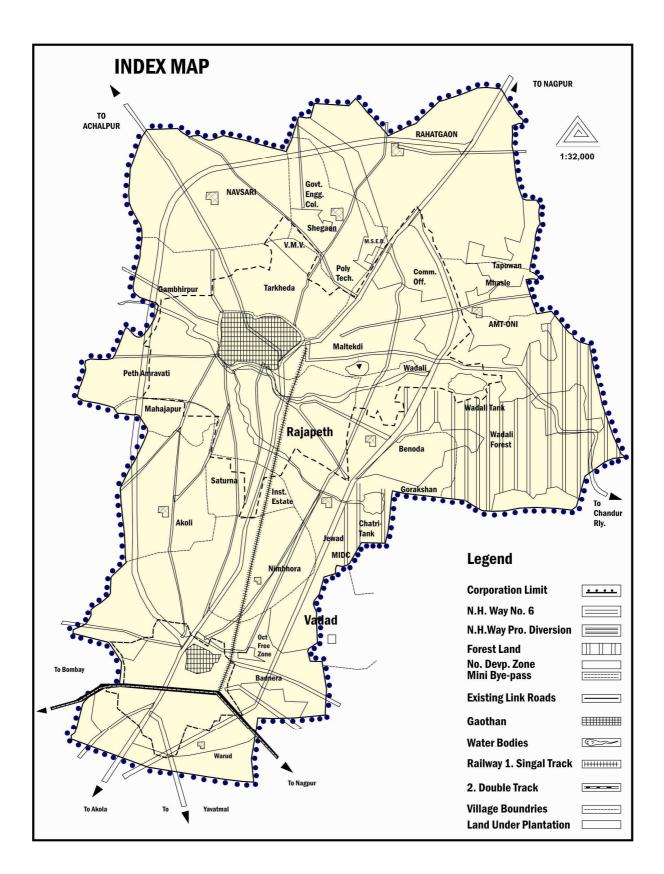




Submitted by -Amravati Municipal Corporation





Mayor's Address -

City Sanitation Plan of Amravati City will act as an impact assessment tool which is strategic in nature and has the objective of facilitating provisions mentioned in NUSP. It will emerge as a comprehensive document and will play better role in aligning development policies with Service Level Benchmarks, special focus on hygienic and affordable sanitation facilities for urban poor.

I am very grateful to all the honourable members of the task force, Implementation Committee & Councillors of all the electoral wards. I wish to extend my heartfelt gratitude to the Municipal Commissioner Shri. N. Nawin Sona, all the departments of AMC concerned with CSP, NGOs, Mahila Committees members & citizens of the Amravati city for formulating this indicator framework.

The CSP implementation should be continuous process and should run parallel as per the requirements in services level benchmarking. CSP will provide an important input to the planning process, focusing on strategic issues, decision making process and budgetary allocation.

> ADV. KISHOR SHELKE Mayor, Amravati



Commissioner's address-

Amravati is fast developing city with spiritual and historical importance. Amravati Municipal Corporation is Urban Local Body to look after needs of Amravati Citizens. Main source of corporation earning is Octroi Collection and House Taxes. Government and state funds are also released for the development of Amravati Municipal Corporation time to time. A survey was arranged by All India Local Self Government to know sanitation status of the city. In that survey Amravati ranked ninth with 46.25 marks. It was a warning alarm for me. Funds available with corporation are not sufficient to cope up basic needs for health and sanitation,. With the guidelines of All India Local Self Government city sanitation plan implementation was to be prepared. For this Task Force Committee and Implementing Committee were to be formed. To start with Task Force Committee in the Chairmanship of Hon. Mayor was formed with various members from NGOs, Social Organisations, Commercial Organisation, Hotel Organisations, Water Supply Departments, B & C Departments, Safai Karmachari Organisation. As well as Implementing Committee was formed in the my chairmanship with all HODs of Corporation and RTO, MPCB, Hotel Owner's Association, MSW Contractor and Bio-Medical Waste Contractor worked as members of the committee.

In the preparation of City Sanitation Plan all the departments of Corporation have taken pains and personnel from All India Local Self-Government helped us very much.

Hence, I am pleased to present City Sanitation Plan of Amravati to Government to seek financial help for achieving all expected goals put in service level bench marks for the betterment of Citizens of Amravati.

Thanking you,

N. NAWIN SONA Municipal Commissioner

CONTENTS

ABBREVIATIONS	5
LIST OF TABLES	
CHAPTER 1:- OBJECTIVES AND VISION	11
CHAPTER 2 :- CITY PROFILE	
CHAPTER 3 :- MUNICIPAL SERVICES	
CHAPTER 4:- APPROACH AND METHODOLOGY	29
CHAPTER 5 :- CITY SANITATION PLAN ELEMENTS	35
a. Coverage of toilets –	35
b. Sewerage system –	41
c. Storm water drains	
d. Solid Waste Management	52
e. Water Supply	64
f. Environment –	
g. Social Mapping	
h) Immediate Emergency Centre	81
CHAPTER 6:- BUDGETARY REQUIREMENT OF AMC TOWARDS VARIOUS SANITATIO	Ν
COMPONENTS	
CHAPTER 7:- GAPS IN EXISTING SITUTATION ALL ELEMENTS	92
CHAPTER 8:- LIMITATIONS AND FRAMEWORK FOR ACTION	93
CHAPTER 11:- CONCLUSION	105
CHAPTER 12:- SUGGESTIONS RECOMMENDATION POLICIES	106
ANNEXURE I WARD MAPS	109
ANNEXURE II CITY MAP	190
ANNEXURE III UNIT RATES FOR COST ASPECTS	191
ANNEXURE IV STANDARD AND NORMS	192
ANNEXURE V	193

ABBREVIATIONS

AMC:	Amravati Municipal Corporation
BOOT:	Build Own Operate Transfer
BPL:	Below Poverty Line
DP:	Development Plan
DPR:	Detail Project Report
ESR:	Elevated Service Reservoir / Environmental Status Report
FGD:	Focus Group Discussion
HH:	Household
HOD:	Head of the Department
IISER:	Indian Institute of Sciences Education and Research
ILCS:	Integrated Low Cost Sanitation Scheme
JNNURM:	Jawaharlal Nehru National Urban Renewal Mission
LPCD:	Litter Per Capita Per Day
MRI:	Magnetic Resonance Imaging
MSW:	Municipal Solid Waste
M&E:	Monitoring and Evaluation
MT:	Metric Tonnes
MTD:	Metric Tonnes per Day
ODF:	Open Defecation Free
O&M:	Operation and Maintenance
PPP:	Public Private Partnership
SLSC:	State Level Sanctioning Committee
SWM:	Solid Waste Management
TPD:	Tonnes per Day
ULB:	Urban Local Body
WTP:	Water Treatment Plant

LIST OF TABLES

Table 1 The Estimated Budget for meeting SLB targets	8
Table 2 Climatological Data of Amravati City	13
Table 4:- Demographic Structure of Amravati City	15
Table 3:- Population Projection	0
Table 5:- List of slums –	17
Table 6:- Land used in Development Plan of Amravati	21
Table 7:- Proposed Land Use Pattern	22
Table 8:- Budget of AMC	26
Table 9:- Income and Expenditure Pattern of AMC	26
Table 10:- Revenue Collection under Different Heads	27
Table 11:- Zonewise Availability of Toilets	0
Table 12:- Existing community toilets in jurisdiction of Amravati Municipal Corporation on BOT basis	37
Table 13:- Zone-wise sites of "Open Defecation"	38
Table 14:- Toilet Requirement Submitted to Govt. through ILCS scheme	39
Table 15:- No. of Sulabh Units in the City of Amravati	39
Table 16:- No. of Public Toilet Units in the City of Amravati	39
Table 17:- SLBs for Sewage Management	41
Table 18:- Financial Outlay of the Water Drainage Scheme	47
Table 19:- Approved Items under the Water Drainage Scheme and Corresponding Expenditure	48
Table 20:- Financial Structure of the Scheme	48
Table 21:- SLB Indicator for Storm Water and Drainage	51
Table 22:- Classification of Waste	55
Table 23:- Physical Characteristics of MSW	55
Table 24:- Chemical Characteristics of MSW	56
Table 25:- Collection of Waste from Various Places	57
Table 26:- Total Number of Containers Zone Wise	59
Table 27:- Labour and Implements	59
Table 28:- Penalties Imposed on the Type of Offence	60
Table 29:- Expenditure pertaining to SWM	61
Table 30:- SLB Indicators for Water Supply	64
Table 31:- Source of Potable Water Supply for Amravati City	65
Table 32:- Percentage of Wastage of Water	69
Table 33:- A Sample of Amravati Social Mapping Exercise	79
Table 34:- Estimated cost of proposed sanitation components	85
Table 35:- Budgetary requirement for meeting SLBs	91

Executive summary –

The National Urban Sanitation Policy 2008 (NUSP) introduced by Ministry of Urban Development, Government of India with a vision to make all Indian cities totally sanitized, healthy and liveable and ensures and sustains good public health and environmental outcomes for all their citizens with special focus on hygienic and affordable sanitation facilities for urban poor and women. This policy provides the required framework to move towards urban sanitation in an integrated manner with addressing the issues related to urban poor in cities. While this policy pertains to s management of human excreta and associated public health and environmental issues, it recognized that integral solutions need to be taking account of other elements of environmental solution, viz. solid waste management, water supply, sewerage and storm water management.

Government of India recognizes that sanitation is a state subject and on ground implementation and sustenance of public health and environmental outcomes requires strong city level institutions and stakeholders. Further, in spite of the common elements that characterize urban areas of India across the length and breadth of the country, there are a number of factors and forces, constraints and opportunities, that are peculiar to specific situation of states and cities viz. their historical legacy with respect to sanitation, climate and physiographic factors, economic. The social and political parameters, and institutional variables, etc. Therefore, it is best that each of the States develops its own State level Strategy to achieve the policy goals set out in the National Urban Sanitation Policy. In this context, it may be noted that the interpretation and translation of the National Policy in the special states i.e. the North-Eastern States, Andaman and Nicobar Islands, and Lakshadweep, will take account of their situation (especially community institutions and financial arrangements) and make special and/or additional provisions supported by Government of India. Like in the national policy, state strategies are recommended.

National Urban Sanitation Policy (NUSP) puts forth a vision for all Indian Cities and towns as follows-

All Indian cities and towns become totally sanitized, healthy and liveable and ensure and sustain good public health and environmental outcomes for all their citizens with a special focus on hygienic and affordable sanitation facilities for the urban poor and women.

Policy Goals –

The overall goal of NUSP policy is to transform Urban India into community driven, totally sanitized, healthy and liveable cities and towns.

With specific goals as under

- A.. Awareness Generation and Behaviour Change
- B.. Open Defecation Free Cities
- C.. Integrated City-Wide Sanitation
- D..Sanitary and Safe Disposal

E..Proper Operation & Maintenance of all Sanitary Installations

Aligned to the vision of NUSP, the mission of AMC is to become "green and clean" city of India and a leading Corporation in Vidarbha region with improved service delivery towards sanitation sector. The vision aims at ensuring the *'socio-economic development of the region' by* improving the quality of life of the citizens of Amravati. Given the focus on making the city Open Defecation Free, some other objectives also need to be met simultaneously.

Providing universal access to urban poor – The gap between the 'haves and the have-nots' shall be bridged by ensuring that the urban poor have access to basic infrastructure like water, sewerage and waste management by the end of five years. The objective is to ensure that the benefits reach each and every individual of the city and also that each and every individual of the city contributes to cleaner and greener surrounding.

The CSP report talks about existing situation of the various services and also about the gaps in the infrastructural facilities which are needed to be executed in a phased programme to achieve the SLB goals. The chapters in the report elaborates a. status of toilets, b. sewerage system, c. storm water drains, d. solid waste management, e. water supply, f. environment. Based on the baseline data collected and compiled by the Amravati Municipal Corporation's staff along with the team of 4 field officers of AIILSG, the gaps were identified and quantified. (based on the future population growth). To assess the actual situation in the slums of Amravati, "social mapping" was undertaken by the Community organizers in 50 slums, the suggestions from the grassroots are also included in the final framing of CSP. Finally, the gaps were converted into the budgetary requirement for the implementation of various CSP components, which is summarised in the table below.

Component	Budget in Crores	Budget required till March 2012	Implementation period
Construction of			
additional individual	21.285	7.09	3 years
and public toilets			
Wastewater			5 years
management	213.227	42.64	
Sewage management	31.921	6.38	5 years
Solid waste			3 years
management	20.375	6.79	
Storm water Drains	399.40	79.88	5 years
Water supply	150.624	75.31	2 years
Environment	4 .00	4.00	1 year
Lake beautification	3.00	1.00	3 years
Nallah beautification	4.15	1.00	3 years
Awareness	0.48	0.48	1 year
	848.462 crores	224.47 crores	

From the above summary, it is observed that AMC needs **Rs. 848.462 crores** for the implementation of all components of City Sanitation Plan (CSP). AMC will also explore the possibility of grants / soft loans from International Foundations of repute, in addition to state and central grants.

City Ranking:-

Amravati Municipal Corporation has 44.25 points at National Urban Sanitation Policy and Rank of Amravati is 50 as per Rank of Cities on Sanitation 2009-10. UIDSSMT scheme is in progress and it is assumed that in 2014 this scheme will be completed. Due to completion of the scheme Service Level Benchmark will be achieved.

RANK OF CITIES ON SANITATION 2009-2010: NATIONAL URBAN SANITATION POLICY

Serial	City	State	TOTAL	OUTPUT	PROCESS	OUTCOME
No						
1	Chandigarh	CHANDIGARH	73.48	36.250	21.080	16.150
	Mysore	KARNATAKA	70.65	33.080		1
	Surat	GUJARAT	69.08	29.750		15.496
4	N.D.M.C.	DELHI	68.265	36.000	19.715	12.550
5	Delhi Cantt.	DELHI	61.367	30.750		11.200
6	Tiruchirapalli	TAMIL NADU	59.02	21.160	27.010	10.850
7	Jamshedpur	JHARKHAND	57.96	31.720	17.000	9.240
8	Mangalore	KARNATAKA	57.34	20.840	22.500	14.000
9	Rajkot	GUJARAT	56.118	21.833	21.525	12.760
	Kanpur	UTTAR PRADESH	55.34	23.545	21.475	10.320
	Navi Mumbai	MAHARASHTRA	53.92	28.000	21.016	
	Bangalore	KARNATAKA	53.637	21.700		
13	Chennai	TAMIL NADU	53.63	25.500		
	Rourkela Industrial Township	ORISSA	53.4	22.500		
	Mandya	KARNATAKA	53.33	18.740		55 (BURNED STOCK)
	Bidhannagar	WEST BENGAL	52.82	25.170		
	Noida	UTTAR PRADESH	51.91	23.360	20.500	1
	Shillong	MEGHALAYA	51.55	18.900	22.850	
	Ahmedabad*	GUJARAT	51.29	21.167	21.160	
20	Alandur	TAMIL NADU	50.24	22.240	21.000	7.000
21	Hardwar	UTTARKHAND	49.85	24.750	17.150	231/34(1-2777A)
	Bidar	KARNATAKA	49.82	17.170	21.450	11.200
	Achalpur	MAHARASHTRA	49.666	16.500		
24	Vijayawada	ANDHRA PRADESH	49.06	22.369	20.811	5.880
25	Kolkata	WEST BENGAL	48.965	17.330		8.633
26	Thanjavur		48.82	20.270		9.250
27 28	Lucknow	UTTAR PRADESH PUNJAB	48.52	17.046	24.474	7.000
	S.A.S.Nagar (Mohali) Akola		48.43	21.900	19.880	
30	Serampore	MAHARASHTRA WEST BENGAL	47.95 47.9	17.500	15.000 19.400	
31	Neyveli	TAMIL NADU	47.9	21.500	21.000	Cuertin Contractor
32	Kanpur (CB)	UTTAR PRADESH	47.55	19.333	13.417	14.800
33	Satara	MAHARASHTRA	47.45	15.000	13.500	14.000
	Ichalkaranji	MAHARASHTRA	47.417	20.450	15.200	11.767
35	Sitapur	UTTAR PRADESH	46.94	15.250	23.390	8.300
36	Chandrapur	MAHARASHTRA	46.917	19.500		2.07975778992.
37	Halisahar	WEST BENGAL	46.85	16.500		
38	Tirunelveli	TAMIL NADU	46.82	15.920	24.600	
39	Pallavaram	TAMIL NADU	46.54	17.990		
40	Tambaram	TAMIL NADU	46.19	20.500	21.940	Construction of the second sec
41	Howrah	WEST BENGAL	45.938	17.978	21.520	6.440
42	Ghaziabad (M Corp.)*	UTTAR PRADESH	45.85	26.750	15.250	3.850
43	Guntur	ANDHRA PRADESH	45.7	16.589		
	Udupi	KARNATAKA	45.4	13.670		110000000000000000000000000000000000000
	Agartala	TRIPURA	45.29	19.200		
46	Greater Mumbai	MAHARASHTRA	45.076	14.250		
47	Chikmagalur	KARNATAKA	45.02	14.920		
48	Kottayam	KERALA	45	26.000		
0.005	Bokaro Steel City	JHARKHAND	44.85	20.000	15.050	
50	Amravati	MAHARASHTRA	44.25	15.000		12.400
	South Dumdum	WEST BENGAL	44.24	18.740		
	Meerut	UTTAR PRADESH	44.15	11.653	18.797	13.700
53	Nagercoil	TAMIL NADU	43.91	18.920		
54	Barrackpur	WEST BENGAL	43.85	19.250		5.950
	D I	MAHARASHTRA	43.66	19.410		
55	Panvel		10100	10.110		
55 56 57	Bally	WEST BENGAL	43.65 43.5	17.000		5.950

CHAPTER 1:- OBJECTIVES AND VISION

National Urban Sanitation Policy (NUSP) puts forth a vision for all Indian Cities and towns as follows-

All Indian cities and towns become totally sanitized, healthy and liveable and ensure and sustain good public health and environmental outcomes for all their citizens with a special focus on hygienic and affordable sanitation facilities for the urban poor and women.

Policy Goals –

The overall goal of NUSP policy is to transform Urban India into community driven, totally sanitized, healthy and liveable cities and towns.

With specific goals as under

- A.. Awareness Generation and Behaviour Change
- B.. Open Defecation Free Cities
- C.. Integrated City-Wide Sanitation
- D..Sanitary and Safe Disposal
- E..Proper Operation & Maintenance of all Sanitary Installations

Aligned to the vision of NUSP, the mission of AMC is to become "green and clean" city of India and a leading Corporation in Vidarbha region with improved service delivery towards sanitation sector. Amravati City went through substantial transformation in last 30 years due to agricultural, Industrial and Educational development.

The vision aims at ensuring the 'socio-economic development of the region' by improving the quality of life of the citizens of Amravati. Given the focus on making the city Open Defecation Free, some other objectives also need to be met simultaneously.

Providing universal access to urban poor – The gap between the 'haves and the havenots' shall be bridged by ensuring that the urban poor have access to basic infrastructure like water, sewerage and waste management by the end of five years. The objective is to ensure that the benefits reach each and every individual of the city and also that each and every individual of the city contributes to cleaner and greener surrounding.

AMC aims to spread awareness within city over Environmental sanitation by adopting user friendly tools and techniques. The provision of infrastructure will be coupled with social sanitation campaigns through involvement of various stakeholders groups. AMC will also form a system for feedback over sanitation improvements and will assess the impact time to time. The city wide task force formed at the city level will undertake the 100% sanitation campaign to ensure the effectiveness of sanitation services provided to the citizens of Amravati.

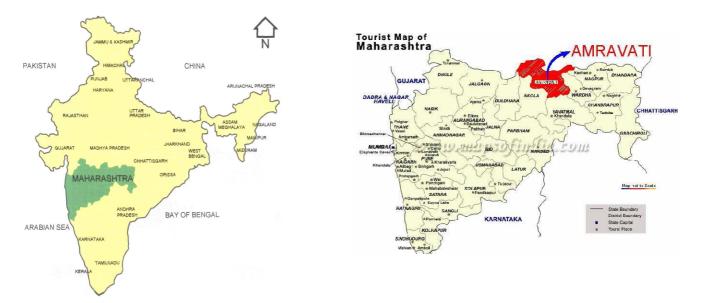
CHAPTER 2 :- CITY PROFILE

Geographical Background-

REGIONAL SETTING:-

Amravati is a city in the state of Maharashtra; India and the seventh 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 form Vidarbha region) Apart from Amravati district itself, following four districts also come under Amravati Division: 1. Akola, 2. Yavatmal, 3. Buldhana and 4. Washim.

Amravati city is geographically located at 200 – 56" North latitude 770-47" East longitude. The average altitude is 340.76m above MSL. The higher elevation area of the city is at 401.05m above MSL that is in North East part of the city while city is situated at the foot of the plateau ranges between heights 336 m to 324 m above MSL. The total area of the Municipal Corporation is about 121.56 Sq. Km. and the population as per 2001 census record is 5,49,510 souls. 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 is a growing industrial centre, with cotton mills as an important industry. The town is expanding toward Badnera, 10 km to the south, which is the location of the railway junction where the branch railway line serving Amravati joins the main Mumbai – Bhusawal – Wardha – Nagpur – Howrah rail route. National Highway 6 from Hazira

Amravati City Sanitation Plan

(Surat) to Kolkata passes through the city. As with so many other small cities in India, Amravati is growing rapidly in terms of living quality. New flyovers and roads are being built to renovate the city, and other improvements like new traffic signals are underway under IRDP (Integrated Road Development Programme) implemented by Government of Maharashtra.

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 grown up rapidly at the end of 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 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 13th century, at the same time Warhad was under the rule of Deogiri's Hindu King (Yadav). In 14th century, there was famine (drought) in Amravati & people abandoned Amravati and left for Guirat and Malva. In 1722. Chhatrapati Shahoo Maharai 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 to existence at the end of 18th century. Union state of Nijam and Bosale ruled the Amravati city. From 1859 to 1871, many government buildings were come into existence, which were built by the Britishers. 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.

Climatological Data -

Amravati has a tropical wet and dry climate with hot, dry summer from March to June, the monsoon season from July to October and winter from November to March. The highest and lowest temperature ever recorded was 46.7 $^{\circ}$ C on 25 May 1954 and 5.0 $^{\circ}$ C on 9 February 1887 respectively. The wind flows mostly in WS direction.

The Monthly Average climatological details are given below.

Temperature (⁰ C)		Relative Humidity (%)		
Min.	Max.	8:30 hrs In rainy season		Total Rainfall (mm)
11.6	45.6	48 to 85%	23.55	908.85

Table 2 Climatological Data of Amravati City

Demography -

Population Projection-

As per 2001 Census Amravati city had a population of 5, 49,510. Males constitute 52% of the population and females 48% ., 12% of the population is under 6 years of age.

Year	Population	Increase / Decrease	Decadal Growth Rate	
1951	102806	Increase	38.53	
1961	167875	Increase	63.29	
1971	193800	Increase	15.44	
1981	324205	Increase	67.28	
1991	421576	Increase	30.03	
2001	549510	Increase	30.34	
2011	745149	Increase	35.6	

Table 3:- Population Projection

Demographic characteristics

The various aspects of the demographic characteristics for the city of Amravati have been presented below.

Sr No	Demographic feature	Value of the feature
1	Population as per 2001 Census	5,49,510
2	Population as per Census data 2011 first round (Jan 2011)	6,46,000
	Male	330000
	Female	216000
3	Decadal Growth Rate (%)	~ 18%
4	Total Area (Sq. Km)	121.65
5	Density of Population (person/Sq km)	400
6	No. Of Households	1,29,190
7	Sex Ratio	936
8	Literacy Rate (%):	84%
	Male (%)	86%
	Female (%)	82%
9	Slum Population	2,16,000
10	Percentage population in slums	28.80%

Table 4:- Demographic Structure of Amravati City

Sex Ratio-

Sex composition is an important factor which influences birth, death, reproduction rates and availability of labour force. It is expressed as the no. of females to 1000 males. The breakup of population into males and females has got a great bearing on the social conditions prevailing in the city as well as district as a whole. The data on the sex composition as per Census 2001 for the city is 936.

Literacy –

Another important factor of significance in studying the demographic trend is literacy. A study of literacy indicates the potential of the city for absorbing the developmental efforts. The literate people show the literacy ratio to the total population of the city. Amravati has an average literacy rate of 84%, much higher than the national average of 59.5%; with 86% of the males and 82% of female's literate.

Educational Background-

Amravati has emerged as a major educational center in Central India offering many majors including medical and engineering courses. Renowned colleges like Sant Gadge Baba Amravati University, Government College of Pharmacy, Government College of Engineering, Amravati, Government Polytechnic, V.Y.W.S's Prof. Ram Meghe Institute of Technology & Research is located at Badnera. It has a C-DAC center with Super Computer in it. New engineering colleges sprang up in past few years. There are some excellent high schools in Amravati. A couple of medium and high schools now have CBSE pattern along with Navodaya Vidyalay, conveying the modern outlook of the residents.

Amravati is well known for the famous health Education Institution Hanuman Vyayam Prasarak Mandal (popularly known as HVPM) founded by Vaidya Brothers, Anant Krishna and Ambadas Krishna. Amravati is also home to "Tapovan", society for leprosy-affected people established by late Dr. Shivajirao Patvardhan in 1968. The campus of Sant Gadgebaba Amravati University is located nearby. Amravati has excellent pharmacy colleges in Vidybharti Pharmacy College and Government Pharmacy College, providing good educational, experimental and research facilities. Students and professionals from Amravati are networked all over the world and contributing efficiently towards globalization.

Recreation -

There are many recreational facilities that are provided by the Amravati Municipal Corporation for the well being of its citizens such as 3 stadiums, 88 community halls and about 45 Mangal Karyalyas. The citizens can also enjoy the films at 11 cinema theatres. 14 auditoria / drama halls provide facilities for conducting cultural activities.

Library -

Amravati city has 51 public libraries and forty-one reading rooms for its citizens.

Heritage Structures -

In this ancient town a large no. of monuments which are even now in use and which are more than 100 years old exist. These structures are our heritage and need to be preserved for posterity. The Govt. of India has accordingly framed necessary rules. It is hence necessary that these be followed. The heritage structures that can be readily identified are listed below:

- > Ambadevi Temple.
- > Academic High –school
- Central Jail
- Nehru Maidan
- > VMV College.
- Fort wall

The Fort Wall of the city is one of the main historical monuments. However it was observed during the field visits that the Municipal Solid Waste was found to be scattered nearby the entrance and other part of the fort with the stray animals feeding. However the greening along the Wall has been done but more efforts should be taken to maintain the cleanliness around these areas.

