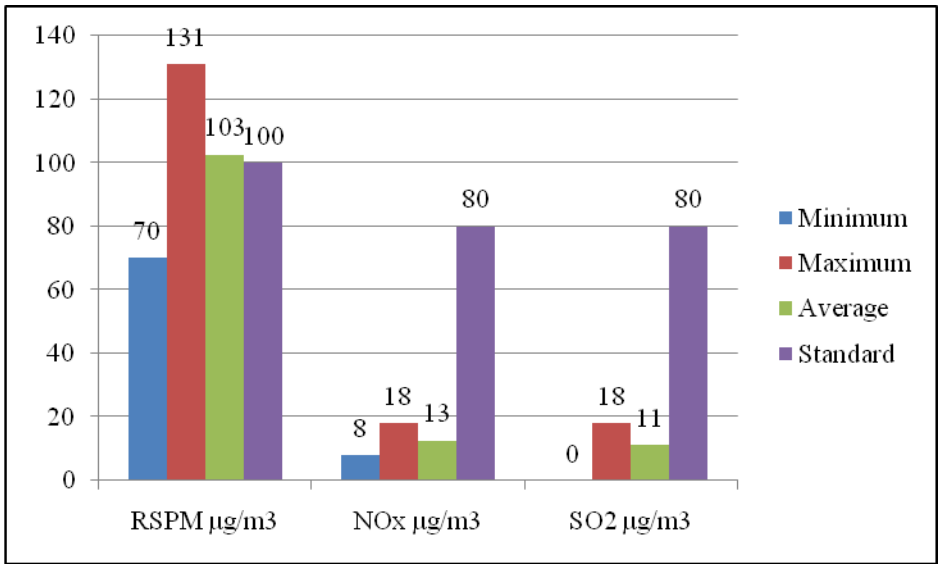


Fig. 3.5: Ambient Air Quality Monitored at Residential Area by S.S.S.C. Amravati

Table 3.2.7 Commercial Area			
Date	**RSPM**	**NOx**	**SO_2**
April			
2/4/2016	135	13	12
9/4/2016	147	14	12
16/4/2016	126	11	11
23/4/2016	112	14	13

Table 3.2.7

Commercial Area

Date	RSPM	NOx	SO_2
30/4/2016	157	15	14
May			
7/5/2016	165	14	13
14/5/2016	170	14	12
19/5/2016	172	15	15
28/5/2016	169	16	14
June			
4/6/2016	165	14	12
11/6/2016	156	13	11
18/6/2016	130	11	10
25/6/2016	126	10	9
July			
9/7/2016	106	14	12
16/7/2016	115	16	15
23/7/2016	120	18	16
30/7/2016	100	15	14
August			
6/8/2016	125	14	13
13/8/2016	116	17	14
20/8/2016	100	13	12
27/8/2016	107	14	13
September			
3/9/2016	135	14	13
10/9/2016	120	16	14
17/9/2016	119	18	17
24/9/2016	107	17	16
October			
8/10/2016	140	18	17
15/10/2016	126	20	18
22/10/2016	135	17	16
29/10/2016	106	18	17
November			
5/11/2016	120	18	17
12/11/2016	135	21	19
19/11/2016	119	24	23
26/11/2016	125	19	18
December			
3/12/2016	155	17	16
10/12/2016	137	20	18
17/12/2016	160	22	21

Table 3.2.7 Commercial Area			
Date	**RSPM**	**NOx**	**SO_2**
27/12/2016	125	19	16
31/12/2016	110	16	15
January			
7/1/2017	125	18	17
14/1/2017	147	20	19
21/1/2017	140	22	20
28/1/2017	155	26	24
February			
4/2/2017	130	16	15
11/2/2017	145	15	14
18/2/2017	160	20	19
25/2/2017	155	22	20
March			
11/3/2017	140	18	17
18/3/2017	165	24	22
25/3/2017	130	20	18
Min	**100**	**10**	**9**
Max	**172**	**26**	**24**
Avg	**134**	**17**	**16**

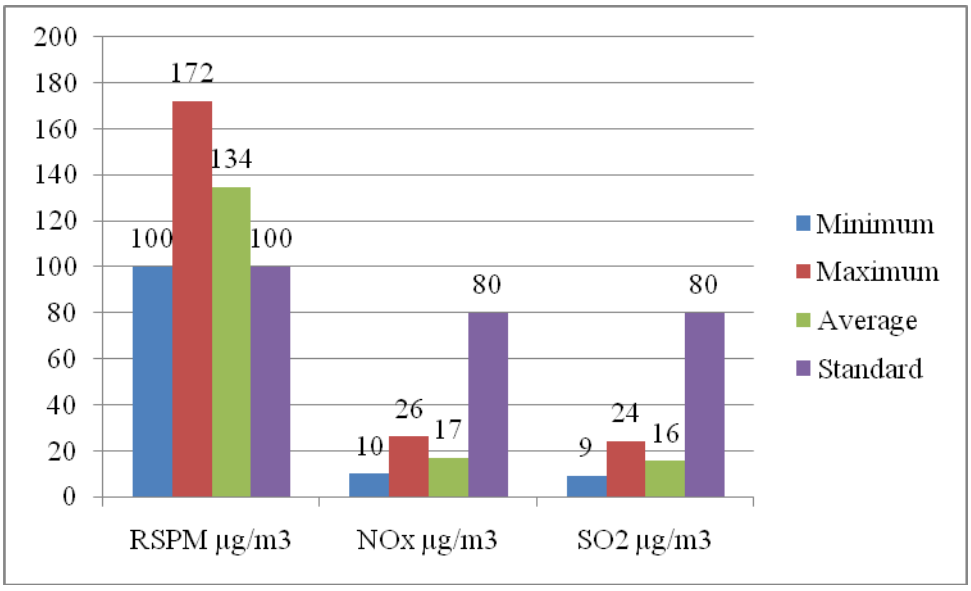


Fig. 3.6 Ambient Air Quality Monitored at Commercial area by S.S.S.C. Amravati

3.3 Noise Environment

Unwanted sound is noise. The noise problem is said to exist when the sound level in the air causes interference in human activities such as disturbance in sleep, work, and speech communication leading to annoyance.

Assessment of noise impacts and the significance are dependent upon the number of factors such as the ambient or background noise levels in the vicinity of the site, the type of development and its operating characteristics. Therefore noise monitoring was carried out to identify and quantify, so far as reasonably possible, the ambient condition to predict the increase in noise levels and causes of variability of noise levels as a result of the proposed development.

The objective of survey of noise environment around the proposed site is to assess background noise levels through field studies within the study area.

3.3.1 Methodology for Noise Monitoring

Noise standards have been notified for different types of land use, i.e. residential, commercial, industrial and silence zones, as per 'The Noise Pollution (Regulation and Control) Rules, 2000, notified by the Ministry of Environment and Forests (MoEF&CC), New Delhi on February 14, 2000. Different standards have been stipulated during day time (6 am to 10 pm) and night time (10 pm to 6 am) **(Detailed Standard in Annexure-I)**.

The noise rating method as Leq i.e. equivalent sound pressure level has been adopted for the measurement of noise level in various selected sampling locations of this region. It is the energy means of the noise level over a specified period and is expressed in terms of decibels.

$$L_{eq} = 10 \log\left(\frac{1}{T}\int_{0}^{T} 10^{LP(t)/10}\right) dt \, dB\,(A)$$

The noise scale A-weighted network in dB (A) was used for monitoring of noise level. Leq in dB (A) denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of human ear.

The residential, commercial, and silence zones in the study area have been identified. Some of the locations were identified which were away from the major roads and major noise sources so as to measure ambient noise levels. Equivalent noise levels

{Leq (A} for a period of about 60 minutes were measured at each monitoring location during day time and night time. Studies pertaining to noise environment were conducted as follows:

- Identification and characterization of noise sources
- Measurements of baseline noise level and vehicular count in study area

3.3.2 Background Noise Levels

The noise levels have been monitored and assessed for including residential activity (14 locations), commercial activities (06 locations), silence zone (7 locations) and Industrial zone (2 locations) within the study area along the festival background levels of noise and is shown in **Table 3.3.1**. The background noise levels are close to the stipulated standards of CPCB (**Annexure – IC**).

3.3.2.1 Noise Levels in Residential Zone

The equivalent noise levels at different residential locations within the study area for three seasons are shown in **Table 3.3.1**. The noise levels varied between 51-66 dB (A) in day time and 42-46 dB (A) in night time.

3.3.2.2 Noise Level in Commercial Zone

The equivalent noise levels at different commercial locations within the study area for three seasons are shown in **Table 3.3.1**. The noise levels varied in the range of 64-78 dB (A) in daytime and 46-55 dB (A) in night time.

3.3.2.3 Noise Level in Silent Zone

Amravati Municipal Corporation carried out survey to identify the silent zone in the city after detailed study 478 location was identified as a silent zone as represented in **Fig. 3.3.1** and detailed list in **Annexure I-E** The equivalent noise levels at different silent locations within the study area for three seasons are shown in **Table 3.3.1**. Noise levels were found to be 46-63 dB (A) during daytime and 38-46 dB (A) during night time respectively.

3.3.2.4 Noise Level in Industrial Zone

The equivalent noise levels at different locations in industrial areas within the study area for three seasons are shown in **Table 3.3.1** Noise levels were found to be 66-68 dB(A) during daytime and 52-53 dB(A) during night time respectively.

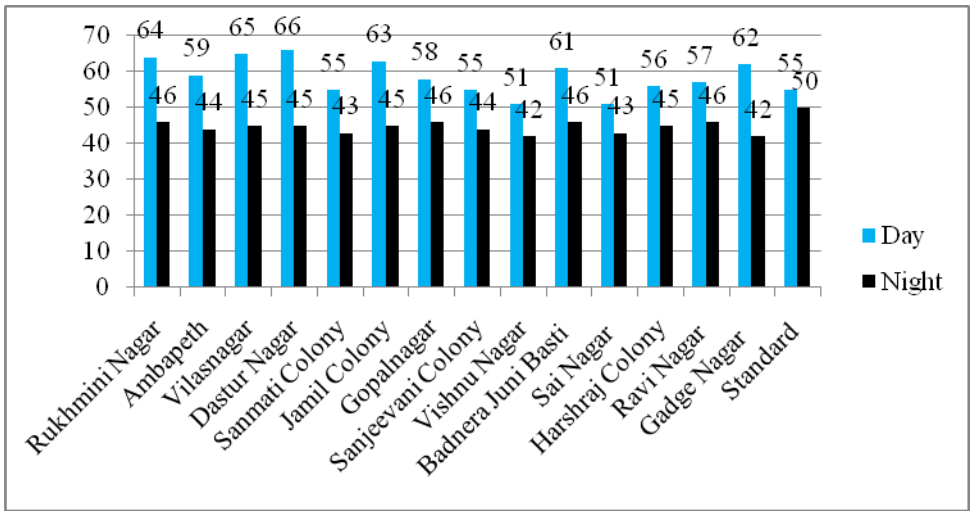
3.3.2.5 Noise Area during Festival Season in Amravati

Ambadevi Yatra (Durga Festival): The equivalent noise levels at different locations during the Durga Festival within the study area are shown in **Table 3.3.3** Noise levels were found to be 65-74 dB (A) during daytime and 41-57 dB(A) during night time respectively.

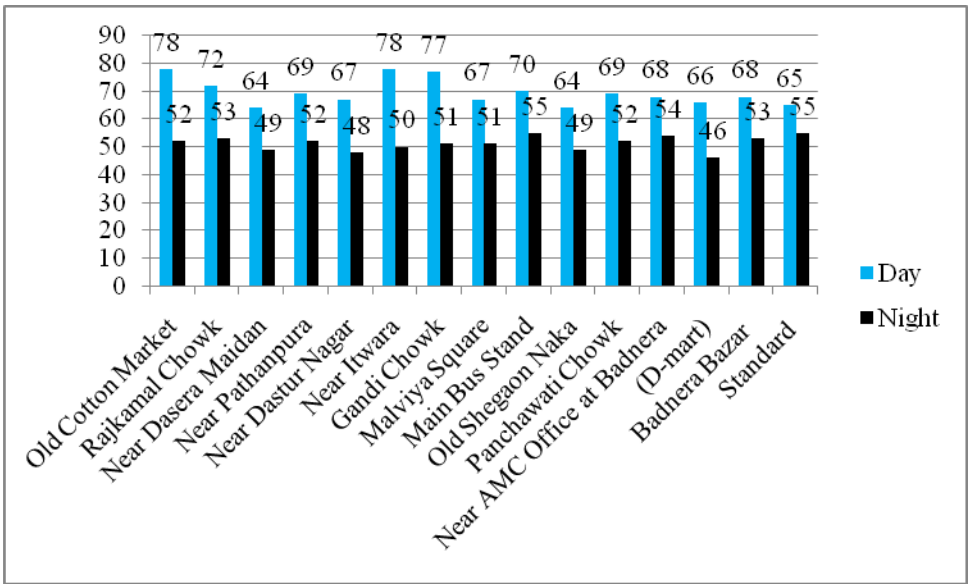
Ganesh Festival: The equivalent noise levels at different locations during Ganesh festival within the study area are shown in **Table 3.3.2**. Noise levels were found to be 65-74 dB(A) during daytime and 49-61 dB(A) during night time respectively.

Table 3.3.1

Ambient Noise Levels of the Study Area

Sr. No.	Monitoring Stations	Day	Night
A. Residential Zone (CPCB Standards:Day:55,night 45 dB(A) Leq)			
1.	Rukhmini Nagar	64	44
2.	Ambapeth	59	44
3.	Vilasnagar	65	45
4.	Dastur Nagar	66	45
5.	Sanmati Colony	55	43
6.	Jamil Colony	63	45
7.	Gopalnagar	58	46
8.	Sanjeevani Colony	55	44
9.	Vishnu Nagar	51	42
10.	Badnera Juni Basti	61	46
11.	Sai Nagar	51	43
12.	Harshraj Colony	56	45
13.	Ravi Nagar	57	46
14.	Gadge Nagar	62	42
			
B. Commercial Zone (CPCB Standards:Day:65,night 55 dB(A)Leq)			
15.	Old Cotton Market Chowk	78	52
16.	Rajkamal Chowk	72	53

Sr. No.	Monitoring Stations	Day	Night
17.	Near Dasera Maidan	64	49
18.	Near Pathanpura	69	52
19.	Near Dastur Nagar	67	48
20.	Near Itwara	78	50
21.	Gandi Chowk	77	51
22.	Malviya Square	67	51
23.	Main Bus Stand	70	55
24.	Old Shegaon Naka	64	49
25.	Panchawati Chowk	69	52
26.	Near AMC Office at Badnera	68	54
27.	Near Gopal Nagar Square (D-mart)	66	46
28.	Badnera Bazar	68	53



C. Silence zone (CPCB Standards:Day:50,night 40dB(A)Leq)			
29.	Irwin Hospital	63	46
30.	Mahila Mahavidhyala	57	41
31.	Shri Shivaji Science College	46	39
32.	V.M.V Amravati	50	38
33.	Bonde Hospital	54	45
34.	Ramkrushna Ashram Shala	60	44
35.	Dhanvantari Hospital	55	45
36.	Moin Parwej Hospital Juni BAsti	61	45
37.	M.N.C. Urdu Association Juni Basti	58	43
38.	Barbde Hospital	56	44

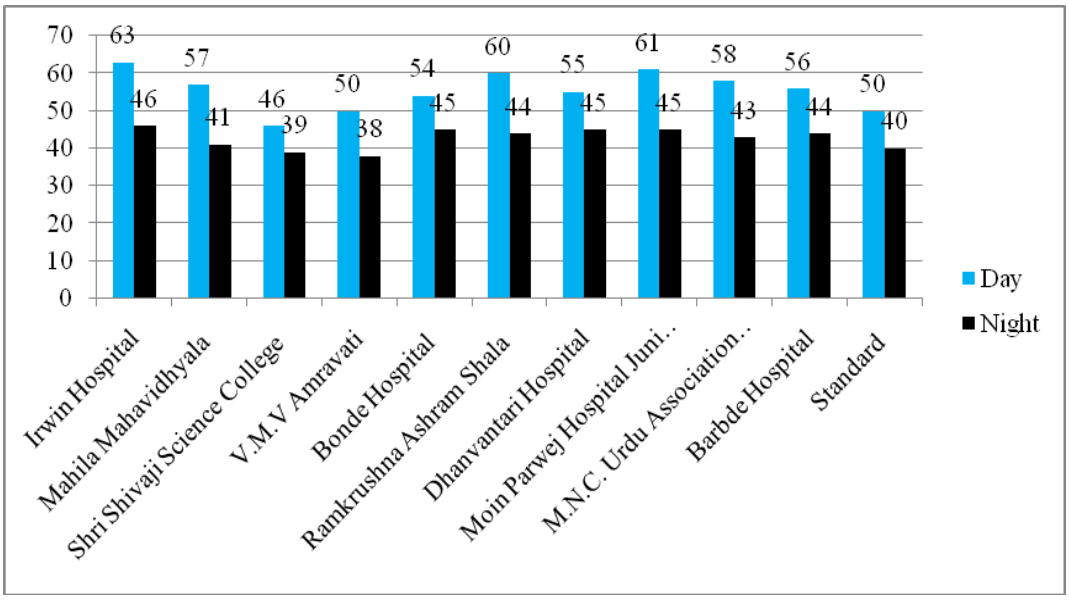
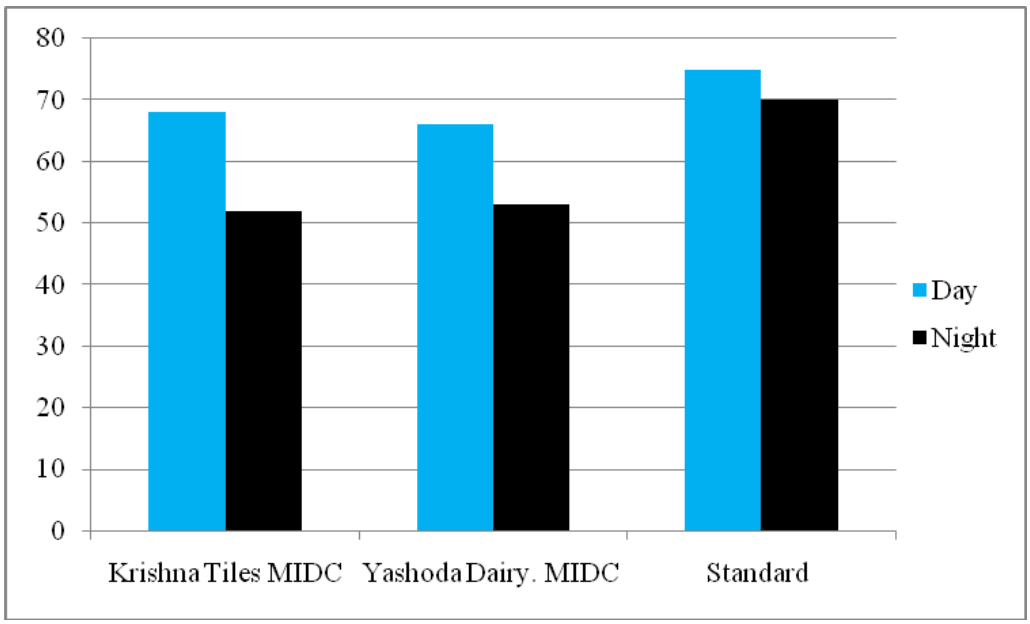
Sr. No.	Monitoring Stations	Day	Night
			
D. Industrial zone (CPCB Standards:Day:75,night 70dB(A)Leq)			
39.	Krishna Tiles MIDC Amravati	68	52
40.	Yashoda Dairy. MIDC	66	53
			

Table 3.3.2

Noise Levels during Ganesh Festival

Sr. No.	Sampling Location	Day Time Leq. dB(A)	Night Time Leq. dB(A)
1.	Ambadevi Area	66	52
2.	Gadge Nagar	67	53
3.	Amravati Railway Station Area	66	41
4.	Rukmuni Nagar	69	57
5.	Chaprasi Pura	68	54
6.	Budhwara	74	56

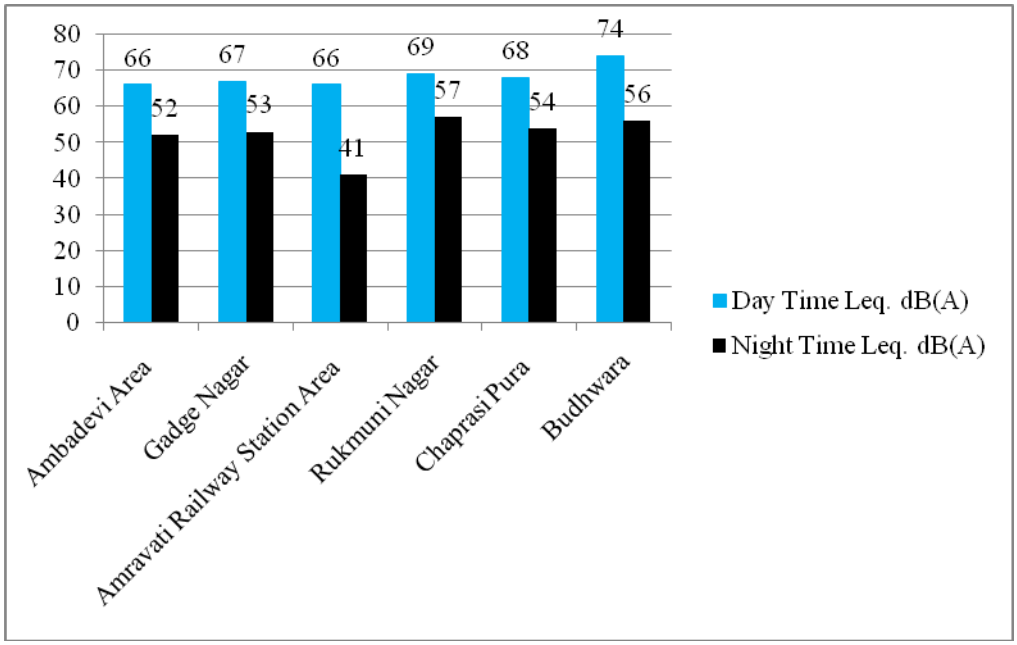


Table 3.3.3

Noise Levels during Durga Festival

Sr. No.	Sampling Location	Day Time Leq. dB(A)	Night Time Leq. dB(A)
1	Ambadevi Area	79	61
2	Raj kamal Square	76	60
3	Dastur Nagar	69	54
4	Sant Dnyaneshwar Sabhagruh	65	49

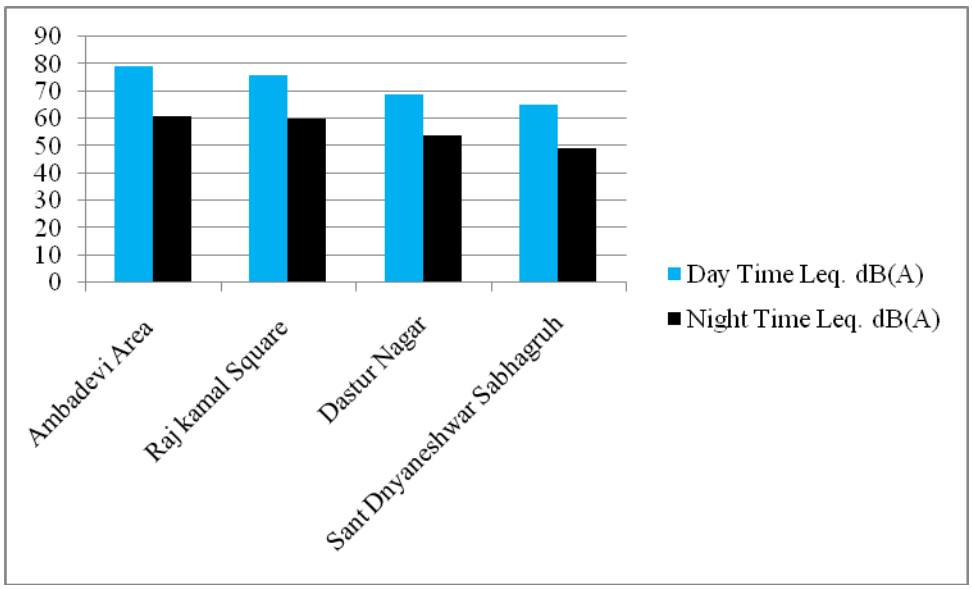


Fig. 3.3.1: Silent Zone in Amravati Region

3.4 Water Environment

3.4.1 Water Supply

As per DPSIR, 'Sources of drinking water' indicator are used. This indicator has no unified objective and it differs from city to city. The sources of drinking water indicate exploitation of local aquifers and as well the quality of the drinking water that can influence human health. In some cases, water can be imported that shows dependence on different sources.

Population as per 2011 census	6.47 lakhs
Total Water Demand	a. For-2015: 113 MLD b. For-2029: 151 MLD c. For 2051: 200MLD
Total Connections	a. Private:85,000 b. General-1200
Pile Line	950 km
Storage	a. Open Land-3 b. Storage Tank-13
Avg. per capita/day Supply	135 lit per capita / day

Source: Amravati Water Supply Division

Check List for Submission and Scrutiny of DPR (Sewerage Scheme)		
Sr. No.	**Description**	**Write "Yes" or "No" etc. in the column** **If yes, give page No. / DPR Volume reference. If No, reasons thereof**
1	**2**	**3**
1	**General Components**	
1.1	Name of the town/City/District/State for which scheme has been formulated with name of the scheme	
	a) Name of the City/Town	Amravati
	b) Name of the District	Amravati
	c) Name of the State	Maharashtra
	d) Name of the Scheme	Under Ground Sewerage Scheme for Amravati M.C. Area
1.2	The cost and date of approved by Apex Committee of Govt. of India as per SAAP	Rs. 391.00 Crores Date 08/07/2016
	1) Date of Approval	08/07/2016
	2) Cost as per approved SAAP	Rs. 391.00 Crores
	3) Estimated cost of DPR	Rs. 95.48 Crores
	4) Major comments/observations	

1.3	Whether the commitment to launch the scheme immediately after approval of the scheme is appended in DPR. (Whether administrative approval of state Government is obtained to implement the scheme immediately after approval of Govt. of India and enclosed in DPR)	Yes
1.4	a) Whether Project formulation justification (need for the project) has been furnished in DPR. Please justify the need of the project. **Justification** b) Whether executive summary of the project is furnished in the DPR.	Yes. Appended in DPR
1.5	Whether linkages of this scheme have been established with other ongoing water supply schemes being funded by the Central/State Govt./Other agencies, if any. Please furnish works in the ongoing projects.	Yes
1.6	Whether the map showing administrative and political jurisdiction of the project area has been given in the DPR. Area within Municipal limit Sq. Km. : 121.65 Extent of area considered in the DPR. Sq. Km. : 40.14 Sq Km Additional area (beyond Municipal limit) considered in the DPR Nil	
1.7	Whether the land use pattern of the city/town/project area as per the approved Master Plan has been given in DPR	Yes
	b) No. of house hold with service connection	839
	c) No. of house hold without service connection	24646
	d) Whether zone wise detail are attached.	Yes
2	**Engineering Components**	
2.1	Please furnish the details of city/project area, a) Area of town/city (municipal limit): b) Extent of the project area are considered in the DPR: c) Additional area (beyond municipal limit) considered in the DPR: d) No. of households (as per 2001 and 2011 census) **A) City population.** As per 2001 census: As per 2011 census: Initial stage (year 2018) population (if any) nil Lakh (Year in which Project is likely to be commissioned) Intermediate stage (year 2033)population (if any) nil Lakh Ultimate stage (year 2048) population (if any) nil Lakh	121.65 Sq.km. 40.14 Sq. Km. Nil 136796 No. 549434 souls 647057 souls 722416 souls 883971 souls 1045621 souls

	Population growth rate adopted 28% year (based on the past 4 decadal growth rate) Whether population forecasted, their methods and justification are attached. Whether any certificate for floating/tourist population has been obtained from tourist department and furnished in the DPR. please justify. **B)** Whether the population project has been made in consonance with the Development Master Plan **C)** Project area (party of the City) Initial Stage (year 2018) : Intermediate Stage (year 2033): Ultimate Stage (year 2048) : Population growth rate adopted **28% year** (based on the past 4 decadal growth rate) & as per DPR of AMRUT water supply scheme	 722416 souls 883971 souls 1045621 souls
	d) Zone wise population (separately) (**On Sheet No. 2)**	Yes
2.2	Whether existing details of water supply / Sewarage for urba/urban agglomeration has been furnished in DPR. Please furnish the details.	
	a) Name of the sources and No. of locations	Uppar Wardha Dam
	b) Ground water: **MLD (Total waste water generated)**	80% of water supply + infilltration
	e) The Existing capacity of WTP and Nos.	@ 120 LPCD (Average flow 125.50 mld peak flow (266.38 mld)
	f) Capacity Utilization (with overloading)	
	g) No. of tube wells and total abstraction and yield of each tube well: NIL (Nos.) ------- MLD -------- Ipm (range) No. of borewells / tube wells (operational / in operational) : NIL Nos.	
	h) Total supply in the town/cith (capacity of WTP/Tubewell separately Surface Water Ground Water **NIL MLD**	
	I) Total water supply in town (residential/commercial/institutions):	
	j) Total supply to the industries : **NIL MLD**	
	Zones % coverage	
		Zone I - SRPF Nalla
		Zone II - Gadgenagar Nalla
		Zone III - Navsari Nalla
		Zone IV - Tope Nagar Nalla
		Zone V - Amba Nalla
		Zone VI - Rahatgaon Nalla
		Zone VII - Akoli Nalla
		Zone VIII - Gopalnagar Nalla
		Zone IX - Staton Nalla
		Zone X - Kondeshwar Nalla
	n) Average per capita water supply level / Sewage contribution (existing) in city:	
	o) Average per capita water supply level (existing in the project : 135 LPCD	120 LPCD

	p) Whether statement showing details of lpcd calculation (Gross and Net) are appended in DPR.	Yes
	q) Existing UfW: (Please specify and study was conducted) reduced leakages & public stand post. Tried to reduce unauthorized connections.	
	r) Existing No. of House services connections: (Sewage)	839
	b) Gross waste water demand (city / town)	
	Wastewater generation Initial Stage (2018)	Av. Flow Peak flow
	Intermediate stage (2033)	87.15 mld 188.80 mld
	Ultimate stage (2048)	106.10 mld 227.80 mld
	c) Demand of commercial. If any	125.50 mld 266.38 mld
	k) Net water demand - city / town	Av. Flow Peak flow
	Initial Stage (2018)	87.15 mld 188.80 mld
	Intermediate stage (2033)	106.10 mld 227.80 mld
	Ultimate stage (2048)	125.50 mld 266.38 mld
	l)Whether zone wise waste water demand statement is enclosed	Yes
4.4	Whether the existing water supply / contribution wastewater infrastructure has been taken into consideration in DPR. Please furnish the details of various components of the existing system.	Yes
	l) Pumping Station and STP	
	a) Design capacity of pumping station (year of construction) : ---------- MLD	20 min detension period Cap 6.50 lakh lit
	b) The design capacity of (year of construction): STP (2025)	30.5 + 44.00 = 74.50 mld
	c) Quantity of water treated -------- MLD	2..00 mld
	f) Total (c & e) ---------- MLD	125.50 mld
	g) Shortfall in capacity ---------- MLD	51.00 mld
	II) Pumping main (Raw and Clear Water)	
	Size and length of material --------- mm (------km) (GI/PVC/AC/PSC/MS/DI etc.)	Nil
	III)	
	a) Total No. of service reservoir and capacity year of construction of each	Not applicable
	b) Height of service reservoir (Please specify Nos. and capacity and age)	
	c) Justification for upgradation, if any	
	IV) Pumping Machinery (Raw and Clear water) for Existing STP	for 30.50 MLD STP 100 HP 6 nos
	a) Type of pumps	

	b) Discharge Head --------- HP ----------	for 30.50 MLD STP 100 HP 6 nos
	d) Justification for replacement, if any	for 44.00 MLD STP 200 HP 3 Nos., 125 HP 2 Nos
	V) Distribution System	
	a) Total length of road of City / Town: --------km (zone 1 to 10)	960 Kms
	b) Total length of road in Project area: -------km (zone 4 & 5)	506 Kms
	c) Type of roads and their length: -------km	20% WBM 60% Tar 20% Concrete
	d) Total length of sewage collection system in the project area : ------- km	Not proposed in this DPR
	e) Total length of sewage collection system (zone 4&5) in the project area ---------km	294 Kms
	f) Material and age of the existing pipe (GI/PVC/AC/PSC/MS/DI/HDPE etc. ---------km)	R.C.C. NP II, III, IV
	g) Size and length of material of existing pipes (size wise:------mm (dia) ----- km. (length)	200 mm & 180 mm R.C.C. NP II, III, IV
	h) Pipe length to be retained in the system : ----- km	
	i) Pipe length to be replaced (to be discarded from the existing system) (with reason)	
	VII) Details of Meters (dia wise retail meters details)	**Zone II Zone III Zone IV Zone V**
	1) Apartment	125 16 99 476
	2) Banglow	6416 4126 18714 38458
	3) Hospitals	13 7 47 100
	4) Govt. offices	35 6 18 26
	5) Schools	102 19 140 217
	6) Hotels	112 247 2562 2744
	7) Slum	593 641 4002 5916
	8) Industry	3 2 103 84
	9) Other	345 338 4098 3937
	Total	**7794 5382 28783 51952**
4.5	Please furnish the proposed major components and component - wise estimated cost (AMRUT PHASE I)	Attached separately
4.6	Whether the design of (AMRUT PHASE I) infrastructure has been provided in DPR. Please furnish the details.	Yes
	I) Pumping station TM STP sewage collection system of Sewerage	

	a) Design period (30 years as per CPHEEO Manual): ---------- year	Existing pumping station
	II) STP	Existing STP
	b) Capacity of STP	Existing: 30.50 -MLD Existing: 44.00 MLD
	a) Shortfall in capacity, if any, meet the intermediate demand: ----------MLD	No
	c) Whether life - cycle cost assessment of treatment technologies has been furnished:	Activated sludge process
	c) Whether a detailed note on the performance of existing WTP (in considered in the proposal) has been furnished	Yes (statement attached)
	d) Whether temperature, elevation and location of the town have been taken into account while designing the process of the STP, whether required and furnished	Yes, the proposal is forward utilized the existing treatment facilities
	e) Whether the reasons for inadequate performance of existing STP (If considered in the proposal) Have been furnished	Yes
	f) Whether provision has been made for sludge treatment facilities in STP	Yes
	IV) Pumping main/rising mains and feeder main:	Existing R/m 700 MM & 900 mm DI is used for conveyance of sewages flow
	Pumping Main/Rising Mains	Yes
	a) Design period (30 years as per CPHEEO Manual) : ---------- Year	Yes
	b)i) Whether design of economic size of pluming main has been done using computer Software for the purpose (no manual design should be enclosed)	Yes
	ii) Whether water hammer is considered in design	Yes
	iii) Whether design of pumping machinery is enclosed	not necessary existing R/m
	c) Standby for pump sets (please specify 50% or 100%)	50%
	d) Total No. of pumping / Rising mains	2 nos
	e) Average flow considered in different pumping mains: ---------MLD	
	f) Availability of power supply : -------Kwh	24 hrs
	g) Pumping Hours considered (20 to 22 hrs): 24 hrs	
	h) Pumping efficiency considered (60 to 80%):--------- %	70%
	i) Capacity of pump set proposed for various pumping mains :-------- HP	Yes
	j) Whether genset/express feeder has been proposed :-------kva Please specify Nos. and capacity	Yes
	k) Desing period (30 years as per) (Please Specify the actual) : 30 Year	30 yrs for Trunk main is considered
	l) Whether design of economic size of pumping main has been done using computer software for the purpose (no manual design should be enclosed)	Yes

	m) Standby for pump sets (please specify 50% or 100%)	50%
	n) Total No. of feeder mains	
	o) Average flow considered in different pumping mains:- --------- MLD	
	P) Availability of power supply:- -------- kwh	
	q) Pumping hours considered:- --------- Hrs.	
	r) Pumping efficiency considered:- -------- %	
	s) Capacity of pump sets proposed for various pumping mains	
	t) Whether genset has been proposed (please specify Nos. and capacity):-	
	V) Service Reservioirs	
	a) Design period (15 years as per manual):- 15 years	Not Applicable
	VI) Sewage collection system	Existing in zone 4 & 5
	a) Design period (30 years as per CPHEEO Manual): 30 year	30
	b) Total length of road of city/town:- ……..Km.	960 km
	c) Total length of road in the project area:- ……..Km.	506 km
	d) Total length of distribution network: ------- km	294 km
	e) Total length of distribution network in the project area : ------- km	6284 Rmt
	f) Material of the proposed pipe:- …….	RCC NP II / III & IV
	K) 'C' Value of the proposed pipe material(100 to 145) as per manual: 135 ('N' value for sewer Desing - manning's constant)	Manning's Constant
	l) 'N' Value of existing pipe material and age of pipe 119 (20 years) for sewar desing (mannings constalu)	'n' value for RCC is taken 0.11 as per CPHEEO
	m) Residual head in distribution network (minimum residual head and range of available pressure (7m, 12m, 17m & 22m) (to be adopted as per manual depending on nature of town and its requirement) and justify the reasons 8m	Not Applicable
	n) Maximum velocity in distribution network ……..m/s (<3m/s)	
	o) Head loss considered in the design (m/s) ……. m/km	
	p) Total no. of layouts (network) …….Nos./ …….Nos.	
	r) Total length of distribution lines (Zone wise): ……. Km.	
	s) Proposed pipe sizes:- 400 mm	
	t) Please flow from the outlet of service reservoirs as per the design (layout wise / DMS wise / zonewise) and total peak flow from all the service reservoirs…… (zonewise and ……. MLD (TOTAL sewage flow contribution)	Given in statement form
	u) Whether hydraulic zone wise population and demand statement is enclosed individual zones	Given in statement form

	v) Whether the average flow from all the service reservoirs is matching the ultimate demand of the city/town/project area (please specify the total average outflow from all zones	Yes
	w) Whether the provision thrust blocks, anchor blocks, expansion joints, scour / drain valves air / vacuum releases valve and surge protection devices, wherever needed has been proposed	Yes
	x) Whether distribution system has been done based on convention approach	Yes
	y) Whether design details with input and outputs statement is attached in soft and hard copies	Yes
	aa) % of population coverage (including existing and proposed …… % (40.16 Sq. Km.)	33%
4.7	House service connection (please specify)	
	Existing : ----------Nos	839 Nos.
	Proposed :----------Nos	24646 Nos.
4.8	whether the proposed scheme envisages supervisory control SCADA arrangement	No (This is gravity proposal)
4.9	Whether modular approach has been adopted to facilitate "addition" units to STP at a future date, whenever required.	Yes
4.10	Whether computer aided desing (both design and simulation) for sewage treatment plant. pumping station, sewar has been furnished in DPR	Yes
4.11	a) Whether the raw sewage characteristics of source have been tested by state Public Health Engineering Dept. / Pollution control Board MOEF authorised laboratory State Govt. authorised laboratory and furnish in DPR	Yes
	b) Whether waste water collected from consumers is tested and its latest report are attached in DPR	Yes
4.12	Whether treated effluelt shall conform to the standard drinking water as per BIS : 10500 and its latest amendments?	Yes
4.13	Whether surge analysis using computer software for transmission main has been done and furnished in the DPR	This is qranity proposal
4.14	a) Whether key plan of the scheme is enclosed	Yes
	b) Whether hydraulic flow diagram (HFD) with head loss calculation for WTP and layout plan of WTP with other components has been furnished in DPR	Existing STP layout plan attached
4.15	i) Whether maps of proposed sewaged collection system indicating RL, Node no., link no., Available head etc. for all the zones (project area) are enclosed with the DPR existing pipe lines (sclae 1:200) and alingment map.	Yes
	ii) Whether L section of internal of 150 m of the proposed pumping main / transmission main have been furnished in DPR (30 m in case of undulations)	Yes (L -section of Combine Trunk Main)

	iii) Whether detailed drawing of all structures considered in scheme are enclosed	Yes attached
4.16	Whether the site of the proposed STP has been located as per that earmarked in the Master plan of the town.	No STP, Existing STP are utilized
4.17	Whether the provision of the land for the land acquisition for the sewage treatment plant, serice reservioirs water supply network,if any has been made as per 30 years requirement and future expansion in the DPR?	Land is not required for the works in this DPR
	d) Whether private land under acquisition and time required for acquisition.	
	…….Hectars / …….. Months	
	e) Status of action initiated for transfer of Govt. land and acquisition of private land pleas Specify	
4.18	Whether bill of quantity (BOQ) and cost estimates of individual components of sewage collection system prepared as per latest SOR and copy of latest Schedule of Rates (SOR) and proforma invoice have been annexed with DPR	Yes
	a) Schedule of Rates adopted is. (please specify the year)	2015-16
	b) in case of SOR adopted is old please specify the cost index	0% at Initial Stage
	c) Any price escalation proposed in cost estimates (no escalation shall be proposed in DPR)	7% 1st year 14% 2nd year
	d) Whether analysis of rate alongwith minimum required quotation has been worked out for all the items and appended with DPR	
	e) Whether Bill of Quantities of individual component has been furnished in DPR	Yes
	f) Whether lump - sum provision for any item has been proposed. Please specify the maximum amount supported by reasons and documents.	Yes
4.19	Whether detailed drawing, estimation and detailed BOQ for ancillary works such as boundary wall / fencing, approach and internal road, external electrification, buildings, water supply and drainage, site development / landscape etc. has been provided in the DPR The details about the drainage system under **Amrut Yojana** given in **Annexure-VI.**	Not Applicable
4.20	Whether provision for road restoration, if any has been made as per PWD/State PWD/Urban local body norms.	Road re-instating provision is made
4.23	Whether traffic diversion/control management for public and workers' safety, arising out of construction phase of sewerage works have been furnished in DPR	Yes
4.24	Whether institutional and Financial status of project Executing Agency (PEA) has been reported in DPR	Yes
4.25	Whether operation and maintenance cost and revenue generation details (O & M Frame work - existing and proposed) has been furnished in DPR	
	a) Existing sewage tax/cost/charges (in Rs.)	

	Residential	Low income group 800/- years Medum Group 1200/- High Group 1800/-
	Commercial	
	Institutional	
	Industrial	
	b) Proposed sewage tax/cost/charges (in Rs.)	
	Residential	Low income group 800/- years Medum Group 1200/- years High Group 1800/- years
	Commercial	
	Institutional	
	Industrial	
	c) Annual O & M cost (Rs. In lakhs (Headwise)	
	i) Existing (last 5 years)	
	2009-2010	
	2011-2012	
	2012-2013	
	2013-2014	
	2014-2015	
	ii) Proposed (2015-16)	Rs. 531.60 Lakh/Year
	d) Annula assessment	
	i) Last 5 years	
	2009-2010	
	2011-2012	
	2012-2013	
	2013-2014	
	2014-2015	
	ii) Proposed (2015-16)	
	e) Annual Revenue (Rs. In lakhs)	
	i) Existing (last 5 years)	
	2009-2010	
	2011-2012	
	2012-2013	
	2013-2014	
	2014-2015	
	ii) Proposed (2015-16)	
4.26	Whether projcet implementation period of project has been furnished in DPR specify the implementation period 2 year	Yes
4.27	Whether service level benchmarking has been furnished in DPR, please furnished SLBs	Yes

Indicators Benchmark After implementation		
	Of proposed project Coverage of water supply connection	100%
	Per Capita supply of water	135%
	Extent of Non – Revenue water	20%
	Extent of metering	100%
	Quality of water supplied	100%
	Cost of Recovery	100%
	Efficiency in collection of	90%
	Whether all the hard copies of the DPR furnished alonwith soft copies	Yes
	Period of completion of project	2 years

Water consumption' is a DPSIR indicator. Objective of this indicator is to harmonies water consumption with water resources. Consumption of water per person depends on the availability and price of water, climate and the uses to which water is customarily put by individuals (drinking, bathing, washing, and gardening). It is derived from the ratio of total annual water consumption for all domestic uses to total number of inhabitants connected to supply system.