Hospitals -

There are 16 Municipal Corporation Dispensaries and 12 Urban Health Post (UHP) existing in the city. In addition to these there are 161 private hospitals and 4 Government hospitals in the city. In the year 2008-08 there was no cases of epidemics being registered in the city. The total number of deaths registered in Municipal Corporation, Amravati city in the year 2008-09 was 5,552.

Markets -

There are 30 markets existing in the city. The up gradation of Mahatma Phuley Market is being planned.

Slums in the city of Amravati -

Existing status

There are total 123 slums in the city out of which, 101 notified slums and 22 un-notified slums with a total population of 2,16,000 which is about 29 % of the total population.

Sr. No.	Name of Slum	No. of Huts	Population	Name of Owner	Date of Declaration
1	Ashok Nagar	65	372	Govt. Land	29/09/1974
2	Sidhart Nagar	216	1276	Govt. Land	29/09/1974
3	Bhim Nagar	290	1729	Govt. Land	29/09/1974
4	Pati Pura	479	2659	Govt. Land	29/09/1974
5	Hunuman Nagar	271	5459	Govt. Land	29/09/1974
6	Anand Nagar	408	1505	Govt. Land	29/09/1974
7	Vilas Nagar	280	2517	Govt. Land	29/09/1974
8	Wadar Pura	139	1324	Govt. Land	27/01/1975

Table 5:- List of slums -

Sr. No.	Name of Slum	No. of Huts	Population	Name of Owner	Date of Declaration
9	Adivasi Nagar MangilalPlot	47	245	Govt. Land	27/01/1975
10	Samadhan Nagar	125	739	Govt. Land	27/01/1975
11	Aadivasi Nagar	40	221	Govt. Land	27/01/1975
12	Belpura Matangpura	403	2401	Pvt. Land	27/01/1975
13	Aurangpura	78	479	Pvt. Land	27/01/1975
14	Jodmod	62	343	Pvt. Land	27/01/1975
15	Matakhidaki	178	1156	Pvt. Land	27/01/1975
16	Pathanpura	775	6274	Pvt. Land	27/01/1975
17	Hiderpura Dharamzendi	387	3160	-	28/2/1980
18	Khurshidpura	25	1284	-	28/2/1980
19	Pardeshipura	92	637	-	30/7/1981
20	Mahajanpura	334	1399	-	30/7/1981
21	Zadapadipura	203	1010	-	30/7/1981
22	Kharkadipura	215	498	-	30/7/1981
23	Chichfill	216	1071	Pvt. Land	17/12/1981
24	Khotfail	408	1935	Pvt. Land	17/12/1981
25	Mujffarpura	242	1857	Govt. Land	17/12/1981
26	Bicchu Tekadi	1300	5241	Govt. Land	24/12/1981
27	Kangarpura	262	1037	Govt. Land	26/4/1984
28	Bajrang Tekadi	67	297	Govt. Land	26/4/1984
29	Belpura Daroga Plot	278	3461	Govt. Land	26/4/1984
30	Bombayfail	53	396	Pvt. Land	26/4/1984
31	Vilas Nagar (Ramabai Ambedkar)	448	1198	Govt. Land	26/4/1984
32	Aadarsh Neharu Nagar	188	930	Govt. Land	26/4/1984
33	Guru Nagar/Ganesh Nagar	56	477	Govt. Land	26/4/1984
34	Faizalpura	1338	4793	Govt. and Pvt.	26/4/1984
35	Sanjay Gandhi Nagar No.1	295	1333	Govt. Land	23/8/1984
36	Sanjay Gandhi Nagar No.2	132	765	Govt. Land	23/8/1984
37	Chatri Talav/Javad	378	1388	Govt. Land	23/08/1984
38	Chaparashipura	265	888	Govt. and Pvt.	23/08/1984
39	Gandhi Aashram	128	779	Govt. Land	23/08/1984
40	Gandhi Nagar	508	1025	Govt. Land	23/08/1984
41	Nagpur Patti/Aadivasi Nagar Badnera	508	2218	Govt. Land	23/08/1984
42	Haridasfail/Zadifail, Badnera	228	2218	Govt. Land	23/08/1984

Sr. No.	Name of Slum	No. of Huts	Population	Name of Owner	Date of Declaration
	Matafail/Sweeper Colony,				
43	Badnera	228	1082	Govt. Land	23/08/1984
44	Goutam Nagar	20	99	Govt. Land	23/08/1984
45	Ravi Nagar	32	232	Govt. Land	23/08/1984
46	PanchBangala, Badnera	128	574	Govt. Land	13/10/1988
47	Bichchu Tekadi No. 2	241	1167	Govt. Land	13/10/1988
48	M. Phule Nagar, Navasari	210	1009	Govt. Land	13/10/1988
49	Rahatgaon No. 1	326	1576	Govt. Land	13/10/1988
50	Wadali	168	810	Govt. Land	13/10/1988
51	Rajiv Gandhi Nagar/Chilam Chavani	99	425	Govt. Land	13/10/1988
	Lo. Indira Gandhi				
52	Nagar/Vankayapura	125	880	Govt. Land	13/10/1988
53	Khavar Nagar	200	873	Pravit Land	13/10/1988
54	Indira Gandhi Nagar/ Frizepura	79	533	Govt. Land	19/05/1988
55	Chaman Nagar, Badnera				19/05/1988
56	Shivaji Nagar, Badnera		360	Govt. Land	19/05/1988
57	Shivaji Fail, Badnera	188	920	Pvt., Laxmibai Resort	19/05/1988
58	Maroti Nagar/ Hindu Smashan Bhoomi Javal	38	224	Pvt., Laxmibai Resort	19/05/1988
59	Siddhart Nagar/Navasari Javal Walgaon Road	38	224	Pvt., Laxmibai Risort	19/05/1988
60	Saturna No. 1	195	944	Pvt., Laxmibai Risort	19/05/1988
61	Benoda	371	2225	Govt. and Pvt.	19/05/1988
62	Indira Nagar, Badnera	47	277	Govt. and Pvt.	19/05/1988
63	Sindhi Colony, Badnera	168	771	-	07/07/88 & 29/12/1988 Correction
64	Varuda	182	836	Gavathan	25/01/1990
65	Nimbhora	71	336	Gavathan	25/01/1990
66	Akoli	163	780	Gavathan	25/01/1990
67	Saturna - 2	65	304	Govt. Land	25/01/1990
68	Rahatgaon - 2	690	3438	Gavathan	25/01/1990
69	Shegaon	391	1824	Gavathan	25/01/1990
70	Navsari	238	1086	Gavathan	25/01/1990
71	Moti Nagar-Kampaspura	372	1811	Pvt. & Govt.	25/01/1990
72	Devi Nagar	142	6886	Govt. Land	14/02/1991
73	Pravin Nagar -	428	1756	Pvt. & Govt.	14/02/1991
74	Hanuman Nagar No.2	376	1583	Govt. & Pvt.	14/02/1991

Sr. No.	Name of Slum	No. of Huts	Population	Name of Owner	Date of Declaration
75	Tarasaheb Bagicha	438	1958	Pvt. Land	14/02/1991
76	Pannalal Bagicha	358	1672	Pvt. Land	02/01/1991
77	Gavadipura	2213	11582	Pvt. Land	14/02/1991
78	Kallan Nagar	316	1638	Pvt. Land	14/02/1991
79	Chhaya Nagar	1341	7208	Pvt. Land	14/02/1991
80	Uttam Nagar	795	3872	Pvt. Land	14/02/1991
81	Yeshoda Nagar No.2	688	3389	Pvt. Land	14/02/1991
82	Yeshoda Nagar No.1	1185	5271	Pvt. Land	14/02/1991
83	Gees Nagar	613	4293	Pvt. Land	14/02/1991
84	Aazad Colony	403	2235	Pvt. Land	14/02/1991
85	Deshpande Colony	403	2235	Pvt. Land	14/02/1991
86	Amba Vihar	393	1892	Pvt. Land	14/02/1991
87	Mahadave Khori	879	2225	Govt. Land	01/01/1998
88	Mahadave Nagar, Mahalaxmi Nagar, Amba Colony	607	4250	Pvt. Land	01/01/1998
89	Alim Nagar - Taja Nagar	1170	11700	Pvt. Land	01/01/1998
90	Sevadal Nagar	228	1882	Govt. Land	01/01/1998
91	Almas Nagar, Chotanalsabapura, Khatikpura	1069	8552	Pvt. Land	01/01/1998
92	Ansar Nagar	422	3375	Pvt. Land	01/01/1998
93	Mil Chal, Badnera	323	1700	Govt. Land	11/11/1993
94	Rahaman Nagar	473	3295	Pvt. Land	01/08/1998
95	Talsabpura	607	4250	Govt. Land	18/02/1999
96	Rampuri Camp	434	3475	Govt. Land	18/02/1999
97	Sidhart Nagar No. 2	90	790	Govt. Land	01/02/2003
98	Lalkhadi Nagar	260	4200	Govt. Land	01/02/2003
99	Ratmata Nagar No.1	45	245	Govt. Land	19/06/2003
100	Rajmata Nagar No.2	18	65	Govt. Land	19/06/2003
101	Vasant Nayek Nagar	146	874	Govt. Land	15/07/2004
	Total	34346	203962		

Issues identified through social mapping :

- Inadequate basic infrastructure due to uncontrolled slum development
- Damaged roads;
- inadequate and damaged storm water drains;
- Inadequate street lights, water supply, public toilets;
- Poor housing conditions are the issues identified in the slum areas;
- Un-hygienic conditions

Sanitation facility in the slums -

In slum area open drains are provided as means of sewerage system. Generally Septic are constructed for the sanitary purpose.

Land Use-

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 below.

Sr. No	Land Use	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 De	veloped area	4320	100.00	35.48
8.	Water Bodies	331	-	2.72
9.	Forest Land	1167	21	9.59
10.	Agricultural / Bagayat Land	4655		38.30
11.	Vacant Land	1692	23	13.91
a the second	Total area	12165	+:	100.00

Table 6:- Land used in Development Plan of Amravati

Distribution of Land Use-

The total geographical area within the limits of Municipal Corporation of Amravati is 12,165 hectares i.e. 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 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 Maharashtra Industrial Development Corporation (MIDC), Cooperative 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 Agricultural Produce Market, Vegetable Markets etc., The developed Public utility services 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.

Sr. No	Land Use	Area (hectare)	Percentage with Developed Area	Percentage with Total Area
1	Residential	5508	55.42	45.28
2	Industrial	502	5.05	4.13
3	Commercial	107	1.07	0.88
4	Public/ Semi Public	1,185	11.92	9.74
5	Public Utility	127	1.28	1.04

6	Recreational facilities	238	2.40	1.96
	Regional Park	1416	14.25	11.64
7	Transport and	855	8.60	7.03
	Communication			
Total	developed area	9938	100 81.70	
8	Water bodies	331		2.72
9	Forest Land	70		0.57
10	No Development Zone	1826		15.00
	Total area	12,165		100.00

CHAPTER 3 :- MUNICIPAL SERVICES

Cities are the engines of economic development and failure to manage the impacts of rapid urbanization threatens human health, environmental quality and urban productivity. The immediate and most critical environmental problems facing most cities are safe water, accidents linked to congestion and crowding, degradation of sensitive lands, inadequate waste management and pollution control and the interrelationships between these problems. Local bodies such as municipal corporations mostly manage all this associated problems with urbanization and understanding the working pattern of these bodies is essential to identify the City's developmental activity.

Amravati Municipal Corporation

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, Law Committee, Education Committee, Women and Child Welfare Committee, City Development Committee and Four Zonal Committees for the four zones. Amravati Municipal Corporation was established on 15th August 1983. In Aug 1983 the area occupied by the Municipal Corporation was 121.65 sq km. The AMC comprises of area of erstwhile Municipal Council, Amravati, and area of erstwhile Municipal Council, Badnera along with eighteen revenue villages namely Navsari, Tarkheda, Shegaon, Rahatgaon, Mhasala, Wadali, Benoda, Jewad, Vadad, Nimbhora (K), Saturna, Akoli, Waruda, Kasbe, Badnera Mahajanpura, Gambhirpura and Amravati Peth. Noe the total area of the city is 270 Sq. Km of which 181 Sq Km falls under municipal limits and about 89 Sq Km falls out off the municipal limits.

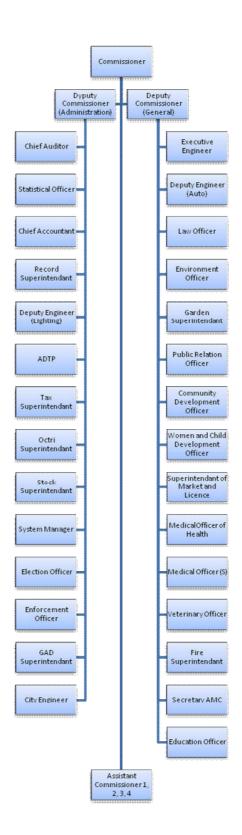
Administrative Structure of Amravati Municipal Corporation

The administrative head of AMC is the Municipal Commissioner who is assisted by two Deputy Municipal Commissioners who are in turn assisted by four 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 city is divided into 81 wards grouped in 4 zones.

Zonal Offices

- 1) Zone No 1 Rampuri Camp
- 2) Zone No 2 Main office
- 3) Zone No 3 Hamalpura
- 4) Zone No 4 Badnera.

Administrative structure of Amravati Municipal Corporation



The above organogram presents the staffing pattern of Amravati Municipal Corporation. The total posts sanctioned are 2446 (Dt. 31 Dec 2010) out which the total working staff is 1919 and vacant posts are 527. The percentage of vacant post is 20% which needs to be filled up a priority basis.

Municipal Services Area-

Municipal services have a direct and immediate effect on the quality of life of the people in the city. Poor municipal services can also limit city's attractiveness for business or industry and thus limit job opportunities for its residents. Therefore, the biggest challenge for the municipal corporation is to provide its citizens with reliable services that are financially and environmentally sustainable. This section details the quality of urban services offered by AMC (and other public bodies) to its citizens and their demands and perceptions regarding these services. The areas covered in this section include water supply, sewerage and sanitation, storm water drainage, solid waste management, street lighting, roads and public transport etc..

Expenditure on Municipal Services -

The detail of total expenditure incurred as per AMC for different municipal services is given below. As per the information given in the budget copy of the AMC, the total expenditure pattern pertaining to the municipal services reflected an upward trend when compared to base year 2004-05. The expenditure pattern pertaining to the lighting department of AMC reflected an upward trend when compared to the base year 2004-05.

Items	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	Share % (09- 10)	CAGR %
Out of Own funds	426	607	191	441	384	1,280	9.95	
Out of Grants from Government	728	757	686	1,186	1,516	11,583	90.05	
Grand Total	1,154	1,363	877	1,627	1,900	12,863	100	61.97

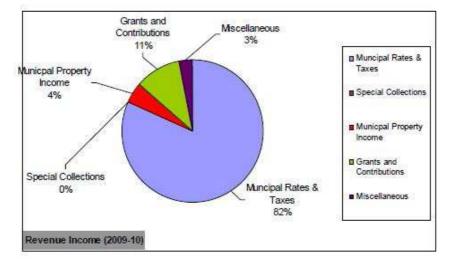
Table 8:- Budget of AMC

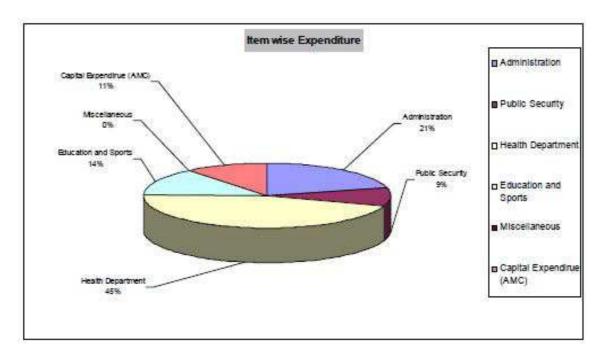
Table 9:- Income and Expenditure Pattern of AMC

smag	2004-05	2005-06	2006-07	2007 -08	2008-09	2009 -10	CAGR
Actual in Rs. Lakh		10	Lasta X	104242	NAL OF AL	College -	%
Revenue Accoun	t						
Income	5,010	6,253	5,764	6,958	7,787	9,068	12.60
	4 000	6.072	6.106	6,739	7,418	8,664	11.84
Expenses	4,886	0,012		111111111111111111111111111111111111111			

Items	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	Share %(09-10)	CAGR %
	-		(Rs in	Lakhs)				11
Own Sources				-				
A) Municipal R	ates & Tax	es	м.	a s				C
A-1 Octroi	3,430	4,419	3,788	4,279	4,805	5,081	56.03	1
A-2 Property tax	734	797	828	1,125	1,191	1,871	20.63	
A-3 Other	130	153	175	239	267	463	5.10	6.
Sub Total - A	4,293	5,369	4,790	5,643	6,264	7,414	81.76	11.55
B) Special Collections	1.50			12		3	10751	1040 Worker
C) Municipal P	roperty Inc	come	8	S S				94)
C-1 Rent from Shops	52	34	77	93	105	115	1.27	
C-2 Other	97	110	125	140	272	293	3.23	
Sub Total - C	149	144	202	234	378	408	4.50	22.28
D) Grants and Contributions	494	482	632	677	778	981	10.82	14.71
E) Misc.		2	8	6 - A	i î			
E-1 Interest	26	50	63	71	123	140	1.54	1
E-2 Others	48	209	77	333	245	125	1.38	
Sub Total - E	74	258	140	405	367	265	2.92	29.08
Grand Total (A+B+C+D+E)	5,010.26	6,253.15	5,764.33	6,958.21	7,786.69	9,068.23	100.00	12.60

Table 10:- Revenue Collection under Different Heads





Administration & Health constituted 21 % & 45.02% of Total Expenditure. Total Expenditure of AMC showed increase from Rs.7418 lacks for FY 2008-09 to Rs.8664 lacks for FY 2009-10. This included some Capital Expenditure also incurred by AMC out of its own sources. Accounting principles requires not including Capital Expenditure in Current Expenditure. If such Capital Expenditure is deleted from Total Revenue Expenditure, the position of AMC would show brighter scenario. Currently, it showed increase of 16 % as compared to last year & registering a compounded annual expenditure growth rate (CAGR) of 12.14 %.

It is evident from the Source-wise revenue income that Municipal Rates & Taxes contributed 81.76 % of Total Revenue. Further, Octroi & Property Taxes contributed 56.03 % & 20.63% respectively. Barring an exceptional year, Octroi collection showed increasing trend around 5 %. Property Taxes collection showed increasing trend around 5 % without any exception.

Municipal Property Income constituted 4.50% of the Total Revenue and showed increasing trend around 8 % without any exception. AMC adhered to the norms for getting grants from the Government and thus was successful in receiving grants to the extent of 10.82 % of Total revenue showing increasing trend around 26 % over the last year.

Total Revenue of AMC showed increase from Rs.7787 lacks for FY 2008-09 to Rs.9068 lacks for FY 2009-10. It showed increase of 16 % as compared to last year & registering a compounded annual growth rate (CAGR) of 12.60 %. Increasing trend in the revenue is encouraging AMC to undertake new development project.

CHAPTER 4:- APPROACH AND METHODOLOGY-

a. Formation of city sanitation task force -

The city sanitation task force was formed on 30th Oct. 2010 under the Chairmanship of Hon'ble Mayor. Hon'ble Commissioner is the convener of this task force. As on today there are 41 members in this task force, which includes Mayor, Dy Mayor, Chairman-standing Committee, leader of house, leader of the opposition, The Commissioner, Dy Commissioner and chairman of Improvement Committee, law committee, leaders of various political parties,

There is a separate Implementing Agency constituted for CSP execution. (having 24 members)

Task Force consisting of following members as under

- 1. Hon. Mayor, Municipal Corporation, Amravati
- 2. Hon. Dy. Mayor, Municipal Corporation, Amravati
- 3. Hon. Chairman, Standing Committee,
- 4. Hon. House Leader, Municipal Corporation, Amravati
- 5. Hon. Leader of Opposition, Municipal Corporation, Amravati
- 6. Hon. Municipal Commissioner, Municipal Corporation, Amravati
- 7. Hon. Chairman, City Development Committee, Municipal Corporation, Amravati
- 8. Hon. Chairman, Higher and Secondary Education Committee, Municipal Corporation, Amravati
- 9. Hon. Party Block Leader, Congress (I)
- 10. Hon. Party Block Leader Nationalist Congress
- 11. Hon. Party Block Leader Bharatiya Janata Party
- 12. Hon. Party Block Leader Shivsena
- 13. Hon. Party Block Leader Republican Party of India
- 14. Hon. Deputy Commissioner, Municipal Corporation, Amravati
- 15. Medical Officer of Health, Municipal Corporation, Amravati
- 16. City Engineer, Municipal Corporation, Amravati
- 17. Education Officer, Municipal Corporation, Amravati

- 18. City Secretary, Municipal Corporation, Amravati
- 19. Environmental Officer, Municipal Corporation, Amravati
- 20. Veterinary Officer, Municipal Corporation, Amravati
- 21. Encroachment Officer, Municipal Corporation, Amravati
- 22. President of Various Societies like Merchants' Society, Hotel Society, Sanitary Workers' Society, Education Society,
- 23. Various NGOs and
- 24. Well-known Senior Citizens.

Designations of Implementing Members

- 1. Hon. Municipal Commissioner President
- 2. Hon. Deputy Commissioner Inviter
- 3. Executive Engineer B & C Member
- 4. Executive Engineer Slum Member
- 5. Medical Officer of Health Member
- 6. Education Officer Member
- 7. City Secretary
- 8. Environment Officer -
- 9. Veterinary Officer -
- 10. Encroachment Officer
- 11. Superintendent of Sanitation
- 12. Assistant Commissioner Zone no. 1, 2, 3, 4
- 13. Superintendent Encroachment Office
- 14. Superintendent Fire
- 15. Food Inspector
- 16. Superintendent Market and License
- 17. Representative of DCP Office

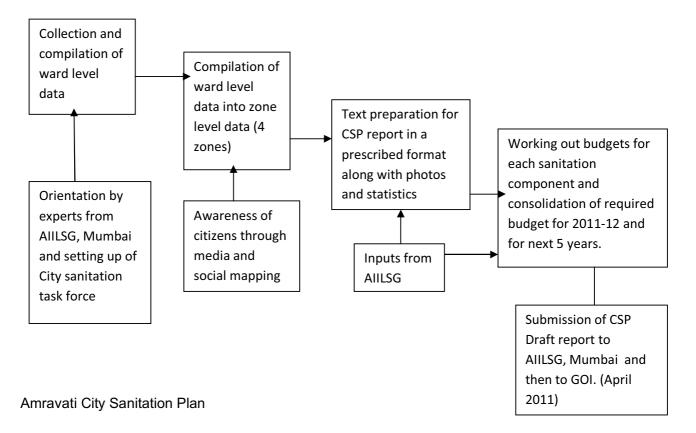
- 18. Representative of ACP Office
- 19. Representative of MPCB Office
- 20. Representative of Hotel Owners' Association
- 21. Pooja Construction Co. Ltd.
- 22. Global Ecosave
- 23. President IMA

The above management will be the monitoring and feedback system. Orientations and 5 meetings were organised with AMC officials and AIILSG key authorities from Mumbai Head Quarter. Proper third party feedback during implementation of City Sanitation Plan will be taken into consideration.

2)

2 orientations and 5 meetings were organized with AMC officials and AIILSG key authorities from Mumbai. HQ.

b. Data collection methodology-



The task of preparing the City Sanitation Plan (CSP) started with the constitution of Task Force Implementation Committee in the month of July 2010. Task force consist of Hon. Mayor as the chairperson and Hon. Municipal Commissioner as its implementer. Other members of the Task Force includes Hon. Deputy Mayor, Hon. Chairman Standing Committee, Hon. ruling party leader, Opposition Leader, Party Leaders, Chairperson of various committees (Women and Child Welfare Committee, City Improvement Committee and Law Committee) and zones, NGOs etc. The Implementation Committee is headed by Hon. Municipal Commissioner and various heads of the concerned departments are included as member the implementation committee. This preparation of this plan is guided by inputs given by all All India Institute of Local Self Government, Mumbai. Number of meeting, workshop and training program has been conducted to crystallize and formulate the CSP.

Baseline data collection was started in November 2010. Sanitary Inspector and Junior Engineers collected the baseline data in their wards. All the data collected was subjected to verification, checking and then complied at zonal and city level with the active participation of ward officers and deputy engineers of water supply, sewerage and storm water management. Awareness campaigns for citizens regarding sanitation plan was also carried out. Various competitions such as essay writing, slogans and painting were organized among the school children on the subject of sanitation. Awareness was done through banners, posters, pamphlets, leaflets calendar, press releases handouts etc. Participatory approaches are needed to consult the poor settlement and involve them in the process of planning and management of sanitation arrangements mainly at community was being practiced. In order to build capacities for preparation of city sanitation plans involving poor community, social mapping exercise was conducted. In this process around 100 community organisers residing in various slums were trained, baseline data collected in specified formats, maps prepared and conclusion withdrawn after completion and summarization of this need based data. This exercise helped to identify existing service delivery gaps at slum level, to indicate the required actions, to consolidate and mainstream several areas of work done by ULBs and also provided opportunity to bring the community people together.



The process of "City Sanitation Plan" began in September at Amravati Municipal Corporation. The experts from AIILSG took orientation for officials and staff from AMC on 26/10/2010.

The data from wards and zones has been collected and compiled to city level data. Consolidation of data was helpful in framing a overall picture of sanitation situation of the city which includes open defecation in city, number of individual and community toilets required, status of water supply, solid waste management and sewerage. Based on this analysis, budgets have been worked out.

The social mapping undertaken in urban poor communities revealed a true picture for planning strategies for the urban poor.

Suggestions from Citizens were invited by publishing a notice in newspapers of Amravati.

CHAPTER 5 :- CITY SANITATION PLAN ELEMENTS-

a. Coverage of toilets -

Situational Analysis

The following section explains the facts related to open defecation in the city of Amravati

Toilet Facilities

Availability of toilets is an important indicator of sanitation. Providing adequate and clean toilets to the citizens is the key responsibility of AMC.

Besides individual toilet facilities AMC had undertaken enormous task of providing public / community toilet facility to the urban poor in previous years. This led to reduction in open defecation to a large extent. In spite of these efforts the practice of open defecation is common in slum area of the city. Open defecation has a serious impact on health people. Some of the reasons for open defecation are

- lack of individual toilet facilities
- lower socio-economic strata people face budgetary constraints and cannot built toilets at individual level.
- Lack of space to construct toilets especially in slums
- Children don't hesitate to practice open defecation and later it becomes habitual. This was also opined by slum dwellers during social mapping exercise carried out to understand their view.
- Due to lack of adequate toilet facility, lack of water and electricity facility in existing toilets.
- Lack of maintenance and repairs of community toilets.
- Floating population who are not aware of availability of proper facility.
- Separate facilities are not available for women, children and physical handicapped.