To minimize the level of dissatisfaction of an urban population is the objective of 'percentage of household connections'-DPSIR indicator. The quality and reliability of local services are taken for granted in highly industrialized countries, but limited access to, or poor quality of, infrastructure services in developing countries can be major impediments to business productivity, and major sources of frustration to the population. It is expressed in percentage of households that are connected to piped water.

Quality of Drinking water is used as an indicator in DPSIR. The objective of this indicator is to reduce the percentage of measurements exceeding the recommended WHO guidelines. The microbiological and chemical quality of water is of prime importance to the health of human communities. It is extremely important to ensure that water supplies are free from pathogenic bacteria and not contaminated by sewage. The chemical parameters of water quality are nitrates, fluorine, benzene and chlordane. PCMC is following CPHEEO and IS standards which are compatible with WHO.

'Wastewater Treatment' is used as indicator in the DPSIR indicator system. The objective of this indicator is to reduce urban pollution by waste water. This indicator includes % of dwelling connected to sewage system and % of wastewater treated. The percentage of wastewater that is treated is a key indicator of the level of water quality management. A reliable wastewater treatment system is a major indicator of the level of local development and of community.

Amravati Region is blessed with vast natural water resources in the form of Perennial River which are major source of drinking water supply to various cities. The important occupations in this region are agriculture, which are highly dependent on these important water resources. The industrialization and the increasing urbanization are responsible for the rapidly increasingly stress on the water environment of the area. It is therefore necessary to protect these water resources of the region.

Water Treatment Scheme:

The existing water treatment plant is of conventional type providing open aeration, clarification, and filtration as main units. The plant is functioning below the designed capacity of 95 MLD.

Treated Water Distribution:

Storage of Treated Water (Service Reservoirs): After collecting the treated water in a pure water sump it is pumped to Master Balancing Reservoir (MBR). There is only one MBR having the storing capacity of 92 MLD. These are then pumped to the Elevated Service Reservoirs (ESR). There are presently 8 nos of ESRs. Apart from ESR there are also 3 nos of GSRs. The treated water after chlorination is then distributed to the public through the pipelines.

Water Supply to Slums: The water to the slum area is provided through public stand post and hand pumps. However, the analysis report of ground water suggests that the water needs to be chlorinated before drinking. For this awareness drives should be taken and household measure to treat the water should at least be explained to these people.

3.4.2 Surface Water

The important rivers flowing through the region are Wardha, Painganga, Purna, Katepurna, Man, Shahanoor, Chandrabhaga, Bembla & Nalganga etc.

These rivers are important drinking water resources of the region. MPC Board regularly monitors the water quality at these important water resources and the water quality is generally meeting the standards. Specified by the best uses in the particular stretches.

The Amba nala passes through the dense, residential, & commercial area of Amravati city. It is observed that these rivers are encroached by the residential growth from all sides & experiencing pollution due to addition of domestic sewage. Further, their natural water streams are also obstructed due to human activities resulting in drying of these rivers.

3.4.3 Ground Water

Groundwater in an urban area need not be used fully in potable water distribution system as every urban center provides water treatment and distribution system. Open wells, bore wells and tube wells are constructed in authorized as well as unauthorized layouts and slums, to cater to the local needs as some of the pipe network may not have reached there. Besides this, the recharge of groundwater in urban area elevates ground water level in peri-urban area and therefore even if surface water and treated water is available in abundance in urban centers, ground water resource needs to be protected for present as well as future generation.

Depth to Water Level: The depth to water in Pre-monsoon ranges from 15 m to 12 m and during Post -monsoon Season ranges from 8 to 10 m. The citizens of Amravati are dependent on ground water for carrying out various domestic, agricultural activities etc. Keeping this in views in future Rain Water Harvesting should be made mandatory for new buildings and institutions.

Best Practices adopted by Amravati Municipal Corporation:

Rain Water Harvesting: Rain is the ultimate source of fresh water. With the ground area around houses and buildings being cemented, particularly in cities and towns, rainwater, which runs off from terraces and roofs, was draining into low-lying areas and not percolating into the soil. Thereby, precious rainwater is squandered, as it is drained into the sea eventually.

Rain water harvesting is a system by which, the rainwater that collects on the roofs and the area around the buildings is directed into open wells through a filter tank or into a percolation chamber , built specifically for this purpose. Rainwater is collected directly or recharged into the ground to improve ground water storage. Water that is not extracted from ground during rainy days is the water saved.

Need for Rain-Water Harvesting: Major parts of our country have been facing continuous failure of monsoon and consequent deficit of rainfall over the last few years. Also, due to ever increasing population of India, the use of ground water has increased drastically leading to constant depletion of ground water level causing the wells and tubewells to dry up.

In some places, excessive heat waves during summer create a situation similar to drought. It is imperative to take adequate measures to meet the drinking water needs of the people in the country besides irrigation and domestic needs. Out of 8760 hours in a year, most of the rain in India falls in just 100 hours.

Expected Benefits:

1. Prevents water wastage by arresting run off.
2. Prevents soil erosion and mitigates flood.
3. Sustains and safeguards existing water table through recharge.
4. Increases water availability and improves water quality.
5. Arrests sea-water intrusion and prevents salination of ground water.

3.4.4 Methodology of Water Quality Assessment

Based on the reconnaissance, the type of water bodies and their relative importance with respect to the project site, water sampling locations were identified and samples were collected in summer (May-2016), Post-monsoon (November-2016) and winter (February-2017) seasons.

Sampling, preservation and transport of water samples from the field was done as per standard methods. Samples were analyzed for physico-chemical characteristics comprising physical, inorganic, organic, nutrient, demand heavy metals and bacteriological parameter viz., total and faecal coliforms which were also analyzed as per

Standard Methods for Examination of Water and Wastewater (22nd edition, 2012) / IS 3025 **(Detailed Standard in Annexure-I)**.

3.4.5 Water Quality Report of Amravati City

"Water" is a prime natural resource and is considered as a precious national asset. It is a major constituent of all living beings. Water is available in two basic forms i.e. Surface water and Ground water. Water is used for various purposes ranging from domestic, agricultural, industrial, & allied purposes. The water quality criteria have been prepared by taking into consideration various designated uses. In order to assess the quality of water, various government agencies are working at National and State levels. This report includes water quality data analysed in Amravati City under "Water Quality Assessment Authority".

Water is an odourless, tasteless, colourless liquid formed by a combination of hydrogen and oxygen; forms streams, lakes, and seas, and is a major constituent of all living matter. The part of the earth's surface covered with water such as rivers, lakes, ponds, reservoirs and oceans etc. are described as water bodies. Water is 'life'. It is one of the fundamental needs on the globe. Water is probably the only natural resource to touch all aspects of human civilization from agricultural and industrial development to cultural and religious values embedded in society. The total water amount on the earth is about 1.35 billion cubic kilometers. About 97.1 % has been locked into oceans as saltwater. Ice sheets and glaciers have arrested 2.1 %. Only 0.2 % is the fresh water present on the earth, which can be used by human for variety of purposes. Remaining 0.6 % is in underground form. But unfortunately it has been getting polluted day by day due to different anthropogenic activities. So it is burning need, to conserve the water and prevent it from every type of pollution. There should be proper water quality investigation and management. This could be possible by continuous Water Quality Monitoring. Ground water has been the primary source of water supply for domestic, agricultural and industrial uses in Maharashtra. It is the single largest and most readily available source of irrigation and more than 55% of the total area under irrigation depends on ground water sources. Nearly 70% of rural water supplies are based on ground water. Thus ground water plays a very important role in the state's economy and therefore needs to be monitored scientifically both in terms of quality and quantity, for sustainable development and management.

In Maharashtra, water quality is monitored by various agencies namely Hydrology Project (SW), Groundwater Surveys & Development Agency (GSDA), Central Pollution Control Board (CPCB) through Maharashtra Pollution Control Board (MPCB), Central Water Commission (CWC), Central Ground Water Board (CGWB, NHNS) as per provisions made by "Water Quality Assessment Authority" constituted under sub sections (1) and (3) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986).

Sampling Sites

- Station I – Gadge Nagar (Public Well)
- Station II – Rajapeth (Bore well)
- Station III – MIDC Area Bypass (Bore Well)
- Station IV – Itwara (Tap Water)
- Station V – Wadali Lake (Surface water)
- Station VI – Chattri Lake (Surface Water)

3.4.5.1 Results

To assess the water quality of Amravati City water samples were collected from the surface water body, groundwater, and tap water. Sampling was carried out from Sept. 2016 to March 2017 By Shri Shivaji Science College , Amravati. The physic-chemical characteristics are presented in **Table 3.4.1**. The pH of collected water sample ranged between 7.2-7.8 indicating neutral to slightly alkaline. The conductivity and turbidity of water samples varies between 537 to 1106 µS/cm and 14 to 35.12 NTU respectively. The TDS, total hardness and total alkalinity were found to be in the range as 423 to 809 mg/l, 174 to 511 mg/l and 184 to 345 mg/l respectively. Nutrient concentration in the form of total phosphate and nitrate was found to be in the range of 0.33 to 0.48 mg/l and 0.09 to 1.54 mg/l which were well below the stipulated standard. The COD values in the Station IV,V &VI were found to be 17, 37 & 48 mg/l resp. and. The BOD values in the Station V &VI were found to be 8 & 18 mg/l respectively well within the stipulated standard.

Table 3.4.1

Physico-chemical Characteristics of Amravati district

Parameters	Station I	Station II	Station III	Station IV	Station V	Station VI
W.T ºC	22	23	26	24	22	23
pH	7.3	7.5	7.2	7.6	7.8	7.7
Conductivity uc/cm	1106	892	633	537	575	696
Turbidity	23.12	14	21.33	17.12	35.21	33.15
D.O	6.27	5.2	5.3	7.2	6.8	7.7
CO_2	7.68	5.2	4.80	4.27	2.34	0.36
T.D.S.	809	634	470	423	483	518
T.H.	511	226	174	262	223	314
P.A.	114	53	49	53	56	44
T.A	272	345	258	287	184	243
$CaCO_3$	212	156	128	149	158	165
Ca	89	79	85	63	53	49
Mg	39	40.6	26	32	27.20	35.50
Cl	54	91	153	53	39	45
SO_4	0.54	0.32	4.02	0.43	7.35	11.32
PO_4	0.37	0.33	0.44	0.39	0.48	0.38
NO_3	1.54	0.54	0.60	0.56	0.09	0.13
COD	-	-	-	17	37	48
BOD	-	-	-	-	8	18

* All the readings are in mg/lit except Temperature, pH, Conductivity and Turbidity

** All parameters readings is average between the September 2016 to March 2017 with monthly sampling period

Abbreviations

D.O. – Dissolved Oxygen

T.D.S. – Total Dissolved Solids

T.H. – Total Hardness

P.A. – Phenolphthalein Alkalinity

T.A. – Total Alkalinity

Ca – Calcium

3.4.6 Wastewater Management

Presently around 92 MLD of waste water generated by the city is discharged into two main waste water stream called Amba Nala and Dalelpuri Nala. These two stream flow through the network in the city and confluence at lalkhadi village in the peri urban area of Amravati city. Finally this waste water is discharged into the Pedhi River 15 km away from the city. The existing growth rate of the city demand s more channels to

carry the waste water generated by the increasing population. Assuming the rate of water supply as 120 lpcd and about 80% of the water withdrawal is supposed to be return as waste water to the nearby surface water bodies. Google map of the Amravati Sewage treatment plant given in **Plate 3.4.1**. The details about the drainage system under **Amrut Yojana** given in **Annexure-VI.**

Plate 3.4.1 : Google Map View of AMC Sewage Treatment Plant

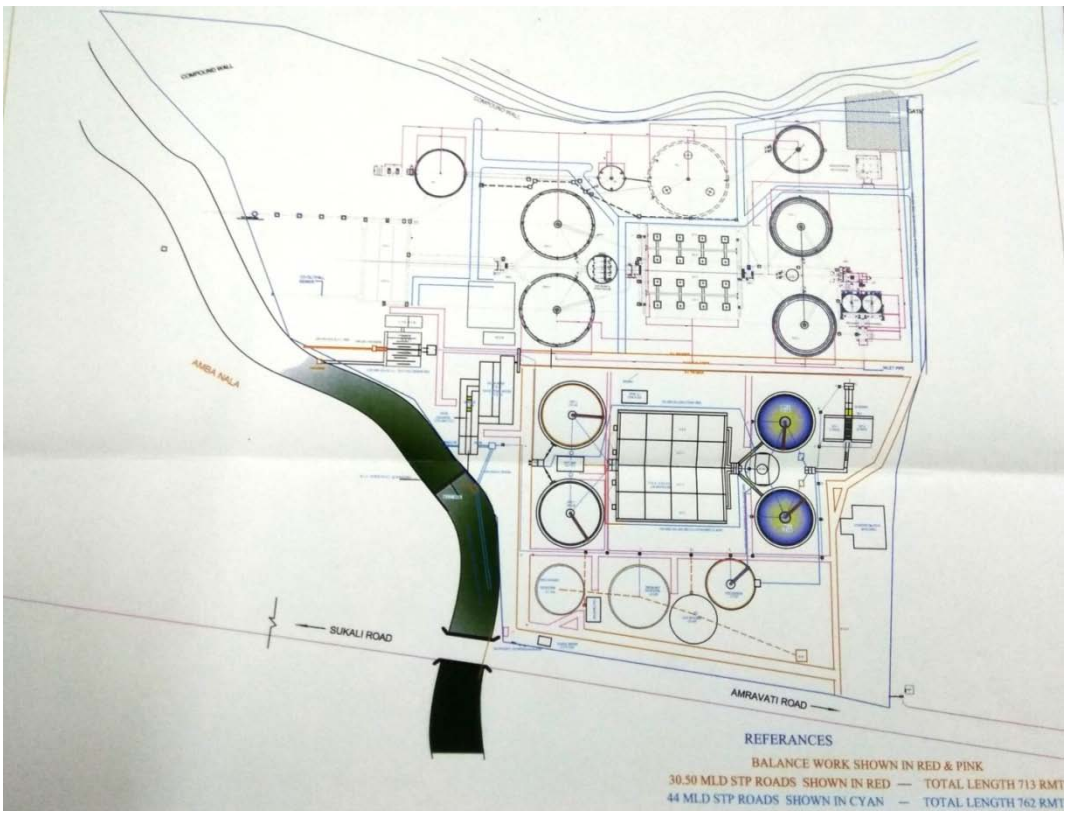


Plate 3.4.2 Drawing of STP Design at Lalkhedi (30.5 and 44 MLD)

In waste water treatment plant at lalkhadi working staff number is 10 including both the technical and nontechnical staff.

No government and non government organization treats this huge quantity of waste water generated by the urban population. As this waste water is loaded by domestic waste, it becomes rich in nutrients and minerals with an exponential numbers of microorganisms. The exponential feature of waste water has drawn the attention of farmers having agricultural land in the vicinity of waste water stream. Above 100 -150 farms landholder facing the death of water have adopted the waste water irrigation.

Wastewater treatment is a process to convert waste water which is water no longer needed or suitable for its most recent use - into an effluent that can be either returned to the water cycle with minimal environmental issue or reused. The latter is called water reclamation and implies avoidance of disposal by use of treated wastewater effluent for various purposes. Treatment means removing impurities from water being treated; and some methods of treatment are applicable to both water and wastewater. The physical infrastructure used for wastewater treatment is called a "wastewater treatment plant" (WTP).

The treatment of wastewater belongs to the overarching field of sanitation, with the management of human waste, solid waste, sewage treatment, storm water (drainage) management, and water treatment. By-products from wastewater treatment plants, such as screenings, grit and sewage sludge may also be treated in a wastewater treatment plant. If the wastewater is predominantly from municipal sources (households and small industries) it is called sewage and its treatment is called sewage treatment.

3.4.7 Task ahead Municipal Corporation

- Establishment of good quality of management of solid waste and waste water at Amravati.
- Improving quality of both solid waste and waste water.
- Establishment of own offices at Amravati.
- Commissioning of Common Treatment and Disposal facilities of solid waste and waste water.
- Implementation of various rules at Municipal Corporation Amravati.
- Improving collection practices of both solid waste and waste water.
- Improving management techniques of solid waste and waste water.

3.5 Socio-economic Environment

Socio economic survey and analysis is very important aspect of any developmental activity. Major developmental activities for economical development as well as creation of employment opportunities (direct / indirect) and to meet the basic / modern needs of the society, which ultimately results in overall improvement of quality of life through economical, health, education nutrition status in region, state as well as the country. In this manner all developmental projects have direct as well as indirect relationship with socioeconomic aspect, which also include public acceptability for new developmental projects. Thus, the study of socio-economic component incorporating various facets related to prevailing social and cultural conditions and economic status of the region. The study of socio-economic component incorporating various facts related to socio-economic condition in the area. This includes demographic structure, population dynamics, infrastructure resources, health status of the community and economic attributes refers to employment, industrial development and sustainability of the project in view of financial terms.

3.5.1 Reconnaissance

The information provided in the following section has been primarily derived from three major kinds of sources, viz. the primary source (the extensive survey conduct in the village with scientifically designed questionnaires covering various socio-economic attributes), secondary sources (Census of Maharashtra), and the focused group.

3.5.2 Baseline status

3.5.2.1 Demographic Structure

The demographic structure of the Amravati municipal corporation area was derived primarily from data of Census record of Amravati district covering 81 wards. The Demographic structures of each ward in the study area as per Census 2011 are presented in **Table 3.5.1** and population projections are presented **Table 3.5.2**. Summary of demographic structure is presented in **Table 3.5.3**.

Table 3.5.1

Demographic Structure of Each Ward in the Study Area

Sr. No.	Area	House Hold	Population			SC	ST	Literates			Main Worker	Marginal Worker	Non Worker
			TP	M	F			TL	M	F			
12	Ward	2439	10706	5505	5201	4238	252	8906	4700	4206	3512	160	7034
3	Ward	2924	12634	6461	6173	3106	628	10692	5630	5062	4178	299	8157
4	Ward	1598	7603	4170	3433	972	365	6400	3531	2869	2306	214	5083
5	Ward	2261	9744	4990	4754	729	214	8822	4516	4306	2811	456	6477
6	Ward	2380	9938	5082	4856	1309	537	8737	4502	4235	2826	223	6889
7	Ward	2672	12197	6260	5937	3119	386	10075	5287	4788	3325	842	8030
8	Ward	2167	10099	5207	4892	1323	295	8606	4471	4135	2775	120	7204
9	Ward	1317	7108	3667	3441	371	33	6045	3145	2900	2260	41	4807
10	Ward	1404	5881	2857	3024	620	113	5136	2508	2628	1835	65	3981
11	Ward	1400	5855	2914	2941	562	165	5230	2606	2624	1766	90	3999
12	Ward	1335	5724	2881	2843	892	686	5108	2586	2522	1701	44	3979
13	Ward	1623	7054	3630	3424	1245	304	6316	3273	3043	2103	220	4731
14	Ward	1580	7179	3638	3541	3728	530	5891	3082	2809	2175	92	4912
15	Ward	1076	4708	2454	2254	785	378	3661	2016	1645	1230	306	3172
16	Ward	1565	7366	3713	3653	1622	257	5639	3028	2611	2152	204	5010
17	Ward	2200	10270	5220	5050	4851	195	8162	4294	3868	2870	465	6935
18	Ward	1478	7013	3521	3492	2028	692	5945	3079	2866	2137	205	4671
19	Ward	1143	5408	2645	2763	683	281	4860	2379	2481	1541	141	3726
20	Ward	1092	5477	2653	2824	1090	309	4790	2344	2446	1616	185	3676
21	Ward	1575	7634	3873	3761	3441	83	6124	3227	2897	2529	272	4833
22	Ward	1828	8738	4481	4257	3295	317	7059	3736	3323	2739	114	5885
23	Ward	1838	8064	4084	3980	1069	206	6719	3464	3255	2264	281	5519
24	Ward	2182	10068	5095	4973	3068	361	7821	4129	3692	2896	607	6565
25	Ward	2213	10905	5658	5247	829	172	8494	4480	4014	3124	428	7353
26	Ward	2400	13756	7048	6708	0	5	10697	5568	5129	3602	164	9990
27	Ward	3320	17991	9273	8718	5	0	12690	6652	6038	4481	641	12869
28	Ward	1659	9983	5078	4905	6	0	6878	3619	3259	2639	151	7193
29	Ward	1709	10121	5292	4829	0	0	7593	4010	3583	2664	306	7151
30	Ward	1161	7164	3655	3509	0	0	5886	3043	2843	1862	71	5231
31	Ward	1516	8844	4506	4338	25	12	7316	3748	3568	2604	25	6215
32	Ward	1265	6562	3413	3149	1128	115	5386	2907	2479	1963	329	4270
33	Ward	1122	5200	2720	2480	280	115	4580	2424	2156	1619	85	3496
34	Ward	1593	7288	3669	3619	681	265	5969	3166	2803	2311	85	4892
35	Ward	1527	6356	3150	3206	623	170	5665	2804	2861	2036	143	4177
36	Ward	1335	6658	3400	3258	577	289	5377	2849	2528	1768	143	4747
37	Ward	2286	9864	5028	4836	6737	173	7981	4226	3755	2518	697	6649
38	Ward	1575	7029	3536	3493	5583	97	5626	2976	2650	2089	307	4633
39	Ward	1626	7034	3495	3539	1859	134	6146	3073	3073	2128	129	4777
40	Ward	1584	6639	3320	3319	1204	66	5778	2920	2858	2043	73	4523
41	Ward	1237	6092	2987	3105	4446	17	4637	2429	2208	1456	851	3785

Sr. No.	Area	House Hold	Population			SC	ST	Literates			Main Worker	Marginal Worker	Non Worker
			TP	M	F			TL	M	F			
42	Ward	1071	6038	3103	2935	127	28	4833	2548	2285	1928	29	4081
43	Ward	1082	6670	3307	3363	22	20	5131	2606	2525	1556	211	4903
44	Ward	1124	6923	3570	3353	12	24	5541	2890	2651	1839	25	5059
45	Ward	1386	8659	4367	4292	0	6	7138	3639	3499	2320	175	6164
46	Ward	1115	7164	3713	3451	0	0	5794	3035	2759	1733	340	5091
47	Ward	1108	6345	3285	3060	0	33	5012	2626	2386	1758	117	4470
48	Ward	1071	5615	2841	2774	8	43	4924	2520	2404	1748	84	3783
49	Ward	1171	6097	3054	3043	28	40	5162	2637	2525	1788	181	4128
50	Ward	1108	5441	2732	2709	147	86	4632	2382	2250	1721	65	3655
51	Ward	1340	6165	3108	3057	2748	187	5173	2723	2450	1745	438	3982
52	Ward	1644	7674	3840	3834	239	288	6659	3347	3312	2137	256	5281
53	Ward	1432	6351	3201	3150	1372	128	5503	2795	2708	1727	101	4523
54	Ward	1651	6970	3511	3459	2960	137	5904	3020	2884	1992	68	4910
55	Ward	2320	9644	4899	4745	2927	409	8379	4314	4065	2808	180	6656
56	Ward	1044	4875	2485	2390	291	59	4248	2199	2049	1396	213	3266
57	Ward	1692	7308	3704	3604	292	133	6525	3315	3210	2071	206	5031
58	Ward	1460	6929	3447	3482	563	47	6126	3054	3072	2222	37	4670
59	Ward	1747	7660	3845	3815	416	216	6602	3389	3213	2406	56	5198
60	Ward	1661	7336	3681	3655	924	278	5945	3061	2884	2443	284	4609
61	Ward	1578	7364	3691	3673	164	268	6393	3222	3171	2361	180	4823
62	Ward	1269	6279	3371	2908	167	158	5551	3012	2539	1347	533	4399
63	Ward	2085	9762	4919	4843	5475	582	7250	3880	3370	3445	431	5886
64	Ward	1412	6153	3134	3019	119	37	5437	2799	2638	1995	57	4101
65	Ward	1234	5660	2869	2791	427	99	4786	2482	2304	1733	291	3636
66	Ward	1704	8220	4209	4011	1904	218	6214	3337	2877	2480	706	5034
67	Ward	2665	11578	6143	5435	517	532	9984	5401	4583	3569	271	7738
68	Ward	1731	7630	3894	3736	109	100	6757	3467	3290	2284	126	5220
69	Ward	2750	11600	5914	5686	353	117	10413	5296	5117	3414	141	8045
70	Ward	1864	7920	4043	3877	579	163	6827	3546	3281	2421	80	5419
71	Ward	2153	9113	4678	4435	2736	176	7647	4030	3617	2424	577	6112
72	Ward	2291	9622	4986	4636	2327	439	7950	4252	3698	3205	448	5969
73	Ward	2947	12159	6249	5910	1389	412	10463	5470	4993	3928	124	8107
74	Ward	2440	10341	5333	5008	1295	237	9022	4712	4310	3197	206	6938
75	Ward	1748	8561	4389	4172	1006	123	6568	3449	3119	2369	280	5912
76	Ward	1529	8067	4217	3850	1496	53	6600	3521	3079	2343	98	5626
77	Ward	1260	6066	3101	2965	446	39	5125	2670	2455	1657	230	4179
78	Ward	1980	9314	4773	4541	3379	289	7577	4023	3554	3097	107	6110
79	Ward	1510	6702	3386	3316	736	91	5577	2944	2633	2379	112	4211
80	Ward	1286	5766	2902	2864	3430	146	4695	2456	2239	1602	318	3846
81	Ward	1345	7182	3666	3516	549	133	5886	3069	2817	2040	170	4972
82	Ward	1583	8180	4203	3977	1627	164	6198	3332	2866	2546	82	5552
Total		**136796**	**647057**	**329992**	**317065**	**111435**	**15955**	**535594**	**278897**	**256697**	**189628**	**18908**	**438521**

Source: Census 2011 Amravati-District, State Maharashtra;

Table 3.5.2

Population Projection

Year	Total Population of Amravati City	Increased Population	Annual Growth Rate	Decadal Growth
Town Population (Census 1991)	421576	Nil	Nil	Nil
Town Population (Census 2001)	549510	127934	3.034660417	30.3466
Town Population (Census 2011)	647057	97547	1.775163327	17.75163
Town Population (Census 2021)	744604	97547	1.507548794	15.07549
Town Population (Census 2031)	842151	97547	1.310052055	13.10052
Town Population (Census 2041)	939698	97547	1.158307714	11.58308
Town Population (Census 2051)	1037245	97547	0.115830771	1.158308
Total		**615669**		
Average growth in population		**102611.5**		

Table 3.5.3

Summary of Demographic Structure in Study Area

Sr. No.	Demographic Parameters	Amravati Municipal Corporation
1	State	Maharashtra
2	District	Amravati
4	No. of Prabhags	22
5	No. of Prabhags Surveyed	-
6	Total Area of surveyed village(ha)	12165
7	Total No. of Households	136796
8	Total Population	647057
9	Density of Population (km²)	5319
10	Sex ratio (No. of female\1000 males)	961
11	Scheduled castes	111435(17.22%)
12	Scheduled Tribes	15955(2.47%)
13	Literate	535594(82.77%)
14	Main Worker	189628(29.31%)
15	Marginal Worker	18908(2.92%)
16	Non Worker	438521(67.77%)

Source: Primary Census Abstract– 2011, Amravati-District, State Maharashtra;

3.5.3 Salient Features of Demographic Structure

The salient features of demographic structure are as follows:

- The study area covers 22 Prabhags in district Amravati Maharashtra State,
- Total study area consisting of 12165 hectors with the population density of 5319 person / km².
- Total population in the study region (Census 2011) is worked out as 647057 out of which 329992 are male and 317065 female.

Out of the total population, Scheduled Caste and Scheduled Tribe are 111435(17.22%) and 15955 (2.47%) respectively. The graph of population details is presented below:

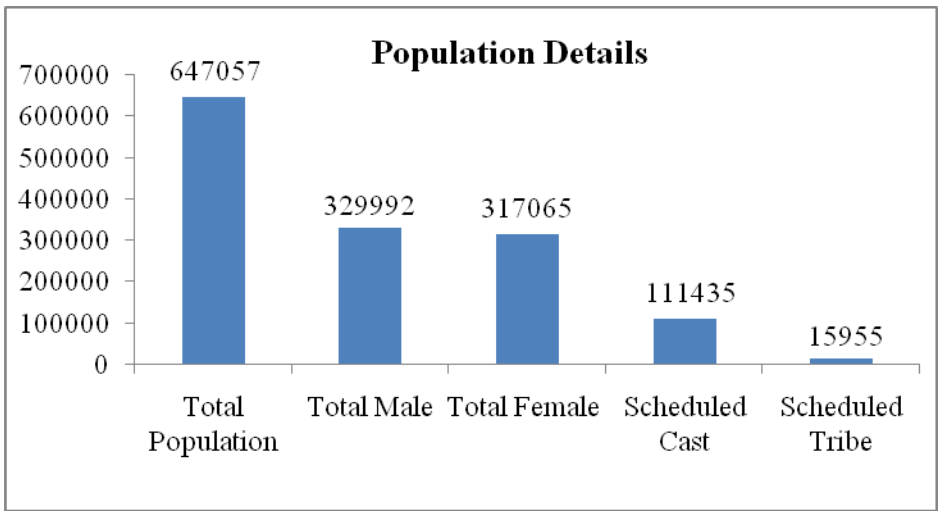


Fig. 3.5.1: Population Graph

- The literacy rate of the total population is worked out to 535594 (82.77%). Male literacy 278897 (84.51%), and female literacy is 256697 (80.96%)
- Sex ratio (number of females per thousand of males) in the region is recorded 961indicating male population is marginally higher in the region as compared with the female.
- Total Child population in the study region (Census 2011) is worked out as 65355 (10.1%) out of which 34017(52.0%0 are boys and 31338(47.95%) girls.

The comparison of Male and Female literacy rate, illiteracy rate, child population and The graph of sex ratio is given as under:

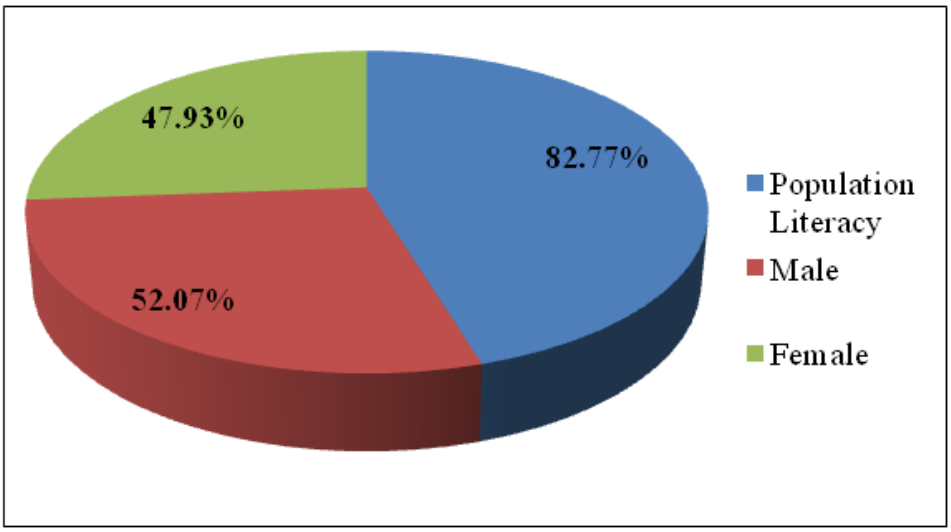


Fig. 3.5.2: Literacy Rate

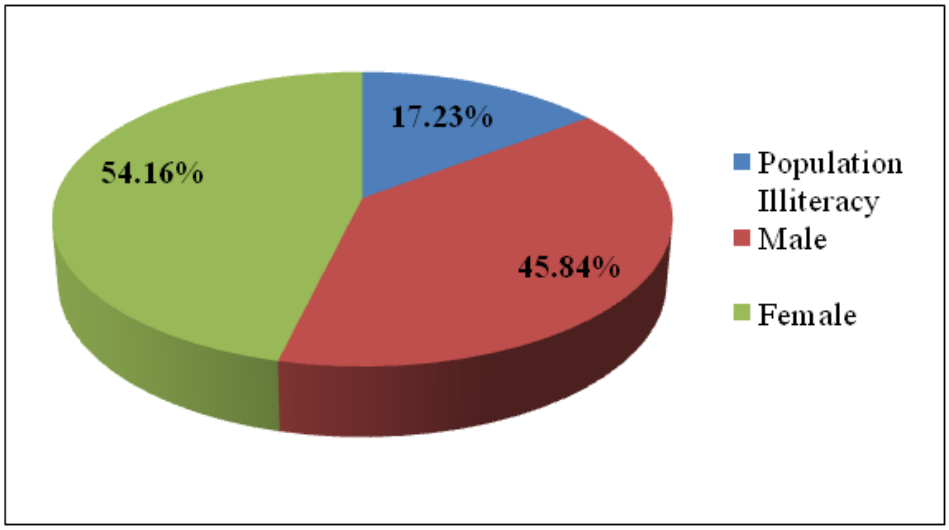


Fig. 3.5.3: Population Illiteracy

Fig. 3.5.4: Sex Ratio

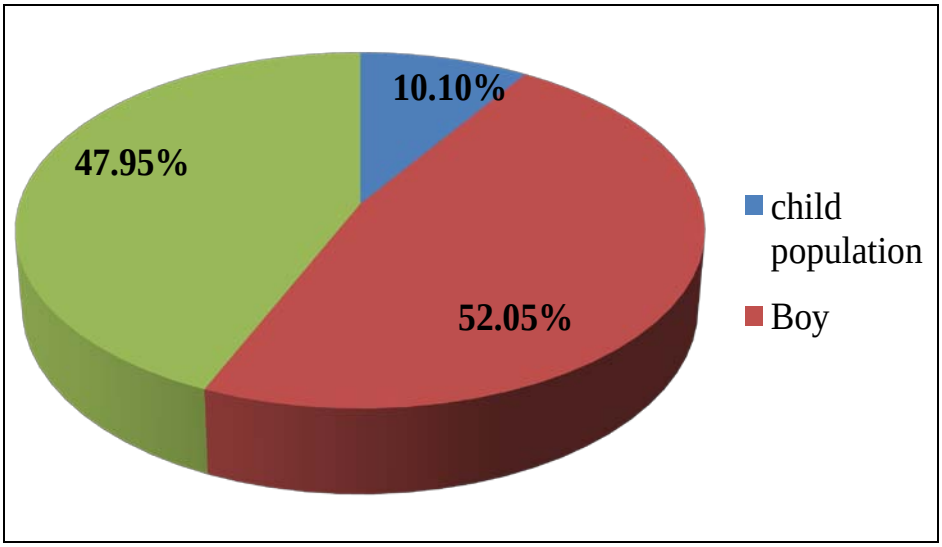


Fig. 3.5.5: Child Population

- The total population of main worker, marginal worker and non-worker category are 189628 (29.31%), 18908 (2.92%) and 438521 (67.77%) respectively.
- The majority pattern of the other workers and cultivator worker 170387 (89.87%) and is 10420 (5.49%). There are 5773 (3.04%) and 3048 (1.61%) as household worker agricultural worker

The graph of employment pattern details and Main worker employment pattern details respectively as shown below:

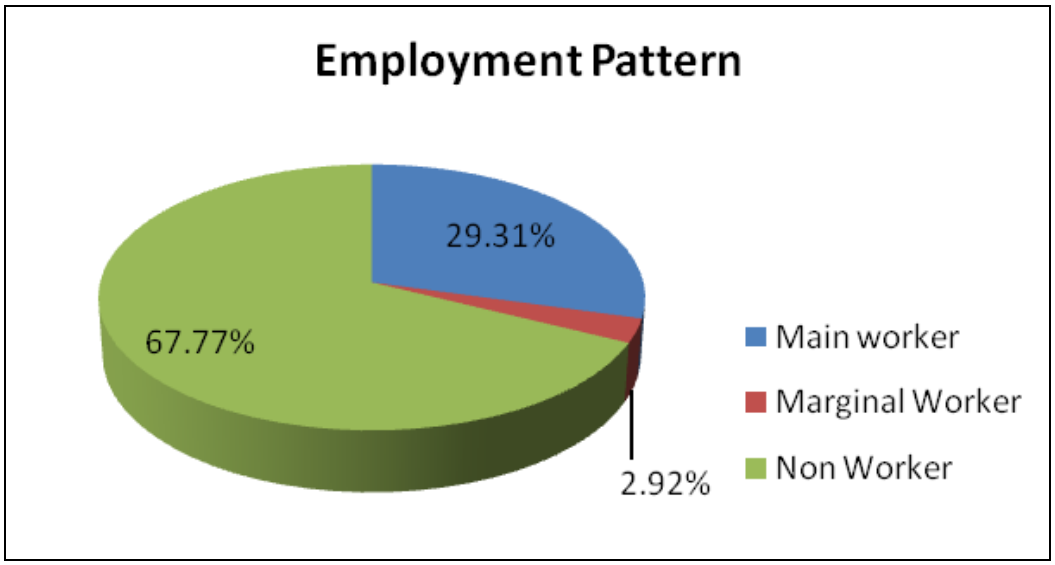


Fig. 3.5.6: Employment Pattern

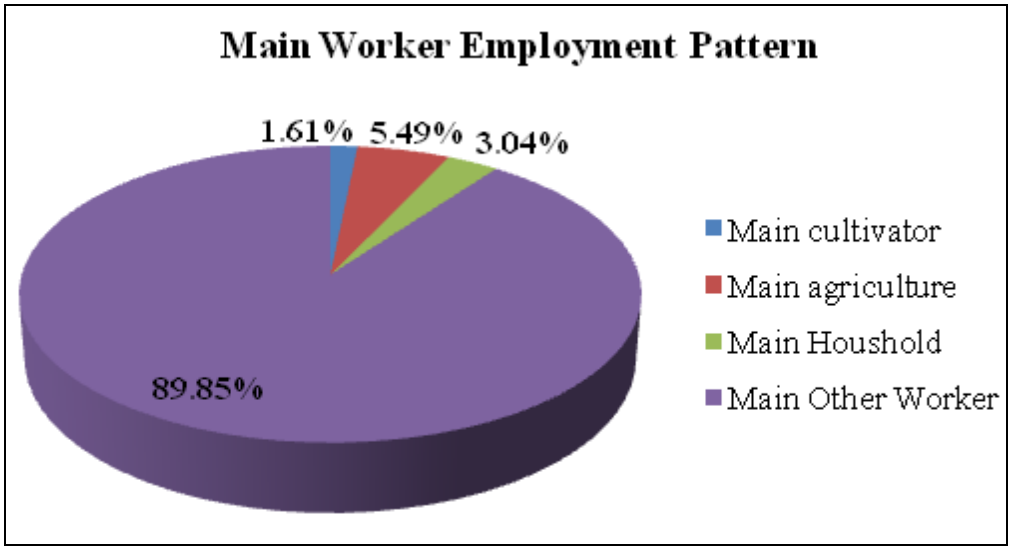


Fig. 3.5.7: Main Worker Employment Pattern

3.5.4 Infrastructure Resources

Amravati Municipal Corporation is under the developmental process. The infrastructure resources in the study area with reference to education, medical facility, water supply, post and telegraph, transportation and communication and power supply is very good.

3.5.4.1 Education

In the Amravati Municipal Corporation Jurisdiction is very improved the primary education facilities are evenly distributed in the area. Higher education facility is also distributed in all the areas. Local people are well aware for the education facility available in the city. There are well known school, colleges are running with full enthusiasm.

3.5.4.2 Public Health Services

Various facilities are exist in the study are which include Hospital, Nursing Home, Registered Medical Practitioners. Health of the people is not only a desirable goal, but it is also an essential investment in human resources. As per the National Health Policy (1983), Primary Health Care has been accepted as main instrument for achieving this goal of development and strengthening rural health infrastructure through a three-tier system, viz., Primary Health Center (PHCs), Sub Centers and Community Health Center, which have been established as shown below:

Diarrhea / Cholera, Malaria, eye disease, skin disease, and Unhygienic are the general health problems which are attributed due to improper sanitation, mosquito nuisance, and water logging. Malaria is one of the most frequently occurring diseases and also respiratory infection in the region.

3.5.4.3 Drinking Water

Drinking water supply for the city is from upper Wardha dam. Maharashtra Jeevan Pradhikarn distributed this water to household.

3.5.4.4 Power Supply

The power supply for the city is from MSEDCL. Power supply running continuously and is used for all purposed i.e. MIDC, household and commercial.

3.5.4.5 Communication and Transport

Communication and transport for the city improving. Communication facility is governed by GPO, BSNL etc. For transportation facility, Amravati city is well connected to National Highways and State Highways. Amravati has three railway stations. Internal road are well developed for local individuals. NH 6 from Surat to Kolkata is well connected to Amravati City.

3.5.4.6 Banks

There are all National and International Banks have their branches in the city. These banks are providing well banking facility to the customer.

3.5.4.7 Slum Area

Growth of slums in cities is one of the serious problems created by the rapid industrialization and urbanization. Initially, in the first decade after independence, the State Government implemented scheme of removal of existing structures in the slums and extending financial assistance to the slum dweller for the construction of paved (Pucca) Houses on the same site.

Total 104 no. of Slums in Amravati city numbers 47,099 in which population of 238,883 resides. This is around 36.92% of total population of Amravati city *(Source Census 2011 Govt. of India).*Detailed Area wise information given in the **Annexure III**.

3.5.4.8 Commercial areas

The well setup commercial area distributed throughout the city the structure of commercial area are represented in **Table 3.5.4**

Table 3.5.4

Commercial Area, Amravati City

Subject	Quantity
Marriage Hall including Lawn	140
Market	29 (List Annexure IV)
Hawkers Zone	27
Packing Passage	2 Gandhi Chowk Shivtekdi
Registered shop license holder	18721

3.5.4.9 Economic Attributes

The classification of workers is related with their occupation. Economic resource based of any region mainly depends upon its economically active group i.e. the working population involved in productive work. Work may be defined as participation in any economically productive activity. Such participation may be physical or mental in nature. Work involves not actual work but also effective supervision and direction of work. It also includes unpaid work on farm or in family enterprise. There are different types of workers that may be classified as under with main workers employment pattern given in **Table 3.5.5**.

Table 3.5.5

Main Worker Employment Pattern

Sr. No.	Description	Main Cultivator	Main Agriculture	Main Household	Main Other Worker
1.	Ward	158	712	100	2542
2.	Ward	48	728	118	3284
3.	Ward	15	48	33	2210
4.	Ward	67	92	47	2605
5.	Ward	95	168	42	2521
6.	Ward	88	505	62	2670
7.	Ward	33	44	95	2603
8.	Ward	12	14	41	2193
9.	Ward	90	19	70	1656
10.	Ward	48	49	89	1580
11.	Ward	25	8	69	1599
12.	Ward	43	30	18	2012
13.	Ward	13	14	7	2141
14.	Ward	1	3	36	1190

Sr. No.	Description	Main Cultivator	Main Agriculture	Main Household	Main Other Worker
15.	Ward	10	31	76	2035
16.	Ward	25	17	121	2707
17.	Ward	17	8	44	2068
18.	Ward	29	9	38	1465
19.	Ward	43	19	22	1532
20.	Ward	7	32	44	2446
21.	Ward	32	28	57	2622
22.	Ward	49	40	76	2099
23.	Ward	13	21	106	2756
24.	Ward	44	176	194	2710
25.	Ward	17	123	53	3409
26.	Ward	13	213	62	4193
27.	Ward	5	50	47	2537
28.	Ward	4	10	32	2618
29.	Ward	5	10	20	1827
30.	Ward	16	16	5	2567
31.	Ward	24	5	212	1722
32.	Ward	51	18	88	1462
33.	Ward	24	2	57	2228
34.	Ward	83	62	88	1803
35.	Ward	73	301	38	1356
36.	Ward	24	161	51	2282
37.	Ward	5	24	39	2021
38.	Ward	31	8	46	2043
39.	Ward	58	15	31	1939
40.	Ward	6	11	58	1381
41.	Ward	14	4	45	1865
42.	Ward	7	20	15	1514
43.	Ward	5	104	49	1681
44.	Ward	12	23	25	2260
45.	Ward	5	4	12	1712
46.	Ward	14	10	55	1679
47.	Ward	12	8	41	1687
48.	Ward	24	9	102	1653
49.	Ward	54	16	80	1571
50.	Ward	26	18	81	1620
51.	Ward	32	2	87	2016
52.	Ward	22	16	95	1594
53.	Ward	26	12	43	1911
54.	Ward	37	33	45	2693
55.	Ward	5	22	45	1324
56.	Ward	36	7	67	1961

Sr. No.	Description	Main Cultivator	Main Agriculture	Main Household	Main Other Worker
57.	Ward	16	16	73	2117
58.	Ward	37	53	44	2272
59.	Ward	41	25	219	2158
60.	Ward	75	15	107	2164
61.	Ward	33	5	86	1223
62.	Ward	7	238	175	3025
63.	Ward	29	11	155	1800
64.	Ward	61	70	96	1506
65.	Ward	72	971	95	1342
66.	Ward	91	44	157	3277
67.	Ward	25	37	92	2130
68.	Ward	36	25	78	3275
69.	Ward	36	17	90	2278
70.	Ward	14	57	51	2302
71.	Ward	21	17	225	2942
72.	Ward	50	156	127	3595
73.	Ward	41	251	108	2797
74.	Ward	34	214	61	2060
75.	Ward	23	456	88	1776
76.	Ward	170	589	13	885
77.	Ward	179	1295	42	1581
78.	Ward	78	632	63	1606
79.	Ward	16	191	37	1358
80.	Ward	32	124	52	1832
81.	Ward	56	759	20	1711
Total		**3048**	**10420**	**5773**	**170387**

Source: Census 2011 Amravati-District, State Maharashtra

3.5.5 Quality of Life

Standard indicators of the Quality of Life include not only wealth and employment but also built the environment, physical and mental health, education, recreation and leisure time and social belonging. The terms quality of life is also used by politicians and economist to measure the livability of a given city or nation. Quality of Life is an important concept in the field of international development, since it allows development to analyze on a measure broader than standard of living. The Quality of Life of Amravati city is satisfactory. They have all the basic needs including infrastructure facilities for standard living.

3.6 Biological Environment

Cities play a key role in overall efforts to protect and manage vulnerable ecosystems and biodiversity. Just as the ecological footprint of a city can have a negative impact far beyond the boundaries of the city, certain urban actions can also have a far reaching positive impact. The arrangement of green areas in a city and their connection with the surrounding area is critical to sustainability.

The main objective of this study is to establish present baseline environmental conditions of the study area through available data/information supported by field studies, wherever necessary. The study has been carried by primary survey of the project area, consultation with the local habitants and secondary data review.

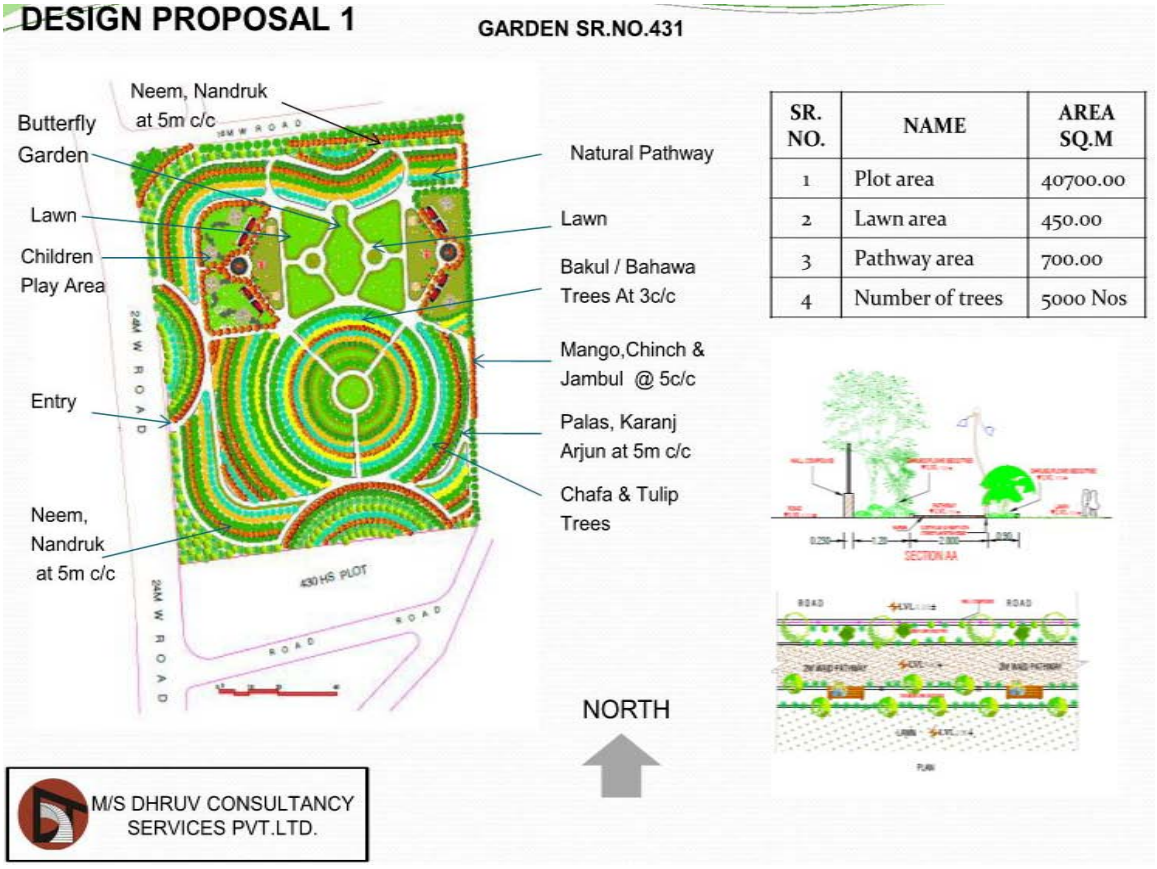
3.6.1 Plantation information in year 2016-2017

- Total 6113 no different species planted in the year 2016-2017
- Road Site plantation 9180 no
- From AMC fund 5000 additional plantation for green space development

The new action plan prepared under AMRUT scheme for the green belt development which is as follows:

AMRUT SAAP 2016-2017			
CHECK LIST FOR STATE LEVEL TECHNICAL COMMITTEE			
Project Green Spaces Development			
Name of city – AMRAVATI (S.No.431)			
S NO	ITEMS	YES/NO	DETAILS
1	Total cost of the project identified	Yes	Rs.1.50 Cr
2	Sanctioned Cost of the project as per SAAP 2016 - 2017	Yes	Rs. 1 .50Cr
3	Actual Cost of project as per DPR (without o & m)	Yes	Rs.1.47 Cr.
4	Whether Open / Green space , landscaped area , general areas for large organised social events and paved pathways are included in DPR	Yes	Open spaces, Children's play area, Benches, Solar lights, Dustbins are proposed.
5	Whether structural works are included in DPR	Yes	Toilet blocks, Septic tanks, Underground water tanks, Natural pathways ,Watchman shed , Compound wall Etc.
6	Ratio of civil work out of total project cost (below 20 %)	Yes	Rs. 2993992.70
7	Whether of DPR has been appraised by MJP/PWD/ Concerned authority in consultation with ULB	YES	Amravati Municipal Corporation
8	Whether the General body has made resolution regarding	YES	Permission will be taken later
9	Whether land is available with and is in possession of ULB for various components	YES	S.No.431 & road side plants
10	Wheather permission / NOC is obtained by ULB for various components	YES	Technical sanction by AMC

S NO	ITEMS	YES/NO	DETAILS
11	Outcomes from the proposed project		Increased employment opportunities to all the locals . increased in cleanness. Social Interaction will increase
i	Increase in Green cover	YES	Approx.15% green cover will be increased in comparison to the existing green cover of the municipal garden
12	Whether component wise abstract is attached as annexure with check list	YES	Summery sheet enclosed
13	Whether the ULB has made the provision for their own contribution (mention the amount and source of fund)	NO	Contribution will be made available from its own funds whenever required for up gradation and after completion of the project
14	Whether the DPR are prepared as per current DSR-2015 - 2016	YES	DSR Reference- 2016-17
15	Time line for implementation of the project	YES	6 months
16	Whether proposed project is resilient and secured against any Environment impacts & is for the poor and vulnerable	YES	Yes , It is secured and resilient , the plantation maintain the biodiversity
17	Whether O & M Cost for 5 years is included in DPR	NO	Will be borne by ULB
18	Whether scheme is self sustainable in terms of O & M	NO	Yes Partially



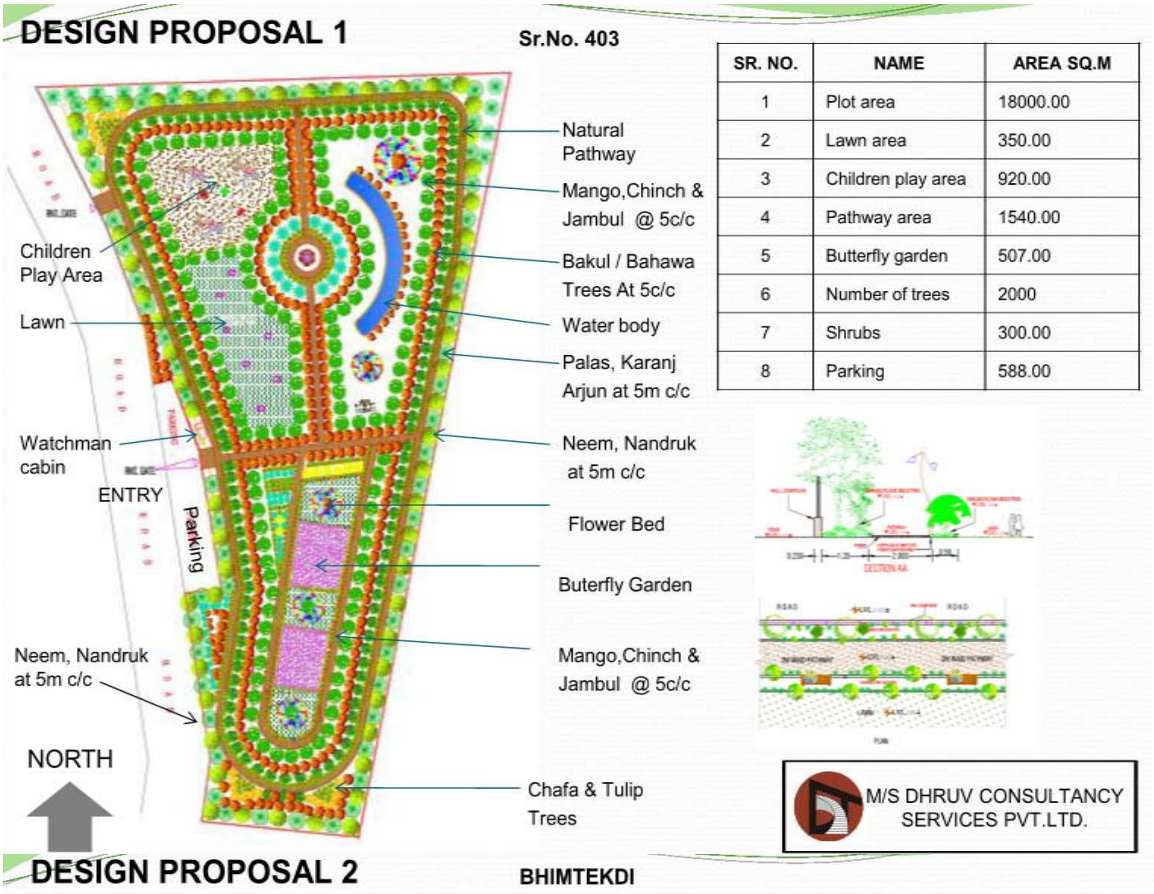
SR. NO.	NAME	AREA SQ.M
1	Plot area	40700.00
2	Lawn area	450.00
3	Pathway area	700.00
4	Number of trees	5000 Nos

Area Statement

Sr. No.	Detail	Area (in Sq.m)
1	Thick Plantation Area	28000
2	Lawn Area	450
3	Hardscape Area	3000
4	Untreated Area	9250
	Total Site Area (1+2+3+4)	40700

Sr. No.	Facility	If Provided (Yes/No)	Details
1	Compound Wall	Yes	Chain link fencing
2	Drinking Water	No	To be provided by AMC
3	Rainwater Harvesting	Yes	Sump well is provided about 25000.00 litre
4	Toilets	Yes	1 toilet block proposed for ladies and gents
5	Compost Plant	Yes	Provided
6	Water Works	Yes	Irrigation system provided
7	Watchman Shed	Yes	Provided
8	Dustbins	Yes	Total 2 dustbins provided

S NO	ITEMS	YES/NO	DETAILS
11	Outcomes from the proposed project		Increased employment opportunities to all the locals . increased in cleanness. Social Interaction will increase
i	Increase in Green cover	YES	Approx.15% green cover will be increased in comparison to the existing green cover of the municipal garden
12	Whether component wise abstract is attached as annexure with check list	YES	Summery sheet enclosed
13	Whether the ULB has made the provision for their own contribution (mention the amount and source of fund)	NO	Contribution will be made available from its own funds whenever required for up gradation and after completion of the project
14	Whether the DPR are prepared as per current DSR-2015 - 2016	YES	DSR Reference- 2016-17
15	Time line for implementation of the project	YES	6 months
16	Whether proposed project is resilient and secured against any Environment impacts & is for the poor and vulnerable	YES	Yes , It is secured and resilient , the plantation maintain the biodiversity
17	Whether O & M Cost for 5 years is included in DPR	NO	Will be borne by ULB
18	Whether scheme is self sustainable in terms of O & M	NO	Yes Partially



SR. NO.	NAME	AREA SQ.M
1	Plot area	18000.00
2	Lawn area	350.00
3	Children play area	920.00
4	Pathway area	1540.00
5	Butterfly garden	507.00
6	Number of trees	2000
7	Shrubs	300.00
8	Parking	588.00

SR. NO.	NAME	AREA SQ.M
1	Plot area	19500.00
2	Lawn area	655.00
3	Pathway area	2100.00
4	Number of trees	855

Area Statement

Sr. No. 403

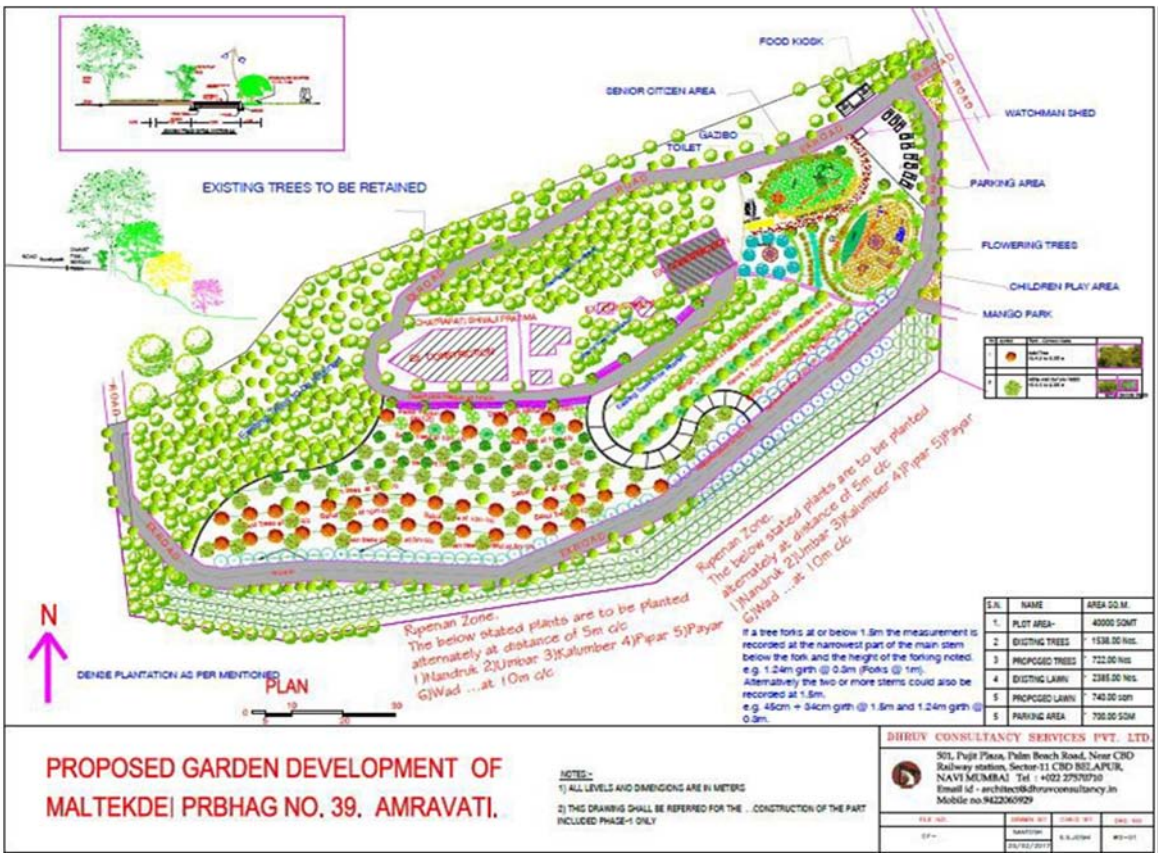
Sr. No.	Detail	Area (in Sq.m)
1	Thick Plantation Area	14000.00
2	Lawn Area	350.00
3	Hardscape Area	1600.00
4	Untreated Area	2500.00
	Total Site Area (1+2+3+4)	18000.00

Bhimtekdi

Sr. No.	Detail	Area (in Sq.m)
1	Thick Plantation Area	8000.00
2	Lawn Area	500.00
3	Hardscape Area	4000.00
4	Untreated Area	2500.00
	Total Site Area (1+2+3+4)	19500.00

AMRUT SAAP 20 - 20			
CHECK LIST FOR STATE LEVEL TECHNICAL COMMITTEE			
Project Green Spaces Development			
Name of city - AMRAVATI			
S NO	ITEMS	YES/NO	DETAILS
1	Total cost of the project identified	YES	Rs. **10316579.00**
2	Sanctioned Cost of the project as per SAAP 2015 - 2016	YES	Rs. 1 Cr
3	Actual Cost of project as per DPR (without o & m)	YES	Rs.10316579 - 118368 = 10198211.00
4	Whether Open / Green space , landscaped area , general areas for large organised social events and paved pathways are included in DPR	YES	Existing trees have been maintained, Paved pathways, Open spaces, Children's play area, Benches, Solar lights, Dustbins are proposed.
5	Whether structural works are included in DPR	YES	Toilet blocks, Septic tanks, Underground water tanks, Watchman shed Etc.
6	Ratio of civil work out of total project cost (below 20 %)	YES	Rs . 2007202.00
7	Whether of DPR has been appraised by MJP/PWD/ Concerned authority in consultation with ULB	YES	Amravati Municipal Corporation
8	Whether the General body has made resolution regarding	YES	Permission will be taken later
9	Whether land is available with and is in possession of ULB for various components	YES	Prabhag No. 39
10	Wheather permission / NOC is obtained by ULB for various components	YES	Technical sanction by AMC

SNO	ITEMS	YES/NO	DETAILS
11	Outcomes from the proposed project		Increased employment opportunities to all the locals . increased in cleanness. Social Interaction will increase
i	Increase in Green cover	YES	Approx.25% green cover will be increased in comparison to the existing green cover of the municipal garden
ii	Open/Green space per person in ULB	YES	From 27.44 Sqm/person
12	Whether component wise abstract is attached as annexure with check list	YES	Summery sheet enclosed
13	Whether the ULB has made the provision for their own contribution (mention the amount and source of fund)	NO	Contribution will be made available from its own funds whenever required for up gradation and after completion of the project
14	Whether the DPR are prepared as per current DSR-2015 - 2016	YES	DSR Reference -2015-16
15	Time line for implementation of the project	YES	6 months
16	Whether proposed project is resilient and secured against any Environment impacts & is for the poor and vulnerable	YES	Yes , It is secured and resilient , the plantation maintain the biodiversity
17	Whether O & M Cost for 5 years is included in DPR	NO	Will be borne by ULB
18	Whether scheme is self sustainable in terms of O & M	No	Yes Partially



Area Statement

Sr. No.	Detail	Area (in Sq.m)
1	Thick Plantation Area	23500
2	Lawn Area	740
3	Hardscape Area	4000
4	Untreated Area	11760
	Total Site Area (1+2+3+4)	40000

Sr. No.	Facility	If Provided (Yes/No)	Details
1	Compound Wall	No	As per site condition it is not possible to built a compound wall because of sloping site
2	Drinking Water	Yes	2 drinking water storage tank provided – each 5500 litre capacity
3	Rainwater Harvesting	Yes	Sump well is provided about 300000.00 litre
4	Toilets	Yes	1 toilet block proposed for ladies and gents
5	Compost Plant	Yes	Provided
6	Water Works	Yes	Irrigation system
7	Watchman Shed	No	Provided
8	Dustbins	Yes	Total 10 dustbins provided

3.6.2 Reconnaissance

The present ecological study of the biological environment in the study area was undertaken with special reference to Flora & Fauna characteristics with the objectives of:

- Assessment of baseline flora and fauna *etc.* within the study area
- Identification of plants of economic importance and wildlife species

A detailed survey was carried out in 2015 to provide detailed profile and baseline of the biological environment for the concerned area.

3.6.3 Sampling Locations

The observations were made in Amravati city for identification of different biologically important vegetation.

3.6.4 Floral Assessment

3.6.4.1 Study Methodology

Desktop Study - Literature review, including map based information search of all current and relevant literature sources and databases.

Survey were carried out based mainly on personal observations to understand and record the biological environment prevailing in the study area and the same is verified against the literature obtained from different Government officials.

3.6.4.2 Gardens

Amravati city has 102 gardens. The main work of Garden department is to:

- Develop garden in comes under municipal corporation.
- Take care of plants and greenery conservation
- City beautification
- Take care of road dividers

Urban green spaces are significant for the enrichment of biodiversity; these green spaces offer recreational opportunities and contribute to the city aesthetics. Some specialized and popular gardens in the city; such as, Chhatri Talav garden, Wadali garden, Defense Colony garden, etc. are some of the ornamental assets of the city. The list of gardens enclosed in **Annexure-V**. Brief outlines of selected water/land based parks/gardens are delineated hereunder.

3.6.5 Comparative Analysis of Gardens

Numbers of indigenous species planted in all the gardens. Plantation of exotic species can destroy the diversity. A section of local people feels that the idea of landscaping with native plantation should be adopted while enhancing the future green spaces. The canopy of the garden is getting affected by planting exotic species which provide comparatively lesser shade. Use of lawns, in the landscaping of the gardens, affects the micro-environment of the green spaces as they act as cooling areas that create micro-habitat for insects, frogs, toads, lizards and snakes, maintaining food chain. Lack of vegetation cover in cities might be a reason why city is often several degrees hotter than surrounding country sides. Trees can modify micro climatic conditions by their shade. The biodiversity of Wadali garden is comparatively good because of the plant diversity, large space with variety of indigenous species; that attract a large number of insects on

which insectivorous birds feed. Thus, Wadali garden can be a bench mark for developing future green spaces. Development can have adverse effect on biodiversity.

3.6.6 Chhatri Talav Garden: (Chhatri Talav Lake)

Chhatri Talav Garden (**Plate 3.6.1**) situating 1 km away from Dastur nagar square on the Malkhed Railway Road, it was built in the year 1888 on a small spring called Kali Nadi. This small reservoir was built to supply drinking water to Amravati city. The area lake 61.37 Ha, the Average depth is 20 mt. with the catchment area of 13 Sq. km. However, Amravati gets water from Upper Wardha Dam now. This talao is visited by tourists in large number due to the small garden and boating facility available at the site. A.M.C. has appointed agency for beautification and conservation of lake under National Lake Conservation Plan (NLCP) (**Plate 3.6.2**)

3.6.7 Wadali Garden: (Wadali Lake)

Wadali Garden situating (**Plate 3.6.3**) 3 km away from the Amaravati Camp on Chandur Railway Road, it was built for clean and fresh water supply to Amravati Camp. The area lake 21 hec., the Average depth is 17 mt. With the catchment area of 5.18 Sq. km. There is a small garden with a zoo here. People usually come here during weekends and enjoy boating. This is one of the best places for kids. (**Plate 3.6.4**).

3.6.8 Tree Plantation

According to Maharashtra (Urban Area) Tree Protection and Preservation of Trees Act 1975, Article 16, Municipal Corporations are expected to plant at least 10,000 trees each year.

The vegetation pattern of the city is conducive for almost for all types of tropical species indigenous and exotic both. The city has a tree cover distributed throughout the urban-scape. A tree census is being conducted by The Amravati Municipal Corporation. 3000 trees were planted in the year 2014-2015 & 4000 trees are planted in the year 2015-16. List of Flora in Amravati City presented in **Table 3.6.1**.

3.6.9 Medicinal Plants in the Study Area

Plants have been the sources of invaluable medicinal plants since the time man realized the preventive and curative properties of the plant and started using them for human health. In this report, we are presenting prominent medicinal species present in the study area having medicinal properties. Local people, particularly those from remote

areas, have been using various local preparations of medicinal plants from time immemorial. List of Medicinal Plants presented in **Table 3.6.2**.

3.6.10 Faunal Assessment

3.6.10.1 Mammals

On the basis of observations, House Mouse (*Mus musculus*), and Squirrel (*Funambulus palmarum*) (**Plate 3.6.5)** are found in study area.

3.6.10.2 Reptiles

During survey *Calotes versicolor* (Common Garden Lizard) (**Plate 3.6.6**) were observed among reptiles.

3.6.10.3 Butterflies & Dragonflies

Butterflies and dragonflies survey conducted during daytime and under fine weather when most butterflies and dragonflies are active. Active search used to record the abundance of butterflies and dragonflies. The route includes different habitats within the study area. During the survey, all butterflies observed are identified and recorded. For dragonflies' survey, any possible habitat would be examined including vegetation of the riparian zone.

Butterfly species observed during survey are, Common Grass yellow (*Eurema hecabe*) (**Plate 3.6.7**), Plain Tiger (*Danaus chrysippus*) (**Plate 3.6.8**), Common Jezebel (*Delias eucharis*) (**Plate 3.6.9**), Common Leopard (*Phalanta phalantha*), (**Plate 3.6.10**) Lemon Pansy (*Junonia lemonias*), Blue Pansy (*Junonia orithya*), Great Eggfly (*Hypolimnas bolina*), Striped Tiger (*Danaus genutia*), Common Pierrot (*Castalius rosimon*), Pea Blue (*Lampides boeticus*), Common Mormon (*Papilio polytes*), Common Crow (*Euploea core*), and Peacock Pansy (*Junonia almana*).

Dragonfly species observed during survey are Green Marsh Hawk (*Orthetrum sabina*) (**Plate 3.6.11**), Crimson-tailed Marsh Hawk (*Orthetrum pruinosum*) (**Plate 3.6.12**), Blue Marsh Hawk (*Orthetrum glaucum*) and Crimson Marsh Glider (*Trithemis aurora*).

3.6.10.4 Avifauna

Avifauna species present and relative abundance of species in different habitat were surveyed by transects count. In addition to direct count, avifaunal species also identified using their call. Any notable behaviour such as feeding, roosting or breeding of

the birds and the associated habitats and vegetation where they have such behaviours, are recorded. Moreover, any special species-habitat relationships observed during the survey. Birds were noted, counted and identified with the help of Nikon 50 binocular and standard field identification guides.

Some of the common birds observed during survey are House crow (*Corvus splendens*), Pigeon (*Columbia livia*), Common Myna (*Acridotheres tristis*) (**Plate 3.6.13**), House sparrow (*Passer domesticus*), Black Winged Kite (*Elanus caeruleus*), Purple Moorhen (*Porphyrio porphyrio*) (**Plate 3.6.14**), Black Winged Stilt *(Himantopus himantopus*), Indian Robin (*Saxicoloides fulicata*), Hoopoe (*Upupa epops*), White Breasted Kingfisher (*Halcyon smyrnensis*), Little Cormorant (*Microcarbo niger*), Little Egret (*Egretta garzetta*) (**Plate 3.6.15**), Black Drongo (*Dicrurus macrocercus*) (**Plate 3.6.16**), Cattle Egret (*Bubulcus ibis*), Indian Roller (*Coracious benghalensis*) (**Plate 3.6.17**), Red-wattled Lapwing (*Vanellus indicus*), Shikra (*Accipiter badius*) (**Plate 3.6.18**), etc.

The fauna and avifauna are presented in **Table 3.6.3** and **Table 3.6.4** respectively.

Plate 3.6.1: Views of Chhatri Talao Garden

Plate 3.6.2: Views of Chhatri Talao Lake

Plate 3.6.3: Views of Wadali Garden

Plate 3.6.4: Views of Wadali Lake

Plate 3.6.5: Squirrel (*Funambulus palmarum*)

Plate 3.6.6: Common Garden Lizard (*Calotes versicolor*)

Plate 3.6.7: Common Grass yellow (*Eurema hecabe*)

Plate 3.6.8: Plain tiger (*Danaus chrysippus*)

Plate 3.6.9: Common Jezebel (*Delias eucharis*)

Plate 3.6.10: Common Leopard (*Phalanta phalantha*)

Plate 3.6.11: Green Marsh Hawk (*Orthetrum sabina*)

Plate 3.6.12: Crimson-tailed Marsh Hawk (*Orthetrum pruinosum*)

Plate 3.6.13: Common Myna (*Acridotheres tristis*)

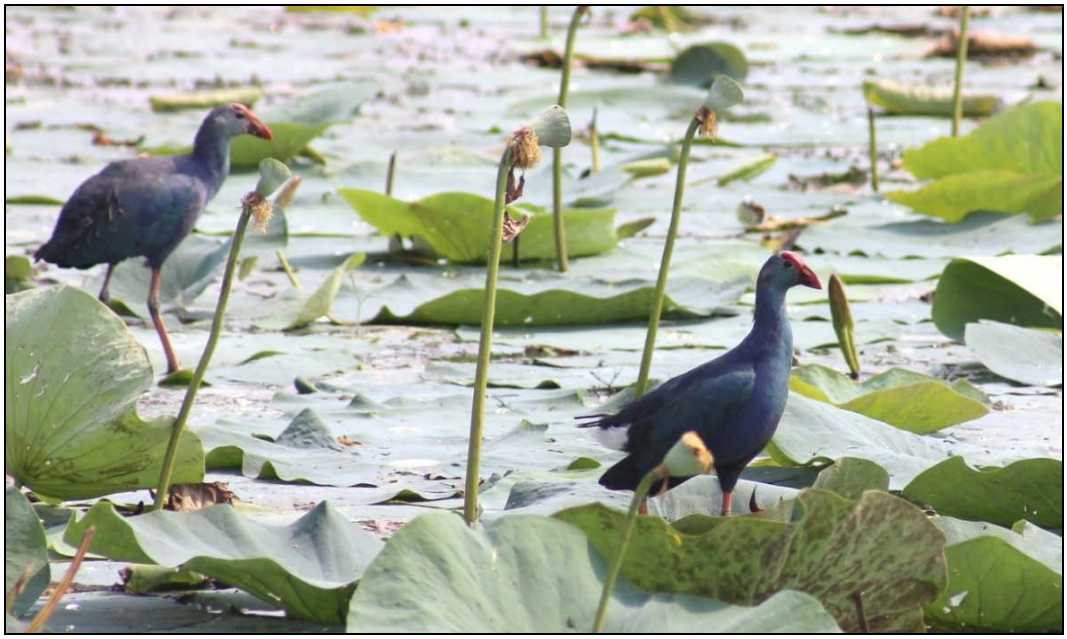


Plate 3.6.14: Purple Moorhen (*Porphyrio porphyrio*)

Plate 3.6.15: Little Egret (Egretta garzetta)

Plate 3.6.16: Black Drongo (*Dicrurus macrocercus*)

Plate 3.6.17: Indian Roller (*Coracious benghalensis*)

Plate 3.6.18: Shikra (*Accipiter badius*)

Table 3.6.1

List of Flora in Amravati City

Sr. No.	Botanical Name	Local Name	Family
1.	*Acacia catechu*	Khair	Fabaceae
2.	*Acacia nilotica*	Babhul	Fabaceae
3.	*Aegle marmelos*	Bel	Rutaceae
4.	*Ailanthus excels*	Maharukh	Simaroubaceae
5.	*Albizia lebbeck*	Kala Siras	Fabaceae
6.	*Albizia procera*	Safed Siras	Fabaceae
7.	*Azadirachta indica*	Kadunimb	Meliaceae
8.	*Bombax ceiba*	Semal	Malvaceae
9.	*Butea monosperma*	Palas	Fabaceae
10.	*Dalbergia sissoo*	Shiras	Fabaceae
11.	*Emblica officinalis*	Aawla	Euphorbiaceae
12.	*Eucalyptus* sp.	Nilgiri	Myrtaceae
13.	*Ficus benghalensis*	Wad	Moraceae
14.	*Ficus glomerata*	Umbar	Moraceae
15.	*Ficus religiosa*	Pimpal	Moraceae
16.	*Mangifera indica*	Aamba	Anacardiaceae

Sr. No.	Botanical Name	Local Name	Family
17.	*Schleichera oleosa*	Kusum	Sapindaceae
18.	*Syzygium cumini*	Jambhul	Myrtaceae
19.	*Tamarindus indica*	Chinch	Caesalpiniaceae
20.	*Tectona grandis*	Sagwan	Verbenaceae
Small Trees			
21.	*Bauhinia racemosa*	Asto	Fabaceae
22.	*Bauhinia retusa*	Sehra	Fabaceae
23.	*Bauhinia variegate*	Kachnar	Fabaceae
24.	*Cassia fistula*	Amaltas	Fabaceae
25.	*Ixora arborea*	Lokhandi	Rubiaceae
26.	*Ziziphus jujube*	Bor	Rhamnaceae
27.	*Zizyphus xylopyra*	Ghont	Rhamnaceae
28.	*Jatropha curcas*	Ratanjyot	Euphorbiaceae
Shrubs and Under Shrubs			
29.	*Achyranthes aspera*	Apamarg, Chirchita	Amaranthaceae
30.	*Annona squamosa*	Sitafal	Annonaceae
31.	*Asparagus racemosus*	Shatavari	Liliaceae
32.	*Calotropis gigantean*	Aak	Asclepiadaceae
33.	*Cassia tora*	Pavar, Charot	Fabaceae
34.	*Hyptis suaveolens*	Van Tulsi	Lamiaceae
35.	*Ipomea pes-caprae*	Beshram	Convolvulaceae
36.	*Lantana camara*	Raimunia	Verbenaceae
37.	*Ocimum sanctum*	Tulas	Lamiaceae
38.	*Tribulus terrestris*	Gokharu	Zygophyllaceae
39.	*Ziziphus oenoplia*	Bor	Rhamnaceae
Climbers			
40.	*Abrus precatorius*	Gunja	Fabaceae
41.	*Bauhinia vahlii*	Mahul	Fabaceae
Grasses			
42.	*Cymbopogon martini*	Rusa	Poaceae
43.	*Cynodon dactylon*	Dub	Poaceae
44.	*Heteropogon contortus*	Kusul	Poaceae

Source: Personal observations of Global Scientific team, Local informants, Secondary information

Table 3.6.2

Prominent Medicinal Plants Present in the Study Area

Sr. No.	Common Name	Pictures	Botanical Name	Family	Medicinal Properties
1.	Amla		*Phyllanthus emblica*	Phyllanthaceae	Amla is used to revitalize potency and the digestive system, treat constipation, reduce fever, cough and purify blood. It is a rich source of Vitamin C.
3.	Bargad		*Ficus benghalensis*	Moraceae	Bargad is effective in curing dysentery and chronic diarrhea. It is also helpful in treating dental problems.
4.	Bel		*Aegle marmelous*	Rutaceae	Bel is used in the treatment of diarrhea, haemorrhoids and hair loss problem. It has anti-microbial property and reduces gastric ulcer.
5.	Ghritkumari		*Aloe vera*	Xanthorrhoeaceae	It has great healing properties and is used in skin burn and wounds. It is effective in the treatment of intestinal worms, indigestion, asthma etc.
9.	Neem		*Azadirachta indica*	Meliaceae	It has anti-biotic and anti-inflammatory properties. It is traditionally used in hair and skin problems.
12.	Senna or Sonamukhi		*Cassia angustifolia*	Fabaceae	It stimulates proper enzyme secretion and purifies blood. It also treats constipation, indigestion osteo-arthritis gout and is used as an laxative.

Source: Personal observations of Global Scientific team, Local informants, Secondary information

Table 3.6.3

List of Fauna Recorded in Study Area

Sr. No.	Zoological Name	English Name	Family
Mammals			
1.	*Funambulus pennanti*	Five Striped Palm Squirrel	Sciuridae
2.	*Herpestes edwardsii*	Common Mongoose	Herpestidae
3.	*Presbytis entellus*	Common Langur	Columbidae
4.	*Rattus rattus*	Common House Rat	Muridae
Reptiles			
5.	*Calotes versicolor*	Garden Lizard	Agamidae

Source: Personal observations of Global Scientific team, Local informants, Secondary information

Table 3.6.4

List of Avifauna

Sr. No.	Scientific Name	Common Name	Family
1.	*Accipiter badius*	Shikra	Accipitridae
2.	*Acridotheres tristis*	Common Myna	Sturnidae
3.	*Aegithina tiphia*	Common Iora	Aegithinidae
4.	*Amaurornis phoenicurus*	White Breasted Waterhen	Rallidae
5.	*Apus affinis*	House swift	Apodidae
6.	*Ardeola grayii*	Indian Pond Heron	Ardeidae
7.	*Athene brama*	Spotted Owlet	Strigidae
8.	*Bubulcus ibis*	Cattle Egret	Ardeidae
9.	*Butastur teesa*	White-eyed Buzzard	Accipitridae
10.	*Centropus sinensis*	Greater Coucal	Cuculidae
11.	*Cinnyris asiaticus*	Purple Sunbird	Nectariniidae
12.	*Columba livia*	Blue Rock Pigeon	Columbidae
13.	*Copsychus saularis*	Magpie Robin	Muscicapidae
14.	*Coracias benghalensis*	Indian Roller or Blue Jay	Coraciidae
15.	*Corvus splendens*	House Crow	Corvidae
16.	*Dicrurus macrocercus*	Black Drongo	Dicruridae
17.	*Egretta garzetta*	Little Egret	Ardeidae
18.	*Elanus caeruleus*	Black-winged Kite	Accipitridae
19.	*Eremopterix grisea*	Ashy Crowned Sparrow Lark	Alaudidae
20.	*Eudynamys scolopaceus*	Koel	Cuculidae
21.	*Halcyon smyrnensis*	White Breasted Kingfisher	Halcyonidae
22.	*Himantopus himantopus*	Black Winged Stilt	Recurvirostridae
23.	*Hirundo smithii*	Wire-tailed Swallow	Hirundinidae
24.	*Merops orientalis*	Green Bee-eater	Meropidae
25.	*Microcarbo niger*	Little Cormorant	Phalacrocoracidae
26.	*Milvus migrans*	Black Kite	Accipitridae
27.	*Orthotomus sutorius*	Tailor bird	Cisticolidae
28.	*Parus major*	Great Tit	Paridae
29.	*Passer domesticus*	House Sparrow	Passeridae
30.	*Porphyrio porphyrio*	Purple Moorhen	Rallidae
31.	*Psittacula krameri*	Rose Ringed Parakeet	Psittaculidae
32.	*Pycnonotus cafer*	Red Vented Bulbul	Pycnonotidae
33.	*Saxicoloides fulicata*	Indian Robin	Muscicapidae
34.	*Streptopelia chinensis*	Spotted Dove	Columbidae
35.	*Sturnus pagodarum*	Brahminy Myna	Sturnidae
36.	*Turdoides striatus*	Jungle Babbler	Timaliidae
37.	*Upupa epops*	Hoopoe	Upupidae
38.	*Vanellus indicus*	Red-Wattled Lapwing	Charadriidae

Source: Personal observations of Global Scientific team, Local informants, Secondary information

3.7 Solid Waste Management

Solid waste management is a worldwide phenomenon. It is a big challenge all over the world for human beings. Therefore, the present study was undertaken to find out the problems and prospects of Municipal solid waste in Amravati City. Amravati city has a total population 647057 and seventh most populous metropolitan area in Maharashtra.

3.7.1 Present Practice of Solid Waste Management

The proper collection and disposal of Solid waste without causing any harm to the environment is collectively termed as the solid waste management.

The management of solid waste involves four steps. These are:

1) Generation and Composition of Waste

2) Collection of Waste

3) Transportation of Waste

4) Disposal of Waste

3.7.2 Generation of Waste

In Amravati, there are 5 zones within which 22 Prabhags are located. For sake of convenience of management of municipal solid waste, the waste generated, resources available etc. are referred to each prabhag and respective zonal office. The corporation performs its function as per the provisions of the act governing the municipal corporation in the state. It is based on the assumption that 240 gram per person per day of MSW generation. The **Table 3.7.1** below depicts the zone wise population and a respective standard waste generation in 155.69 tonnes per day. But during the survey it was observed that the total waste generation in Amravati region is 200 tonnes per day i.e. 308 gram per person which exceeding the standard limit. 44.31 tonnes extra waste generated. These values are further confirmed with AMC department and annual report on implementation of MSW (management & handling) rules, 2000 for the State of Maharashtra (2012-13).

Table 3.7.1

Zone Wise Population and Total Solid Waste Generated

Zone Number	Zone Name	Population at Zones	Standard Waste Generation (TPD)	Actual Waste Generation (TPD)
Zone 1	Rampuri Camp	151141	36.27	48.57
Zone 2	Amravati AMC Main Campus	125598	30.14	37.14
Zone 3	Hamalpura	100621	24.14	33.14
Zone 4	Badnera	161925	38.86	46.86
Zone 5	Bhajibazar	109516	26.28	34.28
Total			**155.69**	**200**

3.7.3 Composition of Waste

A typical Solid waste comprises of biodegradable, non biodegradable and debris matter as given in **Table 3.7.2a, b and c** for Amravati city. The laboratory analysis of waste encompasses both physical and chemical characteristics and is given below. The physical characteristics of the MSW are depicted below and the chemical characteristics of MSW are depicted in below.

Table 3.7.2a

Solid Waste Generation

Sources of Solid Waste Generation	Quantity in Percentage
Slaughter House	6 %
House Hold	36%
Shops	17%
Hotels	16%
Industries	2%
Hospitals	17%
Temples	6%

Table 3.7.2b

Classification of Waste

Sr. No.	Type of Waste	%Ton
1	Biodegradable	35.53
2	Recyclable	15.95
3	Debris and Silt	48.52

Table 3.7.2c

Physical Characteristics of MSW

Sr. No.	Parameters	Value in %
1	Fruits/ Vegetables	19.42
2	Paper	1.86
3	Plastic	8.92
4	Cloths	2.46
5	Wood	1.53
6	Metals	0.32
7	Glass	0.82
8	Leather	0.42
9	Rag	0.95
10	Rubber	0.06
11	Fine Sand	26.24
12	Ash And Fine Earth	21.18
13	Moisture	7.66
14	Pebbles	13.82
15	Density	440 kg/cu

3.7.4 Collection of Waste from Various Places

The collection of waste from various places daily given in **Table 3.7.3**. In addition to the above scheme of waste collection, there is provision of door–to-door collection of waste from approximately 138,000 nos. of houses weighing approx 250 MT. The provision of additional handcarts is envisaged for collection of waste from house to house. Segregation of waste which important for SWM is not carried out by AMC.