Status of toilets –

The city has around 11.62% Households defecating in open because they are unserved through Individual or community toilets facility. Out of 132315 households in the city, 15385 households do not have individual toilet facility. 12710 households use a community toilet facility. There are 25 sulabh toilets within the city distributed in 4 zones. A population of 16700 souls is without any kind of toilet facility and thus they have to resort to open defecation.

All the toilets in the city of Amravati not disposed excreta safely through drain or sewerline. Therefore, the excreta quantity is unsafe.

			Table No	Zonewise a	vailability of	Toilets		
Zone NoPopulation 2001Population 2011Population HHs (2011)HHs with Individual ToiletNumber of Community ToiletsHouseholds using community toiletsUnserved Households HouseholdsUnserved Population Population								
1	137676	161838	32368	28267	7	2600	1501	7505
2	137187	161263	32253	30640	4	1200	413	2063
3	133625	157076	31415	28274	11	3099	43	213
4	141022	165771	33154	26523	16	5811	820	4099
	549510	645949	129190	113704	38	12710	2776	13880

There are around 130670 septic tanks within the city. The individual toilets as well a community toilets are connected to the septic tank. There are 4 desludging vehicles at AMC out of which 2 are out of order. 1 pump is of capacity 3000 litres and 2nd has a capacity of 5000 litres. AMC charge Rs. 500/- for first trip and Rs 200/- for consecutive trips, if required, for the desludging of residential septic tanks.

For cleaning of community toilets, AMC has appointed a contractor and AMC pays Rs. 3250/- for cleaning of 1 toilet block (appro. 10 toilet seats). AMC is trying to privatize this system.



Existing community toilet is B. O. T. type. Currently AMC is not carrying out any O & M work. Community toilets and in future also preference will be given to B. O. T. type project.

Amravati City Sanitation Plan

The roles and responsibilities of all institutions and other partners are already being fixed out.

Sr. No.	Ward No.	Place of Community Toilet	
1.	1	Rahatgaon No. 2 (Gavthan)	
2.	6	Mahatma Phuley Nagar, Nawsari	
3.	11	Aadiwasi Nagar, Mangilal Plot	
4.	19	Samadhan Nagar	
5.	20	Bhim Nagar	
6.	20	Siddharth Nagar	
7.	21	Ramabai Ambedkar Nagar	
8.	23	Vilas Nagar	
9.	13	Bichchu Tekadi	
10.	32	Jai Sthambh Chowk	
11.	33	Hamalpura	
12.	36	Sanjay Gandhi Nagar No. 2	
13.	37	Sanjay Gandhi Nagar No. 1	
14.	41	Itwara Bazar	
15.	49	Gandhi Chowk	
16.	53	Benoda	
17.	50	Belpura, Daroga Plot	
18.	58	Rajapeth Choubal Plot	
19.	62	Mahajanpura	
20.	62	Aurangpura	
21.	71	Jewad Nagar	
22.	77	Nawi Vasti Badnera	
23.	78	Rahul Nagar, Gandhi Nagar	
24.	81	Nagpur Patti, Adiwasi Nagar	
25.	81	Badnera Nawi Wasti, AthawadiBazar	

Table 12:- Existing community toilets in jurisdiction of Amravati Municipal Corporation on BOT basis

Zone No.	No. of Places	Names of Places
1	6	1) Crematory Area, Vilas Nagar
		2) Open Ground, Jay Siyaram Nagar
		3) Open Ground, Azad Nagar
		4) Near Nallah, Mahendra Colony
		5) Crematory Ground, Navsari
		6) Shegaon Road, Rahatgaon
2	6	1) Near Nallah, Sanjivani Colony
		2) Crematory Ground, Wadarpura
		3) Hindu Crematory, Frazerpura
		4) Maila Galli, Benoda
		5) Ashok Nagar Ground
		6) Bajrang Hill Ground, Masanganj
3	10	1) Public Septic Toilet Ground, Near Mahajanpuri Gate
		2) From Kholapuri Gate to Kandalkar Plot on Road
		3) Gandhi Ashram Ground
		4)Open space in front of Sulabh Shouchalaya Hamalpura,
		5) Service Line, behind Dr. Bonde Hospital, Dande Plot,
		6) Service Line of Nandipura, Sabnis Plot
		7) Service Line behind Gopal Talkies, Rajapeth
		8) Open Ground, Daroga Plot
		9) Open Ground, Kalyan Nagar
		10) On the bank of big Nallah, Near Crematory, Gadgadeshwar Road, Amba
		Vihar
4	10	1) Jewad Nagar Ground
		2) Hill behind Mahadev Khori
		3) Sutgirani Kailas Nagar Ground, Choure Nagar
		4) Slum, Choure Nagar
		5) Chaman Nagar Ground
		6) Sawata Ground, Juni Wasti
		7) Baripura Ground, Juni Wasti
		8) Nawin Wasti, Hamalpura Road
		9) Laddha Plot, Yawatmal Road, Nawin Vasti
		10) Wadura Gaon, Nawin Vasti.

Table 13:- Zone-wise sites of "Open Defecation"

Integrated Low Cost Sanitation Scheme

The scheme Integrated Low Cost Sanitation is introduced and revised by Government of India which envisages conversion of existing dry latrines into water seal toilets, with super structure and construction of new once to households belonging to EWS category, who have no latrines in urban areas of the country.

The centrally sponsored scheme of Low Cost Sanitation for Liberation of Scavengers started from 1980-81 initially through the Ministry of Home Affairs and later on through the ministry of welfare. From 1989-90, it came to be operated through the Ministry of Urban Development and later on through Ministry of Urban Employment and Poverty Alleviation now titled Ministry of Housing & Urban Poverty Alleviation. The main

objectives of the Scheme are to convert the existing dry latrines into low cost poor flush latrines and to construct new ones where latrines does not exist.

For EWS Individual toilet sent to central government			
Zone No	No. of slums	Integrated Low Cost Sanitation Scheme	
1	27	4924	
2	35	2993	
3	22	2635	
4	23	5282	
Total	107	15834	

Public Toilets along with roads

As on date there are quite insufficient provision of public amenities and facilities especially toilets. Some of the toilets are available at ST stand, Railway station and shopping areas. Looking towards the mobility of local dwellers and inflow of daily visitors from adjoining villages it is necessary to provide sufficient numbers of ladies and gents toilets. These toilets are proposed now on all major roads, public places near gardens, near Chhatri Talao & Wadali Talao and at other appropriate locations. This can be implemented on top priority in Phase I followed by remaining in low priority under Phase I to maintain a healthy environmental conditions of the city.

Zone No	Number of Sulabh units per zone	Seats per unit	Total No. of Seats
1	6	10	60
2	6	10	60
3	6	10	60
4	7	10	70
Total	25	40	250

 Table 15:- No. of Sulabh Units in the City of Amravati

Table 16:- No. of Public Toilet Units in the City of Amravati

Zone No	Number of Public Toilet Units per zone	Seats per unit	Total No. of Seats
1	30	10	300
2	60	10	1200
3	41	10	1230
4	45	10	1800
Total	176	40	4530

Slum improvement -

Slum improvement consists of physical, social, economic, organizational and environmental improvements undertaken cooperatively and locally among citizens, community groups, businesses and local authorities. The improvement to the unauthorized slums will be taken in the long term plan period. There are about 28953 Slum based House in Amravati as per census 2001. Approximately 35000 houses are envisaged as in 2011. It is being proposed to develop low cost housing (25.0 sq.m Built-up Area) with common civic amenities for 20% of Slum based families. With a cost estimate of Rs. 2.50 Lakh per House, the investment for slum rehabilitation can be estimated at Rs. 175.00 Cr. The proposed rehabilitation can be implemented over a period of 7 years starting from 2011.

Other areas shall be considered for rehabilitation, improvement and provision of basic amenities such as Water Supply, Sanitation, and Storm water planning, internal roads, Solid Waste Management etc. Assuming that 80% of the total area covered by the slum needs to be provided with basic essential facilities, an additional Rs. 300 Crores is required as Priority II. Hence the total requirement for Slum rehabilitation is about Rs. 475 Crores. Out of which Rs. 33.60 Crores to be considered in top priority under Phase I to be execute within 3 years and balance Rs. 141.40 Crores to be executed within 7 years in low priority under Phase I. Remaining amount of Rs. 300 Crores to be considered in Phase II for redevelopment, rehabilitation, improvement of basic services, amenities etc for making city slum free.

b. Sewerage system -

Existing Status -

The drainage function of an urban local body is related to the disposal of wastewater and storm water. This is carried out either through underground piped drains (sewers) or surface drains, which may be covered or open. Ideally, storm water drainage should be separate from the wastewater drainage system. But most of the cities in India do not have an adequate drainage system to carry the wastewater. So, often the sewage flows through surface drains, which are supposed to carry storm water. In the case of Amravati City there does open drainage system exist and partially these drains are covered at some lof the areas. But these are in damaged condition and needs to be repaired. The sewage flows in these open drains, which often get choked causing unhygienic conditions.

Presently there is no Sewerage Network for the city of Amravati. The work of construction of new Sewage Treatment Plant is in process. The sewage flows through the open drainage system. However a part of the drains are covered.

At present there is open drainage system and partially these drains are covered at some of the areas. But these are in damaged condition and needs to be repaired. The sewage flows in these open drains, which often get choked causing unhygienic conditions. At present there is not underground sewerage scheme in corporation area. The work of underground sewerage scheme, recently sanctioned under UIDSSMT, is under execution for Part I (The DPR comprises of 3 Parts out of which Part I is sanctioned for Rs. 86.12 Crores). The details are as below.

Table 17:- SLBs for Sewage Management

S. No.	Service level benchmark	Expected benchmark	Current status	Target till Mar 2012
10.	Coverage of toilets	100%	65%	80%
11.	Coverage of sewage network services	100%	0%	70%
12.	Collection efficiency of sewage network	100%	0%	70%
13.	Adequacy of sewage treatment capacity	100%	0%	60%
14.	Quality of sewage treatment	100%	0%	20%
15.	Extent of reuse and recycling of sewage	20%	0	0
16.	Efficiency in redressal of customer complaints	80%	0	50%
17.	Extent of cost recovery in sewage management)	100%	0	50%
18.	Efficiency in Collection of sewage charges	90%	0	50%

Sewage management

Components Covered in Phase I

Collection and conveyance system in Zone 4 and 5 = 171.42 KmSTP at Lalkhedi= 44 MLD900 mm DI K-9 Rising MainCost of Components= Rs.86.12Cr

Construction of new Sewage Treatment

Plant is in process. Currently Septic Tanks are generally used by the local people. AMC has constructed toilets at the public places; these are based on Pay and Use System. There are 23 nos. of such toilets being existed each with the capacity of 16 seats. At Gandhi Chowk and Kangarpur Biogas is being generated from these toilets there are no public latrines in four villages viz. Mhasala, Jewad and Saturna. In case of Rahatgaon, Navsari, Shegaon, Akoli and Warud Amravati Municipal Corporation has constructed flush type latrines connected to Septic Tank in the slum area. Seven drainage districts (Five in Amravati and two in Badnera) have been proposed for design of sewers on the following lines. As already stated earlier the general topography of AMC is in East West direction and hence all major nallahs in AMC area flow in the same direction. All these nallahs meet Peghi River which is far away from AMC unit. The three nallahs viz. SRPF nallah, Gadgenagar Nala and Navasari Nala meet Pedhi River Away From Amravati. Hence pumping stations are proposed on these nallahs in the corporation limit where inhabitation is not anticipated upto 2011. The catchment areas of these three nallahs from three drainage districts. The areas covered in these three drainage districts are as follows: All sewers are designed for population projected in 2025 for sewage contribution of 108 liters/capita/day (80% of 135 LPCD). The hydraulic designs are prepared considering corresponding peak factor and infiltration. The rate of sewage flow is worked out 126 LPCD. and estimates. Amravati city is divided in five parts and Badnera in two parts.

Sewage Pumping Station:

Six pumping Stations: Four in Amravati town and two in Badnera are proposed as given below. The pumping stations shall be wet well & dry well type. Sump well shall have detention period of about 30 minutes. The sewage pumping stations are designed for the sewage received from population projected in 2029.

Sewage Treatment Plant

There shall be two sewage treatment plant at private acquired land at Lalkhedi of 30.50 MLD (under construction) and another of 62.50 MLD Capacity (proposed) for Amravati city and other one at private acquired land for Badnera Town of 12.0 MLD Capacity. Two STP are proposed for Amravati at the above place suitable for projected population of 2029. The BOD and suspended solids of raw sewage are assumed as 300 mg / I and 400 mg / I respectively. The treatment shall be such that effluent shall have BOD and

suspended solids 20 mg / I and 30 mg / I respectively. Such effluent can be let out in water course that is used as source of drinking water. The sewage effluent will be normally by used on field irrigation but when it is not needed it has to be wasted in natural water course. Technical options is to be choose as decentralised system in Amravati City using three sewage treatment plants at different spots. And accordingly three STPs are proposed at Lalkhadi, Badnera and Amravati respectively.

Sewerage System and Sanitation Facility

1. Existing System

Currently Septic Tanks are generally used by the local people. AMC has constructed toilets at the public places. These are based on Pay and Use System. There are 23 nos of such toilets being existed each with the capacity of 16 seats. At Gandhi Chowk and Kangarpur Biogas is being generated from these toilets.

2. Proposed Sewerage Scheme:-

Seven drainage district (Five in Amravati and two in Badnera) have been proposed for design of sewers on the following lines. As already stated earlier the general topography of AMC area flow in the same direction. All these nallas meet Pedhi river which is far away from AMC unit. The three nallas viz. SRPF nalla, Gadagenagar nalla, Navasari nalla meet Pedhi river at very far distance. Hence pumping station is proposed on these nalla in the corporation limit where inhabitation is not anticipated up to 2011. The catchments areas of these three drainage districts are as follows:

i. Drainage district A-1

Amravati Vrundavan colony, Mayors Bunglow, Jijau Nagar, telephone colony etc. The population projected in this drainage district is 12827 in 2011 and 16080 in 2025. Pumping stations for this drainage district is proposed in P.K.V. research center near Vrundavan colony.

ii. Drainage district A-2

Civil court area , labour court area, Paranjape Colony, Panchwati Chowk, Gadage Nagar, Rathi Nagar, Asiad Colony Sanmati Colony , Ashiad Colony etc. the population projected in this drainage district is 61055 in 2011 and 62955 in 2025. Pumping station for this drainage is proposed on Kathora road.

iii. Drainage district A-3

This is drainage district at north east corner. Major portion of this drainage district is proposed residential area. At present there are few colonies Viz. Friends Colony, Saurabh Colony etc. The population projected in this drainage district is 53633 in 2011 and 67708 in 2025. The pumping station for this district is proposed in Survey No. 96 near Walgaon Road.

iv. Drainage district A-4

At the heart of the Amravati town there is one fairly long nala called tope nagar Nala . it is start from Tope Nagar and meets Amba Nala at Lalkhedi. There are branches of

nallas viz. Ashiravad Bhavan Nala, Stadium Nala , Laxminagar Nala, Pravin Nagar Nala and Nagpuri Gate Nala which meet Tope Nagar Nala. The catchment area of Tope Nagar Nala and its branches from drainage district A-4. The area ovred is reserve police line, Trupti Apartment near SSc board , Mangilal Plot, Rampuri camp, Shrikrishna Peth, Shivaji Science College , Sarasvati Colony , Laxmi Nagar, Sahakar Nagar, Hatti Pura Area, Khaparde Bagicha , Vasant Talkies Area, Hotel Hindustan International Irvin Chawk Area, Masanganj, Gavalipura, Habib Nagar , Jalim Colony, Muzaffarpura, Vilas Nagar etc. The population projected in this drainage district is 194147 in 2011 and 194147 in 2025. The pumping station for this district is at Lalkhedi.

v. Drainage district A-5

Slightly on southern side there exist a longer nalla called Amba Nala. This starts from Wadali tank and meets Tope Nagar Nala at Lalakhedi. There are two big nallas viz. Chhatri talao nalla and Kaloti Nagar nalla and also several short branches nallas viz. Wadapura Nala, Frezarpura Nalla, Belepura Nalla, Hamalpura Nalla, jointing Amba nalla. The catchment area of Amba nalla and all the above branches constitute drainage district No. A-5.The area covered wadali , congress nagar, Chaprasipura, Frenzarpura Rukhmini nagar , Prashant nagar , Kalyan nagar, Moti nagar, Belpura, Ambapeth, Modhul;kar peth, Namuna, mahajan pura old main city inside fort wall Yashoda nagar, Benoda , Dastur nagar , Kiran nagar, Jewad nagar, Rajapeth , Samarth High School area, Hedia nagar , Indrayani Nagar, Mahavir Nagar, Nawate plot, Ravi nagar, Awasti nagar, Ganesh colony and HVPM etc. the population projected for this drainage district is 375282 in 2011 and 395987 in 2025. The pumping station for this district as well as for a-4 is located at Lalkhedi.

vi. Drainage district DDB-1

Badnera is divided in to two parts by railway line as already stated above. The northern part is called old Badnera and southern part is called new Badnera. Old Badnera constitute drainage district no B-1. A sewer in Badnera station nalla not only collects the flow of old Badnera but also some part of new Badnera. The population projected in this drainage district is 45636 in 2011 and 51658 in 2025. Pumping station (PSNo.5) for this district is proposed in survey NO. 253.

vii. Drainage district DDB-2

Most of the area of New Badnera Drains in Kondeshwar nalla and constitute drainage district No-B-2. The population projected for this drainage district is 41965 in 2011 and 42612 in 2050. Pumping station (PSNo.6) for this district is proposed in survey NO. 2243.

All sewers are designed for population projected in 2025 for sewage contribution of 108 liters/capita/day. The hydraulic designs are prepared considering corresponding peak factor and infiltration. The rate of sewage flow is worked out 126 LPCD and estimated. Amravati town is divided in five parts and Badnera in two parts.

Sewage Pumping Station:-

Six pumping stations four in Amravati town and two in Badnera are proposed as given below. The pumping stations shall be wet well and dry well type. Sump well shall have detention period of about 30 minutes. The sewage pumping are designed for the sewage received from population projected in 2025.

i. Pumping Station No No-1 at Vrindavan colony- The sewage collected in catchment area of SRPF nalla is collected in this pumping station at PKV research center area near Vrindavan colony. The sewage will be lifted to collecting chamber No- 1 near Kanta nagar. From this collecting chamber the sewage will gravitate through the sewer in Gadage Nagar Nalla to pumping station No-2

The rising main shall be 3050 mm dia. Ductile pipe 658 m long.

ii. Pumping Station No-2 on Kathora Road - The sewage collected in catchment area of Gadage Nagar Nalla will be conveyed to the pumping station No. PS-2 proposed at survey no. 48. The sewage will be lifted to collecting chamber No- 2 from where it will gravitate through the sewer in Pravin Nagar nalla.

This sewer is finally conveyed to pumping station No. PS-4

The rising main shall be 700 mm dia Ductile pipe 2010 m long

iii. Pumping Station No.3 at Navsari- The sewage collected in catchment area of Navasari nalla will be conveyed to the pumping station proposed at survey no. 94. of Navasari. The sewage will be lifted to collecting chamber No- 3 from where it will gravitate to the sewer in Tope nagar nalla and finally conveyed to pumping station No. PS-4 where it will gravitate to the sewer in Tope nagar nalla and finally conveyed to pumping station No. PS-4 where it will gravitate to the sewer in Tope nagar nalla and finally conveyed to pumping station No.

The rising main shall be 600 mm dia Ductile pipe 1186 m long

iv. Pumping Station No.4 at Lalkhadi - The sewage collected in catchment area of Tope nagar nalla and Amba nalla will be conveyed to the pumping station No.-4 proposed in private acquired land at Lalkhadi. The sewage will be lifted to sewage treatment plant Proposed in PS-4 site premises.

The rising main from PS-4 ti STP shall be 1524 mm dia MS pipe of 250 Rmt. Long.

v. Pumping Station No. PS-5 at Badnera - As The sewage collected from catchment area of Badnera station nalla is conveyed to the pumping station No.PS-5 proposed in survey no. 253. The sewage will be lifted to chamber No- 4 on Badnera Akola road near the over bridge from it will be gravitated to sewer in Kondeshwar nalla.

The rising main shall be 700 mm dia Ductile pipe 200 m long

Vi. Pumping Station No- PS-6 at Badnera - The sewage collected in catchment area of Kondeshwar will be conveyed to the pumping station No. PS-6 proposed at survey no. 224. The sewage will be lifted to sewage treatment plant proposed in village Pala area.

The rising main shall be 500 mm dia Ductile pipe 2390 m long

Sewage treatment Plant:-

There shall be two sewage treatment plant at private acquired land at Lalkhedi of 30.50 MLD(under construction) and another of 62.50 MLD Capacity (proposed) for Amravati Town & other one at private acquired land for Badnera town of 12.0 MLD Capacity. Two STP are proposed for Amravati at the above place suitable for projected population of 2025(ultimate stage year)

The BOD and suspended solid of raw sewage are assumed as 300 mg/l and 400 mg/l respectively. The treatment shall be such that effluent shall have BOD and suspended solid 20 mg/l and 30 mg/l respectively. Such effluent can be let out in water course that is used as sources of drinking water. The sewage effluent will be normally used on field for irrigation but when it is not needed it has to be wasted in natural water course.



Plate 5A: Sewage Treatment Plant



Plate 5B: Various Treatment Units at Sewage



Amravati City Sanitation Plan

The underground sewerage scheme sanctioned under UIDSSMT is under implementation for part I costing around Rs. 86.12 Crores. The Detailed Project Report prepared by MJP for part I, II & III comprises of cities' requirement to meet the waste water flow for year 2025. Since we are planning all the system components for immediate Phase (2029) and ultimate Phase (2044) it is necessary to account for these proposals for year 2029. As the scheme is under implementation the underground sewerage is kept in low priority to be completed within 7 years i.e. by the end of 2017-18. Some of the works such as sewage treatment plants, pumping stations, pumping mains etc need to be necessarily planned and executed in Phase I and the remaining works in Phase II as mentioned herewith.

Project Planning year 2011		Existing scheme sanctioned under UIDSSMT Phase I	86.12 Cr	
Completion Of Priority Phasing		Components Covered In Phase I		
Works under UIDSSMT	2014	Collection and conveyance	171.42 Km	
Immediate Phase For Design For		system in Zone 4 and 5	-	
15 Years	2029	STP at Lalkhedi	44 MLD	
	2020	900 MM DI K-9 Rising Main		
Ultimate Phase For Design For 30 Years	2044	Cost Of Components Covered Under Phase I	Rs. 86.12 Cr	

Water Drainage scheme in Amravati Municipal Corporation Area

The under drainage scheme in Amravati Municipal area has administrative sanction vide government decision no. Bhu.Ga.Yo./1096/260 / Letter no. 28 / 96 / Ref no -19 dated 24.01.1997. The technical sanction is given by Chief Engineer, MJP Regional Dept, Amravati on dated 08/ 01/ 1998. The tentative cost of the scheme is Rs 123.04 crore. The rate of the items in the scheme is as per the schedule of rates based in 1996-97. The financial outlay of the scheme, obtained fund and expenditure incurred in the scheme is given below:

Financial source	Percentage	Amount in Rs crore	Amount obtained in Rs crore	Expenditure incurred in Rs crore
Non- government grant	23.33	28.705	28.705	28.54
Loan	66.67	82.03	Nil	Nil
Public contribution	10	12.03	5.08	5.08
Total	100	123.04	33.785	33.62

The above scheme has been devised keeping in view the population projection of 843173 approx in 2011 per capita water consumption 105.60 litres and total sewage contribution of 89 MLD. The Amravati city and Badnera city together have been divided into 7 geographical zones. The approved items under this scheme are in progress and corresponding expenditure incurred to date is as follows-

Table 19:- Approved Items und	er the Water Drainage Scheme	e and Corresponding Expenditure
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Sr. No	ltem	Rs in crores
1	Laying of sewerage line in Zone No 5 in Amravati city (Total	23.10
	length 161 kms and out of this 110 kms laying of pipeline is	
	over)	
2	Laying of sewerage line in Badnera (Total length 28 kms and out	0.96
	of this 10 kms laying of pipeline is over)	
3	Sewage Treatment Plant of capacity 30 5 MLD at Lalkhedi and	9.56
	construction pumping station No.4 (80% work completed)	
	Total Expenditure	33.62

The laying of sewerage line started from Feb 1999 and sewage treatment plant started from April 2003. Sewage treatment plant of Amravati city Zone no.5 as well as Badnera and if priority is given to transportation of sewage it will be beneficial to the citizens of Amravati. The revenue can be generated under this scheme. *This work is to be given top priority and the cost of partial implementation of this scheme is expected to be around Rs 35 crore. As there is no provision of finance for this work under newly sanctioned UIDSSMT scheme, therefore it is necessary that funds be provided by AMC for the same. Keeping in view the current financial status of AMC there is no possibility that it will be able to provide the funds for this work.*

Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT)

Apart from the works under the earlier sanctioned agreement under the city limits of A.M.C. jurisdiction (Laying of incomplete pipelines in Zone No.5, Sewage treatment plant at Lalkhedi and construction of pumping station no4), the work of construction of Sewage Treatment Plant and laying of pipeline at Badnera have been merged under the Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT) This scheme is valid up to the year 2025 and has got financial approval of Rs 160.04 crores from the Central Govt. The E.T.P charges are not included in this scheme. The structure of this scheme is shown below:

Sr. No	Economic source	Percentage	Amount in Rs crores
1	Central Govt.	80	128.04
2	State Govt	10	16.00
3	Amravati Municipal Corporation	10	16.00
	Total	100	160.04

Table 20:- Financial Structure of the Scheme

Name of the Scheme	Present Status of the Scheme	Area Covered	Status of the Scheme up to March 2012	Status of the Scheme up to March 2014
Phase I	DDA4 and DDA5 35% work completed Sanctioned Cost:- Rs. 86.12 crore Cost of the Work as per current CSR:- Rs. 111.84 Crores	Under Progress (Due to non- availability of fund within time limit)	Completed	
Phase II	DDB1 and DDB2 Tender Process in progress Sanctioned Cost:- Rs. 23.69 crores	-	-	Completed (It is Assumed)
Phase III	DDA1, DDA2, DDA3, Sanctioned Cost:- Rs. 32.12 crores Land Acquisition of STP:- till not identified after that tender will be called	-	-	Completed (It is Assumed)

Scope of work under U.I.D.S.S.M.T. Scheme

- 1. Laying of sewerage pipelines (on the basis of per capita 126 litre sewage flow) in the remaining zones of Amravati and Badnera city.
- 2. Construction and expansion of existing sewage treatment plant (Cycle tech ASP) up to capacity 62.5MLD. at Amravati.
- 3. Construction of sewage treatment plant (Cycle tech ASP) of capacity 12.5 MLD. at Badnera.
- 4. Installation of pumping machinery, expansion of pumping station pipeline as per expanded capacity



Plate 5E: Open Drain in Amravati



Plate 5F: Damaged Closed



Plate 5D: Pay & Use Toilet in Amravati City

Eco-san Project:- Eco-san project after fixing the project site the details will be workout.