Table 3.7.3

Collection of Waste from various places of MSW

Place from where waste is actually collected	Resources of Special waste collection	Expenditure for Total waste collection/ Income	Remarks on Measure taken
Hotel: 150 Beer Bar: 70 Slaughter House: 2 Community Hall: 35 Vegetable Market:5 No of container place in the city 500 Nos. i.e. 257 is in good condition and 243 in bad condition	Expenditure on transportation of total waste: Rs. 1.80 Crore	Contract given for the waste collection of waste from hotels, community halls, and beer bars etc. AMC is 7.2% royalty from the contractor per year	Provision for collection of waste exists through handcart 11 dumper placers and 8 open truck are

3.7.5 Transportation and Disposal of Waste

At present there is no technique of decentralized method of disposal of solid waste. The penalty is imposed on violation of rules from time to time. The transportation of waste up to compost depot at Sukali road is done through open trucks and dumper placer is done, but not through decentralized technique. The total length of roads is approx 1000 kms out of which 321kms of tar roads and 50kms of cement road is swept on daily basis. About 30 nos of penguin shaped bins and 40 nos. of litterbins have been provided for collection of waste generated by pedestrians. There is little bit improvement in the decentralized technique of waste disposal and secondary transportation the job being allocated to an agency.

The above activity i.e., collection and transportation of MSW is carried out both by contract basis and AMC itself. The total manpower bifurcated into the contractual labour and A.M.C manpower is:

a) A.M.C employees – 799

b) Contractual Labours – 1198.

The infrastructure deployed for the collection and transportation of MSW represented in **Table 3.7.4**:

Table 3.7.4

Facility for collection and transportation of MSW

Sr. No.	Particulars of Infrastructure	No.
1	Handcarts	90 nos.
2	Ganti Katla(mechanized)	350 Nos.
3	Ganti Katla (ordinary)	90 Nos.
4	Hydraulic Auto	43 Nos.
5	M.O.H	1
6	Medical officer	1
7	Doctor Incharge	1
8	Sanitary Superintendent	1
9	Senior Sanitary Inspector	5
10	Sanitary inspector	43
11	Mukadam deployed	86

The total no of containers zone-wise is presented in **Table 3.7.5**. According to study (about 35%) are present in Rampuri Camp –1 while the most number of Ring type containers (about 37%) are present in Rampuri Camp –I. The most number of Open places where dumping is practiced is in Hamlapura (About 42%). The existing workforce

and implements zone-wise is presented in Table 8 and the present disposal site is located at Sukli road, which has area of 27 acres and is located at 7 kms from the city.

Table 3.7.5

Total Number of Containers Zone Wise

Sr. No.	Zone	Dumper	Ring Type	Open Place
1	Rampuri Camp	166	52	28
2	AMC Main Office Premises	94	21	24
3	Hamalpura	137	32	53
4	Badnera	86	40	21
Management of Solid Waste at Landfill Site				

The disposal of solid waste is done at the landfill site, which is approx. 160-170 MT/d. The waste is dumped at compost depot and processing is done. The provision of generating biogas from waste and generating electricity from waste is proposed. The segregation of wet and dry waste is not carried out at the site and contract has been allotted for generation of manure and electricity. In addition to waste management at landfill site, the landfill site itself needs management as there is no provision of plantation, fencing, water and electricity and the provision of the same is suggested in the 12th Finance Commission

3.7.6 Management of Solid Waste at Landfill Site

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Plate 3.7.1: Solid Waste Landfill

3.7.7 Quality of Compost and Landfill Depot Soil

Qualities of compost and landfill depot soil at have been studied with respect to important physicochemical parameters such as pH, temperature, organic carbon, chlorides, Na, K, etc. In this paper revealed that the pH (7.76) of waste soil at temperature 32.4 ^{0}C. The colour of waste soil grayish dark brown and its texture sandy was determined. The moisture content (3.93 %) it much lower than control soil (6.62 %), organic carbon (43.17 %), Chloride (49.7 mg/kg), Conductivity (1.792 x106 µmho/ m), sodium (26.5 mg/kg), potassium (89 mg/kg), $CaCO_3$ (79.1 %) respectively. The parameters examined values increases 30-60% folds more as compared to the control. Heavy metal analysis of waste soil, it contained Cu (1.001 mg/g), Zn (5.058 mg/g), Cr (0.536 mg/g), Ni (0.053 mg/g), Fe (21.65 mg/g), Mn (5.982 mg/g), Co (-100 mg/g) these all metal concentrations increases 4-7 times as compared to control soil. If this municipal solid waste landfill continues, it may create serious environmental problems.

3.7.8 Enforcement of MSW Rules 2016

The total revenue generation from imposition of penalties alone amounts to Rs 3 lakh per annum. The details of description of the offence and penalties thereby imposed based on the type of penalty is given in **Table 3.7.6.**

Table 3.7.6

Penalties Imposed on the Type of Offence

Sr. No.	Description of Offence	Penalty Amount
1	Relieving oneself in public place	Rs 20/-
2	Throwing waste on roads	Rs 50/-
3	Spitting and spreading waste on Govt. offices, public places and religious places	Rs 25/-
4	Disposal of hotel waste in public places or on road	Rs 200/-
5	Vendors spreading waste on public places	Rs 50/-
6	Hawkers related to vegetable and fruits spreading waste in public places.	Rs 50/-
7	All commercial establishment dumping waste in gutters, roads and public places	Rs 200/-
8	Cow dung etc on roads and public places	Rs 150/-
9	Dumping of industrial waste in public places	Rs 300/ -
10	Hospital clinical waste dumping on road, public places and open places	Rs 300/-
11	Construction debris dumping on road, public places and open places	Rs 500/-
12	Usage and Sale of Carry bags	Rs. 5000/-

3.7.9 Compliance of MSW Rules 2016

3.7.9.1 Prohibition of littering

For stopping littering A.M.C. has provided 500 closed containers and 120 fixed open spots.

3.7.9.2 Collection and Transportation of Waste

At present there are 120, 00000 i.e. 120 lakh households in Amravati city and approximately 90% (door to door collection) of the waste from the households are currently being collected but the practice of segregation at source is not being currently practiced by A.M.C. The work of transportation has been given on contract basis.

As per the general meeting no 126 dated 02/1/2017 and the standing committee meeting no 434 dated 29/12/2016 the board has pass the resolution that residential and commercial property should pay the service tax in all the Prabhags.

The service taxes imposed are as follow

Sr. No.	Establishment Type	Service Tax
1	To segregate wet dry and hazardous waste collection from residential area	50 Rs. Per Month
2	Wet waste generated from vegetable market	100 Rs. Per Month

3.7.9.3 Processing of Biodegradable Waste

Vermiculture is being currently practiced on small scale at two places. There is no decentralized technique adopted by A.M.C.

3.7.9.4 Final disposal at Landfill Site

The waste is being currently dumped at the landfill site.

Site Information:

The disposal of solid waste is done at Sukali, which is approx 10 KM from the Centre of the City i.e. Jaisthamb Square Amravati **(Fig. 1.1)**.

Fig. 3.7.1: Google Map View of Solid Waste Dumping Site

Existing Situation:

In Amravati, Municipal Waste Management is practiced in a very unscientific manner and hepzard. Segregation of wastes to an extent is performed by the informal sector formed by rag pickers and Kabadiwallas. Rest of the waste is dumped un-segregated manner.

Issue of Municipal Solid Waste:

The disposal of solid waste through open dumping without any segregation according irratic way in Amravati city and it has been in practice even today. Due to regular dumping of solid wastes generated from the cities, it was observed during the last

few decades that the random deposition approx i.e. 5-7 Lakh tonne. It proved to be detrimental by polluting to the ground water through leaching effects, pollution of rivers through run off and living environment.

Current Situation:

In order to put into practice an efficient, environmentally sound, and financially sustainable for Municipal Solid Waste Management System, which leads to significant improvements in cleanliness and hygienic conditions in the city, AMC has call for Request for Proposal RFP related to provide disposal and processing facility consultancy services. The services sought are to develop a MSW management strategy and action plan for treatment and disposal of MSW to develop the suitable structures for implementing the project through Public Private Partnership on design, Build, Finance, operate and Transfer (DBFOT) basis. The resolution number **wide 368 dated 25-11-2016** has passed by the standing committee for the total 500 TPD plant proposed for the scientific disposal of the 200 TPD daily waste and 300 TPD for old dumping waste which was under Agreement process But this project put on hold due misconception Detailed Project Report and Request for Proposal procedure. Which result very poor performance in Swachh Bharat Survey by AMC and continuously effects adversely due to unscientific disposal at the dumping site. AMC should take initiative to resolve this issue.

Proposed Infrastructure given below:

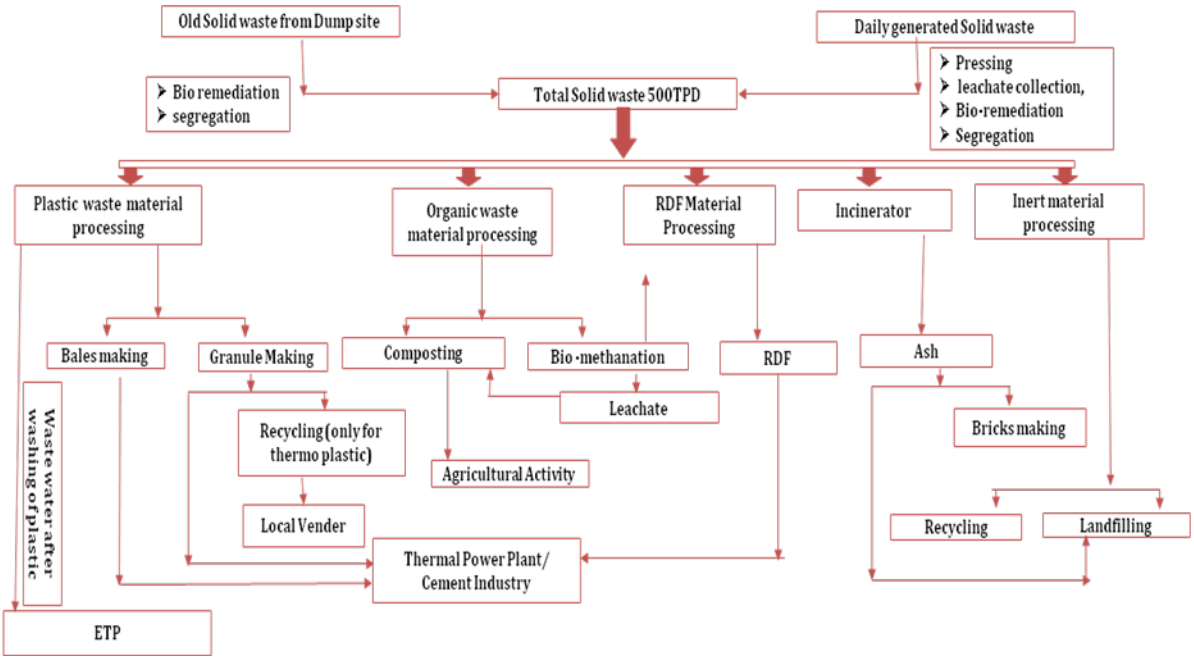

Fig. 3.7.2 Process Flow Chart of Proposed Project

3.7.9.5 Public Awareness Programs

The Corporation has taken various programmes to create awareness among the local people regarding the significance of the solid waste management, which includes the following steps:

- Pamphlets distribution.
- Creating awareness through loudspeakers.
- Door to door campaign.
- Media publicity.

3.7.10 Sanitation Facilities

Amravati Municipal Corporation has various types of sanitation equipments which are as follows:

Name of Instrument	Quantity
Bobcat Machines	3
Fogging Machine	1
Fogging Machine small	10
Spray Pump	100
Vacuum Emptier	3
Tractor	1
Water tanker	2
Compactor	2
Loader Tractor	2
JCB	1
Pole land	1
Truck Tripper	1
Hydraulic Auto	133
Ghanti Katla	356
Open trucks	18
Dumper placer	12

As per sanitation division in AMC out off 22 prabhag 1263 contractor worker and 861 permanent AMC employees working for solid waste management. Around 250 to 300 mt. Solid wast generated from AMC to collect the waste.

The under Swatch Bharat scheme implementation the AMC start "Hagandari Mukta" **(Defecation Free)** the details are attached in **Annexure-X**.

3.7.11 Biomedical Waste Management

As per the Bio-Medical Waste (Management and Handling) Rules, 1998 the collection and disposal of waste from Health Care Establishments is the liability of the proprietor.

There are 16 Municipal Corporation dispensaries and 12 Urban Health Post (UHP) existing in the Amravati city. 161 private hospitals and 4 Government hospitals in the city. Health care facilities in Amravati region is of about 11200 beds generating about 2237 kg of Bio-Medical Waste per day. The waste generation is estimated based on rate of 0.125 kg/day/bed as per the estimates given by the common facility operators. As per the observations and report of six hospitals of Amravati city it is concluded that all the hospitals generating bio-medical waste. It includes hazardous waste in the form of solid and liquid. Not a single hospital from Amravati city has its own treatment and disposal mechanism.

The common bio-medical waste treatment and disposal plant established at Durgapur was established under the guidance of Global Eco Save System **Plate 3.7.2**. They collect biomedical waste from 4 districts. About 2000-3000 kg waste transported to the plant daily from all major hospitals from the region to the plant site. All the collected waste very first segregated according to the norms at the plant site. The plastic waste is transported for the recycling whereas, the human and sharpen waste were subjected to incineration. For the incineration there was separate department. Incineration was carried out at 800^0C to 1150^0C. The resultant ash latter dumped into the landfill area. The liquid waste generated was subjected for treatment. It was observed that the onsite workers related to segregation, incineration and dumping warred mask, glows and apron. The plant authority carried out their monthly medical checkup which includes blood count, HIV test, and skin related tests.

The average waste generated per day in each studied hospitals were found to be 60 kg in District General Hospital, 95 kg in Dr. Panjabrao Deshmukh Medical College, 10 kg in Hi-Tech Multispecialty & Research Centre, 4 kg in Shri Krishna Hospital, 5 kg in Vidarbha Ayurved Mahavidyalaya, 16 kg in Navajivan Hospital respectively

The staff of the District General Hospital (Irvine) is trained to handle the waste but in private hospitals the staff is not aware about the training. The transport and disposal facilities of solid waste are not up to the mark even in government hospitals. For liquid waste there is no proper record about the quantity of waste generated and their discharging measures. There is neither attempt to minimize the quantity of waste generation nor any mechanism to decrease the toxicity of the waste. There is no any provision by the management to have any innovations, equipments in the future to treat the waste generation at the source level.

At the central disposal and management plant there is facility of accumulation and segregation particularly of solid waste through colored and labeled containers. There is no facility of collection and treatment of liquid waste. The plastic waste is also transported to the other stations for recycling. The staff of the central plant is not properly educated but the authority said that they are working through proper training program. Thus it is cleared that in Amravati city there is no any efficient management of hospital waste is in existence. The rules and regulations regarding to the bio-medical waste is no adequately followed. The government as well as private hospitals are not interested in proper management and disposal of their waste in accordance to the environmental rules. ***(et al; S.K. TIPPAT, AND A.U. PACHKHADE).***

Plate 3.7.2 : Biomedical Facility in Amravati City

3.7.12 Slaughter Houses

3.7.12.1 Slaughter House Waste

The basic facility for slaughtering and selling of meat is available in Amravati Municipal Corporation area. Under MC limits there are a total of four slaughter houses out of which two are for bigger animals whereas the remaining two are for smaller animals. All these slaughter houses are running under the control of veterinary doctors. The scheduled animals are check by the veterinary doctors before slaughtering under Animal Preservation Act 1976.

The slaughter house for big animal at Kureshi Nagar is running since Municipal Council time. 8 to 9 animals are slaughtered here. As slaughter house at Walgaon Road is completed with the financial cooperation of Central Government. This project was sanctioning on the basis that 49.25 Lakh Municipal Corporation and 48.95 lakh from Central Government participation. Till now 47 lack Rupees grant is received from central government for the management of solid waste generated from slaughter house. E.T.P., rendering plant, Sludge Drying Bed etc. is constructed as per M.P.C.B. norms. (**Plate 3.7.3**) The modernization of slaughter house is completed on the BoT basis by Fizza Expert Pvt. Ltd., Mumbai which is on excellent project in which 50 KLD ETP is

constructed under the DPDC funding. M.P.C.B. has rejected consent to operate due to lack of some structures i.e. treated effluent holding tank , Network distribution system, plantations etc. maximum work has completed upto March 2016. Presently the said slaughter house is not in running condition due to some technical problems.

Plate 3.7.3 : Slaughter House Amravati alongwith ETP

AMC has developed and successfully Organic Waste Converter and Plastic Waste Management Facility. The source of Information Waste Bin Solution, Nagpur.

3.7.13 Facility available for Solid Waste Process at Amravati Municipal Corporation

The salient features of the process technology are as given below:

- 2 MTP per day solid waste processing is installed at ITWARA bazar on 2 Oct 2016
- 2.5 MTP per day plastic waste recycling is installed at Sukli Depo on 29 Sep 2016

3.7.13.1 Organic Waste Management

The features of the process technology are as given below:

- Scientific treatment and conversion of organic solid waste from Vegetable/fruit market yards, eating houses, housing societies in the vicinity of place of generation and as early as it is generated.
- The solid and liquid fractions of waste are separated initially by machine.
- The liquid stream is treated in absence of air to yield bio gas.
- The residual solid mass is chemically and bio chemically degraded to give micronutrient rich dry powder

- The process is mechanized to reduce requirement of Labour, time, thus overall cost.
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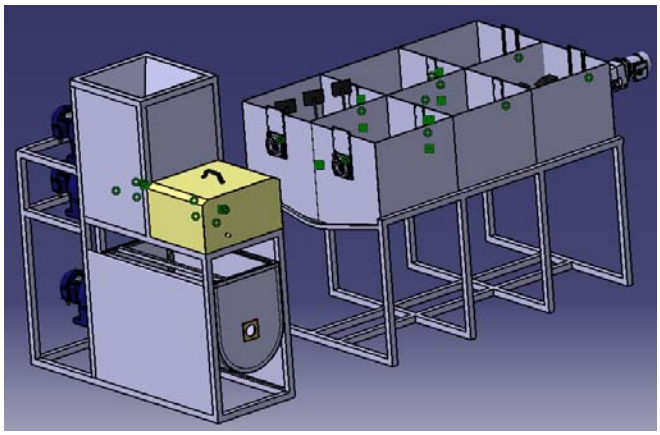
- The residual solid mass is chemically and bio chemically degraded to give micronutrient rich dry powder.
- The process is mechanized to reduce requirement of labor, time, thus overall cost.



Drawing View OWC Machine

Actual OWC Machine Photograph (Source Waste Bine Solution)

Product Analysis and Testing:

- Bio-gas – Combustible & burns with Blue flame in Bunsen / Gobar Gas Burner.
- Solid Residue – Tested for N, P, K, C and heavy metals like Zn, Cu, Cd, Hg, Fe PH, Moisture content
- The parameters are within acceptable limits of organic manure.
- The properties are comparable with other organic manure.

(i) Bio-Gas: It is a combustible low calorific value gas composed of 60-70 % methane, 20-25% of carbon di-oxide and 5-7% traces of other gases. Can be used for cooking purpose after cleaning. However it is not the primary aim to obtain the biogas from the process.

(ii) Manure: After the chemical and biological degradation of solid waste, the waste is converted into organic rich manure. The NPK values of this manure are compostable to the manure used for agricultural purpose.

3.7.13.2 Plastic Waste Management

Following steps are involved.

- The plastic waste is collected in bags or hopper from waste dumping yard.
- About 1 m³ (Weighing 40 to 50 kg) of plastic waste is put into the holding chamber of compaction / bale machine in two steps.
- The heating system is put on up to 5 minutes as required.
- The heating system is put off when plastics gets heated up to its softening point (50 to 60°C)
- The hydraulic system is put on and compaction of heated plastics takes place.
- The volume gets reduced by 85 to 90% say from $1m^3$ to $0.15m^3$.
- The hydraulic cylinder is kept in place (compaction condition) and side doors opened.
- The wire is inserted to tie the compacted bundle mechanically too.

- The hydraulic cylinder is released and taken to initial position.
- The bale is taken out for storage. The plastics gets densified from 40 kg/m^3 to 265 kg/m^3

Actual Site Photograph of Plastic Waste Management

Advantages:

- The process is only for physical change of plastics from loose flying material to compact densified bale, hence environmental friendly.
- The nuisances of flying plastics are overcome.
- Thermal and mechanical locking ensures compactness of bale during further transport.
- Further transportation cost is reduced to large extent.
- Value added dense plastic bale is produced from harmful nuisance causing municipal plastic waste.

3.7.14 Task ahead Municipal Corporation

Solid Waste Management is a vital, ongoing, and large public service system, which needs to be efficiently provided to the community to maintain aesthetic and public health standards. Municipal agencies will have to plan and execute the system in keeping with the increasing urban areas and population. Systematic effort in the improvement in various factors like institutional arrangement, financial provisions, appropriate

technology, operations management, human resource development, public participation and awareness, and policy and legal framework for an integrated SWM system. To achieve Cleanliness, which is next to Godliness, it is necessary to design and operate an efficient SWM system. Public cooperation is essential for successful operation of such a system. It is observed that present facilities for management of solid waste for Amravati city are falling short to cope with increasing population and increased waste generation. The Municipal Solid Waste Management at Amravati city as managed by AMC needed to be improved by adopting various. For Amravati City, on site segregation activity of Solid waste to separate dry solid waste and web solid waste should be improved to minimize the load on compost depot, Collection and Transportation facilities required to be strengthened by providing different category of extra collection vehicles as well as workers, existing compost depot and proposed Landfill site should be well planned and equipped with new technologies for disposal of municipal solid waste and thrust should be given on utilization of compost manure, recovery of possible materials for recycling, and landfill gas utilization for energy recovery.

- Establishment of good quality of management of solid waste and waste water at Amravati.
- Improving quality of both solid waste and waste water.
- Establishment of own offices at Amravati.
- Commissioning of Common Treatment and Disposal facilities of solid waste and waste water.
- Implementation of various rules at Municipal Corporation Amravati.
- Improving collection practices of both solid waste and waste water.
- Improving management techniques of solid waste and waste water.

3.8 Traffic and Transportation Management

Amravati Vision to implement National Urban Transport Policy:

- To recognize that people occupy center stage in our cities and all plans would be for their common benefit and well being
- Build Amravati cities the most inhabitable in the world and allow them to become the "engines of economic growth" that power India's development in the 21st century and towards the best smart city in India.

The objective of the National Urban Transport Policy is to ensure safe, affordable, quick, comfortable, reliable and sustainable access for the growing number of city residents to jobs, education, recreation and such other needs with our cities

Unusual transport modes have lots of pressures on the environment and ultimately on human health. Public transport saves valuable space and energy compared to private transport and has positive health benefits. The objective of DPSIR is to improve access to public transportation for all. The number of buses per lakh population is an important indicator for the adequacy of services in the city. The CIRT norms specify 40 buses per lakh population.

Traffic volumes are defined as number of vehicles (vehicles-km) and number of vehicles on main routes. This indicator measures the pressures on both physical and human environments in a city.

Present Road Transportation in Amravati:

Amravati has a good road network but maintenance is unsatisfactory. Many of the roads are developed as a part of Integrated Road Development Project (IRDP). IRDP has revolutionized the roads in the city. Vehicle ownership is quite high; there are about 548693 lakhs registered vehicles in Amravati District till 31/03/2016. But the corresponding infrastructure in terms of parking facilities is highly inadequate. Also, the road conditions being are not up to the mark, the average travel speed is 30 km per hour making road safety a cause of concern. Considering the population and spread of the city, the public transportation system is inadequate, which is a cause of concern.

3.8.1 Vehicle Ownership

The vehicle registration data for Amravati city is collected from RTO and presented in the **Table 3.8.1** and new categoriwise register vehicle. There are around

48435 new registered vehicles in Amravati city (2016-17) **Fig. 3.8.1**. The following observations are made based on data.

With the persistent increase in the urbanization driven by the development of the financial capital in the demography, the increase in the vehicle ownership and CO_2 emissions due to transportation are evident. In metro cities, the transportation sector contributes a major fraction of greenhouse gas emissions, of which carbon dioxide emissions form a major part (Mittal MI et. al., 2003). The travel modes, frequency and preferences of the resident population to travel for specific purposes in varied directions in each zone of Amravati city have been studied. These inferences have then been used to calculate the trip rate, preference to public transport with an emphasis on the direction and purpose, preferred mode of travel and minimum kilometers traveled by each member of the family every day. The average per capita CO_2 emissions due to residential transportation in Amravati city are 0.195tCO_2/capita/yr.

"Apart from the impact of factors like easy access to public transport, purpose and frequency of travel, traffic congestion, etc. on the preference of travel mode by the residents, the annual family income has been determined to have a principal impact on the preference of mode of travel and vehicle ownership".

Table 3.8.1

Yearly Growth Trend of Registered Vehicles

Office wise & category wise vehicle population as on 31st march 2017

Sr. No.	Category	M.V. Population as on 31St March, 2016	No. of Vehicles New registration & RMA (1.4.2016 To 31.3.2017)			Incoming Vehicles (1.4.2016 To 31.3.2017)			Outgoing Vehicles (1.4.2016 To 31.3.2017)				Cancelation of registration Scraped etc. (1.4.2016 To 31.3.2017)	Motor vehicles population as on 31.3.2016 (3+6+9-13-14)
			New vehicles	RMI (Other state vehicles)	Total (4+5)	Within Region	Other Region	Total 7+8	Within Region	Other Region	Other state	Total Col. (10+11+12)		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Motor cycles	334125	32165	0	32165	1093	3	1096	530	0	47	577	0	366809
2	Scooters	80049	9212	0	9212	0	0	0	0	0	0	0	0	89261
3	Mopeds	77503	271	0	271	0	0	0	0	0	0	0	0	77774
Totals of Two wheelers		**491677**	**41648**	**0**	**42794**	**1093**	**3**	**1096**	**530**	**0**	**47**	**577**	**0**	**533844**
4	Motor Cars	37565	3682	0	3682	2261	3	2264	751	0	15	766	0	42745
5	Jeeps	5615	137	0	137	18	0	18	228	0	14	242	0	5528
6	Station Wagons	363	0	0	0	0	0	0	0	0	0	0	0	363
6.1	Taxi Cabs	0	0	00	0	0	0	0	0	0	0	0	0	0
7 (a)	Taxi Meter fitted	44	0	0	0	0	0	0	0	0	0	0	0	44
7 (b)	Taxi Tourist cabs	1559	60	0	60	3	0	3	1	0	1	2	0	1620
8	Auto rickshaws	16109	503	0	503	0	0	0	14	0	1	15	345	16252
9	Stage Carriages	536	25	0	25	1	0	1	7	0	0	7	0	555
10	Contracted Carriages/mini bus	408	27	0	27	7	0	7	16	0	17	33	2	407
11	School Busses	382	131	0	131	0	0	0	13	0	0	13	0	500

Sr. No.	Category	M.V. Population as on 31St March, 2016	No. of Vehicles New registration & RMA (1.4.2016 To 31.3.2017)			Incoming Vehicles (1.4.2016 To 31.3.2017)			Outgoing Vehicles (1.4.2016 To 31.3.2017)				Cancelation of registration Scraped etc. (1.4.2016 To 31.3.2017)	Motor vehicles population as on 31.3.2016 (3+6+9-13-14)
			New vehicles	RMI (Other state vehicles)	Total (4+5)	Within Region	Other Region	Total 7+8	Within Region	Other Region	Other state	Total Col. (10+11+12)		
12	Pvt. Service Vehicles/school van	139	0	0	0	0	0	0	0	0	0	0	0	139
13	Ambulance	301	11	0	11	1	0	1	5	0	1	6	0	307
14	Arti. & Multi veh.	8	0	0	0	0	0	0	0	0	0	0	0	8
15	Trucks & Lorries	8294	209	0	209	237	0	251	175	0	29	204	50	8500
16	Tankers	238	1	0	1	0	14	0	0	0	0	0	0	239
17	Delivery van (4 Wheelers)	7787	520	0	520	434	0	434	333	0	5	338	3	8400
18	Delivery van (3 Wheelers)	4239	271	0	271	54	0	54	35	0	1	36	0	4528
19	Tractors	14336	796	0	796	117	1	118	261	0	45	306	0	14944
20	Trailers	8788	373	0	373	7	0	7	67	0	2	69	0	9099
21	Other	536	41	0	41	33	4	37	5	0	1	6	0	608
Total		**598924**	**48435**	**0**	**48435**	**4266**	**44**	**4291**	**2441**	**0**	**179**	**2620**	**400**	**648630**

Table 3.8.2 PUC Statement from 1.4.2016 to 31.03.2017

	MVs		Memos			Recovery					Suspension		
	Checked	Detained	Reported	Compounded		CF + OMT	DA	Tax	Court Fine	Total	Nt MVs	Permits	MDL
				In Office	In Court								
01-Apr -2016- 31- Mar- 2017	**0**	**235**	**1979**	**1634**	**0**	**886500**	**1200**	**0**	**0**	**0**	**887700**	**0**	**2**
Total	**0**	**235**	**1979**	**1634**	**0**	**886500**	**1200**	**0**	**0**	**0**	**887700**	**0**	**2**

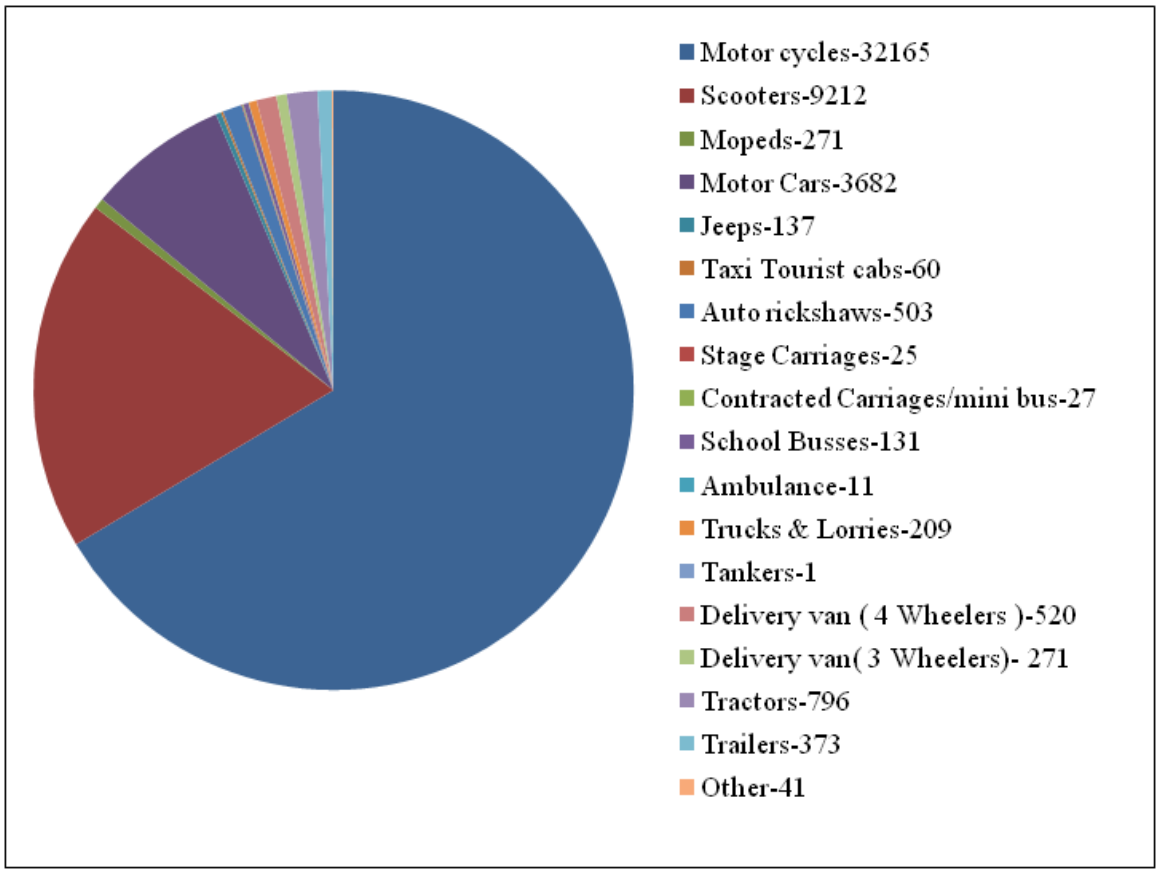


Fig. 3.8.1: New Vehicle Register at Amravati District 2016-2017

3.8.2 Public Transportation

Public transport in Amravati city is a road based bus, operated by AMC Currently the city buses operated by AMC are privatized with the operation & maintenance done by the contractors. A royalty of 1.10 Paisa per Km is given to the AMC. A total of 27 buses run throughout the city covering a daily run of 3963 Kms. These buses run on eight routes. The frequency of these buses is 15 minutes i.e. after every 15 min the buses are available along these eight routes trying to cover the entire city. Although this seems to be quite less if compared with the present population of the city.

Apart from the city bus services ST bus service facilities is provided by the ST Mahamandal, Amravati. Currently the total no. of buses operating in the city is 70 covering a daily run of 27000 Km. Almost 23000 passengers avail the facility daily. Daily about 600 buses comes into the city and same no i.e. 600 leaves the city. All the vehicles are PUC certified. There are two types of ST buses in operation. These are:

1. Ordinary Bus with capacity of 50 Seats

2. Semi Ordinary/Semi Luxury Bus with capacity of 39 Seats

Information regarding operational statistics of buses operated by the Maharashtra Road Transport Corporation is given in **Table 3.8.2** and depicted in **Plate 3.8.1**.

Table 3.8.3

Operational Statistics of Buses under M.S.R.T.C

Sr. No	Item	Value
1	Total No. of vehicles held at Depo	75 Nos.
2	Average no. of vehicles at Buses Arrival and Departure	800 Nos.
3	Average Diesel Consumption	6000 LPD

Plate 3.8.1: Amravati Bus Stand

3.8.3 Parking Demand and Management

The numbers of registered vehicles are growing 7% per annum in Amravati. The rise in two wheelers / cars has led to an increase in demand for space for parking vehicles. Any vehicle that is registered requires a minimum of two places for parking. One at the origin - home and the other at the destination –work, shopping and institution. The traditional method of parking along the curb is insufficient. The parking of vehicles along the curb is uneconomical as it reduces the effective carriageway, causes an increase in congestion, accidents and pollution. The speed of moving vehicles is reduced by almost 65% due to curb parking. The road networks should be primarily dedicated for the purpose of public travel and any other use must be considered of secondary importance.

Unauthorized on-street parking due to lack of regulation and unavailability of off-street parking facilities are the main issues which needs to be addressed in the context of exponential growth of vehicles. There is an absence of a comprehensive parking policy for Amravati city, involving control and regulation of on-street parking, provision of off-parking faculties, intensive parking areas including air rights exploitation, levy of parking fee, parking norms and standards and demand management measures. Although AMC has reserved the space for parking facilities (**Plate 3.8.2** & **3.8.3)** but more efforts in this regard is required. The parking /no –parking zones needs to be well defined.

Plate 3.8.2: Parking Place for Two Wheelers in Panchawati

Plate 3.8.3 : Parking Space for Four Wheelers in AMC Area

The planning and development of a transportation network requires a well planned zoning ordinance in order to balance between the demand and supply of parking space. The list of Parking Reservation I Developmental Plan is furnished in the **Table 3.8.3**. The zoning of parking is directly involved with the traffic operations and safety as it deals with the development density, setbacks and access. The Indian Road Congress

(IRC) formulated the parking standards and zoning ordinance for the various land uses for Indian metropolitan cities. The IRC in its special publication IRC: SP: 12-1972 laid down the parking standards for different land uses activities for metropolitan cities of India. The zoning regulations and building bylaws, which prescribe parking norms and standards, have been formulated many years back when the motorization level was low. With the high intensity of ownership and use of motorized modes and their high growth, it is necessary to revise the parking norms and standards.

A number of strategies are recommended for managing the parking demand.

- Important arterial roads, where acute shortage of capacity, on street should be banned.
- Parking on footpaths, which is observed in Amravati, should be banned.
- AMC should identify the selected roads where on street parking can be provided. These areas should be marked very clearly. Some of these facilities should be pay and park especially near commercial areas. It is suggested that a parking fee of Rs 2/- for two wheelers and Rs 5/- of cars for first two hours should be charged. Time frame is important because it will encourage short-term parking. It is also recommended to implement a differential parking fee policy with increasing fee structure in the central area and outer areas.
- Suitable parking policy for the off-street parking facilities needs to be formulated based on costs of development, operation maintenance and management. Similar differential policy amongst parking sites in different zones needs to be adopted. Off-street parking facilities should be considered in PPP model.

Table 3.8.4

List of Parking Reservation as per Developmental Plan

Sr. No	Reservation Number	Type of Reservation	Mouza	Area (Hectare)
1	22	Parking/Rickshaw Stand	Navsari	0.5625
2	70	Parking	Tarkheda	0.13
3	71	Rickshaw/Cycle Stand	Tarkheda	0.02
4	82	Parking Rickshaw/Cycle Stand	Gambhirpur	0.54
5	111	Shop Center & Parking	Amravati	1.5
6	168 (C)	Parking	Amravati	0.035
7	199	Parking	Rajapeth	0.07
8	203	Rickshaw Stand	Rajapeth	0.157
9	204	Parking	Rajapeth	0.08
10	326 (A)	Parking	-	-
11	400	Parking	Gaothan	0.25
12	495	Parking	Gaothan	0.0325

3.9 Statutory Body Legal Compliances by AMC and its Action Plan

3.9.1 Air Environment

Direction: Air Pollution direction u/s 18(1) (b) and 31 (A) of the Air (Prevention and Control of Pollution Act, 1981.The received letter copy and AMC divisional order scan copy are enclosed in **Annexure-VII**.

Action Taken:

(1) Vehicle Emission Control

Sr. No.	Action Points	Action Plan
i.	Prepare plan for widening of road and improvement of infrastructure for decongestion of roads	AMC prepares the action plan which is already been stated implementing such as widening of road and improvement of infrastructure for decongestion of roads, In future also we will have continued to work as per the directions issued by Hon'ble Board. • Construction of over bridge to minimized traffic congestion on Amravati Badnera Road near Dhammani Garden area now it

Sr. No.	Action Points	Action Plan
		has been opened for vehicle movement. • Similarly AMC planed to construct Railway over bridge at Rajapeth which is under process and soon completed which will ease the traffic congestion in the area. • Improvement in traffic flow through proper maintenance of roads, updated traffic regulation, and strict enforcement of prescribed standards • Continuous efforts have been taken to remove the road side encroachment for smooth flow of traffic. • Enforcement of smoke emission standards for containing vehicular exhaust, at the manufacturer and user level; • To promote the Public Transport system AMC includes 25 new buses and in addition to that 15 new buses proposes within the city. • Traffic management comprises both "supply side" measures – traffic management to improve speed of existing traffic volumes - and "demand side" measures - traffic demand management to improve speeds by reducing traffic volume.
ii.	Prepare plan for construction of expressways / bypasses to avoid congestion due to non-destined vehicles	Amravati Public works department had already constructed the New bypass in addition to the existing bypass (popularly known as old bypass) constructed already as per city development within the time frame
iii.	Steps for promoting battery operated vehicles	• As per the Directions action plan have been prepared for promoting battery operated vehicles. In smart city action plan this activity is has already been proposed and will put up for approval in Amravati Smart City Development Corporation's Board meeting. • Regional Transport Authority informed about this action point they will also take appropriate action.
iv.	Install weigh in motion bridges at the borders of cities/ towns	Regional Transport Authority Amravati, informed about this action point they will

Sr. No.	Action Points	Action Plan
	and States to prevent overloading of vehicles	take appropriate action.
v.	Synchronize traffic movement / introduce intelligent traffic systems for lane driving	• As per the Direction AMC has already conducting drives to prevent undesignated parking in the city. • Unauthorized construction of total 348 Private Parking belonging to Hotels, Function Halls, Commercial Complexes was removed and bind them to use only for parking purposes to minimize the traffic congestion. • We have installed modern traffic signaling system at major junctions. We are also re-designing traffic structure to encourage lane-driving. • To prevent signal violation AMC planning along with Police department for CCTV surveillance at all major traffic junctions and will put up for approval in Smart City Board meeting.

(2) Re-suspension of Road Dust and other Fugitive Emissions Control

Sr. No.	Action Pints	Action Plan
i.	Prepare plan for creation of green buffers along the traffic corridors.	• For creation of green buffer zone total 3000 tree Plantation in year 2016-2017 with 100% survival rate along the roadside. This activity will continue to implement to cover the maximum area to minimize the pollution • Amravati city has 69 gardens. The main work of Garden department is to: • Take care of plants and greenery conservation • City beautification • Take care of road dividers • 6 new gardens are proposed to be supplemented within the city • The Department is working on surveillance after successful plantation. • The vegetation pattern of the city is conducive for almost all types of tropical species indigenous and exotic both. The

		city has a tree cover distributed throughout the urban-scope. A tree census is being conducted by Amravati Municipal Corporation. 3700 trees were planted in the year 2014-15 & 3000 trees are planted in the year 2015-16. • In the school curriculum is an effective way to deliver messages to households. • Greenery Development of Shiv Tekadi which location centre of the city to tackle carbon footprints • Development ecotourism spot within AMC jurisdiction such as Wadali Lakes and Chhatri Lake
ii.	Maintain patholes free roads for free – flow of traffic	• AMC has developed an extensive network of traffic facilities. These facilities should continue to be implemented, connected, and expanded. • Roads and footpaths "properly leveled, surfaced, and maintained free of potholes or ditches.
iii.	Introduce water fountain at major traffic intersection, wherever feasible	The action points under the re-suspension of road dust suggest that the AMC prepare a plan for creation of green buffers in that 5 fountain has been installed in different location as follows. 1 Rajkamal Square 2 Welcome Point, Power House 3 Girls High school Square 4 Sarafa Bazar 5 Nagpuri Gate Along traffic corridors, maintain pothole-free roads for free flow of traffic, introduce water fountains at traffic intersections, and conduct plantation drives in open areas, gardens, community places, schools and housing society.
iv.	Greening of open areas, gardens, community places, schools and housing societies.	Total 3100 plantation has been carried out last year the open areas, gardens, community places, schools, and housing societies.
v.	Blacktopping of metaled road including pavement and shoulders.	Proper maintenance of roads by Blacktopping of metaled road including pavement and shoulders. Additionally AMC used Jet Patch up Machines for instant maintenance of roads during monsoon season.

(3) Control of Emissions from Biomass/Crop Residue/Garbage/ Municipal Solid Waste

Sr. No.	Action Points	Action Plan
i.	Launch expensive drive against open burning of bio-mass crop residue, garbage, leave etc.	These directions are already implemented as also published in public domain through electronic and print media. Prohibit burning of waste as per SWM rule 2016 Provision made such as • Imposing Fine • FIR
ii.	Regular check and control of burning of municipal solid waste.	Formation of Inspection Squad under Sanitation department for regular vigilance of this action point
iii.	Proper collection of horticulture waste (bio-mass) and its disposal following composting – cum-gardening approach	Vermi-composting plant already established to treat horticulture waste in following Gardens • Narayan Nagar • Camp Garden • Hutatma Garden Individual composting plant will setup soon to treat the biomass at each garden for composting –cum-gardening approach. Furthermore initiative take into consideration for effective implementation of this action points such as • Along with MSW, Collection of horticulture waste (bio-mass) at household level by using methods such as door-to-door and community bin/ container service. A regular pre-informed schedule or by acoustic announcement. • The standing committee has passed the resolution number **368 dated 25-11-2016** for the total 500 TPD plant which includes composting of horticulture waste (bio-mass) and its disposal and it is under Agreement process will soon implemented after the code of conduct.
iv.	Ensure ban on burning of agriculture waste and crop residues and its implementation.	• Complete Ban imposed on burning of agriculture waste and crop residues. • AMC already has initiatives that could end up helping to contribute to making the air quality in and around area better than it would have been otherwise • Agriculture Department informed about this direction.

(4) Control of Air Pollution from Construction and Demolition Activities

Sr. No.	Action Points	Action Plan
i.	Enforcement of Construction and Demotion Rules	According to the direction AMC has passed the order **vide letter no AMC/ENV/MC/817/2017 dated 07/02/2016** forwarded to GM BSNL, Superintendent Engineer PWD, Chief Engineer MSED and as per **letter no AMC/ENV/MC/818/2017 dated 07/02/2016 to ADTP, Medical Officer of** Health Department respectively for the further action in same constrains. Depending on state or local By-laws, member of corporation can organize regional co-operations according to their specific needs. Through the corporation, public and private decision makers can be brought together to consider a regional strategy in the direction of MPCB. If regionalization seems promising, the corporation can then plan and implement the program.
ii.	Control measures for fugitive emissions from material handling, conveying and screening operations through water sprinkling, curtains, barriers, and dust suppression units.	As per the action point number **(i)** in the same section the provision made to Control measures for fugitive emissions from material handling, conveying and screening operations through water sprinkling, curtains, barriers, and dust suppression units
iii.	Ensure carriage of construction material in closed/covered vessels	As per the action point number **(i)** in the same section the provision made Conveying and screening operations through water sprinkling, curtains, barriers and dust suppression units and ensure carriage of construction material in closed vessels.

3.9.2 Noise Environment

As per the direction received from Govt. Maharashtra letter no Sakirn-2012/136/1 Environmental division, Ministry dated 05/09/2016. The Zone wise action committee along with Tahshildar three member committee formed for evaluation of illegal road side canopy for functions and festival and, resolve noise pollution complaints. The details are enclosed in **Annexure-VIII**.

3.9.3 Ban on Idol Immersion

As per Hon'ble High Bench Aurangabad gives the direction under Water Act 1974 ban on plaster of Paris (PoP) Idol immersion at water resources in Lake, Public well, etc. In this constraint AMC ban on Plaster of Paris (PoP) Idol immersion in Chhatri Lake and Wadali Lake. The detail order given in **Annexure-IX**.

Chapter 4
Environmental Management Plan

4.1 Budgetary Provisions

The AMC may adopt these measures for the protection and betterment of the environment. The objective behind these measures is to assist the AMC to achieve flawless environmental improvements on a continual basis. The Accomplishment of these measures will help to maintain the overall environment in good condition and the people in the area will experience a good quality of life.

According to 13th Central Govt. Finance committee, i.e. letter no. T.V.O.1010/ PK11/2010/Finance Committee dated 9/3/2010 Budgetary Provision for State committee described for year 2014-2015 is 954.85 lakhs.

According to 14th Central Govt. Finance Committee A.M.C. has received Rs. 35 Cores for the different development works at City. It has been unanimously decided that 50% of the total will reserve for solid waste management as per 14th commission grand received and 25% of total budget reserved for environment management and its related work from capital expenditure.

Budgetary Provision for Environmental Complementary Project in AMC

Year	Budget Head	Total Provision Capital Expenditure Made 25% of Total Budget (Crore)	Actual Incurred (Crore)	Balance (Crore)
2016-2017	265	15	0	15
2017-2018	265	10	0.25	9.75

4.1.1 Solid Waste Management

According to DPR the utilization of fund for purchasing for container tractor, trolley, mobile dust bean van, solid waste disposal facility and other materials.

4.1.2 Water Supply

- Water supply and sanitation management and expansion, preparation of audit report, individual connection monitoring of meters
- Open disinfection free sanitation
- Minimum 20% re-utilization of wastewater

4.1.3 Basic Amenities for Development

- Acquiring land according to the action plan
- Construction of Hospitals and purchasing of its important instruments including Ambulance
- Development of Montessori, play grounds and shelter houses

4.2 What Step Should Amravati Municipal Corporation takes to minimize the Pollution in Amravati City

- **Promote Drive Smart:** If driving on a regular basis, make sure that driving smart. Drive within the speed limit; make sure that there aren't a lot of things in car that will weigh it down, and do all that can to conserve the amount of gas that will be used on a regular basis
- **Regular Pollution Check up Champs:** It's important to go for regular check up of the vehicle to make sure it does not consume extra fuel. This will not only save money, but a vehicle will also last longer
- **Consider "going green":** There are so many options for going green out there and a lot of them come with tax breaks that can make it even easier. Look into local, state, and even federal initiatives in order to see if they have something that can help change tune
- **Plant a Garden:** Plant a garden that is going to give the air the nutrients that it needs to be cleaner. There are so many plants out there that will eat up the junk in the atmosphere
- **Aware about Use Low-VOC or Water-based Paints:** Use paints that are based with water and not oil. The less oil products that are using, the better off that going to be because that means less oil is being produced overall
- **Aware about Turn off Lights When not in Use:** Don't keep the lights or other electric devices on. The more traditional power that are using, the more energy wasting, and the more that polluting the air
- **Make use of Solar Energy:** Consider using solar power instead of regular power. Solar power can save a ton of energy for you and, on top of that, it could also end up saving you a lot of cash in the long run as well

- **Always Use Recyclable Products:** Always use recyclable products if access to them and the ability to choose them. They take less power to make **than** other products
- **Use Both Sides of Paper:** Use both sides of a piece of paper. Otherwise, just **being** wasteful with the things that are using
- **Reuse Paper Bags:** Reuse paper bags; they work really well for almost anything can imagine and they are recycled in the first place
- **Avoid Plastic Bags:** They are made from oil products and they can hurt the environment because it takes them forever to decompose (and some never decompose).
- **Choose Products With Minimal Packaging:** When it comes to buying items from outside, consider buying those with minimal packaging, and are reusable. Even if they are packaged, try to buy the one with least packaging
- **Use Broom Instead of Leaf Blower:** Don't use items that are going to kick up a lot of dust into the air; consider using other items instead. For example, instead of using a leaf blower, why not consider using a broom instead?
- **Don't Use Hazardous Chemicals:** Materials that have a lot of chemicals and smell strongly, consider using them outside and/or not using them at all
- **Insulate the Leakages:** Utilize insulation in and around home in order to make it so that don't have to use as much energy in order to heat home
- **Get an Energy Audit Done:** Get an audit on home that is related to energy efficiency, and ask the auditor about changes that can make in order to ensure that home is as energy efficient as possible. They can give recommendations that will help out and even save money in the long run
- **Reduce, Reuse, Recycle:** Recycle as much that it can be reused later on in other products. Adding to the problem by adding additional products to the mix of what is going on.
- **Buy Items Made From Recycled Materials:** If possible, purchase items made up from recycled materials rather than buying fresh products. This will reduce the

need to buy new raw materials to produce fresh items. When shopping spree, look for items having a recycle logo or are at-least made from recyclable content.

- **Buy Rechargeable Batteries:** Every year billions of batteries are sold and then disposed off after use. Buy a charger and few sets of rechargeable batteries and that should pay off in no time.
- **Buy ENERGY STAR Products:** Whenever buy new electronic products for home or office, always buy ENERGY STAR products. These products have to meet certain requirements for energy savings.
- **Use Cold Water Instead of Hot:** It's better for the environment if opt to go ahead and use cold water for laundry instead of hot water, because aren't going to use hot water heater, which uses extra fuel and puts it into the environment.
- **Contribute:** See if state or local government already has initiatives that could end up helping to contribute to making the air quality in and around area better than it would have been otherwise.
- **Talk to Local Representatives:** Talk to local representatives and government officials about the concerns that related to the clean air issues in community and encourage them to act on it and take care of those issues so that we can leave our world a better place for our children.
- **Educate Your Companions:** Let the people around know about how they can contribute to clean air initiatives and educate them about all of the different ways that they can take care of the environment themselves.
- **Join an Environmental Group:** In case you are willing to contribute towards growing pollution in your area, consider joining any environmental group. You can meet people, discuss issues, and share ideas on what can do about it. Spread the work and ask to join in this noble cause.

4.3 Pollution Control Measure

Findings from the Environmental Status report of the Amravati Municipal Corporation jurisdiction. An Environmental Management Plan (EMP) has been prepared. This EMP gives the measures in brief. The AMC may adopt these measures for the protection and betterment of the environment. The objective behind these measures is to assist the AMC to achieve flawless environmental improvements on a continual basis.

The Accomplishment of these measures will help to maintain the overall environment in good condition and the people in the area will experience a good quality of life.

Based on landuse and land cover and baseline quality observations following measures are suggested:

Subject	Control Measures
Land Practice	• A survey should be carried out from time to time to take review and for the update of the current land usage. • The steps should be taken to modify existing gardens and develop new gardens and playgrounds on the plots specified for the same. • A proper arrangement, space allotment and parking lots should be done in the crowded areas such as market. This will improve the flow of vehicles and people smoothly. • Forest areas must be preserved. Strict rules should be implemented about tree cutting. Tree cutting should be avoided. • Open areas be observed which may turn into dumping yards as people may develop a tendency to throw solid waste or any other rubbish to these areas. • The low-lying open plots may be leveled with rabbet generated in the town. • Slum development has to be controlled. It leads to unhygienic conditions in the area and surrounding and results into low living quality, spread of epidemic diseases. • Address the issue of illegal constructions in the region and dilapidated buildings. • Housing scheme should be encouraged on slum. • Take measures and all possible necessary steps to improve the living conditions of the low income areas.
Public Health & Hygiene	• A proper database of all the bio medical wastes needs to be generated along with the facilities available at every place. • The solid waste collection should be ensured. The sludge removed from gutters should be disinfected. The low lying areas should be leveled. • The disinfectants should be spread on open gutters and places wherever water logging is there. • Spraying of disinfecting fogs should be carried out regularly to control the Larvae and Mosquito. • Precautions should be taken to control rodents. • Attention should be paid to the best planning to fight against the

Subject	Control Measures
	epidemics based on the current findings of epidemic diseases in the region. • Periodic visits should be carried out to all the hospitals and clinics to check their level of efficiency. • Biomedical waste disposal of the hospitals and clinics should be checked. AMC should ensure that they are using the facility for biomedical waste disposal. • The vaccination and Health camps should be organized on regular basis. • Awareness campaign should be carried out about the epidemics and other health improving practices. • Proper and periodic medicinal facilities should be made available for the low income group at a reasonable price.
Water	• The efforts should be taken to provide the public sufficient per capita at 135 lit/day clean and safe water from M.J.P. • The Water Treatment Plant (WTP) of required capacity shall be constructed and efficiency of existing water treatment plant needs to be monitored to meets the necessary criteria for all parameters mentioned for the drinking water e.g. turbidity, residual chlorine levels etc. • Water conservation programs needs to be implemented. Use of ground water for the construction and other activities should be restricted. Rainwater harvesting possibilities should be explored and it should be implemented wherever possible • Quality monitoring of potable water, treated & untreated sewage, lakes water, Nallahs, and holding ponds is essential tasks to be done regularly in order to safeguard the health of citizen of Amravati. • Quality of potable water is regularly checked to safeguard citizen from water borne disease and whenever complaints are received about bad quality of water • It is obligatory to check quality of treated sewage every day before discharge into surrounding water to safeguard water sources being polluted. • Nallahs in AMC area many times carries polluted water from industries in MIDC area and whenever complaints are received. It becomes necessary to investigate the quality of water by sampling and analysis to find the root reason for the pollution. • Need a detailed survey for identification of groundwater hydrology condition of AMC

Subject	Control Measures
	• Use of treated water from the STP should be encouraged for the activities such as construction, gardening etc. based on feasibility.
Water Bodies	• Periodic (Quarterly) comprehensive water analysis should be done to check the water quality and pollution levels at various sources • Instruction Boards should be placed near water bodies to aware and instruct people to avoid the pollution of water. • Artificial ponds should be created for Ganesh Chaturthi and Durgapuja People should be promoted to adopt Eco friendly Ganesh idols. • The Nirmalya Kalash to be provided at each lake and water body where dropping of Nirmalya is observed commonly. • Lakes should be considered for recreational activities. Necessary changes need to take place at locations for the same. • The bio remediation of the lakes may be done to keep the lakes clean. • All the water reservoirs, lakes, river should be maintained in good condition by improving their cleaning and by arresting the sewage discharging in it.
Sewage	• Inspection should be conducted to assess the condition of existing drainage systems in order to check its choke ups, leakages etc. to take suitable measures for its proper maintenance and to avoid logging. • The work for laying new underground drainage lines is in progress. The measures should be taken to speed up the same so that the sewage will be effectively collected. • The orders should be issued to the owners to connect their sewage lines to the property chambers within a specified period where the drainage work is complete. • The efforts should be made to collect all sewage generated to STP and STP should be operated efficiently to maintain the ecological status of the receiving water body. • The Sewage Treatment Plant (STP) needs to be augmentation and shall be monitored to meets the necessary criteria for all parameters mentioned for the discharge water. • The Housing Societies with significant sewage should be promoted to setup the sewage treatment plant and recycle the treated water. • M.J.P. shall insists property holders to complete the property connection with underground drainage system.

Subject	Control Measures
Air	• To carry out regular (Monthly/Quarterly) air monitoring at prime locations in order to get idea of air quality and to continue with the necessary measures to reduce pollution levels. • To avoid air pollution from the traffic congestion, parking arrangement should be made in town and quality of roads needs to be improved. • To do Tree Plantation along road sides and at open places wherever possible. • To do Road widening wherever possible for smooth traffic flow. • Proper traffic management should be done with support of RTO and local police to avoid traffic jams. • Displays of Air Quality status can be provided at the council office and main traffic signals.
Noise	• To take regular Noise levels at prime locations in order to get an idea of Noise pollution and to take the necessary measures to reduce Noise levels. • Zones should be created in accordance with the pollution control norms to limit the noise levels. E.g. Silence zones in the areas where in hospitals, schools are located. • Planting trees with high foliage density along roads to reduce impact of noise could be undertaken • Installing decibel meters for monitoring noise levels along highway and other major roads, and also near sensitive localities like schools and hospitals; • Within limit use of loud speakers, which have become a part of festivals, Weddings and prayers; Writing slogans for education of public regarding impacts of noise on health • Banning blowing of horns, especially at traffic junctions. • Installation of Sound barriers. • Implementation of the norms related to the Noise Pollution and strict action needs to be taken on the violators
Solid Waste	• Increased waste collection and disposal facilities for extra generated waste on priority basis. • To carry out regular monitoring of the Solid Waste Management Sites. • The mechanism for segregation of solid waste should be adopted and implemented for proper disposal of the solid waste as per their type such as grit, plastic, glass, metal and biodegradable solid waste etc. • Efforts should be made to collect maximum biodegradable solid waste

Subject	Control Measures
	and to run the Biogas Plant with optimum capacity. • The composting of biodegradable wet solid waste can be initiated. • Proper means of collection and transportation should be made available so that littering of solid waste on roads, Odour problem during transportation can be avoided. • Encouraging common hazardous waste management facilities for industries located in Amravati Division . • The comprehensive disposal facility for the solid waste generated in city, shall be provided on the existing compost depot instead of acquired fertile lands. • Encouraging industries to adopt better manufacturing processes, train workers to reduce quantities of hazardous waste generation, and substitute hazardous ingredients with non-hazardous or less hazardous ingredients; • Playing a catalytic role in organizing seminars, workshops and training programmes for industrial waste minimization. • Collection of waste from Vegetable markets restaurants and hotels should be done separately • AMC should promote Municipal organic waste compost by setting up of Fruit & Vegetable Waste, hotel organic waste Compost Units under Municipalities and use as manure from in the public gardening as well as farming.
Environment and Safety Awareness	• Frequent Campaigns should be done among the masses for the Awareness of Pollution problems, Health issues, Tree plantation, Water conservation, Not to cause Noise pollution by bursting cracker, use of Nirmalya Kalash, Anti Plastic, adopt Eco Friendly Ganesh idols etc. • Awareness campaigns should be carried out at the school, college, organizations, institution as well as local level to propagate the knowledge. • Safety awareness program should be arranged. • Conducting audit of AMC departments for identifying opportunities of pollution prevention; • Encouraging industries to adopt pollution prevention technologies; • Encouraging local colleges and institutions for organizing awareness campaigns for pollution prevention
Water conservation	• For the effective implementation of the Rain water harvesting regular Monitoring shall be done after issuing of building permission for construction activity.

Subject	Control Measures
	• The public wells shall be rejuvenated and strictly prohibited from littering. • The old pipe lines and stand post taps shall replaced by H.D.P. E. lines.

4.4 Another Issue which is Important to Address to Improve Sustainability of the City

A sustainable community uses its resources to meet current needs while ensuring that adequate resources are available for future generations. It seeks improved public health and a better quality of life for all its residents by limiting waste, preventing pollution, maximizing conservation, promoting efficiency, and developing local resources to revitalize the local economy.

"Sustainable communities are defined as towns and cities that have taken steps to remain healthy over the long term. Sustainable communities have a strong sense of place. They have a vision that is embraced and actively promoted by all of the key sectors of society, including businesses, disadvantaged groups, environmentalists, civic associations, government agencies, and religious organizations. They are places that build on their assets and dare to be innovative. These communities value healthy ecosystems, use resources efficiently, and actively seek to retain and enhance a locally based economy. There is a pervasive volunteer spirit that is rewarded by concrete results. Partnerships between and among government, the business sector, and non- profit organizations are common. Public debate in these communities is engaging, inclusive, and constructive. Unlike traditional community development approaches, sustainability strategies emphasize: the whole community (instead of just disadvantaged neighborhoods); ecosystem protection; meaningful and broad-based citizen participation; and economic self-reliance." (Institute for Sustainable Communities: http://www.iscvt.org)

4.5 Strategy for Improving Public Transport

Considering the poor patronage of public transport and consequent alarming growth of 2-wheelers calls for intervention from planning and Government authorities. Pro-active policies from government are required to encourage the public transport.

AMC should aim at following realistic targets for achieving proper share for Public transport:

- In short term (within a year) AMC should target around 25000 to 30000 thousand passengers/ day with a fleet size of 50 to 60 buses
- In medium term (with 2 to 3 years) AMC should target around 1.0 lakh passengers /day with a fleet size of total 100 buses
- Traffic & Transportation survey should be done and a Master Plan should be prepared for 10 to 15 years to incorporate systematic Traffic & Transportation Management practices in future

The following steps should be taken to improve the Public transport:

- Bus stops should be provided every 450m to 500m
- Access to all bus stops should be improved
- Feeder service (such as auto) should be encouraged to Bus stands
- Frequency of the buses should be increased from current 15 min to 5-10 min
- There are no proper bus stops at present. Construction of new bus stops/ improvement of existing bus stops should be planned with proper signage and information display. Public –private partnership (PPP) model can be considered for adoption
- Transport authority should issue a timetable and public awareness campaign should be carried out. Transport Authority should handle services professionally with a motto of serving the people. There should be public relationship officer who is available to clarify / alleviate the public transport related issues
- Public transport bus should target the education trips by introducing monthly concessional passes at 50% of the cost, although monthly passes are being served to the students. This is a first step, which is expected to increase the modal share in favour of bus. New routes should be planned to cater to educational trips
- For other category of commuters, some form of monthly passes should be introduced with 10% -25% of discount

- The coverage of bus service (<40%) should be improved and more bus routes needs to be planned
- New bus terminals should be planned and constructed
- Private vehicles should be discouraged by imposing pollution levy and higher registration fees. Restrictions and heavy penalties should be imposed for unauthorized on-street parking. Off –street parking should be made costly and no subsidies should be given. Off –street parking facilities should be self –sustaining. These measures should only be carried once ensuring adequate supply of public transport with good level of service and frequency
- For safety of pedestrians, separate foot ways/ footpath should be provided along the carriageway of urban street. As per IRC, the recommended minimum width is 1.5m. The width of the footpath depends upon the pedestrian flows. However research in Mumbai suggests footpath width should be minimum 2.5m for effective usage
- Cyclists create conflict with fast moving vehicles at narrow streets, congested areas, intersections etc. The result is that the cyclist is involved in a number of accidents. So, to improve the safety and mobility, segregation of traffic is needed. However with ever –increasing demand for road space, this may not be feasible to allocate dedicated lane to cyclists. However AMC can consider a pilot project and results can be evaluated. The minimum width of a cycle track shall be two lanes

4.6 Recommendations for Traffic and Transportation

One of the recommendations of the Regional Plan is to immediately undertake detailed studies and prepare a traffic and transportation plan for the Amravati City. The following broad policies need to be incorporated:

- Where pedestrian traffic is heavy, it should be segregated by developing pedestrainization scheme and pedestrian segregation facilities

- Entry to the mechanized vehicle should be controlled progressively in the central part of the city where the pedestrian and cycle traffic is very heavy, deserving priority
- Parking spaces should be developed for bringing control on motorized vehicles in the central parts of the city and making the full capacity of existing road network for traffic movements
- The through (fast) traffic and the local traffic on highways should be segregated by developing a system of service roads along the highways or by diverting the highways along the ring road of the city
- With a view to providing a cheap mode of transport an alternative system for the cyclists and users of other modes and to reduce congestion on the arterial roads, the mass transportation services should be augmented substantially by developing higher capacity mass transportation of buses and railway and creating infrastructure for the purpose
- Movement of goods vehicles should be controlled by providing necessary infrastructural facilities for goods transport, such as truck terminals, parking and repairs facilities
- For reducing the traffic congestion hawkers and other road encroachers shall have to be moved to outer areas and main traffic roads will have to be made shopping free roads. Parking of vehicles will be insisted within the compounds of the premises

4.7 Awareness Campaigns

Various events were organized by the Regional Transport Office (RTO) to create awareness among the citizens of Amravati city about the various rules & regulations about the road safety. The main highlights of these events are summarized below:

- Photo Exhibition was organized
- Awareness through display of banners
- Distribution of Handbills of Traffic Rules

- Eye check up camp arranged for drivers on National Highway No. 6 near toll naka
- School Children and other residents were given information about traffic Rules
- Helmet checking expedition done for Two Wheelers vehicles
- Reflectors were distributed to the hand carts, bullock carts & tractor trailors
- At the Irwin Square PUC checking camp were held free of cost with the cooperation of PUC Centers and Certificates were issued.

4.8 Action Points for Environmental Conservation

- Launch an extensive awareness drive against polluting vehicles, Immediate
- Ensure Strict Action against visibly polluting vehicles
- Take steps to prevent the parking of vehicles in the non-designated areas
- Introduce an early alarm system for benefit of commuters related to traffic congestion on major routes for route diversion
- Consider introducing plan for Flexi/staggered timings to minimize peak movement of vehicles on the road
- Take steps for retrofitting of diesel vehicles with Particulate Filters
- De-congest pathways
- Synchronize traffic movements / Introduce intelligent traffic systems for lane-driving
- Install vapor recovery system in fueling stations
- Take steps for installation of remote sensor based PUC system etc.
- Formulate action plan for controlling decongestion of fuel stations including increasing number of dispensing machines
- Prepare action plan to check fuel adulteration and random monitoring of fuel quality data
- Prepare action plan for public transport on CNG mode

- Undertake road widening and improvement of infrastructure for decongestion of road
- Promote battery operated vehicles
- Take steps to expedite early completion of Western and Eastern Peripheral expressway and submit completion schedule

4.9 Recommendation Policies

4.9.1 Financial Aspect

- Improve municipal services standard on international level of the principal of pay & use
- Develop essential service on PPP basis & monitor costing aspect
- To provide garbage / debris or such inert material collection & transportation & its disposal facility on the Pay& use basis
- Municipal standard services such as water purification & supply, super health facility shall develop on PPP basis & Municipal authority having power to price control
- The Imposition of special sanitary tax on hawkers / market places & commercial establishment & effective cost recovery by adding special sanitation tax either in cess tax/ vat tax by amending concern law
- Develop performance base budgetary system & ULB is under obligation to publish its financial report in international profit & loss A/c
- The Incentive to recycling industry
- Conduct necessary survey & measures to improve living standard of the urban poor by providing health, educational & all other up social lifting scheme

4.9.2 Public Participation

- Public participation in information, education, communication and awareness program
- Involvement of professional communicator

- Hotline information
- SWM coordinator
- Strengthen the area committee by delegating necessary power development policies at area level & pass expenses incurred thereon, By this way ULB will be unique democratic features having adequate power to maintain essential municipal services and power to collect expenses incurred on municipal services similarly municipal.

Chapter 5
Amravati towards a Smart City

5.1 Initiatives towards Amravati as a Smart City

With a 36% urban population, Amravati District is at a point of transition where the pace of urbanization will speed up. It is for this reason that we need to plan our urban areas well and cannot wait any longer to do so.

The smart city vision can cope with the challenges of urban living and also be magnets for investment. Alongside the hordes of Indians go the jobs and the money as well, “A smart city is the current mega trend where an Indian city’s sectoral service delivery leverages technology to enrich its resident’s standards of living, provides positive investment climate for businesses and equips governments to maximize resource utilization and provide transparency”.

5.2 Smart City – Responsibilities

- Built Environment
- Energy
- Telecom
- Transportation
- Health and Human Service
- Water and Waste Water
- Public Safety
- Payments

5.3 Smart City – Enablers

- Instrumentation and Control
- Connectivity
- Interoperability
- Security and Privacy

- Data Management
- Computing Resources
- Analytics

5.4 Benefits of Universal Targets

- Liveability
- Revolutionizing people's relationship with Government
- Improving city service and sharing data
- Enabling real-time monitoring and alerts
- Creating citywide situational awareness
- Protecting personal privacy
- Workability
- Sustainability
- Creating world-class infrastructure
- Protecting businesses from cyber crime
- Unleashing innovation
- Creating a "recruitment tool" for attracting talent and jobs
- Supporting skills development
- Reducing resource use through optimization
- Enabling a broad selection of technology choices.

5.5 Key Challenges

- A smart city could take between 8 to 10 years to build from scratch and even more time to attract businesses and people
- Such an initiative requires commitment and persistence on the part of the government over a long period of time.

The authorities need to be aware of the latest relevant technologies and the technologies have to be tailor-made and used effectively, taking into account the topography, location and natural resources of the area.

5.6 Measures Required

- Setting up of a central planning authority that would manage and provide single window clearances, monitor progress of such projects and ensure compliances
- To attract businesses to newly developing smart cities, incentives in the form of long-term tax holidays and other tax sops need to be given
- In order to develop smart cities at par with global standards, the government needs to involve the private sector as well as global urban planning groups who had implemented the concept of smart city elsewhere in Asia

5.7 Amravati Smart City Vision

"Make Amravati City the Agro-Tech Business District (ATBD) especially in textile Industry and in the process improves economic and social wellbeing of the citizens; Make Amravati the city with the highest quality of life index" Amravati has huge industrial potential and the new textile park will further boost its industrial profile

- City is rapidly expanding towards Badnera, 10 km to the south
- Growing as an industrial centre, with cotton mills leading the way. Home to Vidharbha Sugar Mills.
- At Nandgaon Peth/Saward: 2,700 MW Thermal Power Plant is coming up. Bharat Dynamics Limited (BDL) plans to make air defence missiles

- Significant warehousing potential with CWC presence and APMC godowns
- Amravati Airport to be developed by AAI
- Upcoming Railway Wagaon Factory will boost the scope of developing a lorry unit for wagons.

5.7.1 Strengths

Strong agricultural base (Cotton and Pulses): Amravati is part of the Vidarbha region in Maharashtra, which has a very suitable climate for cotton and pulses with good rainfall together with fertile black cotton soil and alluvial soil. Amravati Division and around region produces 33% of total cotton production of India making Amravati the biggest cotton market in Asia.

5.7.2 Strategic Location

Centrally Located in India and 12 hours travel time to major cities in India and ports via road and rail route.

5.7.3 Basic Infrastructure

Amravati is well connected with the railways (Badnera Junction), roadways (Nagpur-Mumbai National Highway) and AAI has planned to start domestic flights from by October 2016. The Upcoming dry port at Wardha (with a new route being planned for direct connectivity with JNPT Mumbai) Land availability is high and water supply from the Upper Wardha dam is also abundant.

5.7.4 Upcoming Industrial Platform

New 3000 acres Textile Park, established near the city at Nandgaonpeth with investment of 3500cr is already planned by Industries like Shyam Indo Fab pvt ltd, VHM Group, Siyaram Industries, Raymond, Suryalaxmi, DMI golden polyfibre, etc. and a target of 10000 new jobs by next 5 years in the region. A Strong network of small scale spinning mills around the district having the availability of cheap yet good quality yarn. Railway wagon factory under construction.

5.7.5 Educated Human Resource Pool

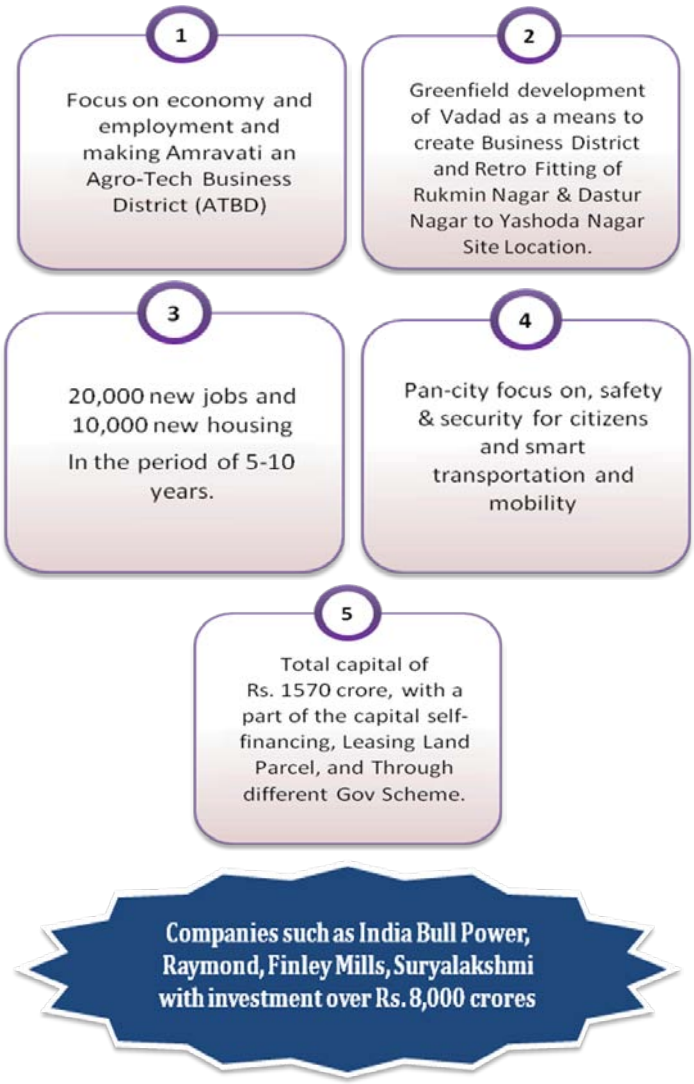
With a literacy rate of 92%, Amravati has a strong resource of educated youth and large number of established higher educational centers in the field of engineering,

healthcare, and agriculture. The educational infrastructure comprises of 1 University, 5 medical and 8 engineering, 2 Agricultural colleges and 18 other colleges.

5.7.6 Water Resources

Amravati Division has good water resources - Wardha, and Kanhan rivers which are all tributaries of Godavari River. Five small rivers, Khapra, Sipna, Gadga and Dolar along with Purna, are the tributaries of Tapti river and Penganga river is another big river which originates in Buldhana district and it flows through a Washim district of Amravati Division.

5.8 Establishment of 5 Star Industrial Area in Amravati

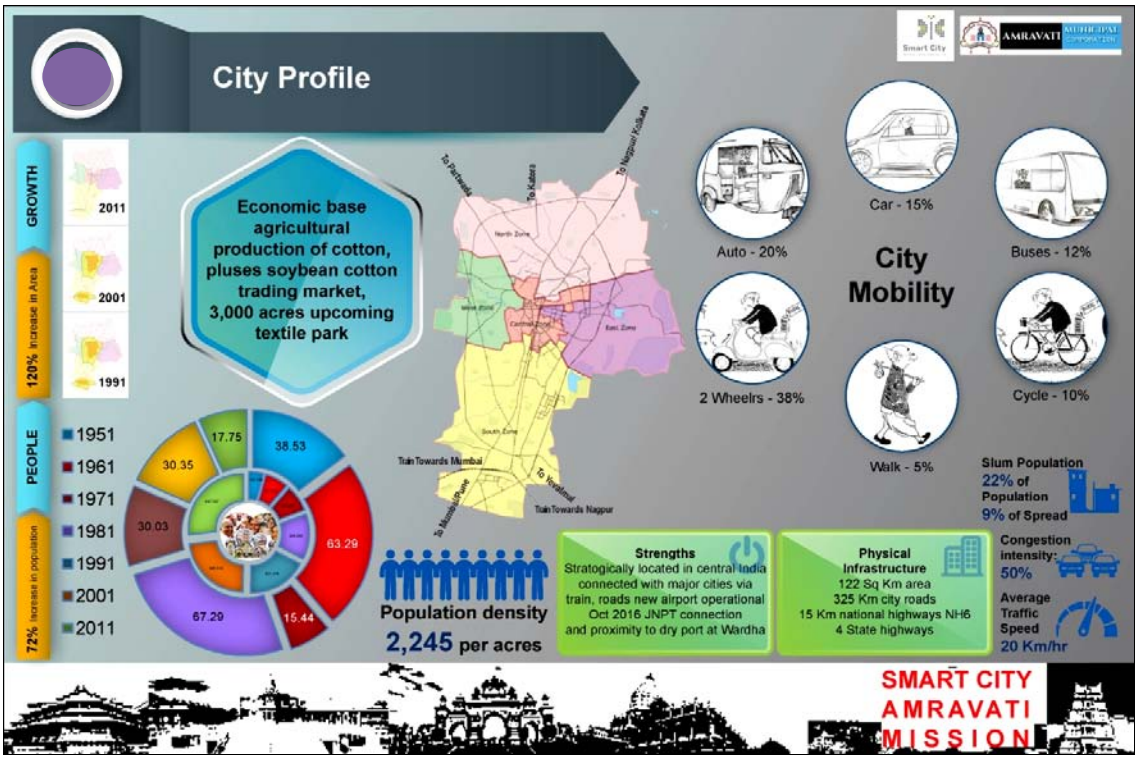


- 117 hectors government and 2693 hectors private, total 2810 Hectors of Land has been acquired by MIDC

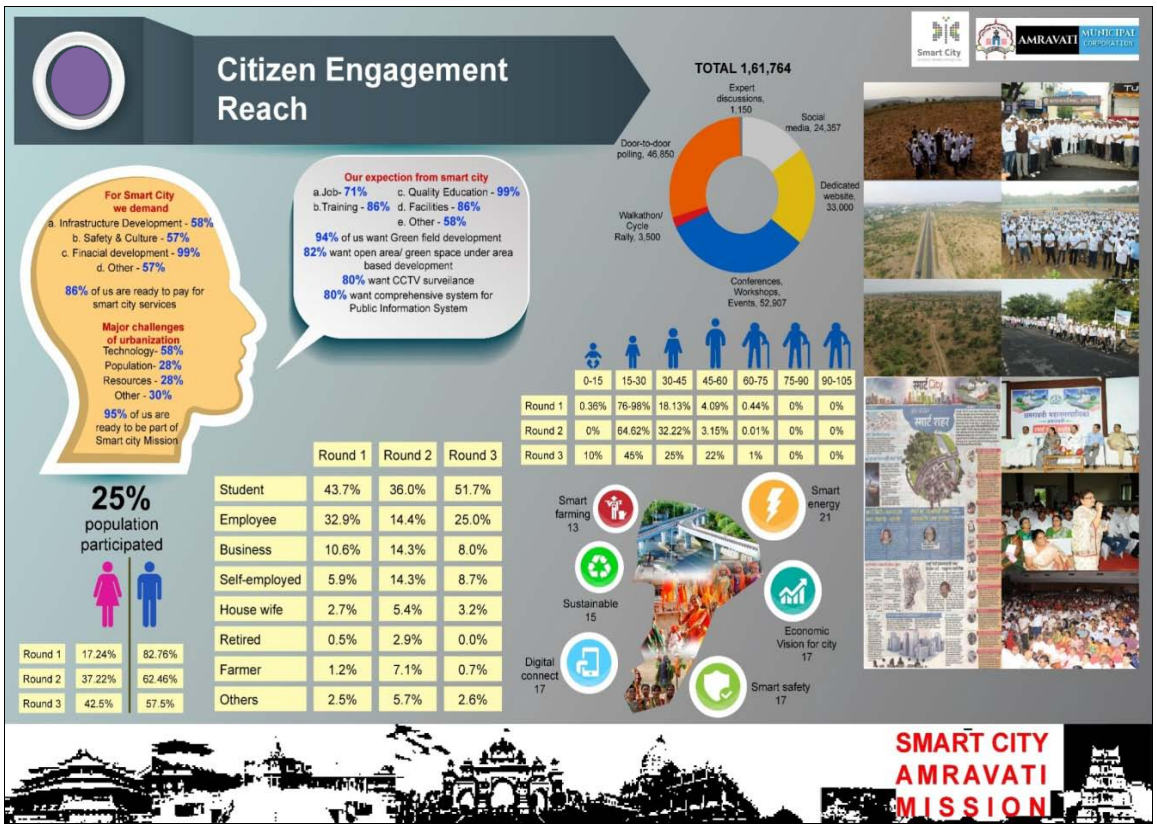
- At the first stage, 1549 Hectors of land has been developed out of which 542 industrial and 22 commercial plots have been developed
- 510 plots for industrial and 3 plots commercial has been distributed
- 500 hectors of land has been planned for textile park out of which 38 plots has been allotted

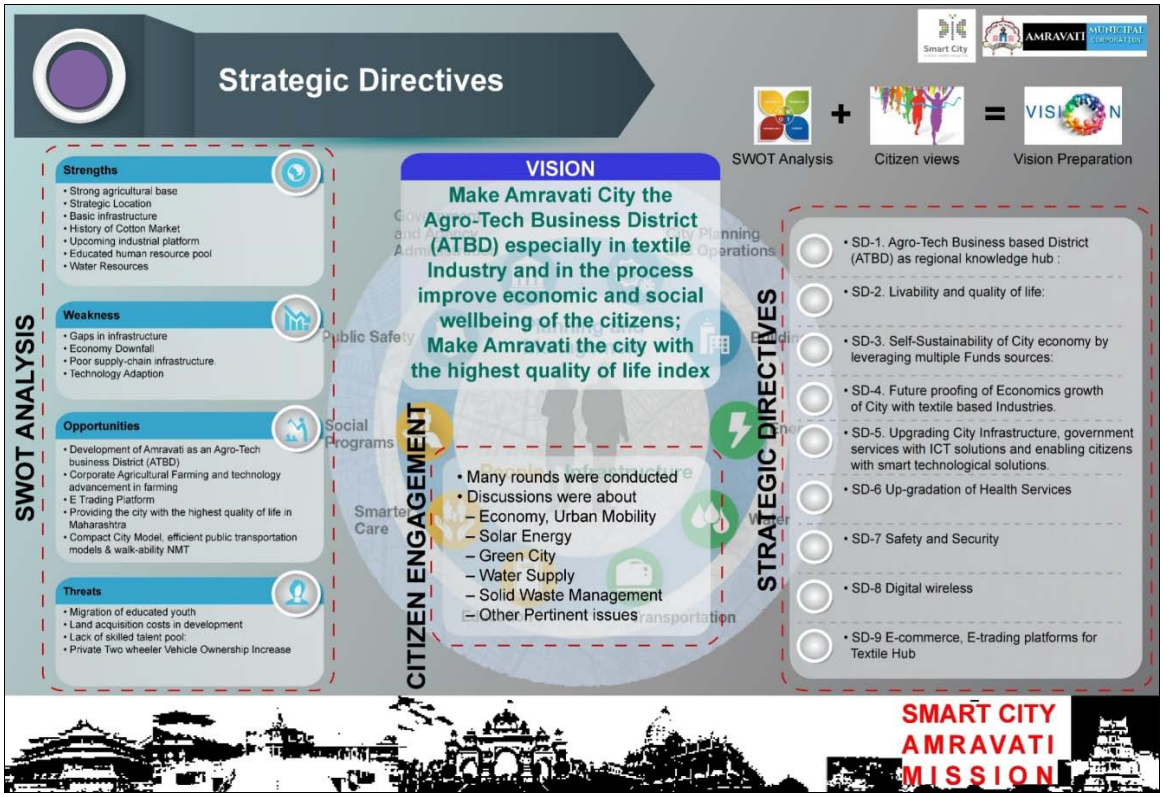
5.9 Amravati Smart City Profile

Based on the growth aspect following plan have been prepared for making Amravati as Smart City.