Conclusion:-

It is observed from the current status of parameters under SLB of sewage system is 0% for 8 out of 9 parameters and the targets set for next financial year 2011-12 range from

50% to 70%. This is possible only when sanctioned funds are timely received and phase I & II of the DPR is sanctioned. Phase I funds are utilised for lying of sewer lines in few zones & 1 STP in sewerage zone no. 5 of capacity 30.50 mld. The underground sewerage scheme is kept at a low priority with a time span of 7 years i.e. phase 3 will be completed in the year 2017, after which 100% SLB benchmarks will be met.

c. Storm water drains

Existing Status-

There is open drains system constructed along the road side for the collection of storm water which ultimately meets the Amba nallah. The Amba nallah is observed to be highly polluted with lots of solid waste, plastics and other materials being scattered in it. This needs to be cleaned properly.

S. No.	Service level benchmark	Expected benchmark	Current status	Target till Mar 2012
27.	Coverage of storm water drainage network	100%	55%	70%
28.	Incidence of water Logging / flooding	0	10	5

Table 21:- SLB Indicator for Storm Water and Drainage

Storm-water drains are the dirtiest parts of most cities as waste from apartments or slums are thrown into them directly. They are also used as public toilets due to inadequate number of public toilets. Keepers of street pigs, break drains and man-holes to create mud-wallows in nallahs for their pigs. Sewage is let out into nallah by new buildings, contaminating drinking water lines nearby. A large number of natural streams flow through the city. Storm water drains carry the sullage and rain water which is ultimately let into the nallah. Amba nallah is the primary drain that stretches 9 Km in length and flowing East - West meeting Pedhi river outside the corporation area. Through some of network of storm water drain in old area is in existence but dilapidated and most of the newly developed area required the well designed & planned drains to carry out storm water. Stagnation of water at the various places in the city is the problem faced because of inadequate drains. The city is not covered with systematic storm drainage arrangement in spite of two major nallahs passing through city. This has result the creation of panic situation during heavy showers at 8 to 10 locations within the city along with flooding of roads. The existing storm water drains are characterized by low carrying capacity due to encroachments and silting. Absence of UGSS and inadequate drains further adds to the problem. This situation degrades the environment by emanation of foul smell due to stagnation at a number of points. Thus improvements in the existing drainage network and proposed new drains are necessary. The drains, which are to be provided need, detailed study based on the topographical characteristic of the catchments and the extent of which it could contribute to storm runoff. The design needs combination of natural drains & proposed collector & conveyance drains as per the necessity. The existing nallahs are generally used for throwing the rubbish, garbage along with inorganic matter which results in reduction of carrying capacity of nallah. This can be well seen in all the parts of the city. Encroachment of nallah is another major issue for flooding.

d. Solid Waste Management

Existing status:

Solid Waste Management (SWM) is one of the primary responsibilities of the municipal authorities. Solid waste management is the responsibility of local bodies. This activity is non-elusive, non-revealed and essential services. Over the years, the quantum of waste generation by different category of waste producers (Households, Commercial centres, Institutions, Industries etc) has been increasing with the increase in urbanization, population growth and associated activities. The characteristics of the waste generated have also been changing. It is reported that the local bodies spent handsome amount on solid waste management (SWM) but the present level of services in most of urban areas have not reached to the satisfactory level. As per Hon. Supreme Court guidelines and solid waste handling rules 2000. There must be proper management of solid waste i.e. proper site selection, proper primary and secondary collection, transportation, processing of organic fraction and ultimate disposal by sanitary land filling method. But most of the implementing agencies have not reached to their goal resulting in potential threat to human health in particular and environment in general.

S. No.	Service level benchmark	Expected benchmark	Current status	Target till Mar 2012
19.	Household level coverage of solid waste management services	100%	60%	80%
20.	Efficiency of collection of municipal solid waste	100%	65%	75%
21.	Extent of segregation of municipal solid waste	100%	0	30%
22.	Extent of municipal solid waste recovered)	80%	0	0
23.	Extent of scientific disposal of municipal solid waste at landfill site	100%	65%	70%
24.	Efficiency in redressal of customer complaints	80%	65%	70%
25.	Extent of cost recovery in SWM services	100%	0	10%
26.	Efficiency in collection of SWM charges	90%	0	0

Solid waste management

According to a Newsletter titled "Urban Municipal Solid Waste Management" published by the National Solid Waste Association of India (dated Oct 2005) the per capita waste (gms per person per day) in Amravati is between 255-300. Hence taking into account the population of Amravati, which is 664000, the waste generated in gms in a day is (300x 646000 = 215 gms per day) i.e. 215 tonnes per day. A typical Solid waste comprises of biodegradable, non biodegradable and debris matter as given in for Amravati city.

Type of waste	% Ton
1. Biodegradable	35.53
2. Recyclable	15.95
3. Debris and silt	48.52

Out of the 81 wards, are covered under door to door collection of solid waste. The solid waste is collected from approximately 90,000 nos. houses at the door steps, weighing approx 150MT. 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 Sukli road is done through open trucks and dumper placer is done, but not through decentralized technique. About 30 nos. of penguin shaped bins and 40nos 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. (At one place only). The above activity i.e. collection and transportation of MSW is carried out both by contract basis and AMC itself. The present disposal site is located at Sukli road, which has area of 27 acres and is located at 7 kms from the city.

Disposal of increasing quantities of urban solid waste is a major challenge for Municipal authorities. Resources are short, although some authorities have made investments to improve the efficiency of solid waste management systems. The municipal solid waste in the urban and semi- urban region of the State of Maharashtra having a population of 9.67 crores has been estimated to be of the order of 15691.88 tonnes per day in the year 2001 (State of Environment Report prepared by Indira Gandhi Institute of Development Research). The present method of solid waste disposal in these regions has not been satisfactory. The wastes are disposed in most unscientific way on to the land thereby posing threat to environment and public health. This chapter presents the current solid waste management scenario in Amravati city.

The disposal of solid waste is done at the landfill site, which is approx. 160- 170 MT. 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. There is provision of management of biomedical waste of about 1 tonne / day in Amravati. The contract on BOO basis for regular collection/ transport and disposal has been allotted from date 1/01/2003 for the next 30 years and the project is operating efficiently At present there are approximately 1,50,000

Amravati City Sanitation Plan

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. Vermi-culture is being currently practiced on small scale at two places. there is no decentralized technique adopted by A.M.C. 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.

System 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:

- Generation and Composition of Waste
- Collection of Waste
- Transportation of Waste
- Disposal Of Waste



Door-to-door waste collection through unemployed youth groups

Community Dust Bins at strategic locations in the city.

Generation of Waste

In Amravati, there are 4 zones within which 81 wards are located. For sake of convenience of management of municipal solid waste, the waste generated, resources available etc. are referred to each ward and respective zonal office. The corporation performs its function as per the provisions of the Act governing the municipal

Amravati City Sanitation Plan

corporation in the state. The table below shows the daily waste generation for each zone and ward based on population data. It is based on the assumption that 240 gram per person per day of MSW generation. The **Table** below depicts the zone wise population and respective waste generation in tonnes per day.

Composition of Waste

A typical Solid waste comprises of biodegradable, non biodegradable and debris matter as given below for Amravati city. The laboratory analysis of waste encompasses both physical and chemical characteristics and is given below in the form of tables. The physical characteristics of the MSW are depicted and the chemical characteristics of MSW are depicted below-

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

Table 22:- Classification of Waste

Table 23:- Physical Characteristics	of MSW
-------------------------------------	--------

Sr. No	Parameter	Unit	Value
1	Fruit /Vegetable waste	%	19.42
2	Paper	%	1.86
3	Plastic	%	8.92
4	Cloth	%	2.46
5	Wood	%	1.53
6	Metals	%	0.32
7	Glass	%	0.82
8	Leather	%	0.42
9	Rags	%	0.95
10	Rubber	%	0.06
11	Pebbles	%	13.82
12	Fine Sand	%	26.24
13	Ash and fine earth	%	21.18
14	Moisture	%	7.66
15	Density	Kg/cum	440

Sr. No	Parameter	Unit	Value
1	рН	%	8.17
2	ECE	Ms/cm	2.842
3	Organic carbon	%	11.27
4	Nitrogen as N	%	0.87
5	Phosphorus as P_2O_5	%	0.66
6	Calcium as Ca	%	0.72
7	Magnesium as Mg	%	0.48
8	C:N Ratio	%	12.95
9	Zinc as Zn	Mg/kg	317
10	Iron as Fe	Mg/kg	15820
11	Manganese as Mn.	Mg/kg	186
12	Copper as Cu.	Mg/kg	360
13	Lignin	%	11.5
14	Cellulose	%	9.55

Table 24:- Chemical Characteristics of MSW

Collection of Waste from various places

The collection of waste from various places is given in the Table 6.5 on next page. In addition to the above scheme of waste collection, there is provision of door-to- door collection of waste from approximately 90,000 nos of houses weighing approx 150MT. The provision of additional handcarts is envisaged for collection of waste from house to house. Some pictures depicting the present status of waste are shown.

Table 25:- Collection of Waste from Various Places

Total existing places from where waste should be collected	Places from where places from where waste is actually collected	Resources of Special waste collection	Expenditure for Total waste collection/ Income	Remarks on Measures taken
Hotel: - 527 Beer bar: - 143 Slaughter house: - 2 Community halls: - 70	Hotel: - 150. Beer bar: - 70. Slaughterhouse: - 2 Community hall: - 35. Vegetable market: - 5 No of containers placed in city: - 500 nos Open spot: - 134	Expenditure on transportation of total waste:- Aprrox Rs 1.80 crores.	Contract given for the collection of waste from hotels, community halls, and beer bars etc. AMC is collecting 18.5% royalty from the contractor per year.	



Plate 6C: Scattered Municipal Solid Waste





Plate 6D: Scattered Municipal Solid Waste



Plate 6A: Collection of Municipal



Plate 6B: Container for Collection of

- 57 -

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 Sukli road is done through open trucks and dumper placer is done, but not through decentralized technique. The total length of roads is approx 1000kms 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 40nos 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. (At one place only).

Total Manpower and Infrastructure deployed for the Collection and Transportation of MSW

The transportation of MSW is carried out purely on contract basis. Contracts are given for daily sweeping and collection of garbage in Amravati Municipal Corporation area. Out of 81 electoral wards, 24 wards are reserved for Unemployed Literate Organizations and 9 wards are reserved for Women's Saving Groups.

The collection of MSW is carried out both by contractual labor and A.M.C. employs. The total manpower bifurcated into the contractual labour and A.M.C manpower is as below:

- A.M.C employees: 799
- Contractual Labours: 1182

The infrastructure deployed for the collection and transportation of MSW is as follows:

- Handcarts: 200 nos
- Ghanti Katla :- 350 nos

Staffing Pattern of Sanitation Department

- M.O.H: 1
- Medical officer: 1
- Doctor In-charge:- 1
- Sanitary Superintendent: 1
- Senior Sanitary Inspector:- 3
- Sanitary inspector: 18 + 5 contractual = 23
- Mukadam deployed: 35

The total no of containers zone-wise is presented below. According to the data presented below in the Table below the most number of Dumper Containers (about 35%) are present in Rampuri Camp –1while 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 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.

Zone	Dumper container	Ring type	Open place
Rampuri Camp. I	166	52	28
AMC Main Office Premises	94	21	24
Hamalpura	137	32	53
Badnera	73	34	21
Total	470	139	126

Table 26:-	- Total Number	of Containers	Zone Wise

Zone	Population 2005	Existing Workers	Existing Transfer Vehicles.	Existing Phawda	Existing Broom	Existing Basket
1	141558	320	49	166	136	185
2	179060	414	51	251	163	214
3	187427	458	63	254	204	267
4	108276	233	36	145	88	124
Total	616321	1425	199	816	591	790

Management of solid waste at landfill site

The disposal of solid waste is done at the landfill site, which is approx. 160- 170 MT. The waste is dumped at compost depot and processing is done. The provision of generating biogas from waste and p 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.

Contract has been given to A2Z infrastructure for Installation Construction, operation and maintenance of Municipal Solid Waste processing plant and Development of Sanitary Landfill for process remnants on BOOT-PPP basis for 30 years (package- P&D) at Sukali Compost Depot, Bhatkuli Road, Amravati,

Management of Biomedical Waste

There is provision of management of biomedical waste of about 1 tonne/day in Amravati. The contract on BOO basis for regular collection/ transport and disposal has been allotted from date 1/01/2003 for the next 30years and the project is operating efficiently.

Compliance of MSW Rules 2000-

Prohibition of littering

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

Collection and transportation of waste

At present there are 1.2 lakh households in Amravati city and approximately 60 %(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.

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.

Final disposal at Landfill site

The waste is being currently dumped at the landfill site.

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.

Enforcement of MSW Rules 2000

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 below.

S.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/-

Table 28:- Penalties Imposed on the Type of Offence

S.No	Description of offence	Penalty amount
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	Rs 300/-
	places and open places	
11	Construction debris dumping on road, public	Rs 500/-
	places and open places	

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 sanctioned on the basis that 49.25 Lac from Central Government and 48.95 lac from Municipal Corporation 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. Presently, the said slaughter house is not in running condition due to some technical problems

Annual Expenditure on MSW

The expenditure pertaining to various services in relation to solid waste management system is depicted below. The annual budget towards SWM is 14.7 crores for the year 2010-11.

Sr. No	Account Head	Estimated Expenditure 2011-12(Rs)
1	Drainage cleaning	0.2 crore
2	Street Cleaning	5.10 crores
3	Transportation of waste	3 crores
4	Equipment and machinery	2 crores
5	Establishment cost	4.40 crores
	Total	14.7 crores

Table 29:- Expenditure pertaining to SWM

Action Plan on Municipal Solid Waste Management

Amravati Municipal Corporation is situated in 121.65 sq. kms. The population of Amravati Municipal Corporation is near about 6.48 lakhs (as per Census 2011). About

215 metric tonnes municipal solid waste (MSW) is being generated on daily basis. Out of that about 175-200 metric tonnes garbage is transported to compost depot. For house-to-house collection there are 350 *ghanti katalas* in Municipal Corporation Area. The house-to-house collected garbage is primarily stored in close containers and somewhere on open grounds. And from there it is transported by open trucks and dumper placers.

For disposal of Municipal Solid Waste MSW Processi1ng Plants will be erected at Sukali Compost Depot (Present Dumping Site). This plant will be entirely erected by private company for which land will be provided by Municipal Corporation at the rate of Re. 1/- Sq. Mt per year. Company will produce compost manure and some materials from waste plastic and this will be sold at his own. He will also develop sanitary landfill for inert material.



Plate 3F: Compound Wall at Compost Depot



Plate 3G: Tree Plantation with Tree Guard Protection

e. Water Supply

Status -

Providing adequate supply of water to the city is an obligatory function for Amravati Municipal Corporation. The process involves obtaining raw water from available sources, filtering, treating and distributing it to the consumers. Apart from these physical processes, AMC also has to manage other aspects of the supply system such as attending to complaints, charging customers for services and making investments to ensure sustained supplies. Current water demand is about 62 million litres per day (MLD). AMC at present operates water treatment plant of designed capacity of 95 MLD. Apart from surface water ground water is also used for carrying out various domestic & commercial activities.

The Corporation follows a metered/volumetric tariff structure; hence consumption is linked to the water charges. For the year 2008-09 the annual expenditure on water supply is approximately Rs.1150 Lacs against an actual receipt of about 1503 Lacs. AMC has achieved more than 100 % success rate for water tax recovery this year.

Table 30:- SLB Indicators for Water Supply

S. No.	Service level benchmark	Expected benchmark	Current status	Target till Mar 2012
1.	Coverage of water supply connections	100%	60%	90%
2.	Per capital supply of water	135 lpcd	110	135
3.	Extent of metering of water connections	100%	80%	100%
4.	Extent of non-revenue water (NRW)	20%	25%	20%
5.	Continuity of water supply	24×7	10%	100%
6.	Quality of water supplied	100%	100%	100%
7.	Efficiency in redressal of customer complaints	80%	70%	80%
8.	Cost recovery	100%	100%	100%
9.	Efficiency in collection of water supply related charges	90%	70%	90%

Water supply

Water Management

Providing adequate supply of water to the city is an obligatory function for Amravati Municipal Corporation. The process involves obtaining raw water from available sources, filtering, treating and distributing it to the consumers. Apart from these physical

processes, AMC also has to manage other aspects of the supply system such as attending to complaints, charging customers for services and making investments to ensure sustained supplies. AMC sources about 62 million litres per day (MLD) of water. Overall, the water supply situation meets current demand.



Surface Water Supply

Source

The major source of water to the Amravati city is from Wardha River. A dam has been constructed at the Upper Wardha named as Nal Damayanti Dam based at Simbhora. This dam is the main source of water supply to the citizens of Amravati city. Besides this water is also drawn from ground water through bore wells and open wells -

Sr. No.	Water Source	WTP	Water Treated (MLD)	Existing Capacity (MLD)
Surface Water		62	95	
Type of Ground Water source			Number	
1	Bore wells			2293
2	Open wells			354

Table 31:- Source of Potable Water Supply for Amravati City

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, since the current water demand is only 62 MLD. The treatment plant is maintained by the Maharashtra Jeevan Pradhikaran (MJP).



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. The total length of the pipeline is about 550 Km.

Distribution of Treated Water

The municipal water is supplied through 61,694 total water connections. The intermittent type of water supply is followed 2 hrs supply in Morning as well as during Evening hours. During Summer Season Zoning System is adopted for water Supply. Water samples collected on daily basis and tested at District Public Health Laboratory. The details of water connections are given below:

Domestic Connection	:	41,463
Non Domestic Connections	:	297
Institutions, Schools, Colleges etc.	:	254
Disconnected Connection	:	6,783
Connection without meter (Public Tap)`	:	1,442



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.

Recovery of Water Tax

The properties having connection of water supply from MJP (Maharashtra Jeevan Pradhikaran) pays water tax to MJP. For those who neither have well/tube well nor MJP water connection pays water tax to AMC, since they are enjoying the facility of water from municipal connections through public taps. The tax collection is a metered/volumetric tariff structure; hence consumption is directly linked to the water charges. For the year 2008-09 the annual expenditure on water supply is approximately Rs.1150 Lakh against an actual receipt of about 1503 Lack. MJP has achieved more than 100 % success rate for water tax recovery this year. The rates followed for different sectors are detailed below:

1. Domestic Rates	:	10.20 Paisa per Unit
2. Non Domestic Rates	:	46.20 Paisa per Unit
3. Institutions Rates	:	19.65 Paisa per Unit

Recovery and Expenditure for the current year is given below:

۶	Recovery (2008-09)	:	1503.53 Lac
\triangleright	Expenditure (2008-09)	:	1149.76 Lac

AMC & MJP is paying attention towards energy conservation. The Energy Audit for the Water sector has yet not done. But the energy estimation is carried out and measures to bring down the cost are taken. The Energy Consumption is approx. 34 to 35 Lack per

Month. The energy saved approx. is around 3 to 4 Lack per Month by means of Power Factor incentive, Tariff incentive, prompt payment and availing discount on payment of energy bills within due date.

Augmentation to Amravati water supply scheme (by MJP)-

The proposal for augmentation to Amravati water supply scheme is submitted to Government. (Project sanctioned cost is Rs. 93.29 crores)

Present status of water supply	-	
Present population	-	7,40,000 souls
Design population	-	8,96,281 souls
Rate of water supply	-	120 lpcd
Daily present demand	-	78 MLD
Design stage demand	-	120 lpcd
A. Yearly assessment 09-10	_	Rs. 2308.69 lakhs
B. Yearly recovery	-	Rs. 1562.56 lakhs
C. Yearly expenditure	-	Rs. 1306.46 lakhs

Ground Water Source-

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 dependant 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.

Year	Demand Qty in ML	Total Pumping (Raw water lifted) Qty in ML	Qty actually supply in ML	Qty billed in ML	Losses in ML	% of wastage
2006-07	17228.71	21912.82	19780.20	17228.71	4684.11	21.37%
2007-08	19268.57	23475.03	22333.56	19268.57	4206.47	17.92%
2008- <mark>0</mark> 9	18570.42	24231.96	23525.45	18570.42	5661.54	23.36%
2009-10	19342.57	25781.60	25357.32	19342.57	6439.03	24.74%

Table 32:- Percentage of Wastage of Water

Conclusion:

In water supply sector of AMC, the situation is satisfactory as is reflected in the SLB table under current status. The coverage of water connections will be 90% and the extent of metering of water connections will be 100% by the end of next year which is a good achievement. The NRW current percentage is quite low which reflects that there are very few leakages and less unauthorised connections with proper billing method. This is reflected in the efficiency of cost recovery which is 100%. Similarly, there is no operation and maintenance burden on AMC

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.

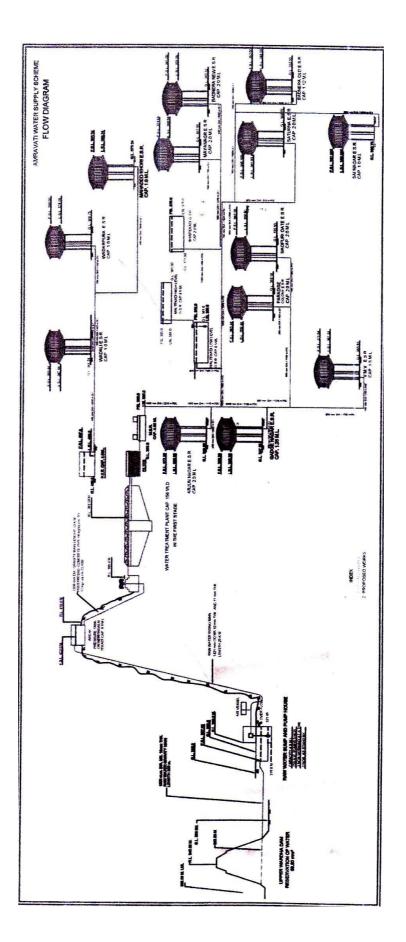
Also, due to ever increasing population of India, the use of ground water has increased drastically leading to constant depletion of ground water level causing the wells and tubewells to dry up.

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.



f. Environment –

Green Cover -

Green parks, green lands, open areas and playgrounds, play an important role for the city environment. Green spaces symbolize peace, ensures minimal stress and a cleaner environment. They are important for recreational purposes and for enhancing the quality of life of citizens.

The Garden Department of AMC works towards maintaining and increasing the open and green spaces of the city. Amravati city has 45 gardens covering a total area approximately of 180 acres. Ten new gardens are proposed by AMC. One "nallah" parks are especially proposed by AMC for nallah beautification to B & C. The department has also undertaken road beautification and road side plantation projects on various roads and areas adding up to a total of 15 km of avenue plantation. Some specialized and popular gardens in the city are Prashant Nagar Garden, Chattri Talao Garden, Wadali Talao Garden.

Tree Plantation

As per Tree Census 2008-09 carried out in the city has revealed that there are around 5,48,755 trees. Permissions to cut trees during road widening and other private developments are given with subject to plantation of new saplings. A total of 45 trees were cut in the given period by sanction.

Lake Beautification The costs of various components considered above are worked out as below.

a). Chatri Lake	Rs. 175 Lac
b). Wadali Lake	Rs. 125 Lac
2. Nallah Beautification	
a). Amba Nallah	Rs. 345 Lac
b). Sub nallahs merging into Amba nallah	Rs. 70 Lac
Total	Rs. 715 Lac

Total cost of Rs. 715 Lacs for Lake and Nallah Beautification is considered out of which about 100 Lacs to be considered in top priority under Phase I to be execute within 3 years along with priority roads and balance Rs. 615 Lacs to be executed within 7 years in low priority under Phase I.

Garden, Recreation & Other Services

The residential avenues, the main roads, Spaces below flyovers compost yard, burial ground and open spaces can be provided with adequate greenery. The total cost required for planting 2000 saplings/ trees would be Rs.10.00 Lacs. Private participation and NGOs can make this task a success.

Best practices by Amravati Municipal Corporation -

Non convention/ Renewable Energy

Keeping in view the inevitable shortage in non-renewable energy sources like coal etc., AMC has taken concrete steps in the direction of using non-conventional & renewable energy sources like solar power which have been utilized for the following facilities which are given year wise below. Continuous efforts have been made by AMC for the improvements in its present services to reduce the energy consumption. Different types of Solar Based lights installed by AMC.

Facilities provided in the year 2006-2007

Solar Street Light Control Systems	: - 10 Nos

- Solar Street Lights and Solar Garden Lights : 30 Nos
- Solar Power Pack of capacity 1KW : 1 Nos

Facilities provided in the year 2007-2008

\triangleright	Solar Street light control systems	-	20 Nos
\triangleright	Solar Street lights and Garden lights	-	170 Nos
\triangleright	Solar illuminating hoardings	-	1 No
\triangleright	Solar power pack (1KW)	-	1 No
\triangleright	Solar blinker	-	10 Nos

Facilities provided in the year 2008-2009

Solar Street light of 18 W - 55 Nos

Facilities proposed to be provided in the year 2009-2010

Solar Street light - 100 Nos

Innovative technologies employed and use of renewable energy sources

Under Integrated Road Development Program for Amravati city AMC is implementing the following aspects:

- Use of DPSD streetlight fitting
- Switching ON/OFF by phase controlling
- ➢ 50 % off for square lighting
- Use of LED in Signal System

Awareness creation in the employees & their involvement in Energy Conservation programme

- Close monitoring on switching ON & OFF of streetlights through automatic switching or manually by the AMC staff.
- In order to create the awareness of energy conservation in the AMC offices, the circular has been issued to all HOD's.



Plate 2B: Solar Street lights installed at AMC Premises



Plate 2C: Solar Power Packs installed at AMC Premises



Plate 2D: Solar Street Lights



Plate 2E: Solar based Traffic Signal

In the Annual Budget of F.Y 2010-11 the expenditure anticipated under the head Lighting is of Rs6.87 Cr in which Rs 4.50 Cr is against energy consumption. The AMC has planned to propose unconventional energy equipment based on the solar energy for which provision of Rs 20 lakh is made. In that case it is anticipated there will be overall saving of **Rs 1.00 Cr**.

g. Social Mapping

With an aim to include the grass roots and assess their requirements towards Improved Sanitation, social mapping was undertaken in 50 slums of Amravati. Participatory tools such as RPA which included focused group discussions, sanitations mapping, time line, trend analysis, problem tree etc, has been applied in different sets in different slums as per requirement. The slums for intervention for social mapping were chosen based on the situational analysis and where need is felt. Direct interaction with the urban poor was the main aim of this process at Amravati. In way of discussion and meetings facilitated through innovative participatory tools, actual situation could be analyzed.