Citizen Engagement Strategy
Touched different sections of society
People across Households, Gender & Age
People across working classand economy
People from Residential, Slums, Commercial and Industrial areas
Conference & Work`shops 7,500
Essay competition for public and students 4,250
Polling 46,850
Walkathon + other initivatives 44,657
Reach 22,857
Dedicated Website 33,000
Implementing the plan
Define key citizens segment of focus
Understand citizen challenges needs and preferences
Analyze quantitative and qualitative insights
Prioritize citizen needs and possible solutions
Design smart solutions to meet citizens needs
Citizen Engagement Model
Elected representatives institutional stakeholders city staff
Key audience segment
Media persons NGOs city makers transgenders slum dwellers
Women youth and childern snior citizen specially-abled
STRATEGY
Engagement
Informing Citizens with various strategies & Vision for City
Interaction
Feedback from Citizen, Experts, Institutes, Corporate, Politician
Collabration
Nemours Mous's, partnerships, Institutes, CSR activities, SPV stakes Options
SMART CITY AMRAVATI MISSION


Citizen Engagement Reach
TOTAL 1,61,764
Expert discussions, 1,150
Social media, 24,357
Dedicated website, 33,000
Conferences, Workshops, Events, 52,907
Walkathon/ Cycle Rally, 3,500
Door-to-door polling, 46,850
For Smart City we demand
a. Infrastructure Development - 58%
b. Safety & Culture - 57%
c. Finacial development - 99%
d. Other - 57%
86% of us are ready to pay for smart city services
Major challenges of urbanization
Technology- 58%
Population- 28%
Resources - 28%
Other - 30%
95% of us are ready to be part of Smart city Mission
Our expection from smart city
a.Job- 71%
c. Quality Education - 99%
b.Training - 86%
d. Facilities - 86%
e. Other - 58%
94% of us want Green field development
82% want open area/ green space under area based development
80% want CCTV surveilance
80% want comprehensive system for Public Information System
0-15 15-30 30-45 45-60 60-75 75-90 90-105
Round 1 0.36% 76-98% 18.13% 4.09% 0.44% 0% 0%
Round 2 0% 64.62% 32.22% 3.15% 0.01% 0% 0%
Round 3 10% 45% 25% 22% 1% 0% 0%
25% population participated
Round 1 17.24% 82.76%
Round 2 37.22% 62.46%
Round 3 42.5% 57.5%
Round 1 Round 2 Round 3
Student 43.7% 36.0% 51.7%
Employee 32.9% 14.4% 25.0%
Business 10.6% 14.3% 8.0%
Self-employed 5.9% 14.3% 8.7%
House wife 2.7% 5.4% 3.2%
Retired 0.5% 2.9% 0.0%
Farmer 1.2% 7.1% 0.7%
Others 2.5% 5.7% 2.6%
Smart farming 13
Smart energy 21
Sustainable 15
Economic Vision for city 17
Digital connect 17
Smart safety 17
SMART CITY AMRAVATI MISSION

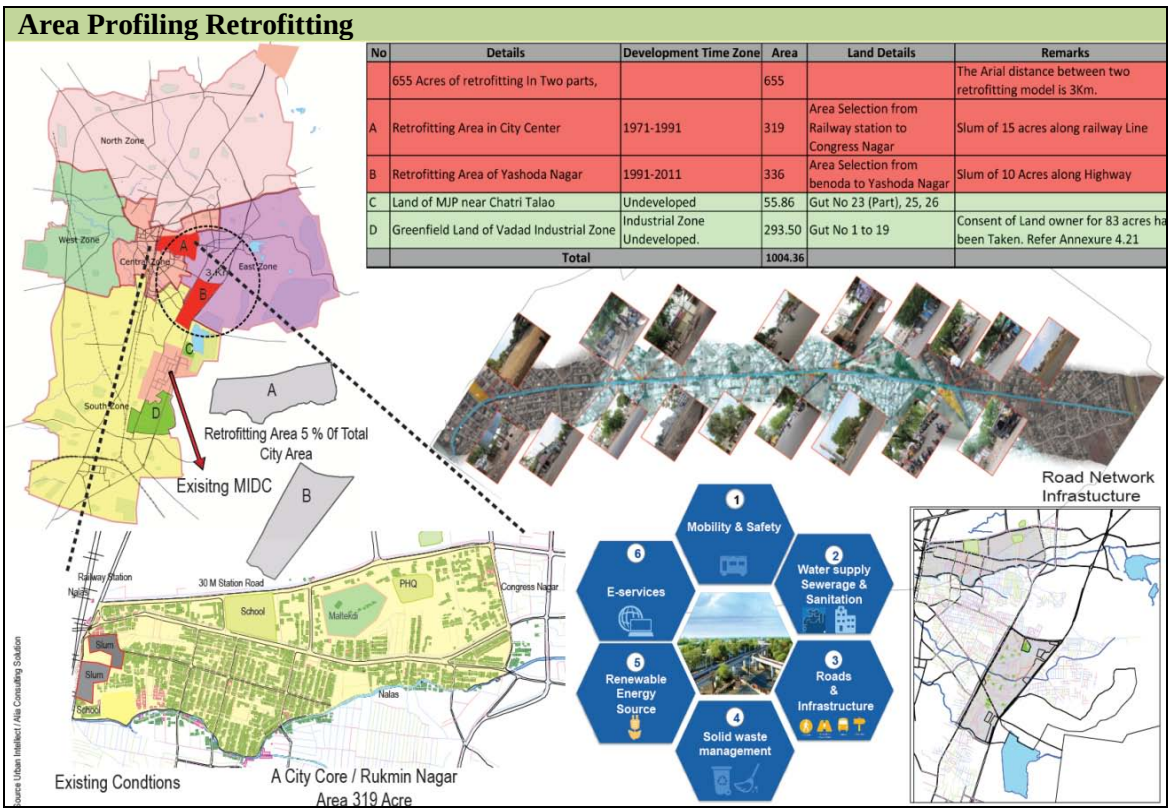


5.10 Vision for Infrastructure up-gradation

	Water Supply & Electricity	Ensuring 24/7 water supply of quality to all household within the city. Underground Electric Lines.	▪ 100% water pipeline connectivity for all households ▪ 24/7 water supply for all residents ▪ 100% metered water connections for monitoring ▪ 100% Smart Meters, Net meters for Public Buildings
	Transport and Mobility	Increase in public transportation along with PIS and mobile app for information	▪ Smart mobility including emphasis on NMT ▪ Passenger Information System ▪ Smart surveillance and security system via CCTV ▪ ATC controlled traffic light
	Solid Waste Management	100% garbage free city with maximum reuse and recycling	▪ 100% garbage door to door collection and segregation at source leading to significant recycling ▪ Maximizing recycling and reuse capacity ▪ 100% vehicle tracking systems
	Housing	Quality affordable housing for 100% of the citizens	▪ Housing for 100% slum population ▪ Focus on redevelopment & new area development ▪ Equitable access to social infrastructure

	Sanitation & Sewerage	100% sewerage connectivity and primary treatment of sewerage in the city	▪ 100% connectivity of sewer lines throughout the city ▪ 100% treatment, safe reuse and disposal ▪ 40MLD sewage treatment plant
	E/M-services	100% access to corporation services through online and mobile channels	▪ 100% utility bill payment ▪ 10+ licenses made available; 1 window clearance ▪ Grievance Redress and Management System ▪ Full city GIS mapping
	Green Energy	Pollution free and sustainable living environment with maximum clean energy usage	▪ Generation of green solar energy ▪ 15% of energy to be produced from renewable energy ▪ 3000 energy efficient lights, street lights replaced

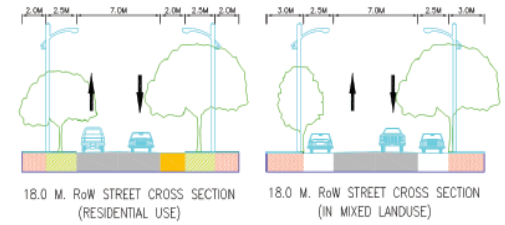
Area Profiling

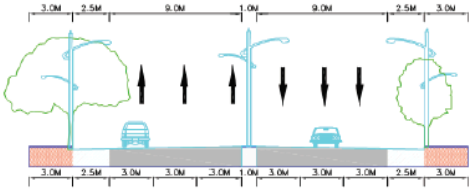


No	Details	Development Time Zone	Area	Land Details	Remarks
	655 Acres of retrofitting In Two parts,		655		The Arial distance between two retrofitting model is 3Km.
A	Retrofitting Area in City Center	1971-1991	319	Area Selection from Railway station to Congress Nagar	Slum of 15 acres along railway Line
B	Retrofitting Area of Yashoda Nagar	1991-2011	336	Area Selection from benoda to Yashoda Nagar	Slum of 10 Acres along Highway
C	Land of MJP near Chatri Talao	Undeveloped	55.86	Gut No 23 (Part), 25, 26	
D	Greenfield Land of Vadad Industrial Zone	Industrial Zone Undeveloped.	293.50	Gut No 1 to 19	Consent of Land owner for 83 acres ha been Taken. Refer Annexure 4.21
	Total		1004.36		

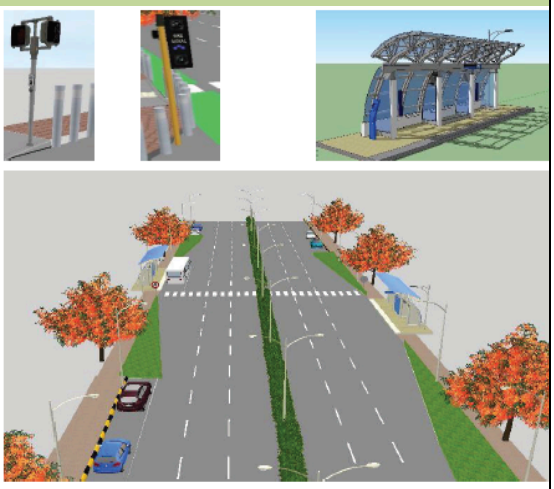
Area Based Development Retrofitting

Road Up-gradation





Proposed Cross Sections



36 M wide Road/ With Paring and Bus Lane

City Bus Route Rationalisation

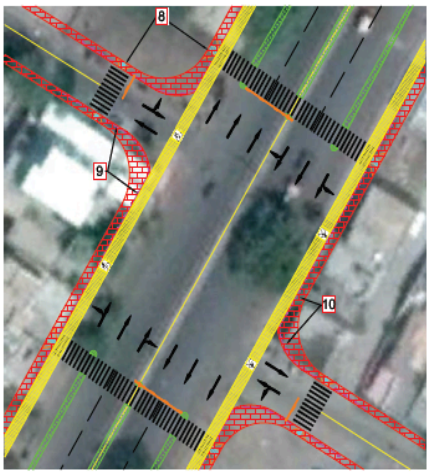
- Public Transport demand analysis / Ticket sale data
- Modal Integration
- Identification of trunk and feeder route

PUBLIC TRANSPORT SYSTEM IMPROVEMENT PLAN / INTEGRATED MOBILITY

- Improve EPKM
- Reduce CPKM with ITC help
- Real time passenger information (PIS)

Source Walter P Moore

STAGGERED INTERSECTION



LEGEND

1. HIGH SMART POLE
2. SOLAR PANELS
3. CROSS WALK
4. SYNCHRONIZED SIGNAL & CCTV
5. TRAFFIC CAMERA
6. SMART LIGHT POLE
7. ITS SIGN BOARD
8. HANDICAP RAMP
9. BOLLARD
10. PEDESTRIAN FRIENDLY SIDEWALK
11. REGULATORY SIGN
12. STREET LUMINARIES
13. FLASHING CAUTION LIGHT
14. CIRCULATORY ISLANDS
16. SERVICE AREA
17. SOLAR BUS STOP

PROPOSED IMPROVEMENTS OVER EXISTING CONDITION

PERSPECTIVE OF PROPOSED CONDITION

Strategic Directives

VISION

Strengths

Strong agricultural base
Strategic Location
Basic infrastructure
History of Cotton Market
Upcoming industrial platform
Educated human resource pool
Water Resources

2. Weakness

Gaps in infrastructure
Economy Downfall
Poor supply-chain infrastructure.
Technology Adaption

3. Opportunities
Development of Amravati as an Agro-Tech business District (ATBD)
Corporate Agricultural Farming and technology advancement in farming
E Trading Platform
Providing the city with the highest quality of life in Maharashtra
Compact City Model, efficient public transportation models & walk-ability NMT

4. Threats
Migration of educated youth
Land acquisition costs in development
Lack of skilled talent pool:
Private Two wheeler Vehicle Ownership Increase

Source Urban Intellect

Make Amravati City the Agro-Tech Business District (ATBD) especially in textile Industry and in the process improve economic and social wellbeing of the citizens; Make Amravati the city with the highest quality of life index

Two Rounds Were Conducted to get Public Views Comprehensively
Discussions were about
Economy, Urban Mobility
Solar Energy
Green City
Water Supply
Solid Waste Management
Other Pertinent issues

betterhealth

SD-1. Agro-Tech Business based District (ATBD) as regional knowledge hub :

SD-2. Livability and quality of life:

SD-3. Self-Sustainability of City economy by leveraging multiple Funds sources:

SD-4. Future proofing of Economics growth of City with textile based Industries.

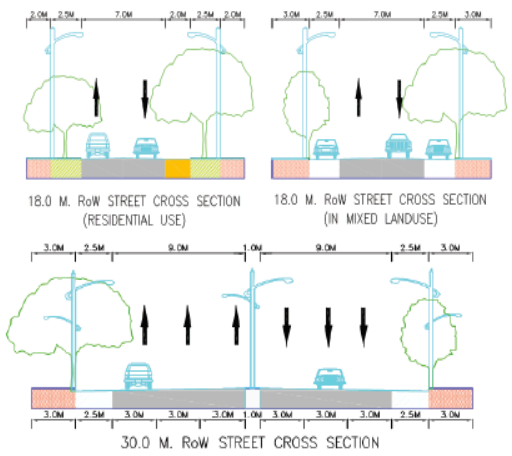
SD-5. Upgrading City Infrastructure, government services with ICT solutions and enabling citizens with smart technological solutions.

SD-6 Up-gradation of Health Services

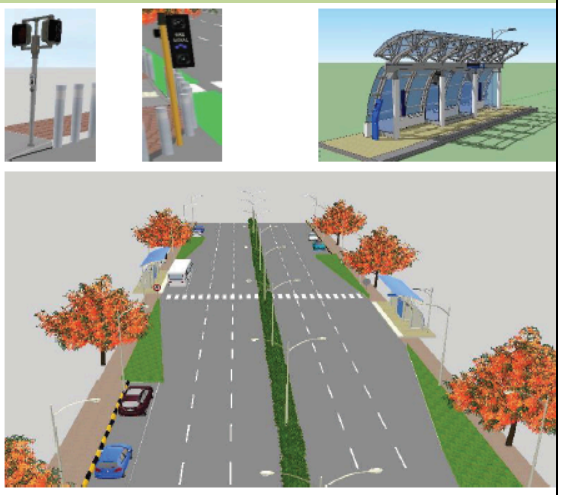
SD-7 Safety and Security
SD-8 Digital wireless

SD-9 E-commerce, E-trading platforms for Textile Hub

Road Up-gradation



Proposed Cross Sections



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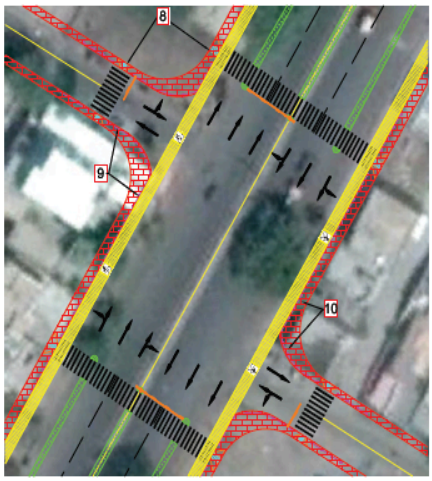

LEGEND

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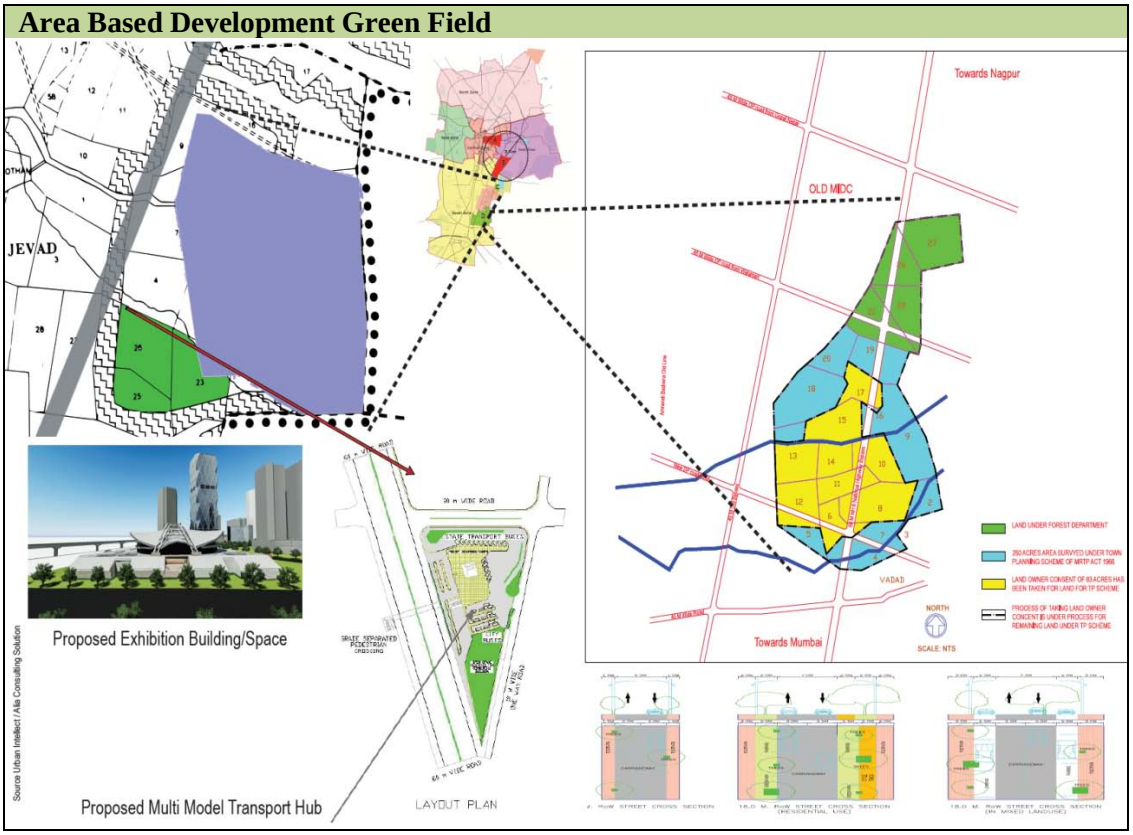
PROPOSED IMPROVEMENTS OVER EXISTING CONDITION

PERSPECTIVE OF PROPOSED CONDITION



5.11 Key Component of Agro-Tech Business District (ATBD)

Green Filed:

A) Convection Center: 25% of Total Green Field Land: 1.25 FSI:

- Research and Development Center for Textile Industry under Technical Textile Policy.
- Incubation Center for Various Textile, Agriculture Technology related Start-Ups
- Capacity Building for Agro-Tech and Information Communication Technology.
- Fashion Technology Institute.
- E-trading Platform as part of ATBD
- Exhibition Space
- School
- SPV Building

- Corporate Agricultural Technology Management Cooperation, (CATMC) under SPV

B) Commercial: 25% of Total Green Field Land: Hotels, Office Building, Trading Centers, Mall with 1.85 FSI

C) Residential: 20% of Total Green Field Land: Affordable Housing 25%, 10% Shopping2.5 FSI

D) 5% Utility, 10% Open Space, 15% Roads, **Redevelopment:**

E) Transport Hub: Multimodal Transport Hub for MSRTC, City Buses, Pvt Bus and Rickshaw

F) 30 Acres Slum Redevelopment

5.12 Benefit of Smart City to Citizen of Amravati

- Land Development Key Points of Implementation.
- Increase in FSI from 1.0 to 2+. In addition,
  a) TDR for Roads, Parks, Public Buildings,
  b) Additional TDR for Social and Affordable Housing.
- Increase in value of land by up to 4x due to increasing demand (both commercial and residential) in 5 years
- Area will be developed Under TP Scheme as per Maharashtra Town Planning act of 1966 across all 24 attributes
  a) Hard Infrastructure will be developed as part of Smart City Imitative by AMC
  b) New roads with 30 and 45meter wide DP roads
  c) 24/7 Clean Water
  d) Waste Disposal System & Under Ground Sewage
  e) Underground Electricity and other services.
  f) Sewage Treatment Plants.
  g) Solar Electricity for Public areas.

h) Wifi Hubs & IT Connectivity.

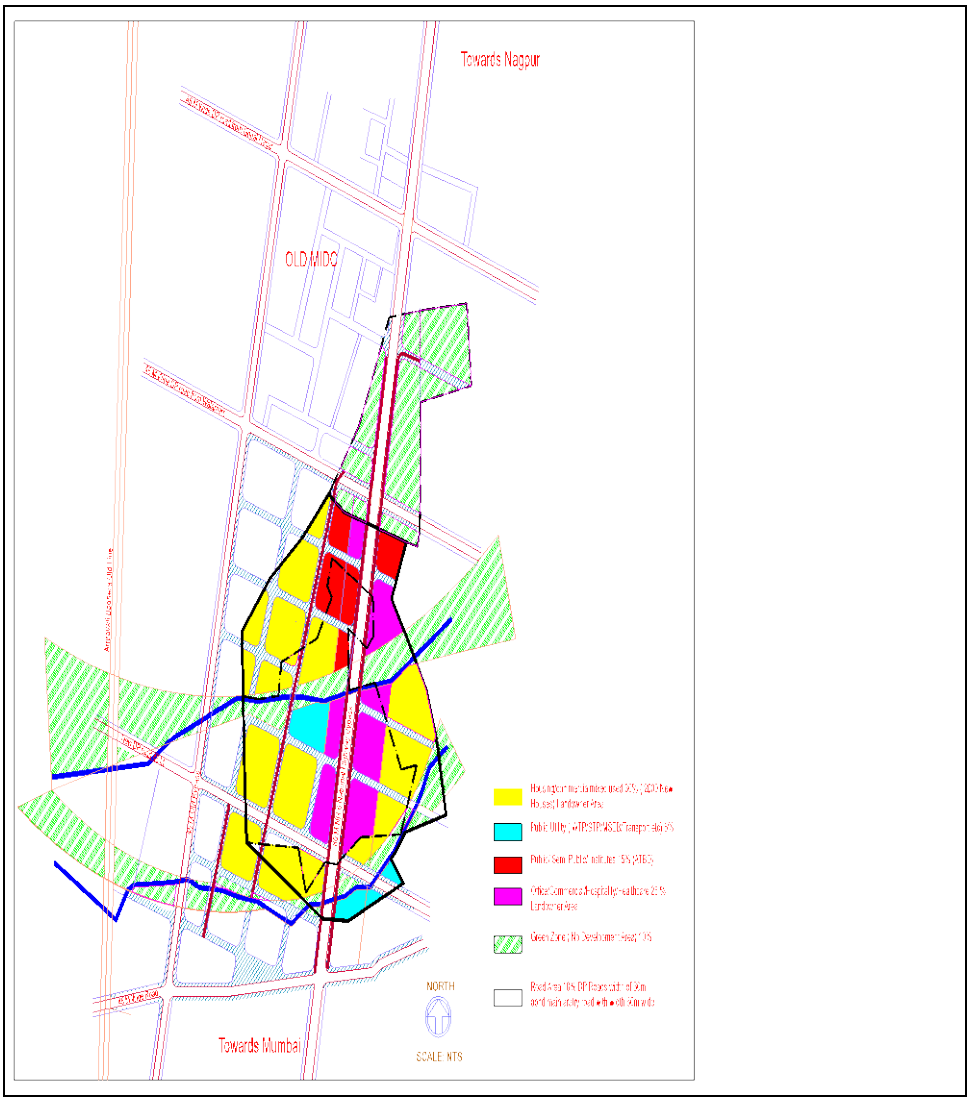
i) Smart Traffic & Parking Solution

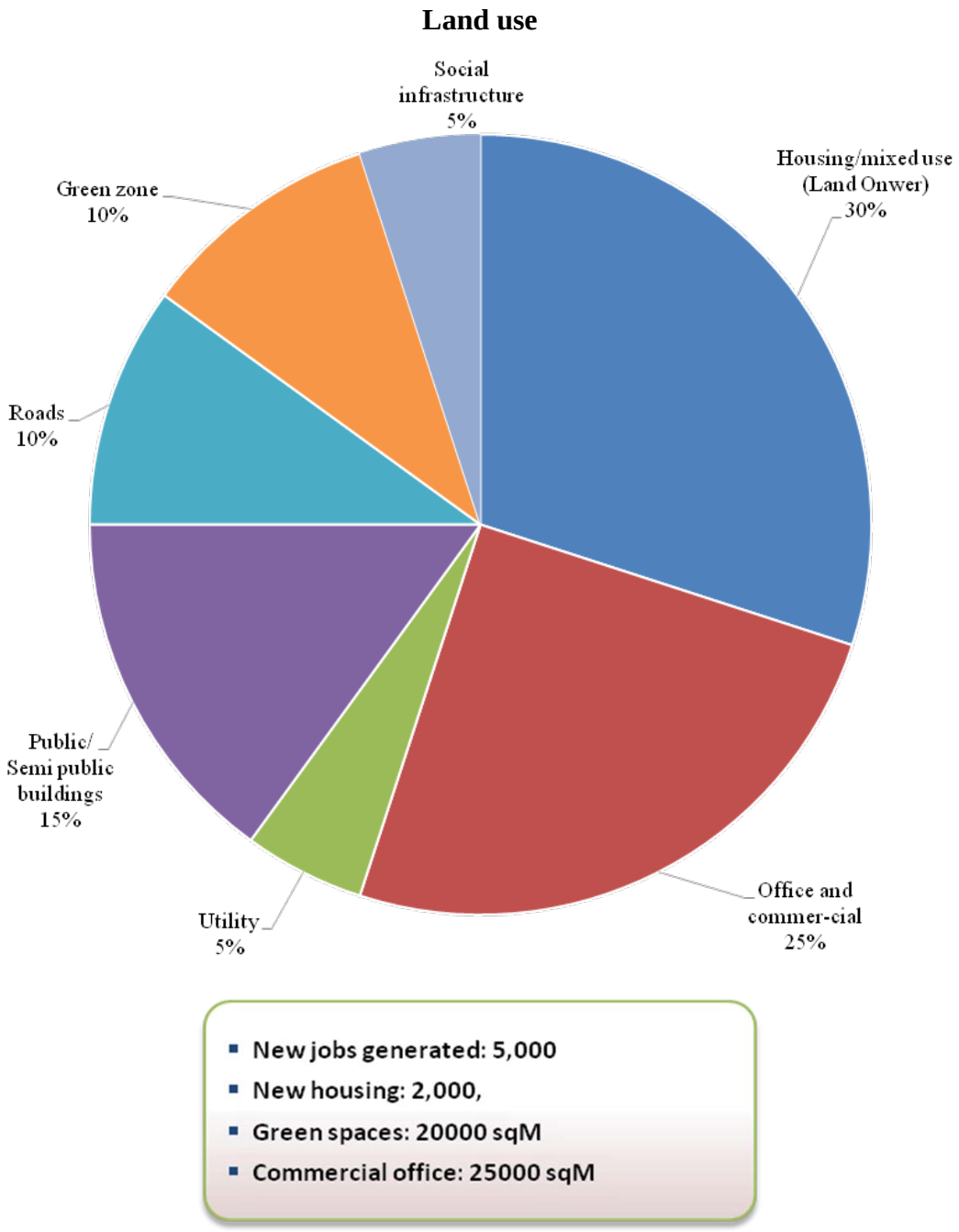
5.13 Indirect Benefits to Amravati citizens

- Engine for economic growth of local industry: Textile, Research Institutes for Agro-tech Industries, Storage Area and Food Processing Units
- Decongest core Amravati city by creating south based expansion of the city thereby improving livability
- Building International hub for Agro-Tech innovation building on already existing education infrastructure and DNA

5.14 Illustrative land use plan

Proposed concept plan for 83 acre new area development





5.15 Potential self-financing land acquisition and development model

- Master-planning of 293 acres in accordance with all 24 attributes of smart development
- 70% land to be acquired by government; Landowners to be provided with an upto FSI of 2 in lieu of land Acquired.
- Government to use acquired land:

  a) 10% on road connectivity (~40-50 kms of roads)

b) 5% on utility infrastructure (water supply, electricity distribution)

c) 10% for open green spaces

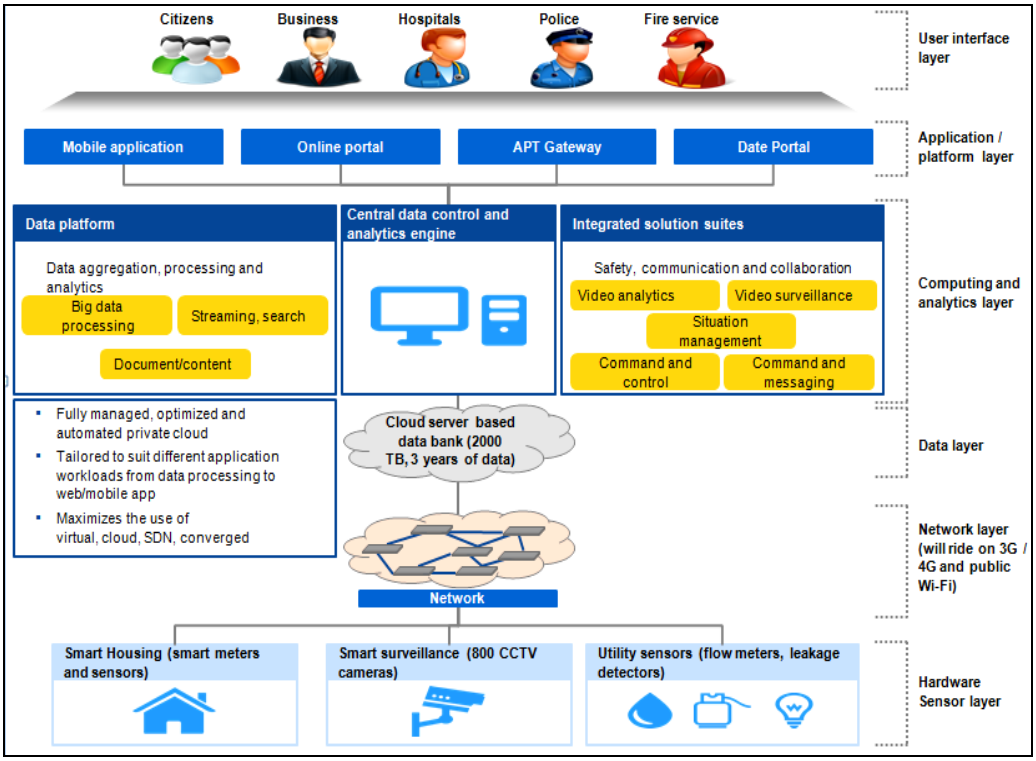
d) 5 % for social infrastructure (education, housing and affordable housing)

e) 15% for Agro Tech Business District (Research & development Center)

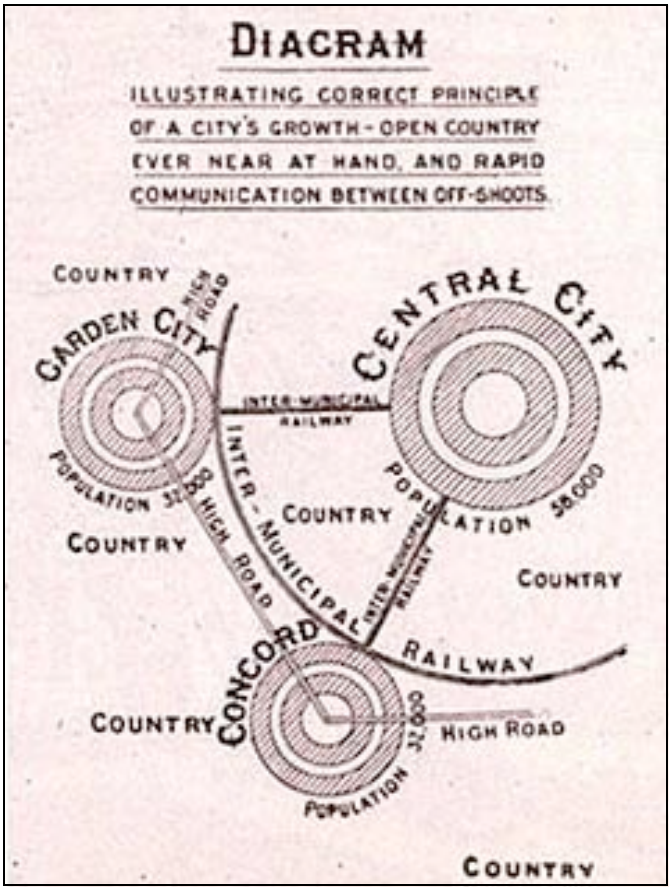
f) 25 % of land to be used for monetization through targeted private sector led development for financing infrastructure development cost (roads, water, sewerage, electricity distribution and social infrastructure)

- Landowners will get 30% of Developed Land with the benefit from incremental FSI (upto 2), higher land valuation (4x increase) and through access to smart infrastructure, and residential Commercial Zones.
- 24x7 water, 100% sewerage connectivity and treatment, zero garbage township, strong IT connectivity, smart transportation with focus on workability, green spaces

5.16 Drive inclusive growth by boosting employment and housing opportunities

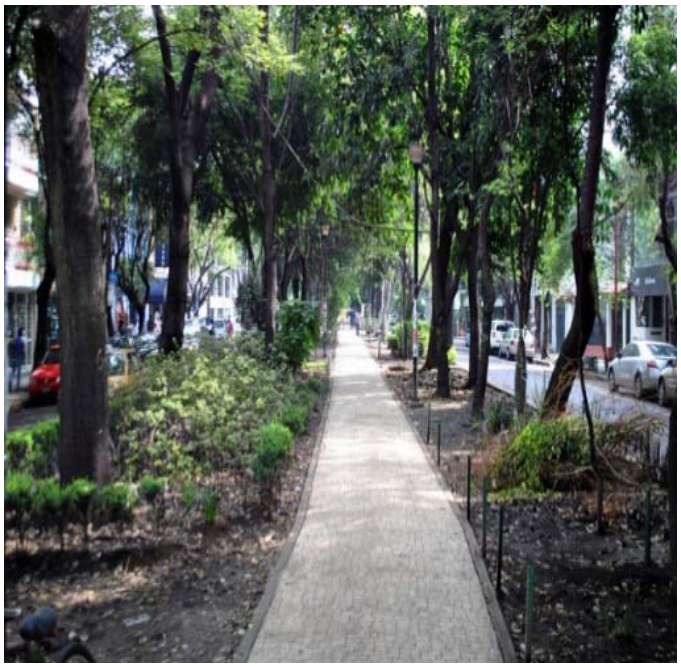


5.17 Ideas under consideration for Green Filled area based development



Idea of Garden City by Sir Ebenezer Howard

5.18 Idea for Roads, pathway and Gardens



- Envisaged as an area that offers mixed land use to boost different sections of population
- The mix will encompass education institutes, business, spaces and residential/real estate
- Setting up Business District in order to boost the Economy
- Developing new town development as a part of Green Projects
- The Area will have all attributes of Smart City, including clean energy sources, clean Air Walk ability, Cycle tracks, and efficient Public transport will be key elements.

ANNEXURE I

Environmental Quality Standards

ANNEXURE I-A

National Ambient Air Quality Standard (NAAQS)

Sr. No.	Pollutants	Time Weighted Average	Concentration in Ambient Air		Methods of Measurement
			Industrial, Residential, Rural and other areas	Ecologically Sensitive Area (Notified by Central Government)	
1	Sulphur dioxide (SO_2), $\mu g/m^3$	Annual* 24 Hours**	50 80	20 80	- Improved West & Gaeke Method - Ultraviolet fluorescence
2	Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual* 24 Hours**	40 80	30 80	- Jacab & Hochheiser modified ($NaOH\text{-}NaAsO_2$) Method - Gas phase Chemiluminescence
3	Particulate Matter (size less than 10 μm) or PM_{10}, $\mu g/m^3$	Annual* 24 Hours**	60 100	60 100	- Gravimetric - TEOM - Beta attenuation
4	Particulate Matter (size less than 2.5 μm) or $PM_{2.5}$, $\mu g/m^3$	Annual* 24 Hours**	40 60	40 60	- Gravimetric - TEOM - Beta attenuation
5	Ozone (O_3) , $\mu g/m^3$	8 Hours* 1 Hour**	100 180	100 180	- UV Photometric - Chemiluminescence - Chemical Method
6	Lead (Pb), $\mu g/m^3$	Annual* 24 Hours**	0.50 1.0	0.50 1.0	- AAS/ICP Method after sampling on EPM 2000 or equivalent filter paper - ED-XRF using Teflon filter
7	Carbon Monoxide (CO), mg/m^3	8 Hours* 1 Hour**	02 04	02 04	- Non dispersive Infrared (NDIR) Spectroscopy
8	Ammonia (NH_3), $\mu g/m^3$	Annual* 24 Hours**	100 400	100 400	- Chemiluminescence - Indophenol blue Method
9	Benzene (C_6H_6), $\mu g/m^3$	Annual*	05	05	- Gas Chromatography (GC) based continuous analyser - Adsorption and desorption followed by GC analysis
10	Benzo(a)Pyrene (BaP), Particulate phase only , ng/m^3	Annual*	01	01	- Solvent extraction followed by HPLC/GC analysis
11	Arsenic (As), ng/m^3	Annual*	06	06	- AAS/ICP Method after sampling on EPM 2000 or equivalent filter paper
12	Nickel (Ni), ng/m^3	Annual*	20	20	- AAS/ICP Method after sampling on EPM 2000 or equivalent filter paper

* Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

** 24 hourly or 8 hourly or 1 hourly monitored values, as applicable, shall be complied with 98% of the time in a year. 2% of the time, they may exceed the limits but not on two consecutive days.

NOTE:

Whenever and wherever monitoring results on two consecutive days of monitoring exceed the limits specified above for the respective category, it shall be considered adequate reason to institute regular or continuous monitoring and further investigations.

ANNEXURE I-B

Ambient Air Quality Standards in Respect of Noise

Area Code	Category of Area/Zone	Limits in dB(A) Leq*	
		Day Time	Night Time
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Silence zone	50	40

Note :

1. Day time shall mean from 6.00 a.m. to 10.00 p.m.
2. Night time shall mean from 10.00 p.m. to 6.00 a.m.
3. Silence zone is an area comprising not less than 100 metres around hospitals, educational institutions, courts, religious places or any other area which is declared as such by the competent authority
4. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority.

* dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.

A “decibel” is a unit in which noise is measured.

“A”, in dB(A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.

Leq: It is an energy mean of the noise level over a specified period.

ANNEXURE I-C

Damage Risk Criteria for Hearing loss
Occupational Safety & Health Administration (OSHA)

Maximum Allowable Duration Per Day, (hours)	Noise Level dB(A) (Slow Response)
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
0.5	110
0.25 or less	115

ANNEXURE I-D

Effluent Discharge Standards

Sr. No.	Parameters	Permissible Limit
1	pH	5.5 to 9
2	Temperature	45^0C at the point of discharge
3	Colour and odour	All efforts shall be made to remove colour and unpleasant odour as far as practicable
4	Suspended solids	100 mg/l
5	Particulate size of suspended solids	a) Floatable solids max. 3 mm b) Settleable solids max. 850 microns
6	Oil and Grease	20 mg/l
7	Fluorides	15 mg/l
8	Sulphides	5 mg/l
9	Pesticides	Absent
10	Ammonical nitrogen	50 mg/l
11	Total Kjeldahl nitrogen	100 mg/l
12	Free ammonia (as NH_3)	5 mg/l
13	Copper	3 mg/l
14	Zinc	15 mg/l
15	BOD (5 days 20^0C)	100 mg/l
16	COD	250 mg/l
17	Total residual chlorine	1 mg/l
18	Arsenic (as As)	0.2 mg/l
19	Mercury (as Hg)	0.01 mg/l
20	Lead (as Pb)	1 mg/l
21	Cadmium (as Cd)	2 mg/l
22	Hexavalent chromium (Cr+6)	1 mg/l

Sr. No.	Parameters	Permissible Limit
23	Total chromium (as Cr)	2 mg/l
24	Nickel	5 mg/l
25	Cyanide (as CN)	0.2 mg/l
26	Phenolic compounds (as C_6H_5OH)	5 mg/l
27	Selenium (as Se)	0.05 mg/l
28	Manganese (as Mn)	2 mg/l
29	Iron (as Fe)	3 mg/l
30	Vanadium (as V)	0.2 mg/l
31	Nitrate nitrogen	20 mg/l
32	Bio-assay test	90% survival of fish after 96 hrs. in 100% effluent

Annexure II

झोन क्रमांक ४ - (वार्ड क्रमांक ५५ ते ८६)			
अ.क्र.	**शैक्षणिक संस्था / रुग्णालय / न्यायालय**	**पत्ता**	**फलक संख्या**
१.	राठी हॉस्पीटल		
२.	महात्मा फुले विद्यालय		
३.	डॉ.कुलकर्णी हॉस्पीटल		
४.	डॉ. पाटील हॉस्पीटल	राजापेठ अमरावती.	
५.	विदर्भ आयुर्वेदीक महाविद्यालय	दसरा मैदान अमरावती.	१०
६.	रामकृष्ण आश्रम शाळा		
७.	बुब हॉस्पीटल		
८.	समर्थ हायस्कुल		
९.	खत्री हॉस्पीटल		
१०.	आयसोलेशन हॉस्पीटल		
११.	धन्वंतरी रुग्णालय		
१२.	संत गाडगे बाबा विद्यालय	बडनेरा रोड, अमरावती.	०६
१३.	शिव इंग्रजी स्कुल		
१४.	सेंट फ्रान्सीस हायस्कुल	सामरा नगर, अमरावती.	०१
१५.	ईगल कॉन्व्हेन्ट	सैनिक कॉलनी बायपास रोड, अमरावती.	०१
१६.	तखतमल होमीपॅथीक महाविद्यालय		
१७.	फ्रॉन्सिस हायस्कुल		
१८.	विदर्भ आयुर्वेदिक कॉलेज	राजापेठ, ते	
१९.	संत कंवरराम विद्यालय	फरशी स्टॉप.	१०
२०.	डॉ. मानकर दवाखाणा		
२१.	बोके दवाखाणा गोपाल नानजी टांक रुग्णालय		
२२.	बालक मंदीर		
२३.	मातोश्री फुले विद्यालय		
२४.	कला व वाणिज्य विद्यालय		
२५.	मातोश्री कृष्णाबाई देशमुख विद्यालय		
२६.	जि.प. शाळा	बेनोडा, गोपाल नगर. आकोली, महाविर	
२७.	डॉ.कडु हॉस्पीटल	नगर, साईनगर,	
२८.	जि.प. शाळा		१२
२९.	जि.प. शाळा		
३०.	जि.प. शाळा		
३१.	इंग्लीश कान्व्हेन्ट		
३२.	साईबाबा विद्यालय		
३३.	मॅटीनीटी हॉस्पीटल		
३४.	तखतमल इग्लीश स्कुल		
३५.	रंजना प्रायमरी शाळा		
३६.	लेप्रसी हॉस्पीटल	निभोरा, अमरावती.	
३७.	जि.प. शाळा जि.प. प्राथमीक शाळा	निंभोरा	०४
३८.	मनपा. दवाखाणा		
३९.	गांधी विद्यालय		
४०.	उ. रा. सोनुकले दवाखाना		
४१.	मोईन परवेज दवाखाना		०८
४२.	सावित्री बाई फुले डॉ. वाट दवाखाना पावटी चौक	जुनीवस्ती बडनेरा	
४३.	जयश्री गूल्हाने दवाखाणा		
४४.	डॉ. जे.एस. अचिंतलवार दवाखाना		

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एन. नविन सोना (भा.प्र.से)
आयुक्त
महानगरपालिका, अमरावती.

अमरावती महानगरपालिका, अमरावती.

- शांतता झोन -

कार्यालय महानगर पालिका अमरावती.
पर्यावरण संवर्धन विभाग,
जा.क्र अमनपा/ पवि/शाझो/ ०२ /१२
दि. ०७/०४/२०१२

मा. उच्च न्यायालय मुंबई खंडपीठाने सार्वजनिक हिताच्या याचिकांचे महाराष्ट्र शासन व इतर विभागांना ध्वनी प्रदुषण (नियंत्रण व नियमण) नियम, २००० ची प्रभावी अंमलबजावणी करण्याकरीता दिनांक २६.०२.२००९ रोजी ठराविक निर्देश दिलेले आहेत. ज्या अन्वये अमरावती महानगरपालिकाने उपरोक्त कायदयाच्या तरतुदीनुसार महापालिका क्षेत्राअंतर्गत खालील ठिकाणी १०० मीटर सभोवताल क्षेत्र शांतता झोन म्हणुन निश्चित केलेले आहे.

झोन क्रमांक १ - (वार्ड क्रमांक १ ते २०)			
अ.क्र.	**शैक्षणिक संस्था / रुग्णालय / न्यायालय**	**पत्ता**	**फलक संख्या**
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१४८.	श्रध्दानंद सोसायटी		
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अ.क्र.	**शैक्षणिक संस्था / रुग्णालय / न्यायालय**	**पत्ता**	**फलक संख्या**
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९१.	अमरावती सिटी मल्टी स्पेशालीस्ट हॉस्पीटल		
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९४.	वरशीप हॉस्पीटल	कल्याण नगर	
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९७.	गुरुकृपा हॉस्पीटल		
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१११.	तक्षशिला महाविद्यालय		
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१२३.	न्यु टेक दवाखाना		
१२४.	मनपा उच्च प्राथमीक उर्दु शाळा क्र. ६ मनपा मराठी	कॅम्प कॉर्नर चपराशीपुरा	०२
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झोन क्रमांक ३ - (वार्ड क्रमांक ४१ ते ५५)			
अ.क्र.	**शैक्षणिक संस्था / रुग्णालय / न्यायालय**	**पत्ता**	**फलक संख्या**
१.	शहरी आरोग्य केंद्र	भाजी बाजार, औरंग पुरा, हैदरपुरा, बुधवारा, सराफा, सक्करसाथ, गांधी चौक	१२
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५.	ब्रिजलाल बियाणी शिक्षण संस्था		
६.	डॉ. रोडे दवाखाणा		
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८.	मनपा प्रा. कन्या शाळा		
९.	मनपा प्रा. कन्या शाळा		
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३४.	प्रगती प्रायमरी कन्या शाळा	गांधी नगर	०१
३५.	जिजामाता कन्या शाळा	नारायण नगर	०१
३६.	तक्षक्षिला कॉलेज	फ्रेजरपुरा मोती नगर	०४
३७.	मनपा शाळा		
३८.	मनपा दवाखाणा		
३९.	न्यु गोल्डन बालक मंदीर		
४०.	मनपा दवाखाना		
४१.	डॉ. पोटोडे दवाखाणा	मुधोळकर पेठ	०२
४२.	देशमुख हॉस्पीटल		
४३.	गावंडे हॉस्पीटल		
४४.	धुंडीयाल हॉस्पीटल		
४५.	भारतीय महाविद्यालय	बुटी प्लॉट	०१
४६.	रघुवंशी हॉस्पीटल		

अ.क्र.	शैक्षणिक संस्था / रुग्णालय / यायालय	पत्ता	फलक संख्या
४७.	सुने हॉस्पीटल		
४८.	डॉ. बस्तार हॉस्पीटल	दरोगा प्लॉट	
४९.	डॉ. मशानकर हॉस्पीटल	राजापेठ	०४
५०.	भारतीय कन्या शाळा	मोती नगर	
५१.	सदासुख पॉलीक्लिनीक		
५२.	ब्ल्यु डायमंड इग्लीश स्कुल		
५३.	सांत्वना नर्सिग होम		
५४.	कल्याणी क्लिनीक		
५५.	लक्ष्मीकांत हॉस्पीटल	वनश्री कॉलनी, चैतन्य कॉलनी	०६
५६.	श्री. गिरीराज आयुर्वेदिक सेंटर		
५७.	श्री गिरीराज मल्टी स्पेशालीस्ट क्लिनीक		
५८.	स्नेहा क्लिनीक		
५९.	विसावा पॉलिक्लिनिक		
६०.	बरडीया हास्पीटल		
६१.	हितायु फॅमिली क्लिनीक		
६२.	डॉ. वानकर दवाखाना		
६३.	डॉ. सोनोने दातांचा दवाखाना		
६४.	डॉ. खोब्रागडे दवाखाना	मोती नगर	०६
६५.	श्री. गणेश हॉस्पीटल		
६६.	श्री. गुरुदेव क्लिनीक		
६७.	विजय प्रथा बालरुग्णालय		
६८.	डॉ. सुने दवाखाना		
६९.	गायत्री होमिओ क्लिनीक		
७०.	भारतीय कन्या विद्यालय		
७१.	डॉ. पाटील दातांचा दवाखाना		
७२.	पदमावती फिजीओ थेरपी अॅन्ड पेनक्युअर सेन्टर		
७३.	अमेय पॉली क्लिनीक	दरोगा प्लॉट	
७४.	हायटेक मल्टी स्पेशालिस्ट हास्पीटल व रीसर्च सेंटर		०८
७५.	तखतमल श्री वल्लभ होमिओपॅथिक वैद्यकिय		
७६.	महाविद्यालय व रुग्णालय		
७७.	रुपभजन हास्पीटल		
	रत्नार हॉस्पीटल		
	सुयोग प्राथमीक शाळा		
७८.	मोहोड हॉस्पीटल		
७९.	वानखडे हॉस्पीटल	फॉरेस्ट कॉलनी समोर	०१
८०.	साई कृपा होमिओ पॅथिक दवाखाना		

अमरावती महानगर पालिका, अमरावती

(म्यु. नगर रचना विभाग/ कार्यकारी अभियंता - २)

अमरावती महानगर पालिका क्षेत्रातील घोषित झोपडपट्ट्यांची यादी

अ.क्र.	वस्तीचे नांव	झोपडपट्ट्यांची संख्या	लोकसंख्या	जमीनीची मालकी	क्षेत्रफळ हे.आर.	घोषित दिनांक
१	अशोक नगर	६५	३७२	शासकीय जमीन	०.५०५	२९.०९.७४
२	सिद्धार्थ नगर	२१६	१२७६	--॥--	१.०४०	२९.०९.७४
३	भीम नगर	२९०	१७२९	--॥--	१.७६०	--॥--
४	पाटीपुरा	४९७	२६५९	--॥--	१.७७६	--॥--
५	हनुमान नगर	२७१	५४५९	--॥--	३.३६०	--॥--
६	आनंद नगर	४०८	१५०५	--॥--	१.६६४	--॥--
७	विलास नगर	२८०	२५१७	--॥--	२.४८०	--॥--
८	वडरपुरा	१३९	१३२४	--॥--	१.२००	२७.११.७५
९	आदिवासी नगर, मांगीलाल प्लॉट	४७	२४५	--॥--	०.२३०	--॥--
१०	समाधान नगर	१२५	७३९	--॥--	१.३६०	--॥--
११	आदिवासी नगर - राजापेठ	४०	२२१	--॥--	०.७००	--॥--
१२	बेलपुरा - मातंगपुरा	४०३	२४०१	खाजगी संपादित जागेवर	०.७२०	--॥--
१३	औरंगपुरा	७८	४७९	--॥--	०.५९०	--॥--
१४	जोडमोट	६२	३४३	--॥--	१.१७०	--॥--
१५	माता खिडकी	१७८	११५६	--॥--	१.३५०	--॥--
१६	पठानपुरा	७७५	६२७४	--॥--	५.६००	--॥--
१७	हैदरपुरा/धरमशेंडी	३८७	३१०७	झो.स. जागेवर	२.८३०	२८.०२.८०
१८	खुर्शिदपुरा	२५	१२८४	--॥--	०.३००	--॥--
१९	परदेशीपुरा	९२	६३७	--॥--	१.३०२	३०.०७.८१
२०	महाजनपुरा	३३४	१३९९	--॥--	३.९१०	--॥--
२१	झाडपीपुरा	२०३	१०१०	--॥--	१.०२९	--॥--
२२	खस्काडीपुरा	२१५	४९८	--॥--	१.८७०	--॥--
२३	चिंचफैल	२१६	१०७१	खाजगी जमीन	१.९८०	१७.१२.८१
२४	खोतफैल	४०८	१९३५	निमशासकीय जमीन	२.५००	--॥--
२५	मुजफ्फरपुरा	२४२	१८५७	शासकीय जमीन	४.०५०	--॥--

अ.क्र.	वस्तीचे नांव	झोपडपट्ट्यांची संख्या	लोकसंख्या	जमीन मालकीची	क्षेत्रफळ	घोषित दिनांक
२६	बिच्छू टेकडी नं. १	१३००	५२४१	शासकीय जमीन	१९.६९०	२४.१२.८१
२७	कांगारपुरा	२६२	१०३७	--॥--	१.४७०	२६.०४.८१
२८	बजरंग टेकडी	६७	२९७	--॥--	४.४१०	--॥--
२९	बेलपुरा – दरोगा प्लॉट	२७८	३४६१	--॥--	३.१७०	--॥--
३०	बॉम्बे फैल	५३	३९६	खाजगी जमीन	०.९७०	--॥--
३१	विलास नगर (रमाबाई आंबेडकर नगर)	४४८	११९८	शासकीय जमीन	६.३६०	--॥--
३२	आदर्श नेहरू नगर	१८८	९३०	--॥--	२.१००	--॥--
३३	गुरू नगर/गणेश कॉलनी	५६	४७७	--॥--	०.५१०	--॥--
३४	फ्रेजरपुरा	१३३८	४७९३	शास.व खाजगी जमीन	७.७७०	--॥--
३५	संजय गांधी नगर नं. १	२९५	१३३३	शासकीय जमीन	२.८९०	--॥--
३६	संजय गांधी नगर नं. २	१३२	७६५	--॥--	३.४१०	२३.०८.८४
३७	छत्री तलाव/जवेड नगर	३७८	१२८८	--॥--	७.८५३	--॥--
३८	चपराशी पुरा	२६५	८८८	शास.व खाजगी जमीन	२.०९१	--॥--
३९	गांधी आश्रम	१२८	७७९	शासकीय जमीन	३.३८०	--॥--
४०	गांधी नगर/राहुल नगर,बडनेरा	५०८	१०२५	--॥--	१.०३०	२६.०४.८४
४१	Zm̃na nÂ¤आदिवासी नगर, बडनेरा	५०८	२२१८	--॥--	६.२९०	--॥--
४२	हरीदास फैल/झाडीफैल,बडनेरा	२२८	२२१८	--॥--	४.२००	--॥--
४३	माताफैल, स्विपर कॉलनी, बडनेरा	२२८	१०८२	--॥--	३.८५०	--॥--
४४	गौतम नगर	२०	९९	--॥--	०.२७०	--॥--
४५	रवि नगर	३२	२३२	--॥--	०.३५०	--॥--
४६	पांच बंगला, बडनेरा	१२८	५७४	--॥--	४.३७०	१०.०३.८८
४७	बिच्छू टेकडी नं. २	२४१	११६७	--॥--	१.१२०	--॥--
४८	म. फुले नगर, नवसारी	२१०	१००९	--॥--	२३.४९०	--॥--
४९	रहाटगांव नं.१	३२६	१५७६	--॥--	२४.९८०	--॥--
५०	वडाळी	१६८	८१०	--॥--	५.८७०	--॥--
५१	राजीव गांधी नगर/चिलम छावणी	९९	४२५	--॥--	२.३००	--॥--
५२	लो. इंदिरा गांधी नगर/व्यंकय्यापुरा	१२५	८८०	--॥--	२.१७०	--॥--
५३	चवरे नगर	२००	८७३	खाजगी जमीन	१.७५०	--॥--

अ.क्र.	वस्तीचे नांव	झोपडपट्ट्यांची संख्या	लोकसंख्या	जमीन मालकीची	क्षेत्रफळ	घोषित दिनांक
५४	इंदिरा गांधी नगर/फ्रेजरपुरा	७९	५३३	शासकीय जमीन	०.९०३	१९.०५.८८
५५	चमन नगर, बडनेरा				०.०२५	--।।--
५६	शिवाजी नगर, बडनेरा		३६०	--।।--	०.९५१	--।।--
५७	शिवाजी फैज, बडनेरा	१८८	९२०	खाजगी, लक्ष्मीबाई रिसोर्ट	०.५९३	--।।--
५८	मारोती नगर/हिंदु स्मशान भुमी जवळ	४७	२०१	शासकीय जमीन	०.२१९	--।।--
५९	सिद्धार्थ नगर/नवसारी जवळ, वलगांव रोड	३८	२२४	--।।--	१.१४०	--।।--
६०	सातुर्णा नं. १	११५	९४४	--।।--	२.०९०	--।।--
६१	बेनोडा	३७१	२२२५	शास.व खाजगी जमीन	२.३४०	--।।--
६२	इंदिरा नगर, बडनेरा	४७	२७७	शासकीय जमीन	०.८३६	--।।--
६३	सिंधी कॉलनी, बडनेरा	१६८	७७१	--।।--	२.०२१	०७.०७.८८ व
				--।।-- --।।--		२९.१२.८८ सुधारीत
६४	वरुडा	१८२	८३६	गावठाण	१.९२०	२५.०१.९०
६५	निंभोरा	७१	३३६	--।।--	१.७७०	--।।--
६६	अकोली	१६३	७८०	--।।--	१.९३०	--।।--
६७	सातुर्णा -२	६५	३०४	शासकीय जमीन	०.९३७	--।।--
६८	रहाटगांव - २	६९०	३४३८	गावठाण	७.५२०	--।।--
६९	शेगांव	३९१	१८२४	--।।--	१.८५०	--।।--
७०	नवसारी	२३८	१०८६	--।।--	०.९५८	--।।--
७१	मोती नगर- कंपासपुरा	३७२	१८११	खाजगी व शास. जमीन	४.६३०	२५.०१.९०
७२	देवी नगर	१४२	६८८६	शासकीय जमीन	४.२८३	१४.०२.९१
७३	प्रविण नगर भाग	४२८	१७५६	खाजगी जमीन	३.२४६	--।।--
७४	हनुमान नगर नं.२	३७६	१५८३	खाजगी व शास. जमीन	१३.७४९	--।।--
७५	तारासाहेब बगीचा	४३८	१९५८	शासकीय जमीन	२.९६०	--।।--
७६	पन्नालाल नगर	३५८	१६७२	--।।--	०.७२०	०१.०२.९१
७७	गवळीपुरा	२२३१	११५८२	--।।--	२.३३४	१४.०२.९१
७८	कल्याण नगर	३१६	१६३८	--।।--	१.२६०	--।।--
७९	छाया नगर	१३४१	७२०८	--।।--	४.२८३	--।।--

अ.क्र.	वस्तीचे नांव	झोपडपट्ट्यांची संख्या	लोकसंख्या	जमीन मालकीची	क्षेत्रफळ	घोषित दिनांक
८०	उत्तम नगर	७९५	३८७२	खाजगी जमीन	३.२४६	१४.०२.९१
८१	यशोदा नगर नं.१	६८८	३३८९	--।।--	१३.७२९	--।।--
८२	यशोदा नगर नं. २	११८५	५२७१	--।।--	६.८८१	--।।--
८३	गौस नगर	६१३	४२९३	--।।--	२.१००	--।।--
८४	आझाद नगर	४३	२२३५	--।।--	२.११०	--।।--
८५	देशपांडे प्लॉट	१८१३	८१६४	--।।--	३.५२५	--।।--
८६	अंबा विहार	३९३	१८९२	--।।--	५.२००	--।।--
८७	महादेव खोरी	८७९	२२२५	शास. जमीन	१.७८६	०१.०१.९८
८८	महादेव नगर, महालक्ष्मी नगर, अंबा कॉलनी	६०७	४२५०	खाजगी जमीन	१४.११०	--।।--
८९	अलिम नगर, ताज नगर	११७०	११७००	--।।--	१७.३२०	--।।--
९०	सेवादल नगर	२२८	१८८२	शास. जमीन	१.८७०	--।।--
९१	अलमास नगर ,छोटा नालसाबपुरा, खाटीकपुरा	१०६९	८५५२	खाजगी जमीन	८.८५०	--।।--
९२	अन्सार नगर	४२२	३३७५	--।।--	७.१२०	--।।--
९२	मिल चाळ,बडनेरा	३२३	१७००	शास. जमीन		११.११.९३
९४	रहेमत नगर	४७३	३२९५	--।।--	१३.०६०	०८.०१.९८
९५	नालसाबपुरा	६०७	४२५०	--।।--		१८.०२.९९
९६	रामपुरी कॅम्प	४३४	३४७५	--।।--	९.२७०	१८.०२.९९
९७	सिद्धार्थ नगर नं. २	९०	७९०	--।।--	०.२२०	०१.०१.०३
९८	लालखडी	२६०	४२००	--।।--	३.३००	०२.०१.०३
९९	राजमाता नगर नं. १	४५	२४५	--।।--	०.११०	१९.०६.०३
१००	राजमाता नगर नं. २	१८	६५	--।।--	०.२९०	१०.०६.०३
१०१	वसंतराव नाईक नगर	१४६	८७४	--।।--	०.६००	१५.०७.०४
१०२	सुशिल नगर	७०	३५०	--।।--	०.७१	१८.०८.११
		३५,८३५	२,१०,१६५		२९५.८०३	
१०३	रविनगर पुलाजवळील झकी	३०	१५०	व्यासकिय	०.१६	२१.०२.२०१३
१०४	बजरंग टेकडीजवळ	५२	२३०	—।।—	१.१४	२.०५.२०१३

Annexure IV

अमरावती महानगरपालिका,अमरावती.
बाजार व परवाना विभाग
मनपा मालकीचे व्यापारी संकुलांची माहिती

	संकुलाचे नांव		प्लॉट क्र./ शिट क्र.	दुकान संख्या	रिक्त गाळ्यांची संख्या	भाड्याचा दर प्रति माह प्रति चौ.फू.प्र.माह	शेरा
१	जे अँड डी मॉल (जोशी मार्केट)		-	३९	-	रु.१०/- प्र.चौ.फु	B.O.T.
२	मनपा पूर्व ड्डील संकुल (सुरज बिल्डर्स)		१/६७ सी	३८	निरंक	रु.१/- प्रति चौ.फूट	B.O.T.
३	दादासाहेब खापर्डे संकुल, राजकमल चौक,अमरावती.		१/६७ सी	७४	-	रु.१/- प्रति चौ.फूट	B.O.T.
४	जवाहर ट संकुल जवाहर गेट,अमरावती.		४३/२८७ ६८/बी ८१	१७८	-	रु.१/- प्रति चौ.फूट	B.O.T. (न्यायप्रविष्ट)
५	प्रियदर्शनी इंदीरा गांधी संकुल जयस्तंभ चौक,अमरावती.		१४/५६ बी	१७२	-	रु.१/- प्रति चौ.फूट	B.O.T.
६	चपराशीपुरा संकुल शुक्रवार बाजार,अमरावती.		-	३९	१०	रु.४/- प्रति चौ.फूट	I.D.S.M.T.
७	महात्मा फूले संकुल जूने मोटर स्टँड,अमरावती.		२९०/८१ डी	४९	०७	रु.४/- प्रति चौ.फूट	I.D.S.M.T.
८	राजापेठ संकुल राजापेठ,पो.स्टे.जवळ,अमरावती		७२/५५ बी/६७ डी	८० २ व ३	निरंक	रु.३,४,५ व ६/- प्रति चौरस फूट	I.D.S.M.T.
९	देशगौरव सुभाषचंद्र बोस संकुल,श्याम चौक,अमरावती.		७२/६८ डी	२३	निरंक	रु.९.२० प्रति चौ.फूट	-
१०	दस्तुर नगर संकुल दस्तुर नगर,अमरावती.		६०	५	निरंक	रु.५/- प्रति चौ.फूट	-
११	प्रशासकीय इमारत संकुल अंबादेवी रोड,अमरावती.		१/६७ सी	६	निरंक	रु.६/- प्रति चौ.फूट	-
१२	संत गाडगेबाबा संकुल सांस्कृतीक भवन,अमरावती.		-	३४	निरंक	रु.८/- प्रति चौ.फूट	-
१३	आरटीओ ऑफिस समोर संकुल,कॅम्प,अमरावती.		१९	१२	निरंक	रु.४/- प्रति चौ.फूट	-
१४	विलास नगर संकुल विलास नगर,अमरावती.		११/५८	५७	०५	प्र.माह रु.३००/- रु.२५० व २००/-	-
१५	वडाळी संकुल नविन बायपास,वडाळी		३/८१	२२	निरंक	प्रति माह रु.३१५/-	-
१६	भाजीबाजार संकुल बुधवारा,अमरावती.		१५१ व १५२/९२	२०	निरंक	रु.३२५/- व रु.२४६/- प्र.माह	-
१७	आदर्श नेहरु नगर संकुल आदर्श नेहरु नगर,अमरावती.		६/२२	५	निरंक	रु.३००/- प्रति माह	-
१८	महात्मा गांधी संकुल नवी वस्ती,बडनेरा.		१/१६ ए	५१	निरंक	रु.५७२/- व रु.३६०/-प्रतिमाह	-
१९	जयहिंद मैदान संकुल नवी वस्ती,बडनेरा.		-	२५	निरंक	रु.६००/- प्रति माह	-
२०	सावता मैदान संकुल, जुनी वस्ती,बडनेरा.		१२/१ ११ सी	१०	निरंक	रु.३००/- प्रति माह	-
२१	राहुल नगर संकुल, जुनी वस्ती,बडनेरा.		१५१/१ २३ ए	६	निरंक	रु.१००/- प्रति माह	-
२२	वसंतराव नाईक मागासवर्गीय संकुल,नवी वस्ती,बडनेरा.		-	१०	निरंक	रु.८०/- प्रति माह	-
२३	महात्मा फूले संकुल, नवी वस्ती,बडनेरा.		-	१०	निरंक	रु.८०/- प्रति माह	-
२४	मौलाना आझाद संकुल नवी वस्ती,बडनेरा.		-	५७	निरंक	रु.३६०/- प्रति माह	I.D.S.M.T.
२५	बिफ मार्केट,छाया नगर		-	३८	निरंक	रु.४००/- प्र.माह	-
२६	मटन मार्केट/मच्छी मार्केट इतवारा बाजार,अमरावती.		-	३९	निरंक	रु.३३,०००/- प्रति वर्ष	कंत्राट पध्दतीने
२७	कॉंडेश्वर संकुल, मध्यवर्ती जकात नाका,अम.		-	१०	३	रु.३३२/- प्रति माह	-
२८	इतवारा बाजार ओटे		-	११६४	-	-	-
२९	ट्रांसपोर्ट नगर	गॅरेजेस	-	१५२	-	रु.२,७०० प्रतिवर्ष	-
		मॅकेनिकल	-	१८४	-	रु.१,२९६ प्रतिवर्ष	-

List of Gardens along with Area

Sr. No.	Name of the Garden	Area	Category
1.	Ravi Kiran Colony Udyan	NA	A
2.	Nandgaon Entrance Udyan	NA	A
3.	New Krushnarpan Colony, Udyan	14592	A
4.	Krushnarpan Colony, Udyan	28542	A
5.	Defense Colony, Udyan	38270	A
6.	Gandhi Square, Parkot, Udyan	NA	A
7.	Shiv-Tekdi, Beautification	NA	A
8.	ITI Colony, Udyan	25900	A
9.	Camp Nursery, Udyan	40590	A
10.	Nityanand Colony, Udyan	20636	A
11.	Sabu Layout, Udyan	NA	A
12.	Vidyut Nagar, Udyan	24225	A
13.	Shikshak Colony, Udyan	67050	A
14.	Gopal Nagar, Udyan	14570	A
15.	Gandhi Nagar, Udyan	25456	A
16.	Rathi Nagar, Udyan	53375	A
17.	Konrak Colony, Udyan	47790	A
18.	Datta Square	6200	A
19.	Shivneri Colony, Udyan	NA	A
20.	Paranjape Colony, Udyan	NA	A
21.	Chanadan Nagar, Udyan	25200	A
22.	Saikrupa Colony, Udyan	12852	A
23.	Vyankatesh Colony, Udyan	30000	A
24.	Chaitanya Colony, Udyan	42050	A
25.	Kedia Nagar, Udyan	12048	A
26.	Bherade Layout, Udyan	NA	A
27.	Pratap Square, Udyan	NA	A
28.	Paradise Colony, Udyan	33200	A
29.	Ganesh Colony, Udyan	16247	A
30.	Mahalakshmi, Udyan	25200	A
31.	Sharada Vihar, Udyan	29375	A
32.	Ramkrishna Paramhans, Udyan	NA	A
33.	Vivekanad Udyan	26314	A
34.	Uttam Nagar, Udyan	NA	A
35.	Bhagyodaya Colony, Udyan	NA	A
36.	Shahid Smarak, Udyan	21525	A
37.	Moti Nagar, Udyan	8645	A
38.	Shri Viaks Colony,Udyan	23500	A
39.	Rangada	6460	A
40.	Hari-Om Colony, Udyan	16641	A
41.	Rahatgaon Parisar, Udyan	10260	A
42.	Jijau Nagar, Udyan	9024	A
43.	Kurhe Appa Layout, Udyan	20520	A
44.	Wadali Talaw, Udyan	371756	A
45.	Narayan Guru Math, Udyan	NA	A

46.	Parwati Nagar, Udyan	35301	A
47.	Mhada Colony, Udyan	8820	A
48.	Shivarpan Colony, Udyan	22015	A
49.	Shahid Smarak ,Badnera, Udyan	14000	A
50.	New Swashtik Nagar, Udyan	44400	A
51.	Baba Saheb Ambedkar Udyan	11600	A
52.	Shrikrushna Peth	15621	A
53.	Buti Plot, Udyan	14080	A
54.	Sabnis Plot, Udyan	NA	A
55.	MigViman Udyan	4875	B
56.	Kedia Nagar Udyan-2	49146	B
57.	Krushna Nagar, Udyan	15240	B
58.	Kasturba Udyan	59450	B
59.	Prashant Nagar, Udyan	118400	B
60.	Narayan Nagar, Udyan	29210	B
61.	Chhangani Nagar, Udyan	19026	B
62.	Sharada Nagar, Udyan	26100	B
63.	Sanjeevani Colony, Udyan	12512	B
64.	Vijay Colony, Udyan	18048	B
65.	Prasad Colony, Udyan	26860	B
66.	Mayer Bungalow, Udyan	80510	B
67.	Bhumiputra Colony Udyan	52664	B
68.	Congress Nagar, Udyan	84925	B
69.	Arjun Nagar, Udyan	86106	B
70.	Dastur Nagar, Udyan	19800	B
71.	Rampuri Camp, Udyan	45800	B
72.	Ehbab Nagar, Udyan	20300	B
73.	Nagpuri Gate, Udyan	NA	B
74.	Sanket Colony, Udyan	31752	B
75.	Balaji Nagar, Udyan	NA	B
76.	Ganapati Nagar, Udyan	56345	B
77.	Janardanpeth, Udyan	13377	B
78.	L.I.C. Colony, Udyan	36750	B
79.	Sindhu Nagar, Udyan	11658	B
80.	Masanganj Nagar, Udyan	23100	B
81.	Libuni Nagar, Udyan	38750	B
82.	Collector Bangala, Udyan	NA	B
83.	Laxmi Nagar, Udyan	8700	B
84.	Pannalal Nagar, Udyan	12852	C
85.	Vilas Nagar, Udyay	12600	C
86.	Balaji Plot, Udyan	21280	C
87.	Madhuban Colony, Udyan	9250	C
88.	Taaj Nagar, Udyan	7752	C
89.	Meherbaba Colony, Udyan	19000	C
90.	Professor Colony, Badnera, Udyan	35910	C
91.	Vilas Nagar, Udyan	26460	C
92.	Gajanan Nagar, Udyan	NA	C
93.	Sourabh Colony, Udyan	NA	C

94.	Trikoni, Udyan	NA	D
95.	Chhatri Talaw, Udyan	550000	D
96.	Prabhat Colony, Udyan	6936	D
97.	Ramayan Nagar, Udyan	5000	D
98.	Vidya Colony, Udyan	21584	D
99.	Zakir Colony, Udyan	21584	D
100.	Mahendra Colony	11011	NA
101.	Tarkheda	26584	NA
102.	Shrikrushna	15621	NA

Coll

अमृत अभियान अंतर्गत
अमरावती भुयारी गटार योजना (टप्पा -I)

प्रशासकीय मान्यता :- दिनांक 12/05/2017
तांत्रिक मंजूरी :- दिनांक 02/05/2017
सद्यास्थिती :- निविदा प्रक्रिया चालु आहे.
दिनांक 22/05/2017 ला e- निविदा Online प्रसिध्द करण्यात आली आहे.

प्रस्तावात समाविष्ट उपांगे

1) झोन क्र. 4 व 5 मधील एकूण 24646 प्रॉपर्टी कनेक्शन करणे	44.15 **कोटी**
2) झोन क्र. 2 व 3 करीता गाडगेनगर नाला ते लालखेडी मलशुध्दीकरण केंद्रापर्यंत संयुक्त मुख्य मलवाहीनी टाकणे	12.30 **कोटी**
3) a) प्रमुख रस्त्यांवर संयुक्त मुख्य मलवाहीनी पुश थ्रु पध्दतीने क्रॉस करणे	1.28 **कोटी**
b) रस्त्यांची आवश्यक असलेली दुरुस्ती	0.41 **कोटी**
4) गाडगे नगर व नवसारी नाल्यावरती बंधारा बांधून मलप्रवाह संयुक्त मुख्य मलवाहीनीत घेणे	1.00 **कोटी**
5) जुन्या मलवाहीन्या मधील 71 गॅप्सची कामे पूर्ण करणे	5.90 **कोटी**
एकूण	65.04 **कोटी**

- सध्या लालखेडी येथे कार्यान्वित असलेले 30.50 MLD व प्रगतीपथावर असलेले 44.00 MLD अशी एकूण 74.50 **MLD** मलशुध्दीकरण केंद्र क्षमता उपलब्ध आहे.
- प्रत्यक्षात घर जोडणी झालेली संख्या फारच कमी *(724 फक्त)* असल्यामूळे अत्यल्प मलप्रवाह मलशुध्दीकरण केंद्रात येत असून त्यावर शुध्दीकरण प्रक्रिया करण्यात येते

  (जवळपास 6.00MLD म्हणजेच उपलब्ध क्षमतेच्या 8%)
- गाडगे नगर व नवसारी नाल्यावरती बंधारे बांधून नाल्यातील मलप्रवाह संयुक्त मुख्य मलवाहीनी द्वारे लालखेडी मलशुध्दीकरण केंद्रात पाहेचवून 9.94 **MLD** मलप्रवाह उपलब्ध होईल

  (क्रमश: 7.47 MLD + 2.47 MLD)
- झोन क्र. 4 व 5 ची प्रॉपर्टी कनेक्शन झाल्यांनतर 14.79 **MLD** इतका मलप्रवाह उपलब्ध होईल.

  (24646 घरे X 120 लिटर प्रतिघर X 5 व्यक्ति प्रतिघर)
- अंबा नाला व टोपे नगर नाल्यावरीती बंधारे बांधून त्या दोन नाल्यातील एकुण 26.01 **MLD** मलप्रवाह उपलब्ध होईल.

  (15.74 MLD + 10.27 MLD)
- वरील तीन बाबीमुळे उपलब्ध होणारा एकुण मलप्रवाह 50.74 **MLD**

  (9.94 MLD + 14.79 MLD + 26.01 MLD)
- मात्र 24646 प्रॉपर्टी कनेक्शन झाल्यानंतर अंबा नाला व टोपे नगर नाल्यातील कमी होणारा मलप्रवाह गृहीत धरता उपलब्ध होणारा अपेक्षित संभाव्य मलप्रवाह 45.00 **MLD**
- अशाप्रकारे एकूण उपलब्ध क्षमतेच्या 60% म्हणजेच पुरेश्या क्षमतेने मलशुध्दीकरण चालविता येईल व भविष्यात होणारी लोकसंख्या वाढीमुळे त्यात आणखी वाढ होईल.

अमृत अभियान अतंर्गत प्रस्तावित योजना (As per SLIP)

झोन क्र	मलवाहिन्याची लांबी	पंपीग स्टेशन उर्ध्ववाहिनी	मलशुध्दीकरण केन्द्र	सद्यस्थिती
अमरावती				
झोन क्र.1	17.43 कि.मी.	पंपीग स्टेशन क्र.1		
झोन क्र.2	86.27 कि.मी.	पंपीग स्टेशन क्र.2	14.50 एम.एल.डी.	प्रस्तावित
झोन क्र.6	83.59 कि.मी.			
झोन क्र.3	26.22 कि.मी.	पंपीग स्टेशन क्र.3	8.0 एम.एल.डी.	प्रस्तावित
झोन क्र.4	107.35 कि.मी.	पंपीग स्टेशन क्र.4	30.50 एम.एल.डी.	कार्यान्वित
झोन क्र.5	112.99 कि.मी.	पंपीग स्टेशन क्र.4	44.00 एम.एल.डी.	प्रगतीपथावर
झोन क्र.7	67.37 कि.मी.	पंपीग स्टेशन क्र.7	10.50 एम.एल.डी.	प्रस्तावित
झोन क्र.8	45.71 कि.मी.	पंपीग स्टेशन क्र.8	5.50 एम.एल.डी.	प्रस्तावित
बडनेरा				
झोन क्र.1	31.65 कि.मी.	पंपीग स्टेशन क्र.5	12.0 एम.एल.डी.	प्रस्तावित
झोन क्र.2	28.86 कि.मी.	पंपीग स्टेशन क्र.6		
एकुण	607.44 कि.मी		125 एम.एल.डी.	

अमरावती भुयारी गटार योजना अंतर्गत सर्व योजनांचा गोषवारा

अ क्र	योजनेचे नाव	मंजूर वर्ष	मंजूर किंमत	प्राप्त अनुदान	झालेला खर्च	प्रस्तावित व झालेली कामे
1)	मूळ योजना	1997	123.04	36.78	36.62	• लॅटरल व ट्रंकमेन टाकणे एकूण 345.02 पैकी 111.06 **Km.** काम पूर्ण. • लालखेडी येथील 30.50 द.ल.लि. मलशुध्दीकरण केंद्राचे 70% काम पूर्ण. • पंपींग स्टेशन क्रमांक 4 वरील पंपाचा **पुरवठा करण्यात आला.** • हुडको तर्फे कर्ज उपलब्ध न झाल्यामूळे **निधी अभावी** कामे रखडली व उर्वरित काम हाती घेण्यात आली नाहीत.
2)	विशेष सहाय्य अनुदान	2011	11.50	10.35	10.32	• मलवाहीन्या टाकण्याच्या थकित देयकाचे भुगतान करण्यात आले. अंतिम देयक भुगतान बाकी. • 30.50 द.ल.लि. मलशुध्दीकरण केंद्राचे काम 70% पासून 92% पर्यंत पूर्ण करुन मार्च -2013 पासून अंशत: कार्यान्वित करण्यात आले. उर्वरीत काम मूळ कंत्राटदार करण्यास तयार नसल्यामूळे दुसऱ्या कंत्राटदारा मार्फत 100% **काम पूर्ण** • पंपीग स्टेशन क्रमांक 4 वरील पंप बसविण्याचे काम 100% **पूर्ण.** • कामे पूर्ण होण्यास्तव **लोकवर्गणी** रक्कम **रु. 1.15 कोटी आवश्यक.**
3)	UIDSSMT योजना	2008	141.93	86.12	86.12	• लॅटरल व ट्रंकमेन टाकणे 138 **Km.** काम पूर्ण. • 44.00 द.ल.लि. मलशुध्दीकरण केंद्र 55% काम पूर्ण. उर्ध्ववाहीनी 90% **काम पूर्ण.** • दरसुची फरकाची फक्त शासन अनुदान 50% रक्कम प्राप्त . • तीन टप्या पैकी फक्त **पहिल्या टप्याची रक्कम प्राप्त.**(141.93 कोटी पैकी 86.12 कोटी) • अपुऱ्या निधी कारणास्तव **उर्वरीत कामाचा** 48.22 कोटी किंमतीचा प्रस्ताव सादर पैकी 24.75 ला **मंजुरी प्राप्त.**
	दरसुची फरकाची रक्कम	2014	18.68	7.36	7.36	
4)	उर्वरित कामे पूर्ण करण्याचा प्रस्ताव	2016	24.75	24.75	12.33	• थकित देयकांचे व इतर दायित्वाचे **भुगतान** करण्यात आले. • मूळ करारनाम्या अंतर्गत 44.00 मलशुध्दीकरण केंद्राचे काम प्रगतीत असून 55% पासून 95% पूर्ण. • पंपीग मशिनरीचे काम प्रगतीपथावर असून 75% काम पूर्ण • ट्रंकमेन गॅप व उर्वरीत मलवाहीन्याचे काम प्रगतीपथावर असून 7.89 कि.मी. पैकी 3.25 कि.मी. काम पूर्ण
5)	UIDSSMTटप्पा II योजना	2014	105.60	-	-	• **निधी** प्राप्त झाला नाही.
6)	अमृत अभियान अंतर्गत योजना	2017	65.04	-	-	• अमरावती करीता **आठ** व बडनेरा करीता **दोन** अश्या **एकुण दहा झोन** करीता योजना प्रस्तावित असून त्यानुसार एकूण रु. 440.01 कोटी किंमतीचा **SLIP** दि. 16/09/2015 ला ऑनलाईन सादर. • त्यानुसार मंजूर **SAAP** प्रमाणे योजने करीता एकुण रु. 391 कोटीचे प्रावधान असून वर्ष **2016-17** करीता **रु. 227.94 कोटी ची तरतूद** ठेवण्यात आली आहे. • **टप्पा I** अंतर्गत झोन क्र. 4 व 5 मधील प्रॉपर्टी कनेक्शन करणे व झोन क्र. 2 व 3 करीता संयुक्त मुख्य मलवाहीनी टाकणे आणि 71 गॅप्स पूर्ण करणे. मंजुरी दि. 12/06/2017 **किंमत रु. 65.04 कोटी** निविदा प्रक्रिया सुरु आहे. • अमृत योजनेच्या पुढील टप्याअंतर्गत झोन क्र. 1,2,3,6,7,8,9 व 10 च्या मलवाहीन्या व आवश्यक मलशुध्दीकरण केंद्र आणि झोन क्र. 4 व 5 च्या उर्वरित मलवाहीन्या यांचा समावेश असून प्रस्ताव तयार करणे प्रगतीपथावर
		एकूण	490.54	165.36	152.75	*(शेरा:- एकूण मंजूर पैकी 34% निधी प्राप्त असून 31% निधी खर्च झालेला आहे.)*

Direction u/s 18 (1)(b) & 31 A of the Air (Prevention & Control of Pollution) Act, 1981 च्या अनुषंगाने करावयाच्या कार्यवाहीबाबत.

अमरावती महानगरपालिका अमरावती

कार्यालय : - महानगरपालिका अमरावती
जा. क्र. अमनपा/पर्यावि/आयु/८२८/२०१७
दि. 9/12/16

आदेश :-

संदर्भ :- 1. Air (Prevention & Control of Pollution) Act, 1981
2. Construction & Demolition waste Management Rules 2016.
3. या कार्यालयाचे आदेश क्र. अमनपा/पर्यावि/आयु/८१८/२०१७. दि. ७/२/२०१७.
4. C.P.C.Board, Direction u/s 18 (1)(b) of the Air (Prevention & Control of Pollution) Act, 1981 . File No. A-18011/41/2000(Part-II)- MON 5493.
5. MPCB/JD(APC) /B-4474/2016 Date. 16/11/2016.

उपरोक्त संदर्भीय कायदयान्वये केंद्रीय प्रदुषण नियंत्रण मंडळाने कलम १८(१)(ब) अंतर्गत हवेच्या प्रदुषणाबाबत सुचना निर्गमित केलेल्या आहेत. महानगरपालिका क्षेत्रामध्ये हवेची गुणवत्ता सुधारण्यासाठी प्राप्त निर्देशांमध्ये नमुद मुद्यांचे अनुषंगाने संबंधीत विभागाने कार्यवाही करणे अपेक्षित आहे. त्यानुसार महाराष्ट्र प्रदुषण नियंत्रण मंडळ, मुंबई, यांनी कलम ३१ (अ) अंतर्गत हवेच्या प्रदुषणाबाबत सुचना निर्गमित केलेल्या असून प्राप्त निर्देशामध्ये नमुद मुद्दे /करावयाची कार्यवाही त्याअनुषंगाने पर्यावरण विभाग, केंद्रशासन यांचेतर्फे संदर्भीय नियम निर्गमित करण्यात आले असून *उक्त नियमांची अंमलबजावणी करणे अनिवार्य आहे.* त्याअनुषंगाने महानगरपालिकेचे विविध विभागाशी संबंधीत मुद्दे या संदर्भात पुढीलप्रमाणे आदेश निर्गमित करण्यात येत आहे.

अ. क्र.	विभाग	करावयाची कार्यवाही
१	सहाय्यक संचालक नगर रचना	-कन्स्ट्रक्शन ॲन्ड डिमॉलीशन रुल्स २०१६ ची प्रभावी अंमलबजावणी करावी.
२	आरोग्य विभाग (स्वच्छता)	-कन्स्ट्रक्शन ॲन्ड डिमॉलीशन रुल्स २०१६ ची प्रभावी अंमलबजावणी करावी. -शहरामध्ये तसेच शहरालगत अस्तित्वात असलेल्या शेतजमीनीमध्ये असणारा लाकुडफाटा तसेच पालापाचोळा, पिकांचे अवशेष जाळले जाणार नाही याची दक्षता घ्यावी. तसेच वर नमुद कचरा (बायोमास) जाळण्यास बंदी घालण्यात यावी. -नागरी घनकचरा जाळला जाणार नाही याची दक्षता घ्यावी तसेच संबंधीतावर संदर्भ क्र. ५ नुसार दंडात्मक कार्यवाही करावी.
३	बांधकाम विभाग, कार्यकारी अभियंता १ व २	-शहरामध्ये वाहनांची कोंडी होऊ नये याकरीता आवश्यक त्याठिकाणी रस्त्यांचे रुंदीकरण संदर्भात कार्यवाही करावी. -आपल्या ताब्यातील रस्त्यांवर खड्डे राहणार नाही याची दक्षता घ्यावी. - खडतर रोडवर कोटींग करून पुन:बांधणी करावी. -कन्स्ट्रक्शन ॲन्ड डिमॉलीशन रुल्स २०१६ ची प्रभावी अंमलबजावणी करावी. -विकास कामे सुरु असतांना बांधकाम साहित्य हाताळणी, वाहून नेणे, चाळणे, यापासून निर्माण होणारी धूळ थोपविण्याकरीता आवश्यकतेप्रमाणे पाण्याचे फवारे, पडदी (Curtains), बॅरीकेटींग, आणि डस्ट सप्रेशन युनिट चा वापर करून परिसरामध्ये धूळ उडणार नाही याबाबतची दक्षता घ्यावी. -बांधकाम साहित्याची वाहतुक बंद वाहनांमधून /झाकून होईल याबाबतची दक्षता घ्यावी.

अ. क्र.	विभाग	करावयाची कार्यवाही
		-शहरातील वर्दळीच्या चौकामध्ये शक्य असल्यास पाण्याचे कारंजे (फवारे) लावण्यासंदर्भातील कार्यवाही करावी.
४.	उद्यान विभाग	-शहरामध्ये असणाऱ्या बगीच्यांमध्ये निर्माण होणारा कचऱ्यापासून कंपोस्ट खताची निर्मीती करावी. -तसेच हा कचरा (बायोमास) जाळला जाणार नाही याबाबतची दक्षता घ्यावी. -रस्त्यांच्या सभोवताली तसेच रस्ता दुभाजकांवर हरितपट्टा निर्माण करून त्याची जोपासना करावी. -चौक सौदर्यीकरणाच्या अनुषंगाने हरितपट्टयाची निर्मीती करावी. -खुल्या जागा, बगीचे, सार्वजनिक /सामुदायिक जागा, शाळा इ. ठिकाणी वृक्ष लागवड व संवर्धन करावे.
५.	अतिक्रमण निमुर्लन विभाग	-शहरामध्ये वाहनांची कोंडी होऊ नये याकरीता रस्त्यावरील व रस्त्या कडेवरील अतिक्रमण नियमीत पणे काढण्यात यावे. तसेच अशाप्रकारचे अतिक्रमण होणार नाही याबाबतची दक्षता घ्यावी. -पादचारी मार्ग नागरीकांच्या वर्दळीकरीता पुर्णत: खुले रहावेत याकरीता पादचारी मार्गावरील अतिक्रमण नियमीत पणे काढण्यात यावे. तसेच अशाप्रकारचे अतिक्रमण होणार नाही याबाबतची दक्षता घ्यावी.

प्रदुषण नियंत्रण मंडळाकडून प्राप्त विषयांकित दिशानिर्देशांची अंमलबजावणी करणे अनिवार्य असून शहरातील हवेची गुणवत्ता सुधारण्याकरीता उक्त नियमांची प्रभावी अंमलबजावणी होईल याची दक्षता घ्यावी. अमरावती महानगरपालिका क्षेत्रांअंतर्गत उक्त आदेश तात्काळ अंमलात येतील.

आयुक्त
महानगरपालिका अमरावती.

प्रत,

१. सहाय्यक संचालक नगर रचना, महानगरपालिका अमरावती.
२. अतिरिक्त शहर अभियंता, महानगरपालिका अमरावती.
३. वैद्यकीय आरोग्य अधिकारी, महानगरपालिका अमरावती.
४. कार्यकारी अभियंता १ व २, महानगरपालिका अमरावती.
५. अतिक्रमण विभाग प्रमुख, महानगरपालिका अमरावती.
६. उद्यान अधिक्षक, महानगरपालिका अमरावती.

प्रतिलीपी:

१. अतिरिक्त आयुक्त, महानगरपालिका अमरावती.
२. उपायुक्त (प्र./सा.) महानगरपालिका अमरावती.
३. प्रादेशिक अधिकारी, महाराष्ट्र प्रदुषण नियंत्रण मंडळ, अमरावती यांचे माहितीकरीता

आयुक्त
महानगरपालिका अमरावती.