Training on "Social Mapping" of urban poor communities was imparted to Community organizers and CBO members from communities on 23rd and 24th November 2010. The purpose of this training was to make *vasti sanghatika* (community organizers) aware about tools of data collection from communities in order to include people's voice in CSP process. The CBO members were suppose to undertake this exercise of social mapping in slums of Amravati.

The process was undertaken in a time period of 12 days with the help of 50 community organisers.

Objectives -

In general, the RPA objective is to identify the sanitation problems and the community expectations to solve their problems using their own ability in a rapid and systematic way. The objectives are;

- To identify community problems and needs or the community plan to solve their sanitation problems.
- To identify the community ability to provide contribution for sanitation improvement.
- To understand demographic profile of the community.
- To assess socio-economic status of the community and to develop better understanding about Sanitation needs, demands and challenges of community sanitation planning.

Tools used for 'Social Mapping' -

Sanitation Mapping - Used as the first tool to draw the same picture of the site/village/hamlet and surrounding based on participants perspectives. The sanitation mapping shows-

Main Street, water taps, wells, water tankers, related to water services, rivers, open drains, places of open defecation, grounds, houses, and important places etc.

Time line: A tool to be used to identify and to study the experiences gained by the community towards community level infrastructure development.

Transect Walk: a tool to be used to identify and to study the condition of the existing sanitation in the neighborhood by conducting a direct observation. This tool is also used to assess the community satisfaction towards the existing sanitation facilities.

Problem tree: A tool to be used to identify and to study community sanitation problems as well as the cause and effect. This tool is also used to identify priorities of how the community feels about problems.

This method is useful to assess experiences of self-help infrastructure development, community willingness to contribute, technical feasibility for sanitation infrastructure, local institutional preparedness.









Training of Vasti Sanghatikas at Amravati Municipal Corporation by the trained personnel of AIILSG on 20-03-1011. Dr. Soni, Health officer and Dr. Jadhao, Asst Health Officer, AMC were also present at the training.

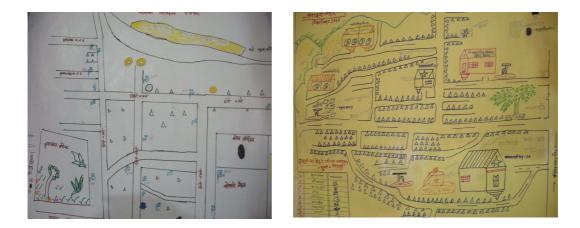




RPA tools being used by Vasti Sanghatikas in urban poor communities



Sanitation maps are prepared and time line for each community was undertaken to assess the improvement in infrastructure and social conditions of the urban poor localities.



Sanitation map reveals the gaps in services provision as well as a self learning and assessment tool for the community. A tool to map the sanitation facilities available for the community.

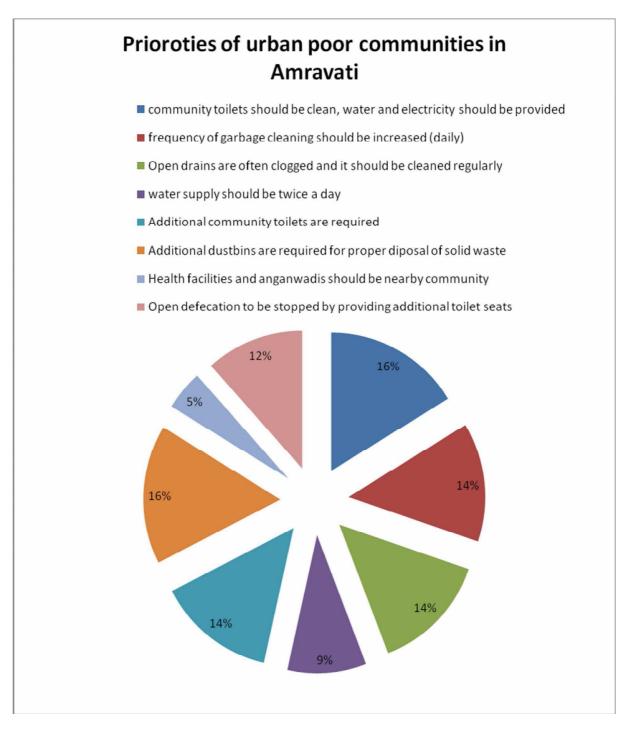
Data collection through structured questionnaires and other social tools such as sanitation mapping in the slums of Amravati.

Amravati City Sanitation Plan

Slum Name	Common problems in the area			
Sidharth Nagar , ward - 20	Nallah Cleaning is required on regular basis			
Population = 2672				
Old community	Community toilets must be reconstructed			
	Regular water supply to community latrines is necessary			
Chaman nagar juni vasti , ward –				
74	More dustbins are required			
Badnera	Frequency of garbage cleaning should be more			
Population =3395	Marjid back side- handpumps required and toilet block is to be constructed to prevent defecation			
Phimpagar ward no. 20	New toilet facility should be made available			
Bhimnagar , ward no - 20	Regular emptying of dust bins required and additional dustbins to			
Population - 2567	be provided			
Old community				
Slum at Belpura , ward no- 40	Water supply should be twice a day			
Population = 5604	More toilet seats for (Matang Pura area) required (10 seat)			
Old community				
Pathan pura	Water supply and electricity in toilets is required			
50 years old community	Daily cleaning of dustbins and door to door collection			
	Is essential for cleanliness of community			
Rahul Nagat, ward no -16	Collection vehicle does not visit daily			
	There are no dustbins near hillside			
	Nallah as well as drains are not cleaned regularly			
	Water supply is not adequate			
	Water testing is not regular from bores and hand pumps			
	Internal lanes are not cleaned			
Bichhu Tekdi, ward no- 16	Collection vehicle does not visit daily			
	No facility of community toilets			
	Drains are not cleaned by municipal workers			
	Water supply is not adequate			
	No Anganwadi near the community			
	Market on Friday creates lot of garbage and foul smell			
	Internal lanes are not cleaned			
	Municipal medical facility is far away			

Table 33:- A Sample of Amravati Social Mapping Exercise

Imam Nagar -ward no -26	Dustbins are not available
	Collection vehicle is not provided
	Garbage is thrown in open
	Open defecation by 30% members of community
Sanjay Gandhi Nagar, ward no -36	Health facility of AMC is far away
	Community water taps and hand pumps are required
	Community toilets are to be upgraded
	Electricity and water to be provided in community toilets
Sanjay Gandhi no 1 ,ward no - 37	Drains are not cleaned by municipal workers
	Electricity and water to be provided in community toilets
Nehru Nagar slum, ward no 17	2 Anganwadis, 1 ICDS, ration shop - 1
	Electricity and water to be provided in community toilets
	Open defecation because of inadequate facilities in community
	toilets
	Toilet seats and doors are dilapidated
	New area of slums is not provided with water
Chavre Nagar- ward no- 70	No health facility nearby slum
	Water scarcity
	There are No dustbins for collecting or disposing off Garbage
	Drains are not cleaned by municipal workers
	Drains are cleaned once in a month
	No individual toilets
	There are 10 Self Help Groups in the slum.



h) Immediate Emergency Centre

Immediate Emergency centres are established for better flood control in Amravati Municipal Corporation area. Following are the committee members and cooperative members

1) Hon. Deputy Commissioner, Municipal Corporation, Amravati

- 2) Deputy Engineer, MSEB
- 3) Deputy Engineer, B & C, Amravati
- 4) Tehsildar, Amravati
- 5) Both the Deputy Engineers of Water Supply
- 6) District Home Guard Officer

Generally rainy season begins in the month of June in Amravati. During this duration Task Force is decided among the above members by conducting meetings. There is a Disaster Management Cell in Municipal Corporation Amravati. There are four Emergency Centres in four Administrative Zones in Amravati Municipal Corporation. Fire superintendent along with City Engineer and Medical Officer of Health are controlling authorities.

Following are flood occurrence places and safe places and night shelters.

	Name of Nallah:- Amba Nallah	Shelter Centre				
1.		Bichchu Teka	di	Bichchu	Tekadi,	Samaj
	Mandir, Chaparashi Pura					
2.		Frazerpura	Frazer	rpura,Prima	ry School	
3.		Kishor Nagar	Naray	an Nagar Pr	imary Scho	loc
4.		Bailpura	Bailpu	ira Primary S	School	
5.		Tarasaheb Ba	igicha	Ambapeth	n Primary S	chool
6.		Namuna	Z. P.K	anya Shala		
7.		Ambadevi Pa	risar	Z. P. Kanya	a Shala	
8.		Jodmod	Anano	d Nagar,	Samaj	Mandir,
	Budhwara					
9.		Hanuman Na	gar	Muzaffarp	ura Prima	ry School
10		Haiderpura	Haide	rpura Prima	ry School	

Name of Nallah:- Mahadev Khori Nallah

Shelter Centre

1.		Amar Colony Dastur Nagar Primary School						
2.		Jalaram	Nagar	⁻ Das	tur Nagar	Prima	ry School	
3.		Slum ar Ram Nag			Rajapeth y School	and	Pramod	Colony
4. So	chool	Slum are	ea Pan	inala	l Nagar	Bajra	ingpura	Primary
5.		Garib Na	ngar	Bajr	angpura F	Primar	y School	
Name	e of Nallah:- Chhatri Talao Nallah	Shelter (Centre	9				
1.		Jewad N	agar	Das	tur Nagar	Prima	ry School	
2. Ka	aryalay	Slum Are	ea Cha	akrac	lhar Naga	r Gopa	al Krishna	Mangal
3. Pi	rimary School no. 20	Nawathe	e Naga	ar Slu	ım Area	Nawa	athe	Nagar
4.		Indira Ga	andhi	Naga	ar Laxmi	Vihar	Samaj Ma	andir
5.		Ravi Nag	gar	Biya	ani College	9		
6.		Jaiguru N	Nagar	Dur	ga Vihar			

BADNERA

1.	Juni Wasti Badnera	Primary	School	No.	22,
Telipura					
2.	Nawi Wasti Badnera	Primary K	anya Scho	ool no.	. 8

All the Assistant Commissioners, Zonal Officers, Sanitary Inspectors, Consulting Clerks of zone, are incorporated in the above work 24* 7. Encroachment Officer of Municipal Corporation equipped with all the machineries during emergency work. Corporation is equipped with life jacket-37, life ring boye - 67, wood cutter - 8, iron cutter - 2, fibre boat - 3 etc with vehicles 1 truck, 1 TATA Sumo, 1 Gypsy. During pre-monsoon period, the 14 nallahs of corporation areas

are cleaned for the safety of people. Epidemic Kit is also supplied to the people during this period.

CHAPTER 6:-

CHAPTER 6:- BUDGETARY REQUIREMENT OF AMC TOWARDS VARIOUS SANITATION COMPONENTS

As mentioned earlier in the executive summary, the cost of various CSP components needed to meet the SLB requirement are worked out in the following table. The cost are based on the existing CSR (Schedule of Rates) or works of similar nature. For maintaining the sustainability of CSP components like O & M costs and IEC (Information, Education and Communication) costs are also appropriately added.

S. No.	Existing situation	City level	Proposed action / budget head	Number of units (seats)	cost per unit	budget in Crores
1	No of places of open defecation	32	Construction of Individual toilets (Note:- In ILCS scheme these number of seats are proposed but the funds are not granted. So the scheme is not yet started.)	15385	10000	15.385 crores
			Construction of community toilets	480	100000	4.8 crores
			Construction of Urinals	50	60000	0.30 crores
			Construction of Public toilets	80	100000	0.8 crores
				Amou	unt in crores	21.285 crores
2	No proper disposal of effluent from toilets	1625 toilets dispose off waste to Nallah	connection to sewer line or drain	1625	15000	2.437 crores
3	No proper disposal of effluent from septic tanks	No of septic tank 130670	connection to sewer line	130670	10000 per connection	130.67 crores

Table 34:- Estimated cost of proposed sanitation components

S. No.	Existing situation	City level	Proposed action / budget head	Number of units (seats)	cost per unit	budget in Crores
4	Wastewater generation					
А	Treatment of waste water		Construction of additional sewage treatment plants (Note:- 104 MLD capacity STP is required for treatment of Waste Water out of which 1 STP having capacity of 44 MLD half fund is to be granted from government).	80.12 MLD	1 crore per MLD (a+b)	80.12 crores
b	Proper disposal of effluent coming out of treatment plant		installation of proper system for disposal			
				amou	nt in crores	213.227 crores
		5	Sewage Treatment			
5	Length of sewer line		-	-	-	-
Α	Additional length of sewer line			66 kms	2500 per meter	16.50 crores
6	Construction of eco san type systems		Identification of locations and preparation of plan		25 lakh per	
А	Area		Finalisation of areas	4 zones	zone (a+b)	1 crore
В	Population		Existing and estimated population at the demarcated locations			
7	Recycling and reuse of wastewater		At least 30% wastewater is recycled and reused			
А	Flushing			80.12 MLD	0.6 crores per MLD	14.421 crores
В	Wetlands			x30% = 24 MLD	(a+b+c+d)	
С	Composting					

S. No.	Existing situation	City level	Proposed action / budget head	Number of units (seats)	cost per unit	budget in Crores		
D	Electrification							
			Amo	unt require	ed in crores	31.921 crores		
8	Solid Waste Management							
A	waste collected from HHs		Segregation of waste and 100% collection of segregated waste	185 МТр	2 lakh per ton	3.70 crore		
В	waste from community bins		Provision of tilting bins on main streets	50 MTD				
C-	Transportation of A and B		Zero waste by transportation of all collected waste	215 MTD	5 lakh per ton (b+c)	10.75 crores		
D	Waste generated from urban poor communities		Provision of community bins and its transportation and educating the slum dwellers about waste management	44 MTD	2.5 Lakh per ton	1.10 crores		
				350 extra collection vehicles	15000	0.525 crores		
9		Rec	ycling of Solid Waste	9				
A	Treatment unit		sanitary landfill for all waste generated		3.50 crores as per DPR	5 crore		
В	Composting		Atleast 20% waste is composted		55 MTD			
C-	Generation of fuel or electricity by waste recycling		Atleast 5% waste is processed and is used as a fuel		10.75 MTD			

S. No.	Existing situation	City level	Proposed action / budget head	Number of units (seats)	cost per unit	budget in Crores			
d-	Recycling and reuse of dry waste		Recycling and reuse of all related waste through rag pickers or through agencies or NGOs (16%)		35 MTD				
Budget required									
10	Storm Water Disposal								
A	Number of water logging areas		To assess the water logging duration and height of water logging in particular locations and suggesting solutions	4 zones	10 lakh per zone	0.4 crores			
в	Construction of road side drains for disposal of storm water	885 kms (road length)	completion of all storm water drains as per DPR	885 kmsX2	Rs. 2000/- per meter	354 crores			
C-	Deepening / channelisation of existing water resources - natural disposal of storm water	15 kms	deepening or widening as per DPR for disposal of storm water	15 kms	3 crores per Km	45 crores			
	Amount required								
11	1 Water Supply								
A	Water supplied for drinking purpose	1,93,000 Unserved Population	Designing and installation of water supply system, network and connections as per demand		@2000/- per person	38.60 crores			

S. No.	Existing situation	City level	Proposed action / budget head	Number of units (seats)	cost per unit	budget in Crores
В	Purification and treatment of water	87.21 MLD	Installation of water treatment plant for ensuring 100% purity		(b+c) As per DPR	93.29 crores
С	Water supply to poor urban communities and connections		Provision of more number of connections for 100% coverage			
d.	24x7 water supply	374680 population (58% network coverage)	checking the existing network and modifications for 24x7 supply	-	@500 per connection	18.734 crores
	Amount required- 150.624 crores					
12	Environment					
A	Water resources that are polluted	-	study of water pollution levels and suggestive measures to arrest pollution	4 zones	25 lakh per zone lump sum provision	1 crore
В	Major locations of Air Pollution	-	setting up of treatment units for industrial sector	4 Zones	25 Lakh per zone lump sum provision	1 crore
C-	Locations of heavy pollution	-	Proper transportation arrangement and installation of any other systems to control pollution	4 zones	50 lakh	2 crore
	budget required					
13	Awareness					2. 3. 00
A	NGOs working with peoples participatory approach	number	encouragement to such NGOs and assistance, if required	4 zones	10 lakh	0.4 crores
В	NGOs or agencies working towards citizens education	number	Additional financial assistance if required to few NGOs	4 zones	2 lakh	0.08 crores

S. No.	Existing situation	City level	Proposed action / budget head	Number of units (seats)	cost per unit	budget in Crores
	budget required				0.48	
						crores
						841.31
	Total Budget required				2	
					crores	

Component	Budget (Rs. In Crores)	Budget required till March 2012 (Rs. in crores)	Impleme ntation period	
Construction of additional			3 years	
Individual and Community toilets	21.285	7.09		
Wastewater management	213.227	42.64	5 years	
Sewage management	31.921	6.38	5 years	
Solid waste management	20.375	6.79	3 years	
Storm water Drains	399.40	79.88	5 years	
Water supply	150.624	75.31	2 years	
Environment	4 .00	4.00	1 year	
a. Lake beautification **	3.00	1.00	3 years	
b. Nallah beautification	4.15	1.00	3 years	
Awareness	0.48	0.48	1 year	
	848.462			
	crores	224.47 crores		
Operation and maintenance cost			Per year	
(lump sum)		0.50 crore		
Equipment and machinery cost			Per year	
(lump sum)		1.00 crore		
Capacity building of Stakeholders			Per year	
(lump sum)		0.25 crore		
		1.75 crores		
Total budget for 1 year 226.22 crores				
(**Lake beautification at this stage is privatized, however provision is made for future uncertainty.)				

AMC requires Rs 226.22 crores till March 2012 for implementation of components of CSP.

CHAPTER 7:- GAPS IN EXISTING SITUTATION ALL ELEMENTS

A) Coverage of Toilet

There are 25 sulabh toilets at different places in Amravati Municipal Corporation area. As mentioned in Chapter 6 budgetary requirement for construction of Sulabh Toilets i.e. Community Toilet is Rs. 4.8 Crore required. Considering 1 unit consisting of 10 seats for ladies and gents the construction cost is Rs. 10 lakh. So requirement of the community toilet for open defecation free city is 480 units at various areas of corporation. In overall corporation area the requirement of individual toilet for the slum areas of people is 15835 seats. Considering cost per unit as Rs. 10,000/- per seat, budgetary requirement is Rs. 15.38 crore. Alongwith this all constructions of urinals and public toilets at various places are 50 units and 80 units respectively and Rs. 1.1 core is required for completion.

B) Sewerage System

Already UIDSSMT scheme is in progress in Amravati Corporation Area. But since it will not be completed. It is assumed that it is completed in year 2014. In addition to that scheme additional length of the sewer line is required i.e. 66 kilometre. Considering 2500 per running meter Rs. 16.50 crore required. Ecosan System is to be taken into consideration in budget for future requirement as Rs. 1 crore. i.e. for four zone Rs. 25 lakh. The details of this system are to be submitted for sanction after approval of City Sanitation Plan. For disposal of sewage Rs. 14.42 crore is taken into budget considering 24 MLD for construction of another sewage treatment plant. It is additional requirement excluding UIDSSMT scheme.

C) Sewage Treatment

335 km sewer-line is proposed in UIDSSMT scheme. In UIDSSMT some areas are not covered viz. Sai Nagar. The requirement of that area is 66 km. So 66 km * 2500 per running meter = 16.15 crore proposed for sewer-line.

D) Solid Waste Management

Contract has been given to A2Z Infrastructure Ltd. for Installation Construction, operation and maintenance of Municipal Solid Waste processing plant and Development of Sanitary Landfill for process remnants on BOOT-PPP basis for 30 years (package- P&D) at Sukali Compost Depot, Bhatkuli Road, Amravati. But segregation of waste and 100% collection of segregated waste at source is not included and so considering 185 MTD * 2 lakh per tonne = Rs. 3.70 crore proposed.

Also transportation of all collected waste considering 215 MTD * 5 lakh per tonne = Rs. 10.75 crore proposed.

Similarly, transportation of waste generated from urban poor communities some ghanti katalas and containers are provided. But these containers and ghanti katalas are not sufficient for collection and transportation. So for that considering 44 MTD * 2.5 lakh per tonne = 1.1 crore is proposed. Also for extra collection vehicles are needed for that 0.5 corers are needed.

E) Storm Water Disposal

There are 10 places in overall Amravati Cities where flood occurs out of which 5 places is to be covered in recent Amba Nallah project. But 5 places are still remaining in 4 zones. For that deepening and canalization of existing water resources also disposal of storm waters required Rs. 44.4 crore. In the same way 885 km storm water drain is required in Amravati Municipal Corporation Area. 42.35 km covered storm-water-drains are to be constructed in Amravati Corporation Area. For construction of above 885 km storm water drains Rs. 354 crores is required.

CHAPTER 8:- LIMITATIONS AND FRAMEWORK FOR ACTION

The successful implementation of CSP is subject to overcoming the following limitations, which needs highest attention.

a. Financial constraints

Amravati Municipal Corporation's annual budget for the financial year 2010-11 is surplused only by Rs. 1.55 crore. On the income side the amount it 247.11 crores and on the expenditure side it is 245.56 crores. This shows that AMC does not have enough surplus funds to meet the probable expenditure of CSP components. Similarly, AMC is having a total liability burden of Rs. 91/- crores due to various loans and the repayment of same along with the interest at stipulated rates. Similarly, AMC has to pay a large amount towards bulk purchase of water from MJP. Thus AMC is not in a position to contribute any further amount for the CSP especially for achieving ODF city. Hence 100% fund towards this expenditure is required from the government.

b. Land Availability

Majority of the slums are located on government lands and a few ones are on private lands. To give facility of toilets these lands are needed from the government and the private parties. It is an experience of the corporation that the acquisition procedure of government land is very lengthy and cumbersome and due to the delays the proposed additional toilets cannot be constructed on a fix time schedule. Similarly, the private land owners will never permit to construct community toilets for the slums on their land. This issue needs priority.

Regarding the existing landfill site there is a strong opposition from the residents in the vicinity. The useful lifespan of existing landfill site is complete and the procedure of land acquisition is under process.

The proposed plant of slaughter house is completed. However, it is not yet commissioned because of strong resistance from communities nearby. This has a bad impact on the environmental aspect.

c) Land availability for processing MSW.

d) Land availability for taking up decentralized waste water treatment systems.

e) Deep rooted habits of citizens in relation to sanitation & health Hygiene.

f) Provisions of a nominal fine provision in rules/regulation by laws.

g) Lengthy Land acquisition procedure from other Govt. Departments.

h) Provisions in existing law for taking action against open defecating people are limited and municipal employees are having limited rights.

i) Provisions in existing law for taking action against unhygienic food industry are limited and municipal employees are having limited rights.

Framework for Action -

For the sustainability and continuity of CSP, AMC proposes to form an independent "City Sanitation Cell".

The details of this cell are given below.

Formation of City Sanitation Cell:-

It is proposed by AMC, that 1 zone will have sub cell. Thus, there will be 4 City Sanitation Cells for the entire city. The ward committee as stated in the 74th amendment of constitution. The ULB's are directed to decentralise ward development and maintenance activities at ward level. So as per guidelines, AMC proposes 4 City Sanitation Cells (Committees) in future. The ward committee will provide suitable platform or interfaces, communication and behavioural change initiatives will need to be carried out in a planned manner, in campaign made and within a decided times frame.

For the above mentioned action plan, A separate cell (office) will be needed at AMC main office working directly under Municipal Commissioner. The composition of this cell will be decided by city sanitation task force in coming months.

As this required specialised staff and technical expertise, few of the activities may be outsourced.

Capacity Building at AMC level-

For the efficient implementation & monitoring of CSP rigorous capacity building measures are required to be taken up. AMC is enlisting few of them below:-

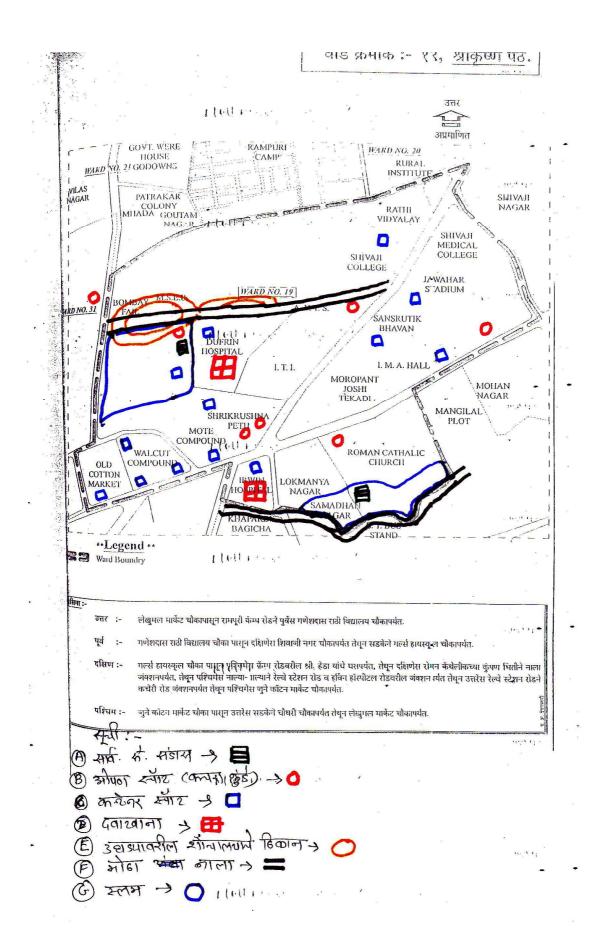
- a) The key activities of the CSP components will have to mentioned by AMC for which intervention from Govt. Of Maharashtra is preferred over entire private institution. To achieve this an expertise from Govt. Of Maharashtra could facilitate training of ULB level in required sectors.
- b) Technical personnel from AMC may be deputed for specialised trainings at reputed institution in India like NEERI, SERU, NITIE, CTIRC Mumbai, AIILSG NIRD etc.
- c) Regular exposure visits for AMC staff related with CSP would be an integral part of the CSP. For ex. Formation of wards committee their sustenance, ODF cities and from ideal water conservation WWT measures etc. Eco San, Dewats etc.
- d) The ULB staff will be associated on PPP works in order to gain experience & capacitate personnel's.
- e) In order to achieve 100% ODF and other targets of CSP, role of IEC is important such as aggressive campaigns thro use media, participation by (electronic) NGOs (Non Government Organisations), CBOs (Community Based Organisations) and private individuals. This will give momentum to the programme.

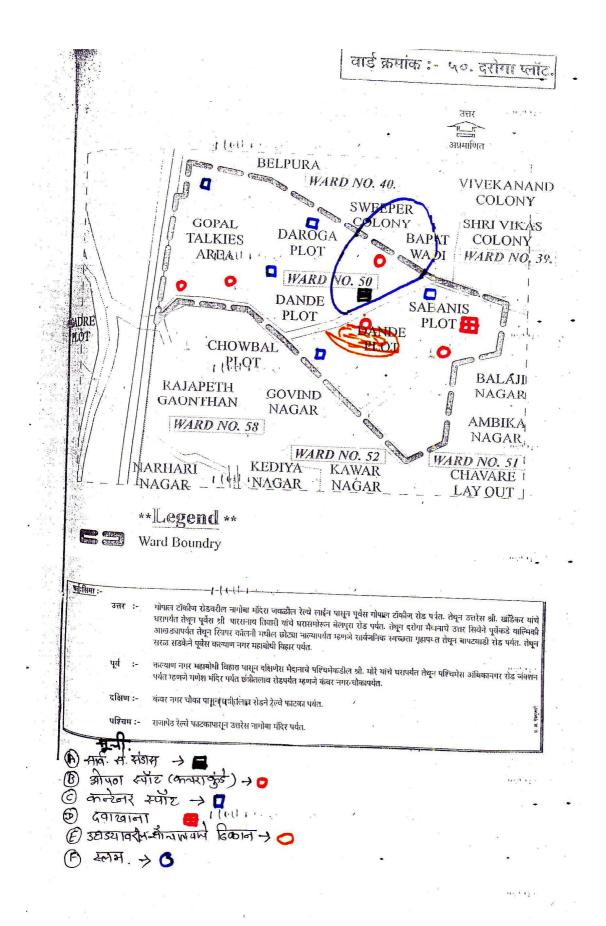
AMC will allocate technical projects on PPP basis f) with 5-10 years of O & M contracts and during this period, technical staff from AMC will get online practical training. Annexure I - Unit Rates for cost aspects

S. No.	Sector	Unit rate for cost aspect
Α	Toilets	
	For 1 toilet seat of community toilets	1,00,000/- per unit
	For 1 toilet seat of Individual toilets	Rs. 10,000/- per unit
	Urinals	Rs. 60,000/- per unit
В	Sewage treatment	
	Laying of additional sewer-lines	Rs. 2500/- per running meter
	Recycling and reuse of wastewater	Rs. 60,00,000 lakh per MLD
С	Storm water drains	
	Laying of storm water drains	Rs. 4500/- per meter
D	Solid waste management	
	Segregation of solid waste	Rs 2 lakh per ton
E	Water Supply	
	Cost per Connection	Rs. 2000 per connection
F	Environment	
	Protection of water bodies	Rs. 25 Lakh per zone
	Air pollution measures	Rs. 25 lakh per zone
G	Awareness	
	Support to NGOs	Rs. 10 lakh per zone
	Additional support to NGOs	Rs. 2 lakh per zone

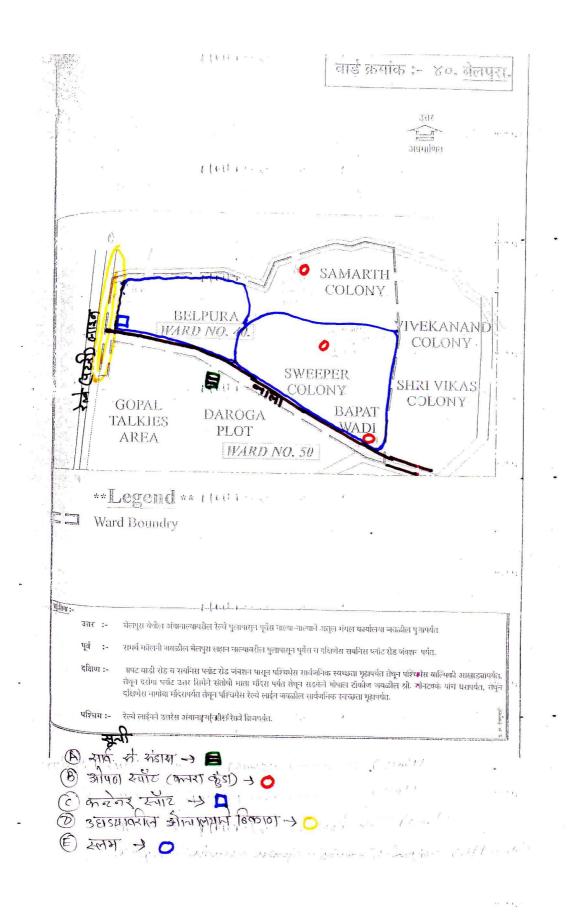
Sector	Considered standards / norms	Reference
Toilets	35 people per seat of community toilet	CPHEEO specified norms
	 200 people per seat of floating population 	
	250 people per cubicle of urinal	
Sewage treatment	 80% per capita water supplied 	
	(0.8x150xpopulation)	
Storm water drains	• Rs. 2000/- per meter	
Solid waste management	• 0.3 ton per capita (0.3Xpopulation)	
Water Supply	• 150 LPCD	

Annexure II - Standard and Norms





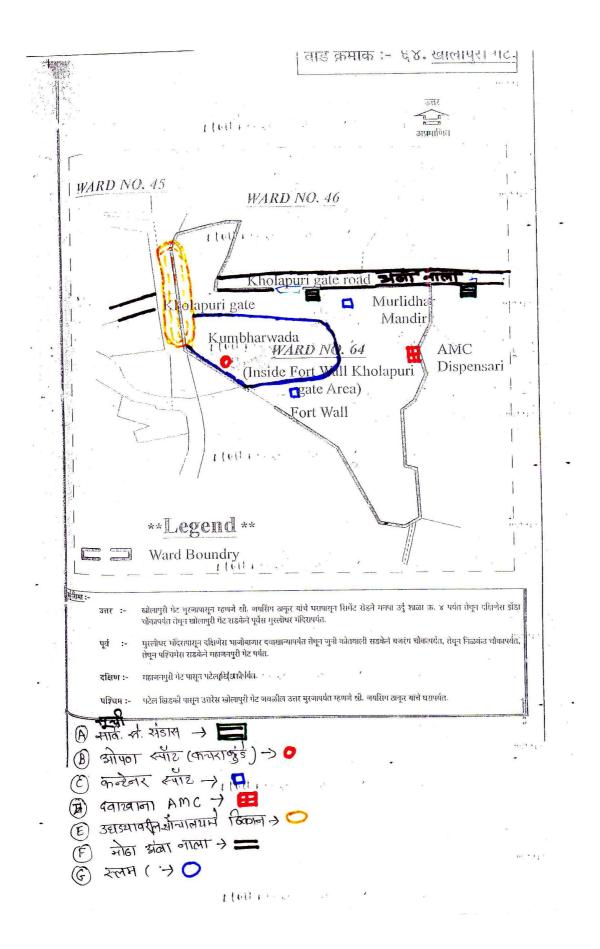
Amravati City Sanitation Plan



Amravati City Sanitation Plan

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CHAPTER 11:- CONCLUSION

It is observed from the current status of parameter under SLB of sewerage system is 0% for 8 out of 9 parameters and the target set for financial year 2011-12 range from 50 to 70%. This is possible only when sanctioned funds are timely received of Phase I and II of UIDSSMT scheme. Phase I funds are utilised for lying of sewerlines in zones and 1 STP in sewerage zone no. 5 of capacity 30.50 MLD. The underground sewerage scheme is kept at a low priority in a time span of 7 years i.e. Phase III will be completed in year 2017 after which 100% SLB benchmark will be achieved.

About water supply the coverage of will be 90% and the extent of metering of water connections will be 100% by the end of next year. This is a good achievement. The NRW current percentage is quite low which reflects that there are very few leakages and less unauthorized connections with proper billing method. This is reflected in the efficiency of cost recover which is 100%.

Ten spots are identified for incidence of water logging and flooding. Construction of Amba Nallah project is in progress. About 5% efficiency is to be achieved till March 2012 after completion of this project.

CHAPTER 12:- SUGGESTIONS RECOMMENDATION POLICIES

1) Decentralization of administrative power & delegation to the zonal committee & Area committee constituted under BPMC Act-1949.

2) Institutional approach I public participation creating public awareness at zone level by forming residents association & NGO for segregation of wet & dry garbage.

3) To create employment opportunities in institutional selling of recyclable garbage & final product thereof, with the help of central policies.

4) Redressal of public grievances by adopting unique internet method of consumer satisfaction feedback system.

Delegation of Power

1) The central & state govt. may delegate necessary powers to the municipal corporation under the various provision of environment protection Act-1986 particularly in section 25-26 & 27. For the protection of human Environment by penalizing nuisance creator.

2) Delegation of power for on the spot fine by amending BPMC Act- 1949 as well as delegate police power under the provision of Bombay Police Act. For prevention of street littering garbage /debris on public place.

3) Amendment shall be made in BPMC Act particularly under section 292,376(a),399 & 456 for creating deterrence in the mind of prospective offender by enhancing penal provision's & power of prosecution for preventing public & private nuisance.

4) Levy of administrative charges.

5) Formation of mobile sanitation court.

6) Safeguarding supervisory staff against abuses of the SC, ST (prevention of atrocities Act-1989).

7) Inter departmental co ordination committee under the chair of Additional Municipal Commissioner.

8) Incentives to the private sector.

9) Role of technology /research institutional.

10) Municipal Corporation do not treat mere instrument under various central laws/ state laws particularly under Environmental {protection} Act 1986, Food & Drug Act. The water {prevention & control of pollution} Act – 1973. Air {prevention & control of

pollution} Act as a competent authority. Management Information Monitoring of SWM services through internet services & GPRS services. Which are interconnected various citizen redressal centres. Situated throughout Municipal area & take public view while forming public welfare policies.

Financial Aspect

1) Improve municipal services standard on international level on the principal of pay & use.

2) Develop essential service on PPP basis & monitor costing aspect.

3) To provide garbage / debris or such inert material collection & transportation & its disposal facility on Pay& use basis.

4) Municipal standard services such as water purification & supply, super health facility shall develop on PPP basis & Municipal authority having power to price control.

5) 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.

6) Develop performance base budgetary system & ULB is under obligation to publish its financial report in international profit & loss A/c.

7) Incentive to recycling industry.

9) Conduct necessary survey & measures to improve living standard of urban poor by providing health, educational & all other up social lifting scheme.

Legal Aspect

1) Amendment to the BPMC Act-1949 to provide adequate legal power to the sanitary staff &

2) Punishment for littering on streets on disposing or throwing any solid waste in contravention of the provision shall treat public nuisance & power may delegate to recover administrative charges/ fine on spot & having power to prosecute nuisance creator.

Public Participation

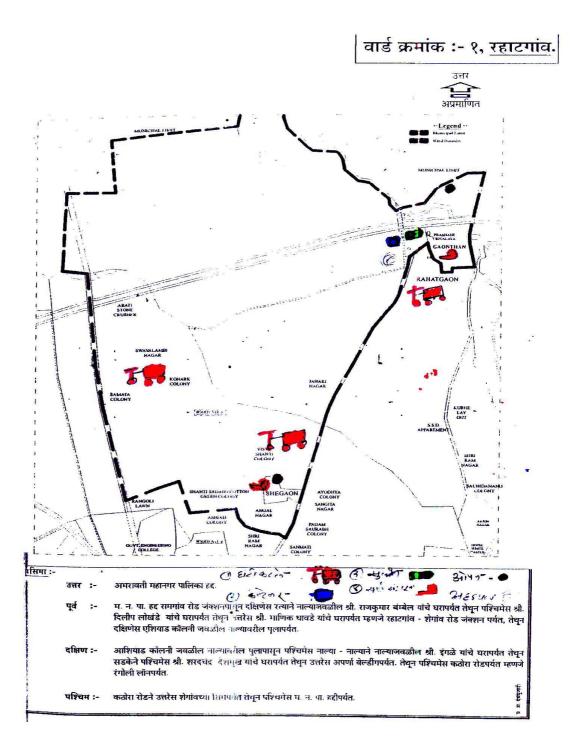
1) Public participation in information, education, communication & awareness program.

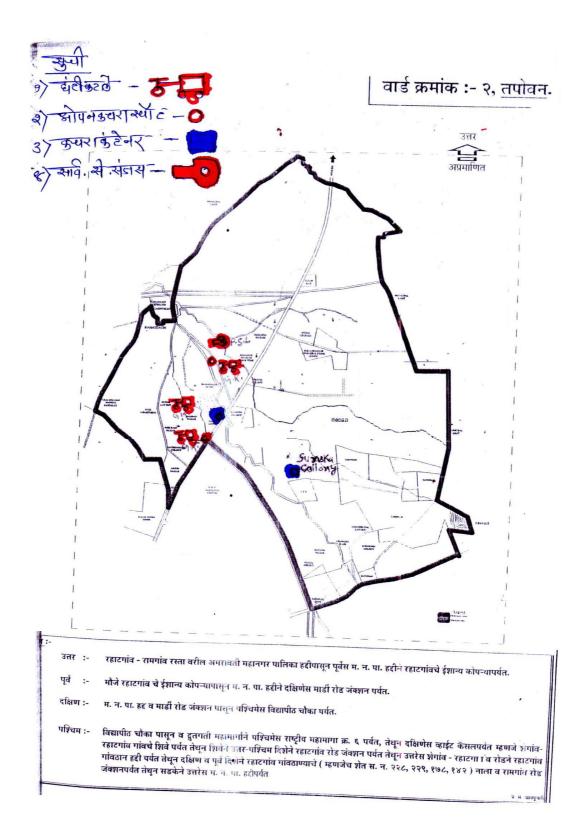
- 2) Involvement of professional communicator.
- 3) Hotline information.
- 4) SWM coordinator.

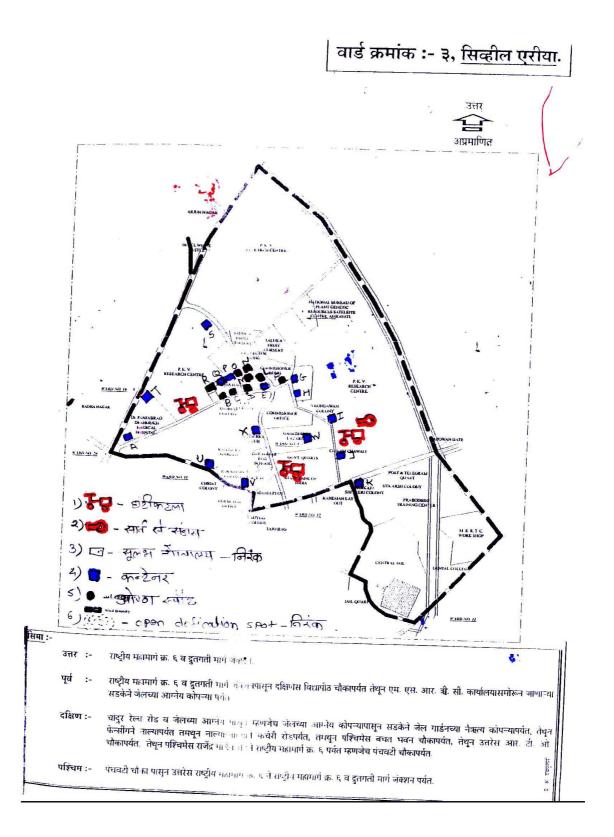
5) Strengthen area committee by delegating necessary power development policies at area level & pass expenses incurred thereon, By this way ULB will be unique

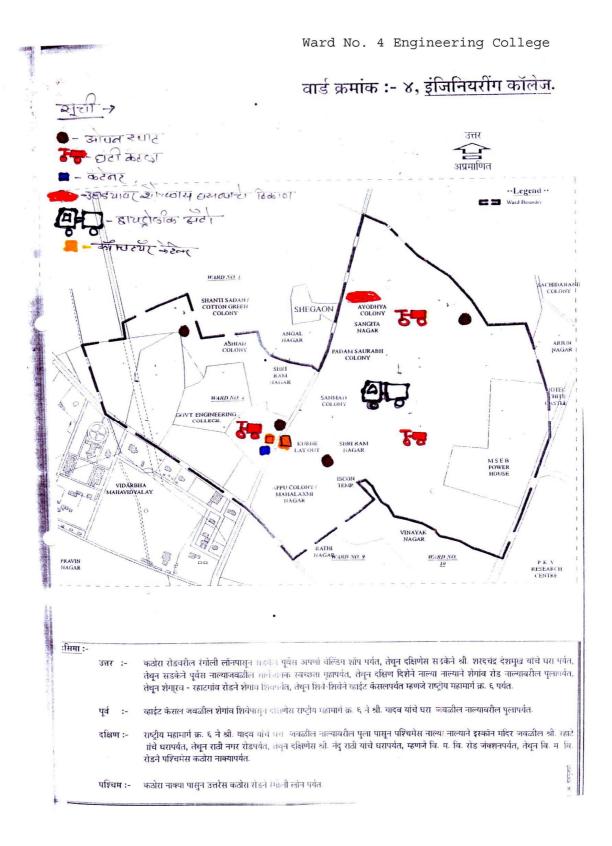
democratic features having adequate power to maintain essential municipal services and power to collect expenses incurred on municipal services similarly municipal corporation may develop parallel water supply, gardening city beautification & recreation services including garbage & providing sanitary services with the help of private firm on

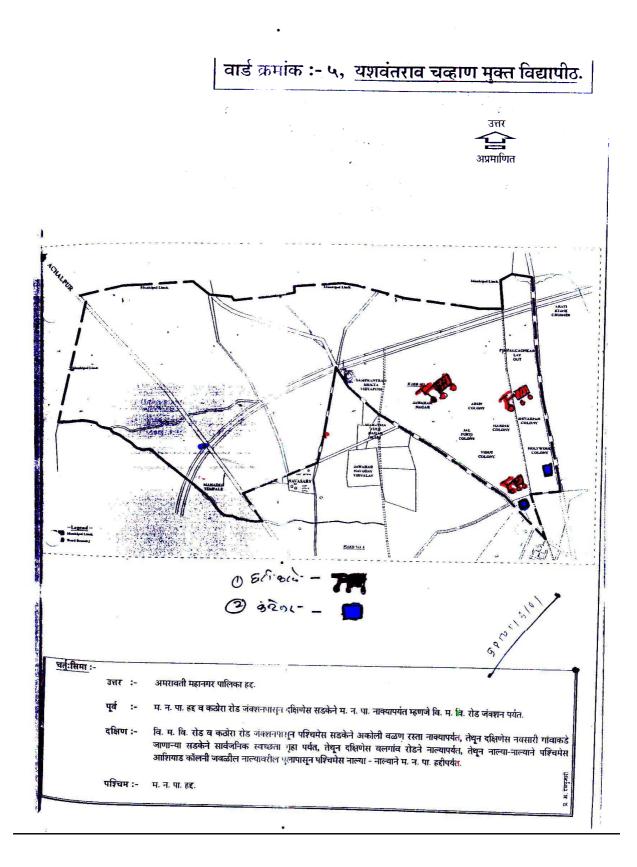
ANNEXURE I WARD MAPS

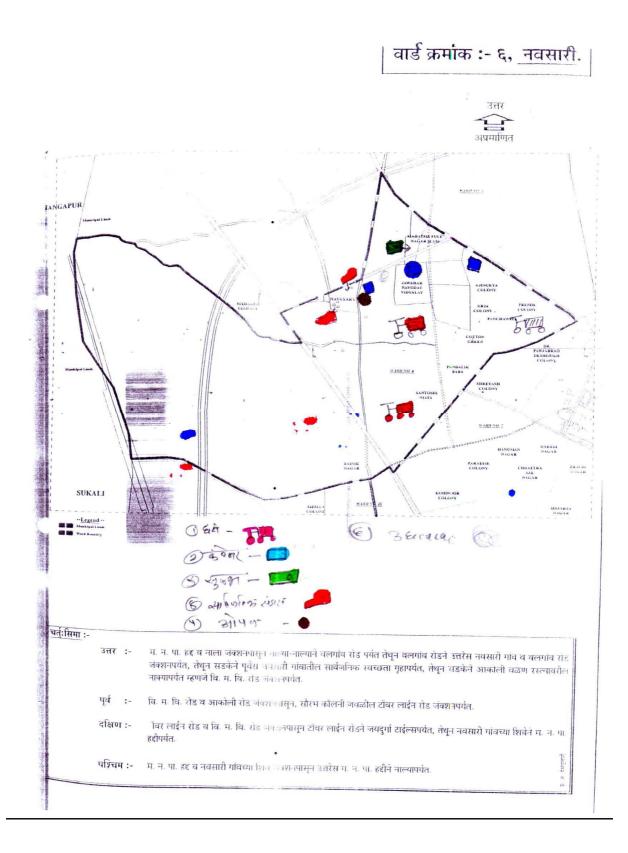








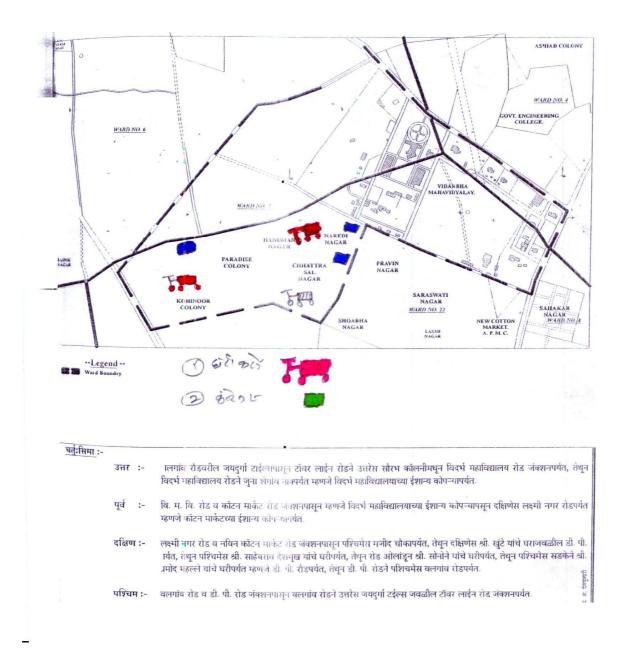


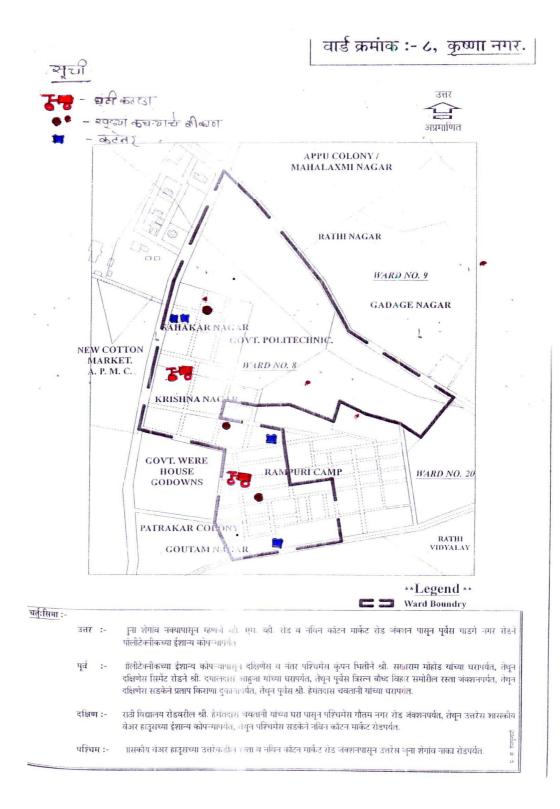


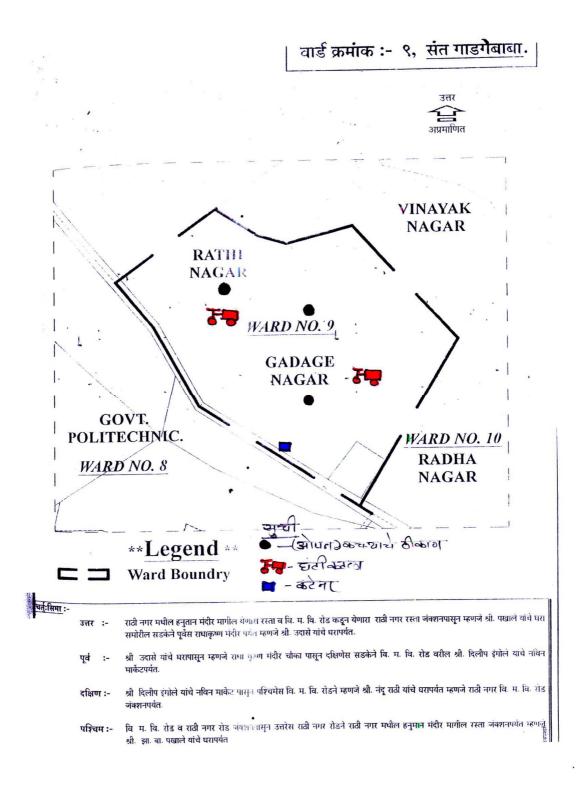
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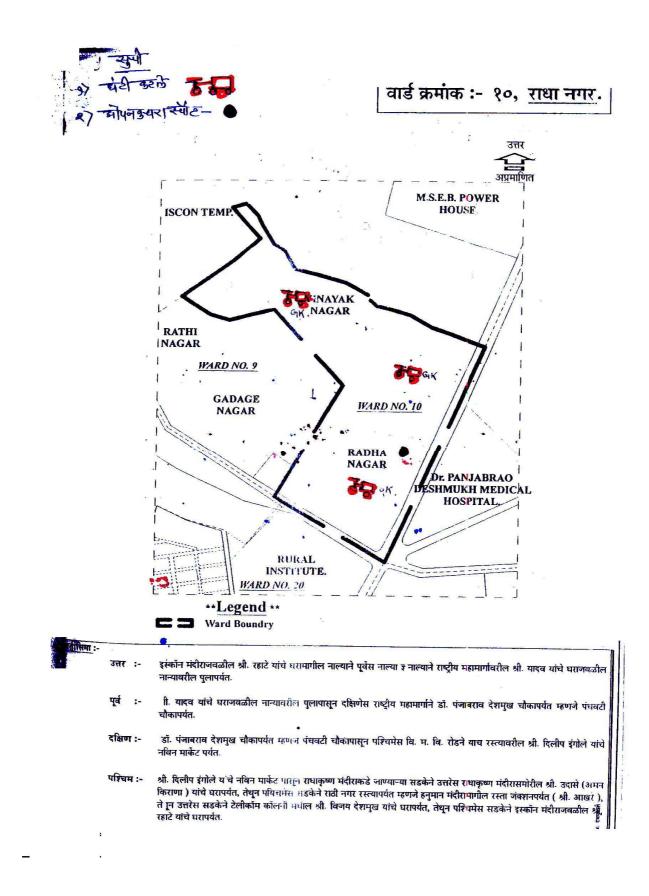
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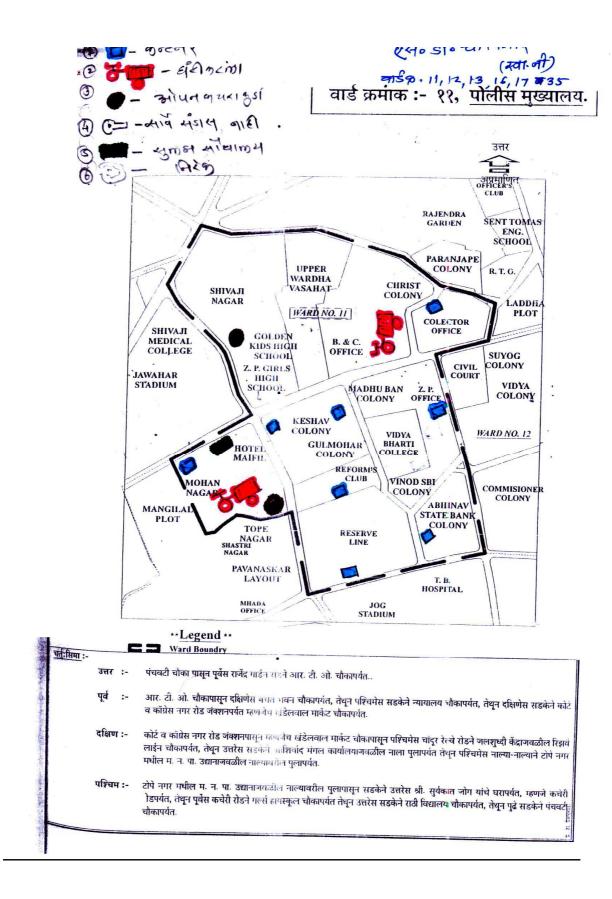