अमरावती महानगरपालिका अमरावती

कार्यालय : - महानगरपालिका अमरावती
जा.क्र. अमनपा/पर्यावि/आयु/८२५/२०१७
दि. 9५/२/१७

प्रति,

१. महाप्रबंधक, भारत संचार निगम लि. अमरावती.
२. अधिक्षक अभियंता, महाराष्ट्र जीवन प्राधीकरण, मंडळ अमरावती,
३. प्रादेशिक परिवहन अधिकारी, अमरावती.
४. कार्यकारी अभियंता, महाराष्ट्र वीज वितरण कंपनी मर्या. अमरावती
५. कार्यकारी अभियंता, महाराष्ट्र वीज पारेषण कंपनी मर्या. अमरावती
६. कार्यकारी अभियंता, सार्वजनीक बांधकाम विभाग, अमरावती
७. जिल्हा अधिक्षक कृषीअधिकारी, कृषी विभाग अमरावती.

विषय :- **Direction u/s 18 (1)(b) & 31 A of the Air (Prevention & Control of Pollution) Act, 1981 च्या अनुषंगाने करावयाच्या कार्यवाहीबाबत.**

संदर्भ :- 1. Air (Prevention & Control of Pollution) Act, 1981
2. Construction & Demolition waste Management Rules 2016.
3. या कार्यालयाचे आदेश क्र. अमनपा/पर्यावि/आयु/८१७/२०१७. दि. ७/२/२०१७.
4. C.P.C.Board, Direction u/s 18 (1)(b) of the Air (Prevention & Control of Pollution) Act, 1981 . File No. A-18011/41/2000(Part-II)- MON 5493.
5. MPCB/JD(APC) /B-4474/2016 Date. 16/11/2016.

उपरोक्त संदर्भीय कायदयान्वये केंद्रीय प्रदुषण नियंत्रण मंडळाने कलम १८(१)(ब) अंतर्गत हवेच्या प्रदुषणाबाबत सुचना निर्गमित केलेल्या आहेत. महानगरपालिका क्षेत्रामध्ये हवेची गुणवत्ता सुधारण्यासाठी प्राप्त निर्देशांमध्ये नमुद मुद्यांचे अनुषंगाने संबंधीत विभागाने कार्यवाही करणे अपेक्षित आहे. त्यानुसार महाराष्ट्र प्रदुषण नियंत्रण मंडळ, मुंबई, यांनी कलम ३१ (अ) अंतर्गत हवेच्या प्रदुषणाबाबत सुचना निर्गमित केलेल्या असून प्राप्त निर्देशाशी संबंधीत विभाग व त्याअनुषंगाने करावयाची कार्यवाही / मुद्दे पुढीलप्रमाणे आहेत.

अ.क्र.	संबंधीत विभाग	मुद्या / करावयाची कार्यवाही
१.	भारत संचार निगम लि. अमरावती. महाराष्ट्र जीवन प्राधीकरण, मंडळ अमरावती, महाराष्ट्र वीज वितरण कंपनी मर्या. अमरावती महाराष्ट्र वीज पारेषण कंपनी मर्या. अमरावती	-कन्स्ट्रक्शन ॲन्ड डिमॉलीशन रुल्स २०१६ ची प्रभावी अंमलबजावणी करणे. -विकास कामे सुरु असतांना बांधकाम साहित्य हाताळणी, वाहून नेणे, चाळणे, यापासून निर्माण होणारी धूळ थोपविण्याकरीता आवश्यकतेप्रमाणे पाण्याचे फवारे, पडदी (Curtains), बॅरीकेटींग, आणि डस्ट सप्रेशन युनिट चा वापर करून परिसरामध्ये धूळ उडणार नाही याबाबतची दक्षता घेणे. -बांधकाम साहित्याची वाहतूक बंद वाहनांमधून/झाकून होईल याबाबतची दक्षता घेणे.
२.	प्रादेशिक परिवहन कार्यालय, अमरावती.	-बॅटरीवर चालणाऱ्या वाहनांचा वापर करण्याकरीता प्रोत्साहित करणे संबंधी आवश्यक ती पावले उचलणे. -ओव्हरलोडींग ट्रकला शहरामध्ये प्रवेश प्रतिबंधीत करणे. - वाहतूक सुरळीत चालण्याकरीता इंटेलिजंट ट्राफीक सिस्टीम अंगिकारणे.

अ.क्र.	संबंधीत विभाग	मुद्या / करावयाची कार्यवाही
३.	कृषी विभाग अमरावती.	-शहरामध्ये तसेच शहरालगत अस्तित्वात असलेल्या शेतजमीनीमध्ये असणारा लाकुडफाटा तसेच पालापाचोळा. पिकांचे अवशेष जाळले जाणार नाही याची दक्षता घेणे. -तसेच वर नमुद कचरा (बायोमास) जाळण्यास बंदी घालणे.
४.	सार्वजनीक बांधकाम विभाग, अमरावती.	-शहरामध्ये वाहनांची कोंडी होऊ नये याकरीता आवश्यक त्याठिकाणी रस्त्यांचे रुंदीकरण संदर्भात कार्यवाही करणे. -शहरातून मार्गक्रमण करणारे वाहनांची संख्या नियंत्रित करुन वाहतूकीची कोंडी कमी करण्याकरीता आवश्यकतेनूसार बायपास रोडची निर्मीती करणे. -आपल्या ताब्यातील रस्त्यांवर खड्डे राहणार नाही याची दक्षता घेणे. - खडतर रोडवर कोटींग करून पुर्नबांधणी करणे. -कन्स्ट्रक्शन ॲन्ड डिमॉलीशन रुल्स २०१६ ची प्रभावी अंमलबजावणी करणेबाबत. -विकास कामे सुरु असतांना बांधकाम साहित्य हाताळणी, वाहून नेणे, चाळणे, यापासून निर्माण होणारी धूळ थोपविण्याकरीता आवश्यकतेप्रमाणे पाण्याचे फवारे, पडदी (Curtains), बॅरीकेटींग, आणि डस्ट सप्रेशन युनिट चा वापर करून परिसरामध्ये धूळ उडणार नाही याबाबतची दक्षता घ्यावी. -बांधकाम साहित्याची वाहतूक बंद वाहनांमधून /झाकून होईल याबाबतची दक्षता घ्यावी. -शहरातील वर्दळीच्या चौकामध्ये शक्य असल्यास पाण्याचे कारंजे (फवारे) लावण्यासंदर्भातील कार्यवाही करणे.

प्रदुषण नियंत्रण मंडळाकडून प्राप्त विषयांकित दिशानिर्देशांची अंमलबजावणी करणे अनिवार्य असून शहरातील हवेची गुणवत्ता सुधारण्याकरीता उक्त नियमांची प्रभावी अंमलबजावणी होईल याची दक्षता घ्यावी.

आयुक्त
महानगरपालिका अमरावती.

प्रतिलीपी :-

१. मा. जिल्हाधिकारी, अमरावती यांचे माहितीकरीता सादर.
२. प्रादेशिक अधिकारी, महाराष्ट्र प्रदुषण नियंत्रण मंडळ, अमरावती यांचे माहितीकरीता

आयुक्त
महानगरपालिका अमरावती.

संगणक विभाग म.न.पा.
जा.क. 158
दि. 06/09/16

महाराष्ट्र शासन

दुरध्वनी क्रमांक ०२२ २२८५२६९६
फॅक्स क्रमांक ०२२ २२०२५९४६

क्रमांक :- संकीर्ण-२०१२/प्र.क्र.१३६/तां.क.१
पर्यावरण विभाग, मंत्रालय,
नवीन प्रशासन भवन,
१५ वा मजला, मुंबई-३२
दिनांक :- ०५.९.२०१६

अमरावती महानगरपालिका
सा.प्र.विभाग
आ.क्र. 6481 दि. 6/9/16
विभागाचे नांव पर्यावरण

प्रति,

१. सर्व महानगरपालिका आयुक्त
२. सर्व जिल्हाधिकारी,
३. सदस्य सचिव, महाराष्ट्र प्रदुषण नियंत्रण मंडळ, मुंबई,

पर्यावरण विभाग
आ.क्र. ११८१
दिनांक ८/९/१६

पर्यावरण वि.

विषय :- जनहित याचिका क्रमांक १७३/२०१०,
श्री.महेश बेडकेर वि. महाराष्ट्र शासन संदर्भात मा. उच्च न्यायालयाने दिनांक १६ ऑगस्ट २०१६ रोजी दिलेल्या आदेशाच्या अंमलबजावणीबाबत

महोदय,

मा. उच्च न्यायालयाच्या दिनांक १६ ऑगस्ट, २०१६रोजीच्या, जनहित याचिका क्रमांक १७३/२०१०, श्री.महेश बेडकेर वि. महाराष्ट्र शासन या प्रकरणात, दिलेले आदेश कृपया पहावे.

२. न्यायालयीन आदेशातील परिच्छेद क्रमांक ९४ (xviii) नुसार सर्व जिल्हाधिकारी व महानगरपालिका आयुक्त व सर्व संबंधितांनी या आदेशांचे तंतोतंत पालन करून कार्यपुर्ती अहवाल दोन महिन्याच्या आत न्यायालयास अवगत करून त्यांची प्रत शासनास कृपया पाठविण्यात यावी, ही विनंती.

आयुक्त
म.न.पा.अमरावती

आपला,

6/9/16
(का.सु.लंगोटे)
शास्त्रज्ञ श्रेणी-२ तथा अवर सचिव (तांत्रिक)

सोबत - वरीलप्रमाणे

१. प्रधान सचिव, गृह विभाग, मंत्रालय, मुंबई-३२
२. प्रधान सचिव, नगर विकास विभाग, मंत्रालय, मुंबई-३२
३. प्रधान सचिव, पर्यावरण विभाग, मंत्रालय, मुंबई
४. मा.मंत्री, पर्यावरण यांचे खाजगी सचिव, मंत्रालय, मुंबई

यांना माहितीसाठी अग्रेषित

ध्वनी प्रदुषण (नियमन व नियंत्रण) नियम, २००० च्या अंमलबजावणीबाबत...

महाराष्ट्र शासन
पर्यावरण विभाग
क्रमांक. ध्वनीप्र २००९/प्र.क्र.१२/०८/तां.क. १
१५ वा मजला, नवीन प्रशासन भवन,
मादाम कामा मार्ग, मंत्रालय, मुंबई-४०० ०३२
दिनांक: ५ सप्टेंबर, २०१६.

वाचा :- १) केंद्रीय पर्यावरण व वन मंत्रलयाची अधिसूचना क्र. एसओ १२३(ई), दि. १४.२.२००८.
२) शासन निर्णय समक्रमांक दिनांक १६.८.२०००.
3) शासन निर्णय समक्रमांक दिनांक १५.६.२००१.
४) केंद्रीय पर्यावरण व वन मंत्रलयाची अधिसूचना क्र. एसओ १००८(ई), दि. ११.१०.२००२
५) शासन निर्णय क्रमांक-ध्वनीप्र २०००/प्र.क्र.२४/तां.क.२(भाग-३) दिनांक ७.३.२००३.
६) शासन निर्णय क्रमांक-ध्वनीप्र २००८/प्र.क्र.१३/०८/तां.क.१, दिनांक २८.४.२००८.
७) शासन निर्णय क्रमांक-ध्वनीप्र २००९/प्र.क्र.१२/०८/तां.क.१ दिनांक ३१.७.२०१३.
८) माननीय उच्च न्यायालयाने याचिका क्रमांक १७३/२०१० दिनांक १६ ऑगस्ट, २०१६ रोजी दिलेले आदेश / निकालपत्र.

प्रस्तावना :- केंद्रीय पर्यावरण मंत्रालयाच्या ध्वनी प्रदुषण (नियमन व नियंत्रण) नियम, २००० च्या परिच्छेद ५(२) नुसार ध्वनिक्षेपक व ध्वनिवर्धक यांचा वापर श्रोतृगृहे, सभागृहे, सामुहिक सभागृहे आणि मेजवानी कक्ष यासारख्या बंद जागा खेरीज इतर ठिकाणी (रात्री १० वा. पासून सकाळी ६ वाजेपर्यंत) करता येत नाही. या नियमामध्ये दि.११.१०.२००२ रोजीच्या अधिसूचनेन्वये केंद्र शासनाने सुधारणा केली असून नियम ५ मध्ये उपनियम (३) चा नव्याने समावेश करण्यात आलेला आहे. त्यान्वये ध्वनी प्रदूषणाची पातळी विहित मर्यादेत राखून वर्षभरामध्ये १५ दिवस ध्वनिक्षेपक व ध्वनिवर्धक यांचा वापर श्रोतृगृहे, सभागृहे, सामुहिक सभागृहे आणि मेजवानी कक्ष यासारख्या बंद जागा खेरीज इतर ठिकाणी रात्री १० वाजेपर्यंत ऐवजी रात्री १२ वाजेपर्यंत सांस्कृतिक कार्यक्रम व धार्मिक सणांकरिता करता येऊ शकेल. तथापि वर्षभरातील १५ दिवस कोणते हे ठरविण्याची जबाबदारी राज्य शासनाची आहे. तसेच या अनुषंगाने जनहित याचिका क्र.१७३/२०१० मध्ये मा.उच्च न्यायलयाने दिनांक १६ ऑगस्ट, २०१६ रोजी दिलेल्या आदेशाच्या अनुषंगाने ध्वनिक्षेपक व ध्वनिवर्धक वापरासाठी वर्षभरातील १५ दिवसांसाठी वेळेत सूट देण्याबाबत प्रस्ताव शासनाच्या विचाराधीन होता.

शासन निर्णय :- ध्वनी प्रदुषण (नियमन व नियंत्रण) नियम, २०००च्या नियम ५ (३) नुसार ध्वनिक्षेपक व ध्वनिवर्धक यांचा वापर श्रोतृगृहे, सभागृहे, सामुहिक सभागृहे आणि मेजवानी कक्ष यासारख्या बंद जागा खेरीज इतर ठिकाणी खालीलप्रमाणे १५ दिवसांसाठी फक्त ध्वनीची विहित मर्यादा राखून सकाळी ६ वाजल्यापासून रात्री १२ वाजेपर्यंत करता येईल :-

शिवजयंती	:	१ दिवस
ईद-ए-मिलाद	:	१ दिवस
डॉ. आंबेडकर जयंती	:	१ दिवस
१ मे, महाराष्ट्र दिन	:	१ दिवस
गणपती उत्सव	:	४ दिवस (दुसरा दिवस, पाचवा दिवस, गौरी विसर्जन व अनंत चर्तुदशी)
नवरात्री उत्सव	:	२ दिवस (अष्टमी व नवमी)
दिवाळी	:	१ दिवस (लक्ष्मीपूजन)
ख्रिसमस	:	१ दिवस
३१ डिसेंबर	:	१ दिवस
उर्वरीत २ दिवस	:	परवानगी राज्य शासनाच्या मान्यतेने महत्वाच्या कार्यक्रमासाठी आवश्यकतेनुसार दिली जाईल.

राज्यात वरीलप्रमाणे ध्वनीवर्धक व ध्वनीक्षेपक वापरण्याबाबतची सूट १५ दिवसांपेक्षा जास्त होणार नाही व ही सूट शांतता क्षेत्रात लागू नसल्याने त्याची अमलबजावणी करण्याची जबाबदारी संबंधित जिल्हाधिकारी, महानगरपालिका आयुक्त व ध्वनी प्रदूषण नियंत्रण प्राधिकरण यांची राहील. अशा प्रकाराची परवानगी देतांना ध्वनी प्रदूषण नियम २००० मधील नियम ३ व ४ चे पालन करण्यात यावे. ध्वनी प्रदूषण नियम २००० अंतर्गत स्थापन केलेल्या ध्वनी प्राधिकरणाने त्यांच्याकडे प्राप्त तक्रारींवर मा. उच्च न्यायालयाने दि.१६ ऑगस्ट, २०१६ रोजी दिलेल्या आदेशात विहित पध्दतीने कार्यवाही करून केलेल्या कार्यवाहीचा त्रैमासिक अहवाल राज्य शासनास पाठवावा.

तसेच प्राधिकरणाने निदर्शास आणून दिलेल्या बांबीवर संबंधित जिल्हाधिकारी किंवा प्रादेशिक अधिकारी, महाराष्ट्र प्रदुषण नियंत्रण मंडळ यांनी पर्यावरण संरक्षण कायदा, १९८६ च्या कलम १९(अ) नुसार कार्यवाही करावी.

मा. न्यायालयाच्या आदेशानुसार महाराष्ट्र प्रदूषण नियंत्रण मंडळ व संबंधित महानगरपालिका यांनी एकत्रित रित्या समन्वय साधून महानगरपालिका क्षेत्रांसाठी ध्वनी मॅपींग करुन असे नकाशे सर्व संबंधीत प्राधिकरणांना तात्काळ उपलब्ध करुन देण्याची कार्यवाही करावी.

संबंधीत सर्व जिल्हाधिकारी ,ध्वनी प्राधिकरण व महानगरपालिका आयुक्त यांनी मा. उच्च न्यायालयाच्या दि. १६ ऑगस्ट, २०१६ रोजी दिलेल्या आदेशाचे तंतोतन पालन करुन मासिक अहवाल राज्य शासनास सादर करावा.

या शासन निर्णयान्वये, पर्यावरण विभागाने यापूर्वी दि. ३१ जुलै, २०१३ रोजी या विषयी निर्गमित केलेला शासन निर्णय रद्द करण्यात येत आहे.

हे आदेश शासन निर्णय निर्गमित झाल्याच्या दिनांकापासून तत्काळ लागू होतील.

महाराष्ट्राचे राज्यपाल यांच्या आदेशानुसार व नावाने.

Patil
5/09/2016

(डॉ. बी.एन. पाटील)
संचालक (पर्यावरण)

प्रति,
मा. मुख्यमंत्री यांचे प्रधान सचिव
मा. मंत्री व राज्यमंत्री, पर्यावरण यांचे खाजगी सचिव
मा. मुख्य सचिव
अपर मुख्य सचिव, गृह विभाग
प्रधान सचिव, गृह विभाग
प्रधान सचिव, सामाजिक न्याय व सांस्कृतिक कार्य विभाग
सचिव, नगर विकास विभाग
पोलिस महासंचालक, महाराष्ट्र राज्य
सर्व विभागीय आयुक्त
सर्व जिल्हाधिकारी
सदस्य सचिव, महाराष्ट्र प्रदूषण नियंत्रण मंडळ
सर्व पोलीस आयुक्त
सर्व महानगरपालिका आयुक्त
सर्व मुख्य कार्यकारी अधिकारी जिल्हापरिषद

सर्व मुख्यधिकारी, नगरपालिका
महासंचालक, माहिती व जनसंपर्क संचालनालय (प्रसिध्दीसाठी)
संचालक, मुंबई दूरदर्शन (प्रसिध्दीसाठी)
संचालक, आकाशवाणी, मुंबई (प्रसिध्दीसाठी)

रस्त्यावरील /पादचारी मार्गावरील अनधिकृत मंडप / कक्ष तसेच ध्वनी प्रदुषण संबंधी भरारी पथक गठीत करणेबाबत.

अमरावती महानगरपालिका अमरावती

कार्यालय :- महानगरपालिका अमरावती
जा. क्रं. अमनपा/ पर्या /आयु/602/2016.
दिनांक :- 31/01/16

आदेश :-

महानगरपालिका क्षेत्राअंतर्गत साजरे होणारे उत्सवाकरीता महानगरपालिकेने झोनस्तरावर मंडप / कक्ष उभारणीकरीता सशर्त परवानगी दिली जाते. त्याअनुषंगाने अर्जदाराकडून परवानगीमध्ये नमुद अटी व शर्तीचे पालन होणे आवश्यक आहे.

अमरावती महानगरपालिका क्षेत्रांअंतर्गत सणउत्सवादरम्यान उभारण्यात येणारे मंडप / कक्ष तपासणी करण्याकरीता तसेच ध्वनी प्रदुषणाबाबत नागरीकांना तक्रार दाखल करण्याचे सुविधेकरीता झोन स्तरावर समिती गठीत करण्यात आली आहे.

वर नमुद तक्रार निवारण कक्षाकडील प्राप्त तक्रारींच्या अनुषंगाने तपासणी करणे, परवानगीतील अटी शर्तीनुसार मंडपाची उभारणी केली असलेबाबत शहानिशा करणे व अनुषंगीक अहवाल सादर करणेकरीता स्वास्थ अधिक्षक व झोनचे प्रमुख स्वास्थ निरीक्षक यांचे पुढिलप्रमाणे भरारी पथक गठीत करण्यात येत आहे.

अ.क्रं.	अधिकारी/ कर्मचारी यांचे नाव	पदनाम
१	श्री. अरुण तिजारे, स्वास्थ अधिक्षक (मुख्यालय)	पथकप्रमुख
२	श्री. धनंजय शिंदे, जेष्ठ स्वास्थ निरीक्षक झोन क्रं. १	सदस्य
३	श्री. एस.जी. गेडाम, जेष्ठ स्वास्थ निरीक्षक झोन क्रं. २	सदस्य
४	श्री. सुभाष पळसकर, जेष्ठ स्वास्थ निरीक्षक झोन क्रं. ३	सदस्य
५	श्री. के. एस. संगेले, जेष्ठ स्वास्थ निरीक्षक झोन क्रं. ४	सदस्य
६	श्री. आय. आर. खान, जेष्ठ स्वास्थ निरीक्षक झोन क्रं. ५	सदस्य

वर नमुद पथकाने आदेशाप्रमाणे कार्यवाही करून त्यासंबंधीचा अहवाल संबंधीत झोन स्तरीय समिती कडे सादर करावा.

आयुक्त
महानगरपालिका अमरावती.

प्रत :-

१. श्री. अरुण तिजारे, स्वास्थ अधिक्षक (मुख्यालय)
२. श्री. धनंजय शिंदे , जेष्ठ स्वास्थ निरीक्षक झोन क्रं. १
३. श्री. एस.जी. गेडाम, जेष्ठ स्वास्थ निरीक्षक झोन क्रं. २
४. श्री. सुभाष पळसकर , जेष्ठ स्वास्थ निरीक्षक झोन क्रं. ३
५. श्री. के. एस. संगेले , जेष्ठ स्वास्थ निरीक्षक झोन क्रं. ४
६. श्री. आय. आर. खान , जेष्ठ स्वास्थ निरीक्षक झोन क्रं. ५

प्रतिलीपी :-

१) अतिरीक्त आयुक्त, उपायुक्त (प्रशा.)/(सा.), महानगरपालिका अमरावती, यांचे माहितीकरिता .
२) सहाय्यक आयुक्त झोन क्रं.१,२,३,४ व ५ महानगरपालिका अमरावती, यांचे माहिती व पुढिल कार्यवाहीकरीता
३) पर्यावरण संवर्धन अधिकारी, महानगरपालिका अमरावती, यांचे माहितीकरीता.
४) वैद्यकीय आरोग्य अधिकारी (स्वच्छता), महानगरपालिका, अमरावती यांचे माहितीकरीता .

आयुक्त

पर्यावरण

अमरावती महानगरपालिका अमरावती

कार्यालय :- महानगरपालिका अमरावती
जा. क्रं. अमनपा/ पर्या /आयु/ ७०१/२०१६.
दिनांक :- ३/९/१६

आदेश :-

वाचा :-

१. मा. जिल्हाधिकारी यांचे कार्यालयीन पत्र क्रं. क्र. अका /एमएजी / डे-२७/कावि/६३७/२०१६.
दि. ८/८/१६

मा. उच्च न्यायालय जनहित याचिका क्रं. १७३/२०१० डॉ. महेश बेडेकर वि. महाराष्ट्र शासन व इतर प्रकरणी मा. उच्च न्यायालयाचे आदेशानूसार रस्त्यावर समारंभाच्या व उत्सावाच्या प्रसंगी, तात्परूत्या स्वरुपात उभारण्यात येत असलेल्या मंडपाची तपासणी करण्यासाठी तहसिलदार, अमरावती यांचे नियंत्रणात पथक तयार करण्यात आलेले आहे. सदर पथकामध्ये महानगरपालिकेचा कनिष्ठ अभियंता नियुक्त करणे आवश्यक आहे.

सदर कार्याकरीता श्री. व्हि. एम. देशमूख, कनिष्ठ अभियंता, बांधकाम विभाग, महानगरपालिका अमरावती, यांना नामनिर्देशित करण्यात येत आहे. श्री. देशमुख, यांनी स्वतःचे काम संभाळून सदर पथकाचे नियमीत संपर्कात राहावे.

उपायुक्त (सा.)
महानगरपालिका अमरावती.

६/९/१६

प्रतः-

१) श्री. व्हि. एम. देशमूख, कनिष्ठ अभियंता, बांधकाम विभाग, महानगरपालिका अमरावती,

प्रतिलीपी :-

१) मा. जिल्हाधिकारी, अमरावती यांचे माहितीकरीता सादर.
२) मा. आयुक्त,महानगरपालिका अमरावती यांचे माहितीकरिता सादर.
३) तहसिलदार, अमरावती यांना माहिती व उचित कार्यवाही करीता.
४) उपायुक्त (प्रशा.) महानगरपालिका अमरावती, यांचे माहितीकरिता .
५) अतिरिक्त शहर अभियंता, महानगरपालिका अमरावती, यांचे माहितीकरिता
६) सूरक्षाधारीका.

O/C

उपायुक्त (सा.)
महानगरपालिका अमरावती.

टपाल प्राप्त
लेखक शाखा
...लि कार्यालय,अमरावती.
६/९/२०१६

प्राप्त झाले
६/९/१६
जि. का. अमरावती (नोंदणी शाखा)

भाग १-अ (अ.वि.पु.), म.शा.रा.,अ.क्र. १५७.

आयुक्त महानगरपालिका, यांजकडून

पर्यावरण विभाग

क्रमांक अमनपा-पर्यावि-आयु.-४८६-२०१५.—

मा. उच्च न्यायालय, औरंगाबाद खंडपीठाने सार्वजनिक हिताच्या याचिके दरम्यान महाराष्ट्र शासन व इतर विभागांना पाणी (प्रतिबंध आणि प्रदूषण नियंत्रण) अधिनियम, १९७४ [प्रकरण ५ कलम १९(१)] व कलम २४(१) ची प्रभावी अंमलबजावणी करण्याकरिता दिनांक ८ फेब्रुवारी २०११ रोजी ठराविक निर्देश दिलेले आहेत. ज्या अन्वये अमरावती महानगरपालिकेने उपरोक्त कायद्याच्या तरतुदी व प्राप्त निर्देशानुसार महानगरपालिका क्षेत्रा अंतर्गत खालील ठिकाणी प्लास्टर ऑफ पॅरिसच्या मूर्ती विसर्जन संबंधी बंदी घालण्यात येत आहे.—

[अ] **विसर्जन संबंधी बंदी.**

(i) **तलाव**

(१) वडाळी तलाव

(२) छत्री तलाव

(ii) **विहिर**

(१) सर्व सार्वजनिक विहिरी

(२) सर्व खाजगी विहिरी

[ब] **वापर निर्मिती**

(i) अमरावती महानगरपालिका क्षेत्राअंतर्गत संपुर्ण ठिकाणी हि बंदी लागू राहील.

(ii) अमरावती महानगरपालिका क्षेत्रामध्ये प्लास्टर ऑफ पॅरीसच्या मूर्ती विसजर्नावर, निर्मीती अथवा आयात-निर्यात किंवा व्रिक्री वर दिनांक १ एप्रिल २०१६ या तारखेपासून संपूर्ण बंदी घालण्यात येत आहे.

चंद्रकांत गुडेवार,

आयुक्त,

महानगरपालिका अमरावती.

अमरावती :

दिनांक २६ ऑगस्ट २०१५.

महानगर पालिका,अमरावती,

स्वच्छता विभाग

स्वच्छ भारत अभियान अंतर्गत शहर हगणदारीमुक्त करणे :-

मनपा शहरा हागणदारी मुक्त करण्याचे अनुषंगाने,ज्या कुटुंबाचे घरी वैयक्तिक शौचालयाची सुविधा उपलब्ध नाही किंवा जे कुटुंब खुल्यावर शौचास जातात, अश्या 12949 लाभार्थ्याचे सर्व्हेक्षण करण्यात आले असुन त्यांचे करिता शहरामध्ये वैयक्तिक तसेच सामुदायीक शौच्छालये बांधकामाचे अनुषंगाने कार्यवाही सुरु आहे.

केंद्रशासनाचे प्रत्येकी रु.4000/- राज्य शासनाचे प्रत्येकी 8000/- व मनपाचे पुरक हिस्सा म्हणुन प्रत्येकी रु. 5000/-अश्याप्रकारे रु.17000/- चा अनुदान प्रत्येक लाभार्थ्याला वैयक्तिक शौचालय बांधण्याचे अनुषंगाने देण्यात येत आहे.मा.महापौर यांनी दि.4/4/2017 रोजी स्वच्छ भारत अभियान अंतर्गतशहर हागणदारी मुक्त घोषीत केलेले आहे.

सद्या स्थितीत एकुण 20.27 Cr. चा अनुदान सदर कामाच्या अनुषंगाने खर्च झालेला आहे.सदर कामाच्या अनुषंगाने आजपावेतो स्वच्छ भारत अभियान अंतर्गत शासनाकडुन रु.9.40 केाटी अनुदान प्राप्त झालेला असुन संपुर्ण खर्च झालेला आहे.तसेच दि.30/5/2017 रोजी SBM अंतर्गत रु.9.43 कोटीचा अनुदान प्राप्त झालेला आहे.

अक्र	विवरण	
1	सन 2011 च्या जनगणनेनुसार वैयक्तिक शौचालय नसणारी कुटुंबे	8639
2	सन 2015 च्या सर्व्हेक्षणानुसार वैयक्तिक शौचालय नसणारी कुटुंबे	12949
3	बांधकाम पुर्ण झालेल्या लाभार्थ्याची संख्या	12437
4	G-tagged Photo Uploaded	11975
5	FIR केलेल्या लाभार्थ्यांची संख्या	120
6	प्रगतीपथावर बांधकाम सुरु असलेल्या लाभार्थ्यांची संख्या	392
7	प्रस्तावित सामुदायीक शौचालयाची संख्या Community Toilets 15 ठिकाणी	270 सिटस्
8	सार्वजनिक शौचालय 138 ठिकाणी	1682 सिट्स
9	स्वच्छ भारत अभियान अंतर्गत प्राप्त निधि	रु.940.75 लाख
10	दि.30/5/2017 रोजी पुन्हा SBM अंतर्गत प्राप्त अनुदान	रु.943.20 लाख
11	आजपावेतो वितरीत करण्यात आलेला निधी	रु.2027.50 लाख
12	शहरामध्ये महिला करिता प्रसाधन गृह बांधणे	एकुण 27 ठिकाणी
13	दि.2 ऑक्टोबर 2016 हागणदारी मुक्त करण्यात असलेले प्रभाग	एकुण 26 प्रभाग
14	दि.4/4/2017 रोजी हगणदारीमुक्त करण्यात आलेले एकुण प्रभाग	एकुण 43 प्रभाग

निधी बाबत माहिती

1.स्वच्छ भारत अभियान अंतर्गत लाभार्थाला दयावयाचा निधि

I) केंद्र शासन- प्रती लाभार्थी- रु.4000/-

II) राज्य शासन - प्रती लाभार्थी - रु. 8000/-

III) मनपाचा पुरक हिस्सा प्रती लाभार्थी - रु. 5000/- (14 वा वित्त आयोग मधुन)

प्रती लाभार्थी एकुण- रु.17,000/-

2.स्वच्छ भारत अभियान अंतर्गत वेळोवेळी प्राप्त निधी

अक्र.	GR दिनांक	प्राप्त झालेला निधी
1	26 ऑगस्ट 2015	रु. 1,96,75,000/-
2	18 फेब्रवारी 2016	रु. 5,40,00,000/-
3	1 ऑक्टोबर 2016	रु. 2,04,00,000/-
	एकुण प्राप्त निधी	रु.9,40,75,000/-
4	30 मे,2017 SBM पत्रानुसार प्राप्त अनुदान	रु.9,43,20,000/-

PARTICULAR	GR date	Funds Received	SBM Funds Utilized	AMC Fund Utilized
1. IHHL	26/8/2015 18/2/2016 01/10/2016	Rs.1,49,88,000/- Rs.5,40,00,000 Rs.2,04,00,000/- --- Total Rs.8,93,88,000/-	Rs.8,93,88,000/-	11,33,62,000/-
2.Community Toilet (CT)	26/8/2015	Rs.42,75,000/-	Rs.42,75,000/-	2,04,56,634/-
3.IEC	26/8/2015	Rs.2,77,000/-	Rs.2,77,000/-	1,13,800/-
4.Capacity Building & office Expenditure	26/8/2015	Rs.1,32,000/-	Rs.1,32,000/-	13,000/-
	Total	**Rs.9,40,75,000/-**	**Rs.9,40,75,000/-**	**13,39,45,434/-**
SBM Fund received on 30/5/2017		**Rs.9,43,00,000/-**	**----**	
	Total	**Rs.18,83,75,000/-**		

Funds Released Date 31st May]2017

IHHL	CT/PT	IEC	Capacity Building
रु.20,27,50,000/-	Rs.2,47,31,634/-	Rs.3,90,800/-	Rs.1,45,000/-

3. दि.13/2/2017 पर्यंत वाटप करण्यात आलेला निधी:-

अ. क्र	लाभार्थ्याची संख्या	प्रती लाभार्थी	एकुण
1	12949	रु.8500/ -प्रमाणे पहिला	रु 11,00,66,500/-
2	1340	रु.17000/- प्रमाणे पहिला व दुसरा हप्ता	रु.2,27,80,000/-
3	9644	रु.6500/-प्रमाणे दुसरा हप्ता	रु.6,26,86,000/-
4	2015	रु.3500/-प्रमाणे	रु.70,52,500/-
5	11	रु.15,000/-प्रमाणे पहिला	रु.1,65,000/-
		एकुण	**रु.20,27,50,000/-**

I) **वैयक्तिक शौचालयाचे बांधकामाचे संपुर्ण उदिष्ट पुर्ण करणे :-**

मनपा शहराअंतर्गत एकुण १२९४९ चे वैयक्तिक शौचालयाचे बांधकाम उदिष्ट असुन १२६३९ वैयक्तिक शौचालयाचे बांधकाम पुर्ण झालेले असुन एकुण ३१० शौचालयाचे बांधकाम सुरु असुन त्वरीत पुर्ण करण्यात येईल.सद्या सदर लाभार्थी सार्वजनिक शौचालयाचे वापर करित आहे.

दि.४/४/२०१७ रोजी मा.महापौर यांनी पत्रकार परिषद घेवुन मनपा अमरावती शहर हगणदारीमुक्त झाल्याचे घोषीत केलेले आहे सोबत त्याचे मनोगताची प्रत सलग्नं आहे.

A) स्वच्छ महाराष्ट्र अभियान (नागरी) अंतर्गत अमरावती शहर हागणदारीमुक्त करण्याबाबत पाहणी करण्यात आलेल्या समितीने दिलेल्या निर्णयानुसार खालील बाबी स्पष्ट करण्यात येत आहे.

I. पाहणी दरम्यान उघडयावरील शौचाच्या जागा (OD Spots) आढळुन आल्या आहेत. शहरामधे खालील १६ ठिकाणी OD ची जागा निष्कासीत करण्यात आलेल्या आहेत.

अ.क्र.	प्रभाग क्र.	OD चे ठिकाण	अ.क्र	प्रभाग क्र.	OD चे ठिकाण
१	२	डेबुजी नगर	९	१६	विटाभट्टी परिसर
२	७	नवसारी गाव रोड	१०	१८	मैला गल्ली
३	१०	विलास नगर स्मशानभूमी	११	३५	फ्रेजरपुरा स्मशानभुमी
४	१०	विलास नगर मनपा शाळा नं.१३	१२	३२	दसरा मैदान
५	१०	विलास नगर चौक	१३	३७	सुतगीरणी मैदान
६	२०	सबनिस प्लॉट, दरोगर प्लॉट	१४	४१	माताफैल
७	२६	नागपूरी गेट	१५	४२	रजा नगर
८	१५	परिहार पुरा	१६	१७	भातकुली रोड

१) सर्व प्रथम गुड मॉर्निंग व गुड इविनींग पथक तसेच पोलिसासह भरारी पथक तैनात करण्यात आले ज्या ठिकाणी नागरीक उघडयावर शौचास बसतात अशा ठिकाणी, सदर पथकाद्वारे नागरीकांना गुलाब पुष्प देवुन उघडयावर शौचास जाणाऱ्या नागरिकांना मज्जाव करण्यात आले. व त्यांनी उघडयावर बसु नये म्हणुन गांधीगीरी करण्यात येते तसेच वैयक्तिक शौचालयाचे बांधकाम करावे अथवा सार्वजनिक/सामुदायिक शौचालयाचे वापर करणे बाबत प्रेरीत करण्यात येते.

२) जे नागरीक उघडयावर शौचास बसल्याचे आढळुन आले. अशा नागरीकांवर सदर पथकाद्वारे फौजदारी स्वरुपाचे गुन्हे दाखल करण्यात आले. उघड्यावर शौच्छास जाणाऱ्यावर प्रत्येकी रु १०० ते ५०० प्रमाणे आजमिती पर्यंत एकुण १२६ नागरीकां कडुन रु. १६,०००/- चा दंड वसुल करण्यात आला आहे.

३) उघड्यावर बसणाऱ्यावर उठबश्या काढण्याची कार्यवाही करण्यात आली.

४) नागरिकांनमध्ये जनजागृती म्हणुन OD Spots ठिकाणी बॅनर्स व पोस्टर्स लावण्यात आले.

५) उघड्यावर शौचास जाऊ नये म्हणुन मनपा शहरांतर्गत असलेल्या घराघरातुन कचरा उचलण्या करीता असलेल्या १३३ हायड्रोलीक ऑटो व्दारे ऑडिओ क्लिप वाजवीण्यात येत आहे.

६) रोड शो / पथनाट्ये घेण्यात आले आहे.

७) बचतगटाची मदत घेण्यात येत आहे.

८) शाळेत जावुन प्रबोधन करण्यात येत .

९) वृत्तपत्रातुन प्रसिध्दी देण्यात आलेले आहे.

१०) स्थानिक केबल नेटवर्काच्या माध्यमातुन प्रसिध्दी देण्यात येत आहे.

११) उघड्यावर शौच्छास जाणाऱ्या ठिकाणाचे मार्ग बंद करण्यात आले आहे.

१२) उघड्यावर शौच्छास जाणाऱ्यांचे डबे जप्त करण्यात आले आहे.

१३) उघड्यावर शौच्छास जाणाऱ्या नागरिकांना एकत्रीत आणुन त्यांना पोलिस व्हॅन मध्ये नेण्यात आले दुरवर सोडण्यात आले आहे.

१४) शहरामध्ये प्रत्येक प्रभागात स्वच्छता दुत नेमण्यात आलेले आहे.

१५) तसेच विलासनगर स्मशानभुमी,मनपा शाळा विलासनगर,दसरामैदान,फ्रेजरपुरा स्मशानभुमी,बारीपुरा बडनेरा येथिल निष्कासीत करण्यात आलेल्या OD च्या जागेवर दि.१ जुलै,२०१७ रोजी सामुहिक वृक्षारोपणाचे आयोजन करण्यात आलेले आहे.

भविष्यात कोणतेही नागरीक उघडयावर शौचास जाणार नाही अश्या सर्व लाभार्थ्याला वैयक्तिक शौचालय सुविधा उपलब्ध करुन देण्याबाबत त्वरीतच सर्व्हेकरुन कार्यवाही करण्यात येईल.

II) पाहणी दरम्यान ब-याच प्रमाणात व्यक्ती उघडयावर शौचास जातांना आढळुन आले.

हयाबाबत वरील प्रमाणे मोहिम राबवुन तसेच भविष्यात कोणतेही नागरीक उघडयावर शौचास जाणार नाही अश्या सर्व लाभार्थ्याला वैयक्तिक शौचालय सुविधा उपलब्ध करुन देण्याबाबत कार्यवाही सुरु आहे.

III) सार्वजनिक शौचालयाची अपुरी सुविधा

मनपा शहरामध्ये एकुण १३८ युनिट आहेत त्या मध्ये प्रत्यकी १० सिट्स समावेश असुन १६८२ सिट्स सद्या स्थितीत कार्यरत आहे.

तसेच एकुण १५ ठिकाणी सामुदायीक शौचालयाची व्यवस्था प्रस्तावित करण्यात आलेली असुन त्या मध्ये एकुण २७० सिट्स कार्यरत आहे. एकुण ७ ठिकाणाचे १६८ सीट्स चे बांधकाम पुर्ण झालेले असुन ७ ठिकाणी १०२ सिट्स चे कामे प्रगती पथावर आहे.

महिला करीता सुध्दा शौचालयाचे अनुषंगाने एकुण २६ ठिकाणी २६० सिट्सची सुविधा प्रस्तावित असुन ५ ठिकाणी बांधकामाचे काम प्रगती पथावर आहे.

भविष्यात नागरीकांची निकड लक्षात घेता सार्वजनिक/सामुदायीक शौचालयाचे निर्माण करण्यात येईल.

IV) शौचालयाचे जागेत (OD Spots) मोठया प्रमाणात दुर्गंधी पसरल्याचे निदर्शनास आले.

ज्या ठिकाणी नागरीक शौचास जातात ते ठिकाण चुना व लिंडेन पावडर टाकुन नष्ठ करण्यात आलेले आहे.तसेच नांगरीकाकरिता सामुदायीक शौचालय १५ ठिकाणी २७० सिट्स चे बांधणी करण्याचे प्रस्तावित असुन ७ ठिकाणाचे (१६८ सीट्स) कामे पुर्ण झालेले आहे.उर्वरीत ७ ठिकाणाचे (१०२ सीट्स) चे कामे प्रगतीपथावर आहे. उघडयावर शौचास कोणही जावुनये म्हणुन वरील प्रमाणे मुद्दा क्र. I नुसार उपयोजना करण्यात येत आहे.

V) निधिच्या अभावी शौचालयाचे बांधकाम अपुर्ण असल्याचे आढळुन आले.

स्वच्छ भारत अभियान अंतर्गत आजपावेतो खालील प्रमाणे IHHL करिता निधि रु. ८,९३,९०,०००/- प्राप्त झालेला आहे. सदरचा निधि १००% संपुष्ठात आल्यामुळे मा.राज्य अभियान संचालक,स्वच्छ महाराष्ट्र अभियान संचालनालय,मुबई यांना कार्यालयाचे पत्र क्र. अमनपा /आयुक्त/स्वावि/Q/२०१६ दि.०२/०७/२०१६ नुसार रु.१०२०.६९ लाख शासन अनुदान त्वरीत वितरीत करण्याचे अनुषंगाने निधिबाबत मांगणी करण्यात आलेली आहे.

तथापी दि.३० मे,२०१७ रोजी स्वच्छ भारत अभियान अंतर्गत रु.९,४३,००,०००/- चा अनुदान प्राप्त झालेला आहे.सदर निधी मधुन तसेच केंद्रीय १४ वा वित्त आयोग निधिमधुन सदर IHHL चे कामे करण्यात येत आहे.

तसेच प्रत्येक लाभार्थ्याला पहिला हप्ता म्हणुन रु.८५००/- प्रमाणे निधि वितरीत करण्यात आलेला असुन ज्या लाभार्थ्याला दुसरा किंवा अंतिम हप्ताचा अनुदान RTGS व्दारे वितरीत करण्याबाबतची कार्यवाही सुरु आहे.

हयाबाबत HDFC बँकेचे मॅनंजर सोबत दि.४/५/२०१७ रोजी तसेच दि.७/५/२०१७ रोजी बैठक सुध्दा घेण्यात आलेली असुन त्वरीतच सर्वच लाभार्थ्याला अनुदानाचा उर्वरीत हप्ता वितरीत आला आहे.

माहिती करिता सविनय सादर.

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