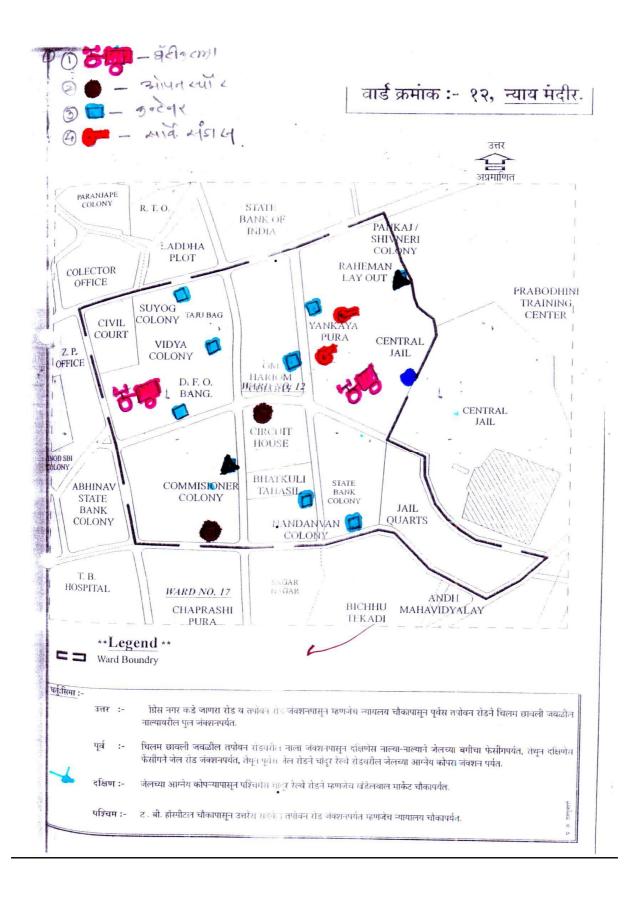




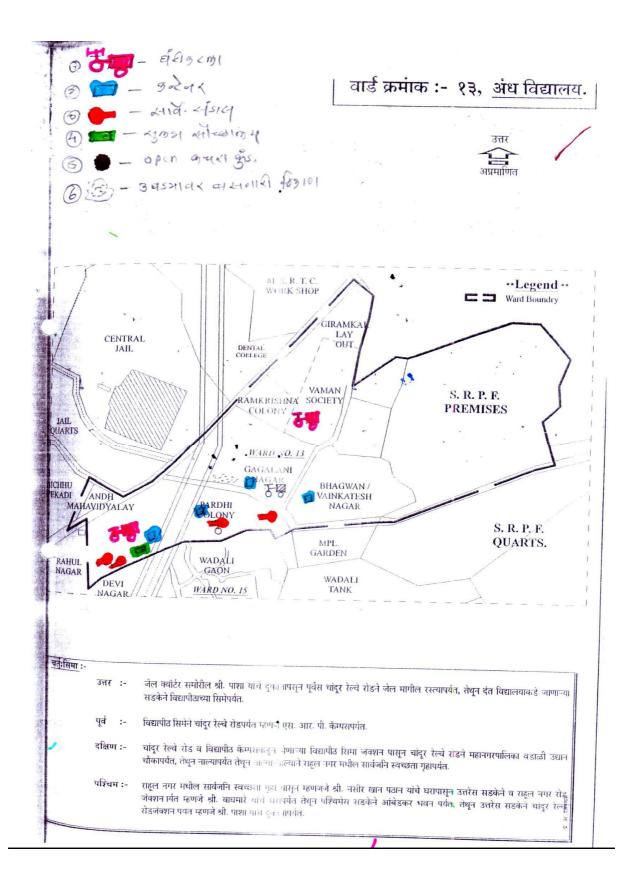


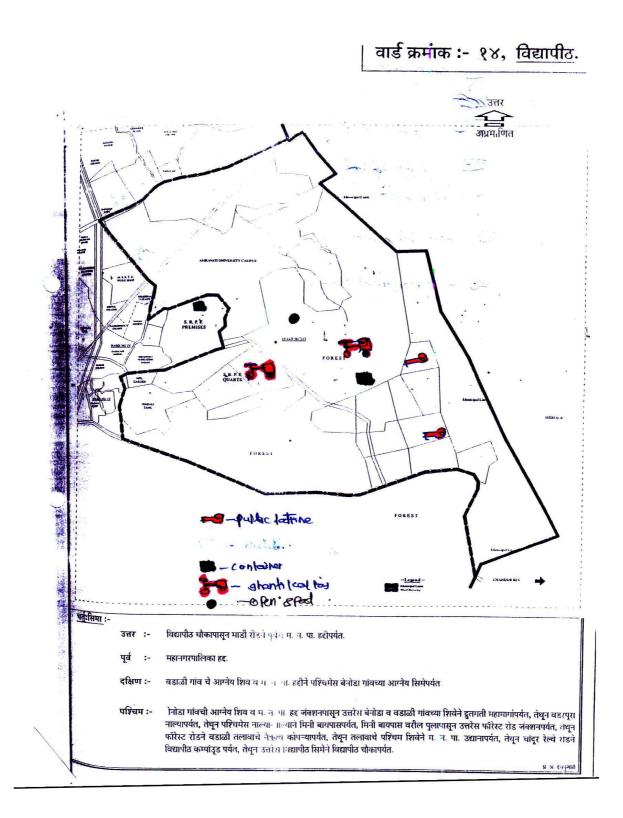


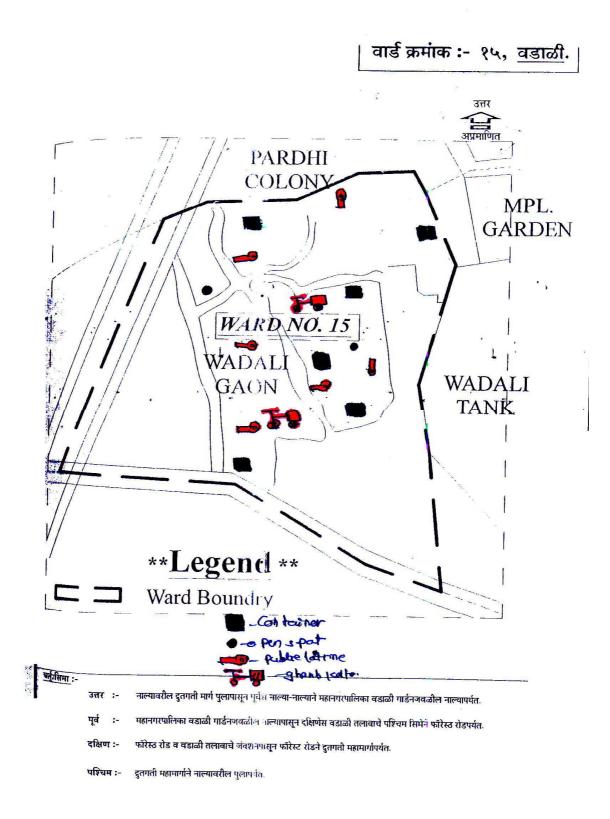


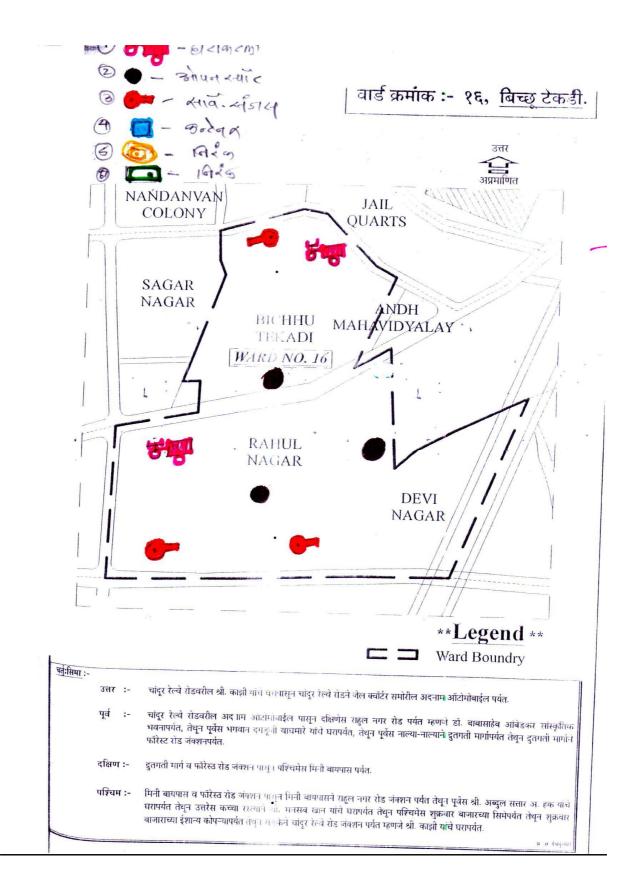


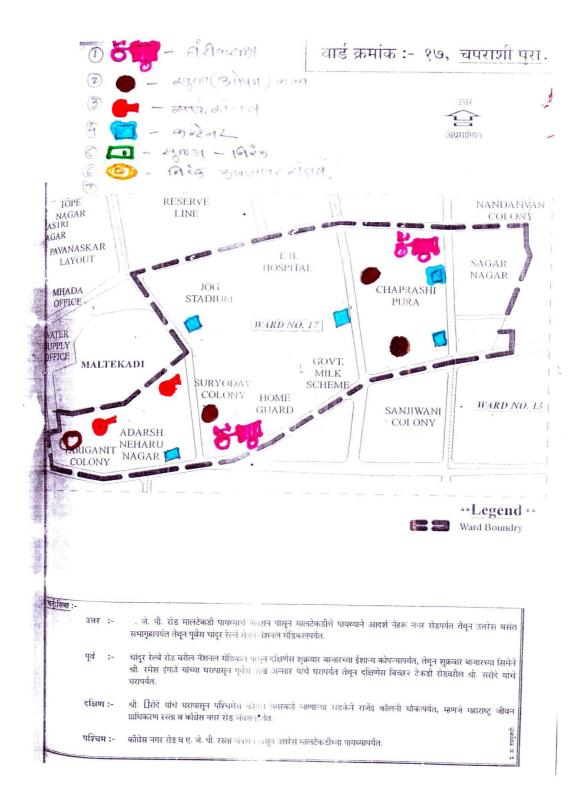
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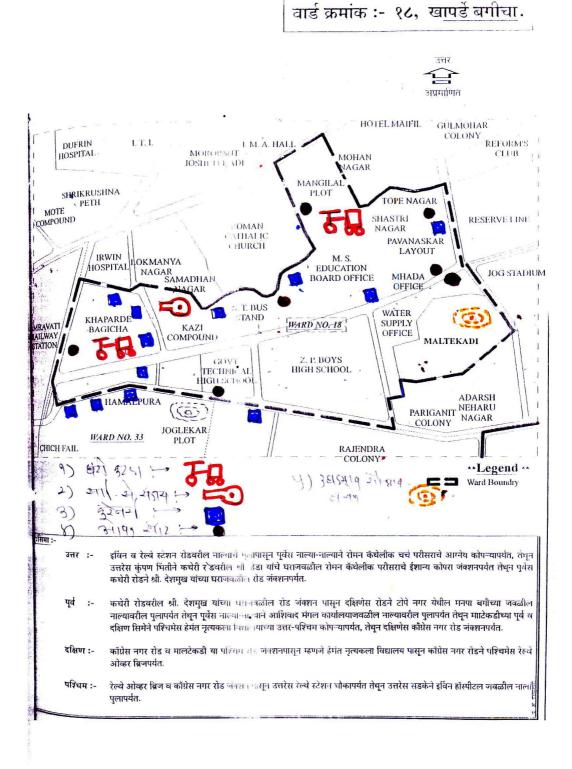


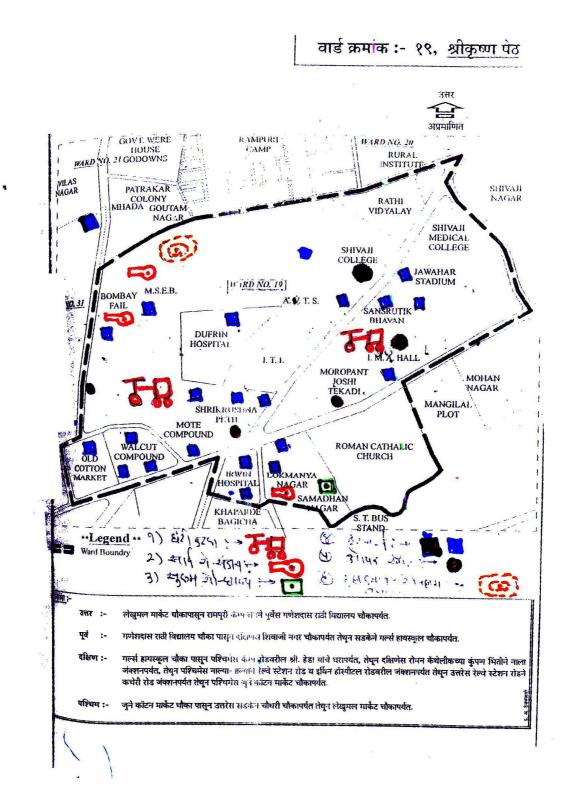


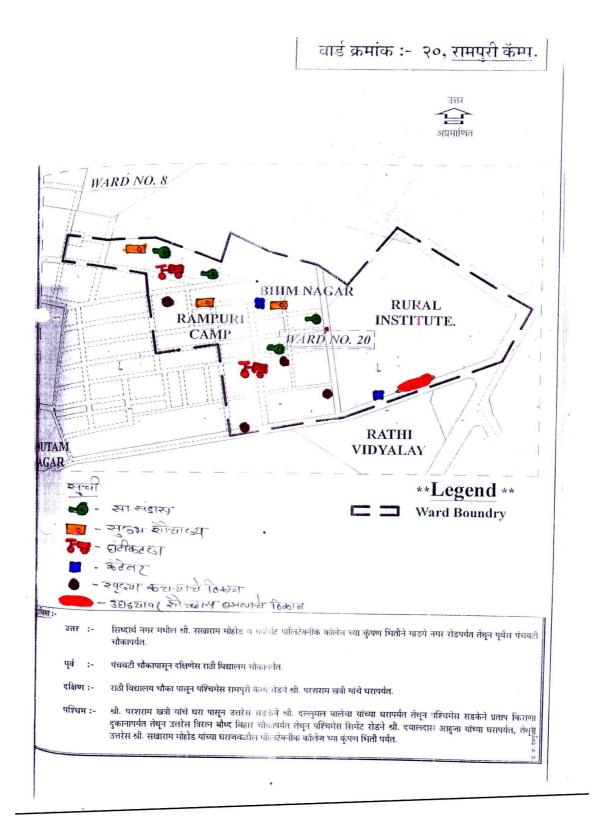


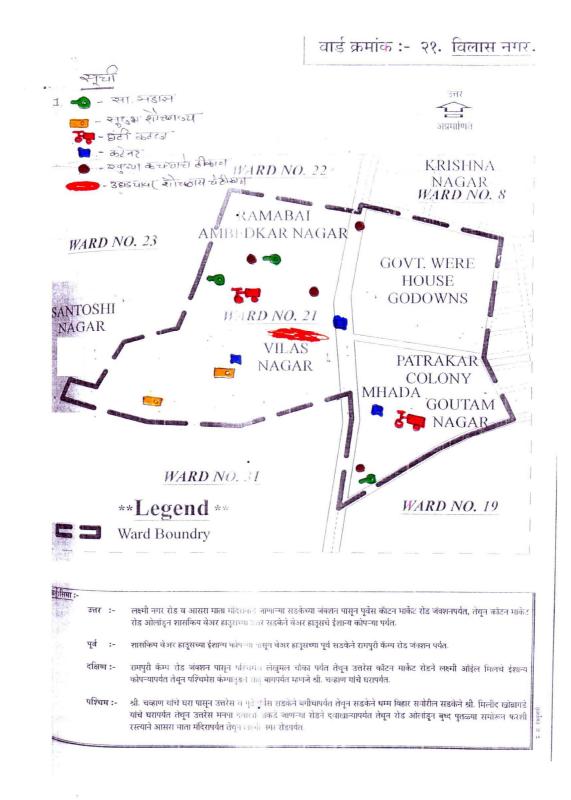




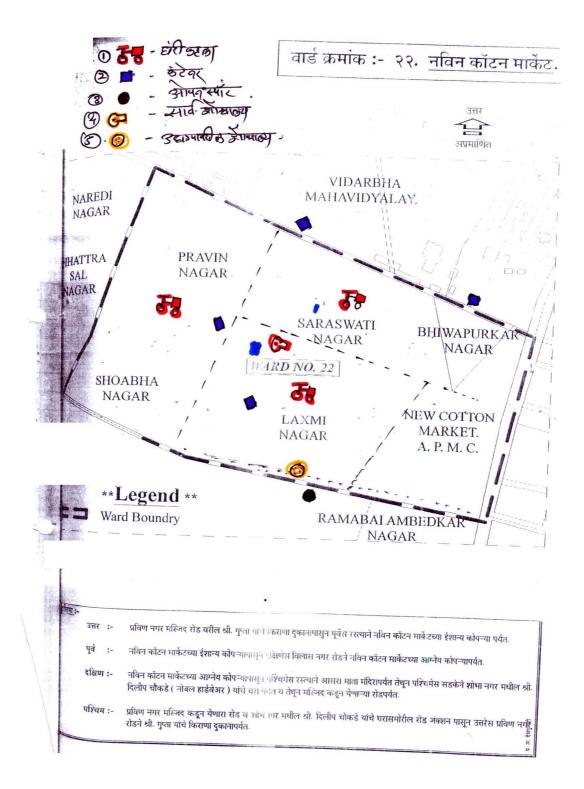


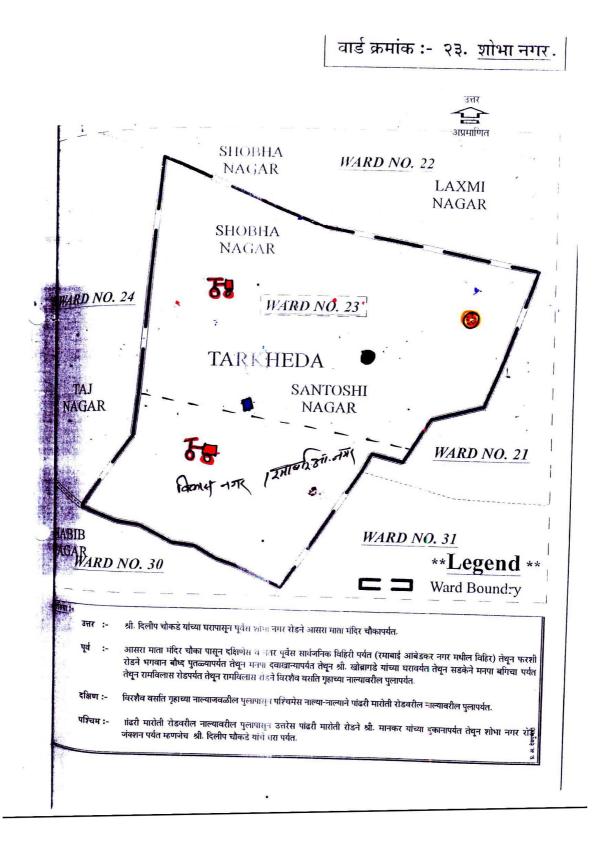


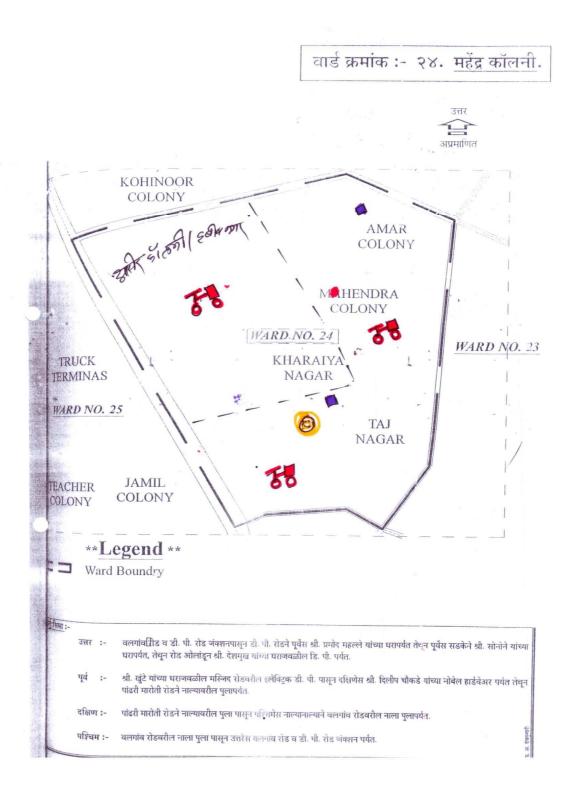


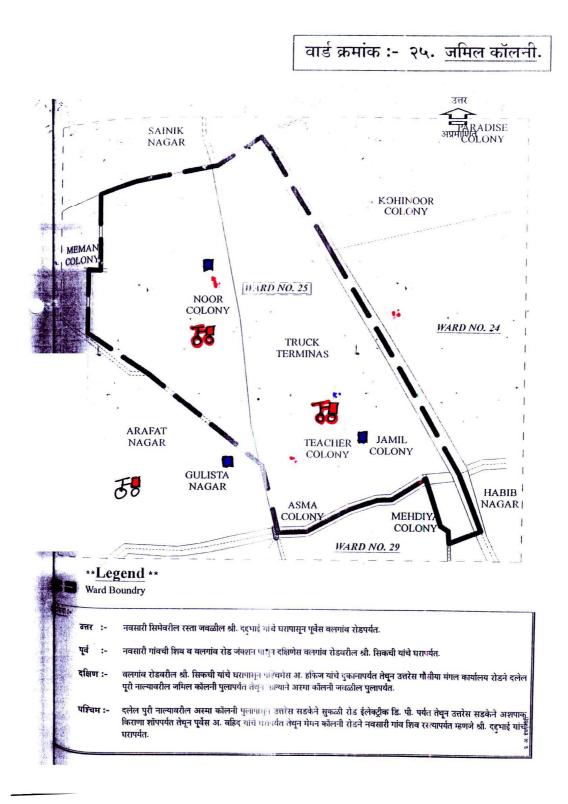


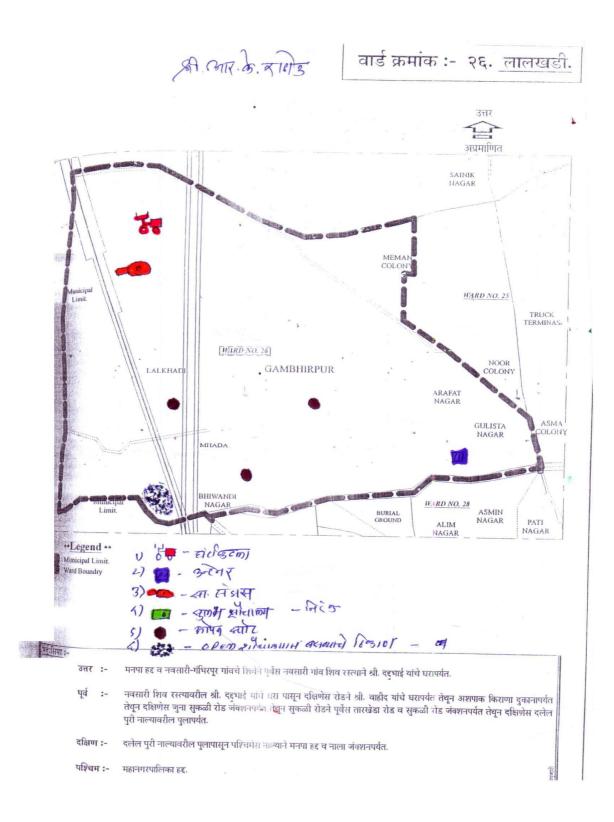
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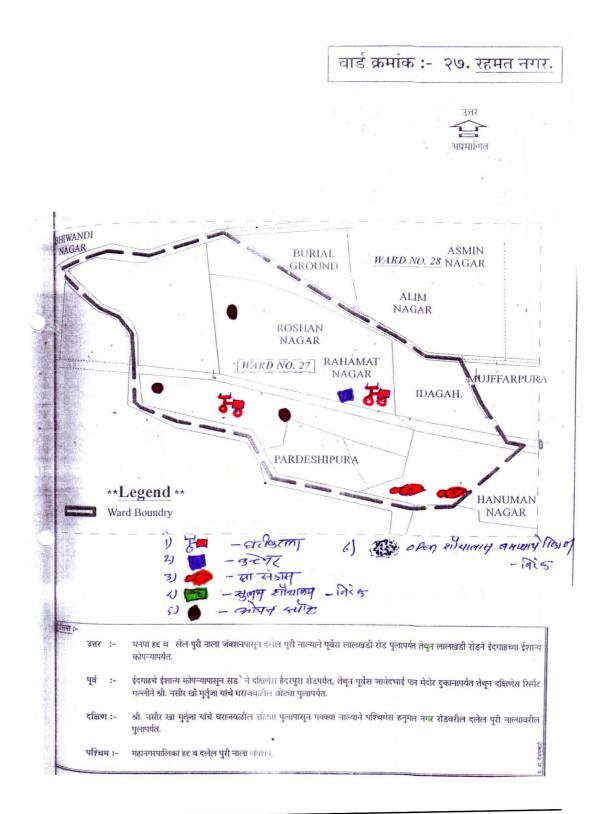


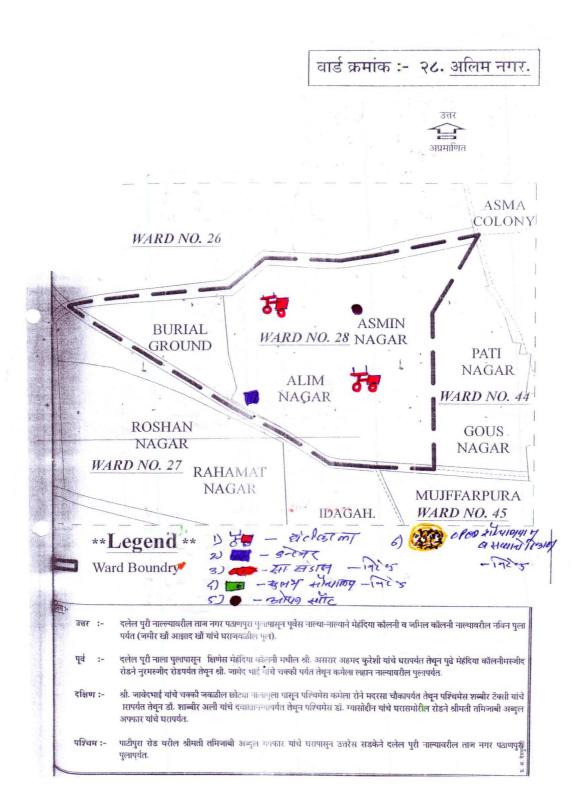


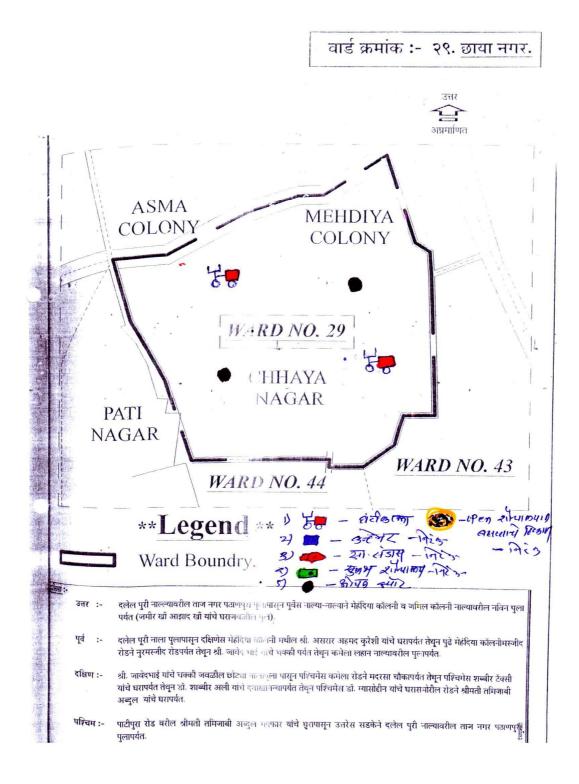


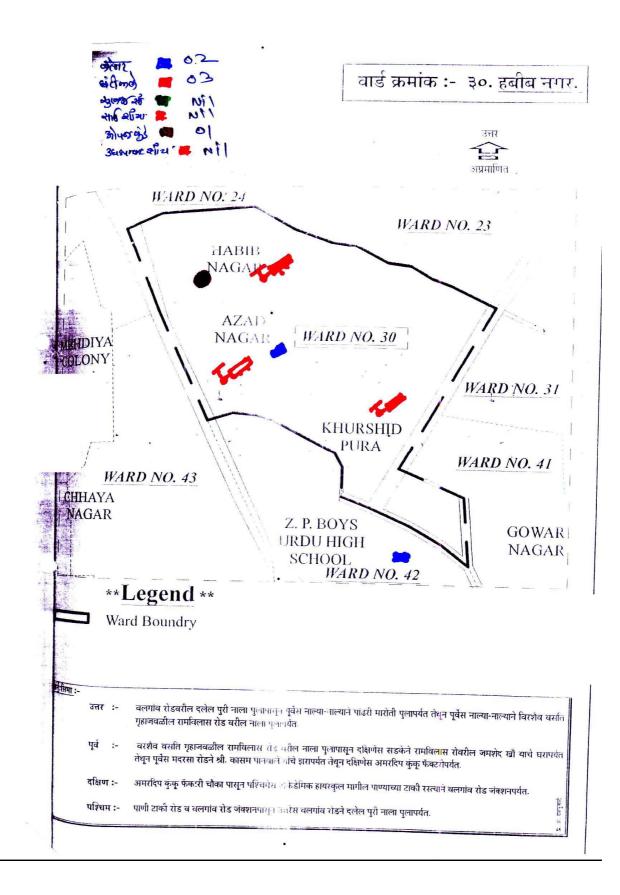


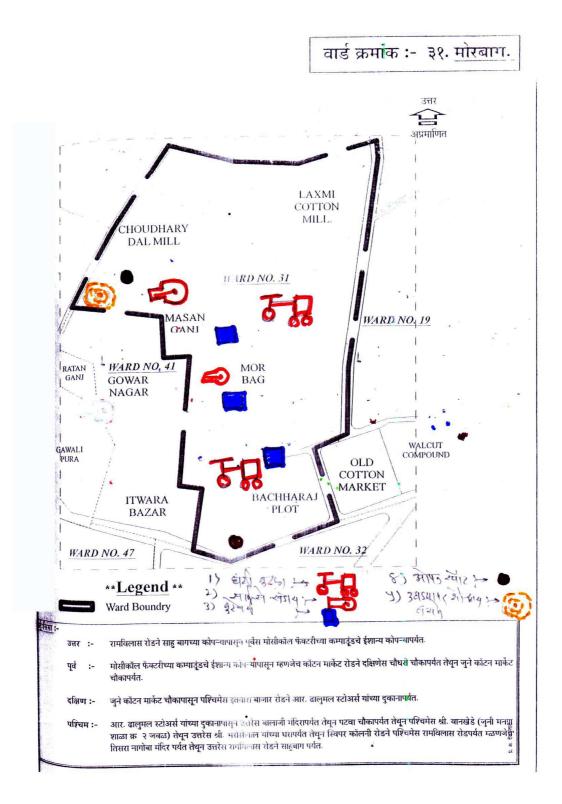


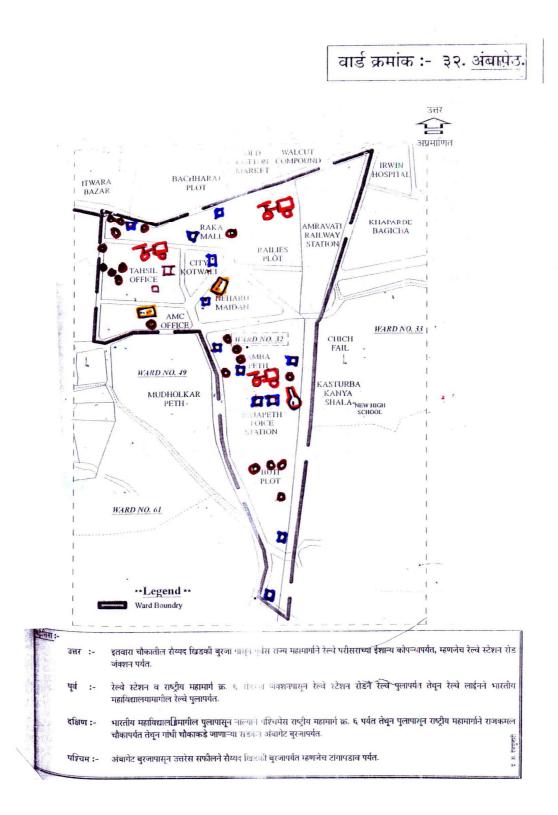


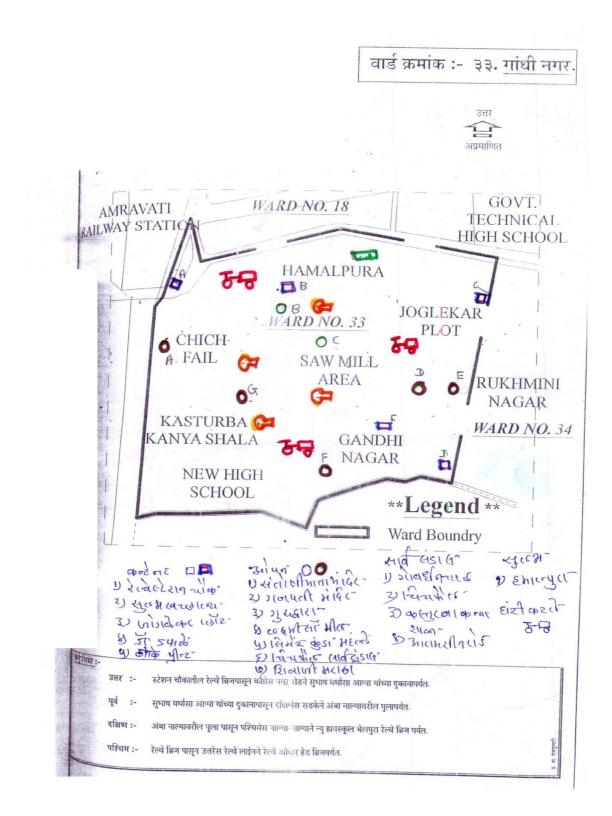


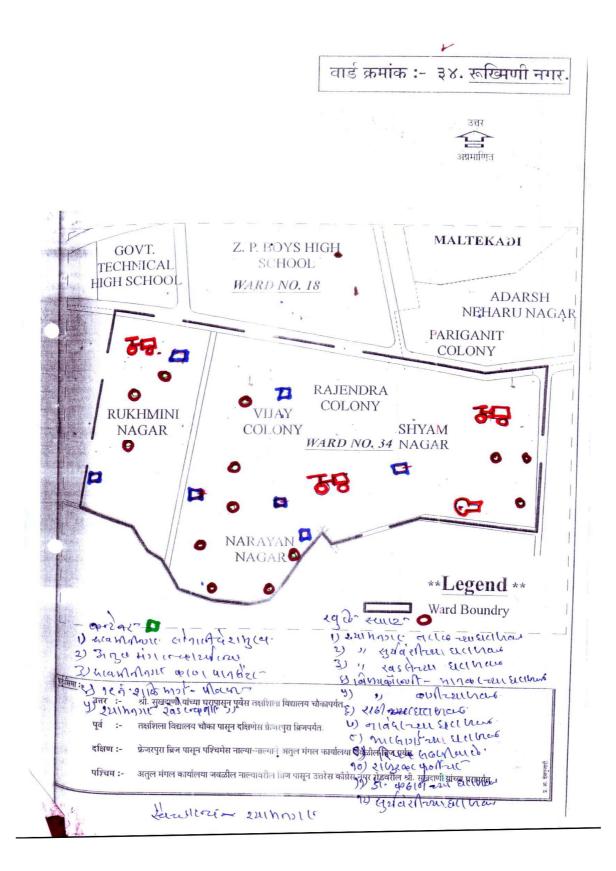


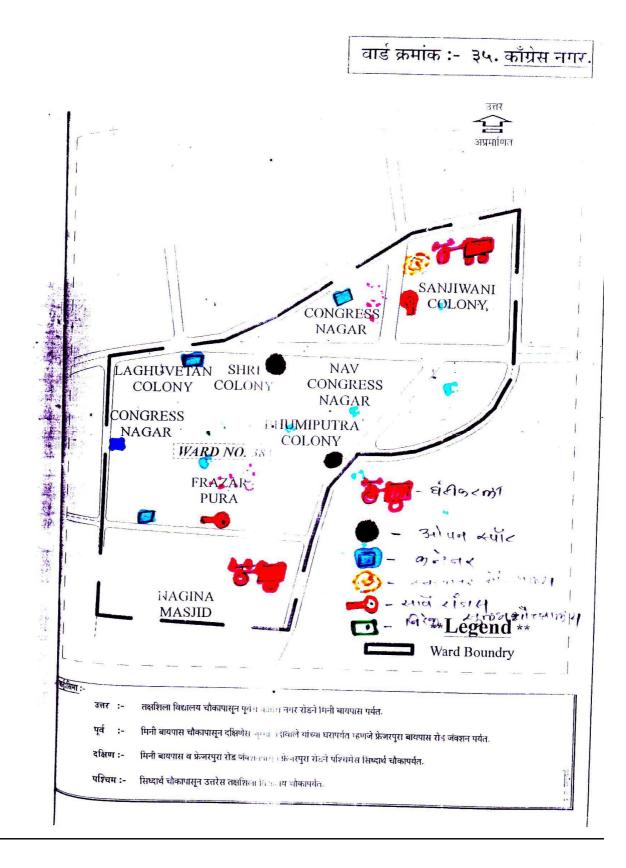


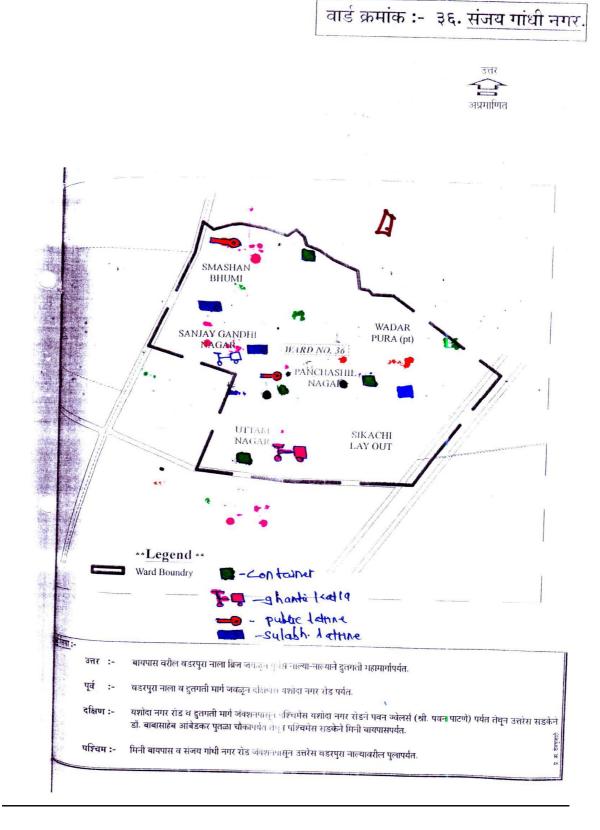


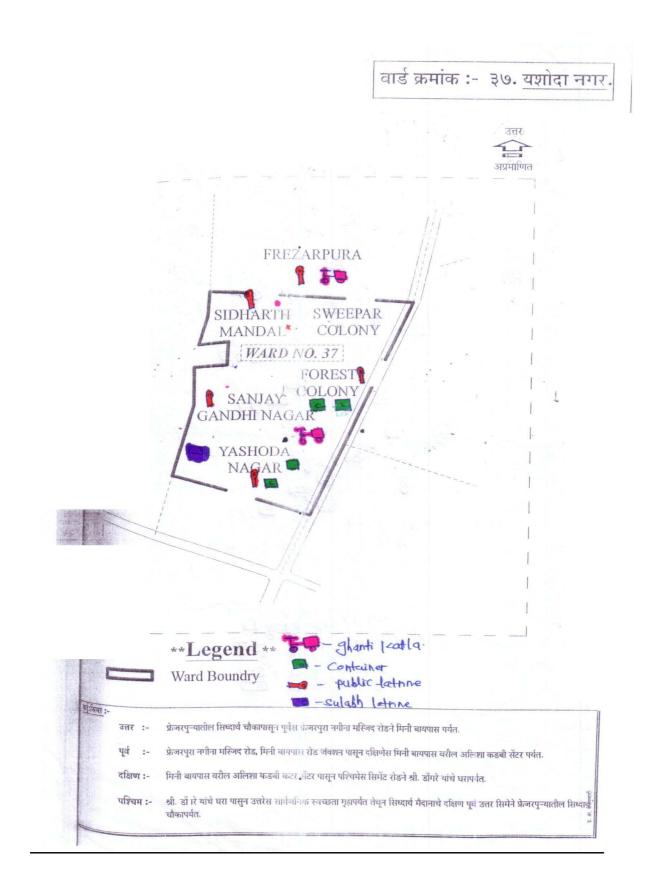


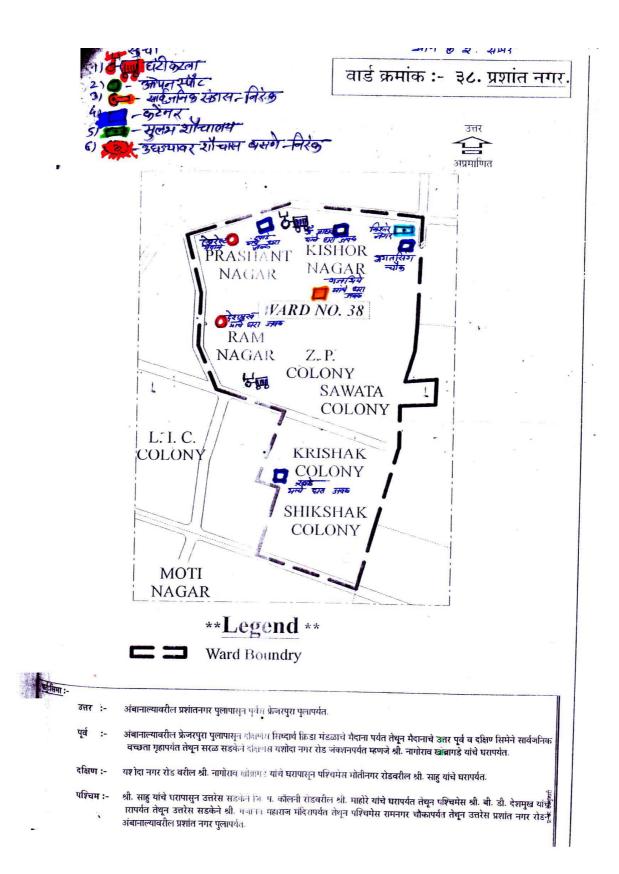


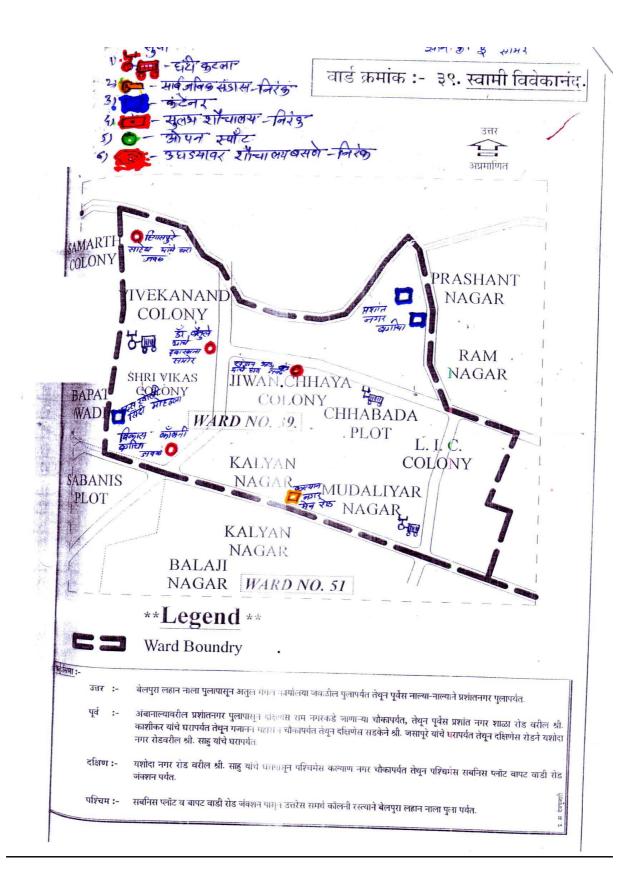


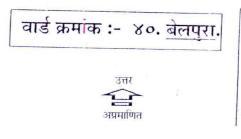


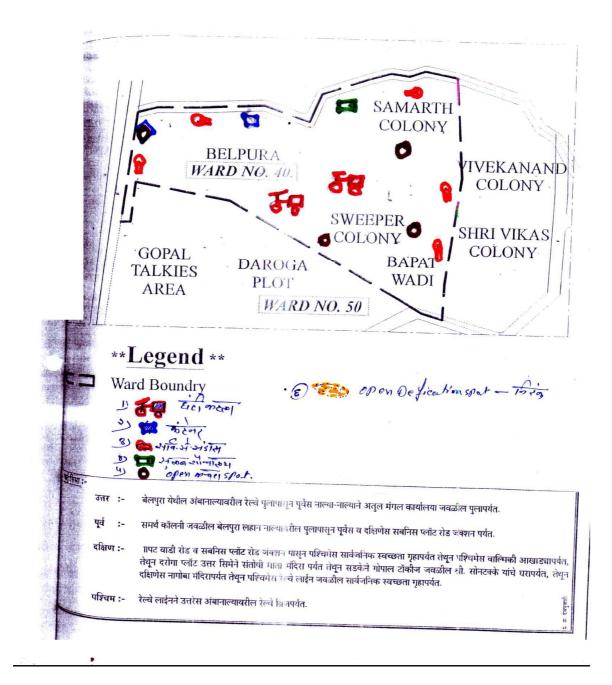


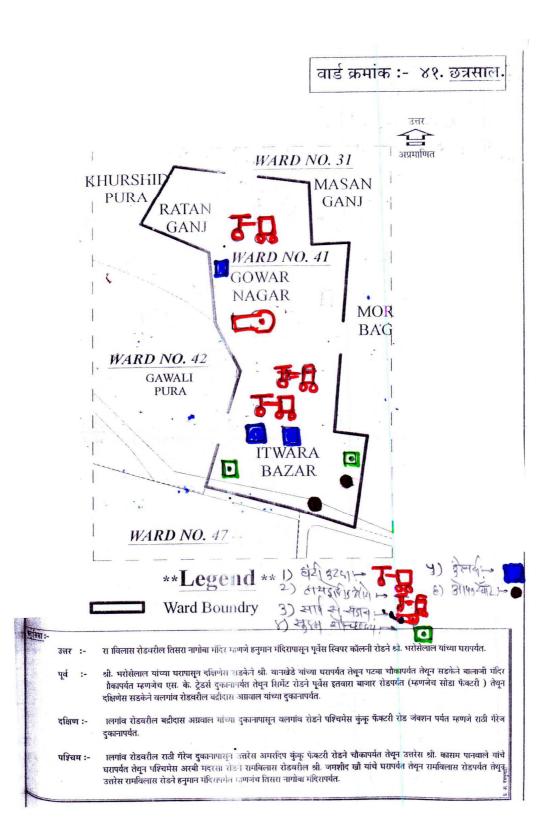


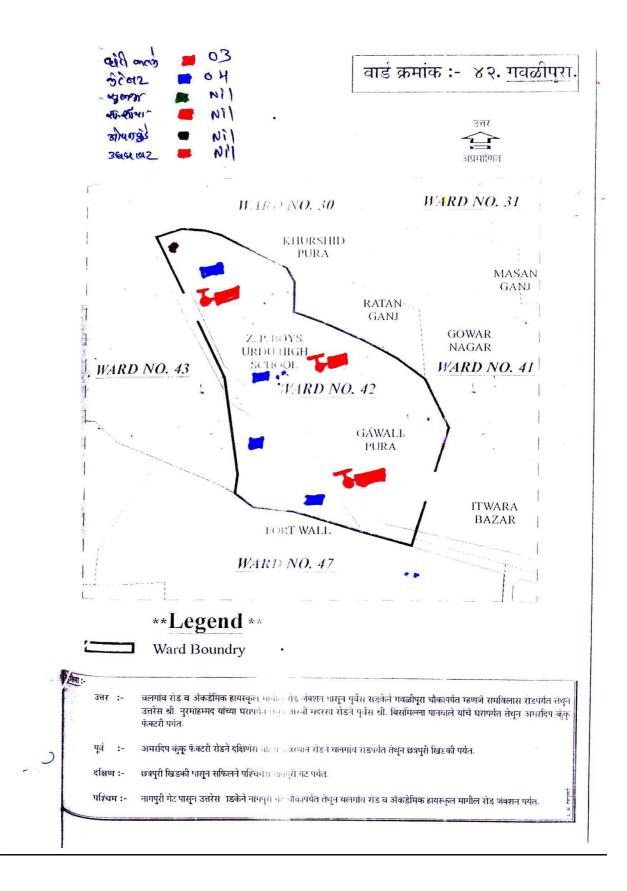


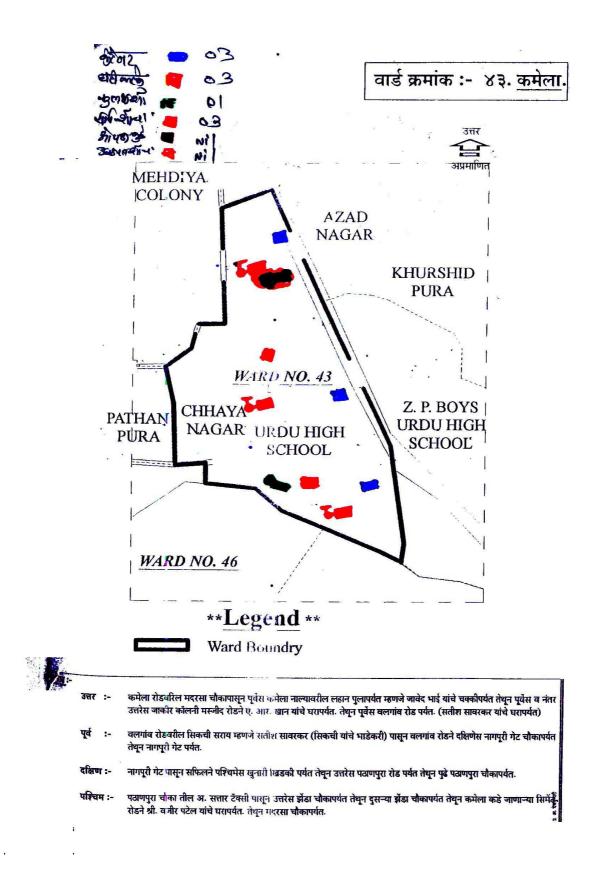


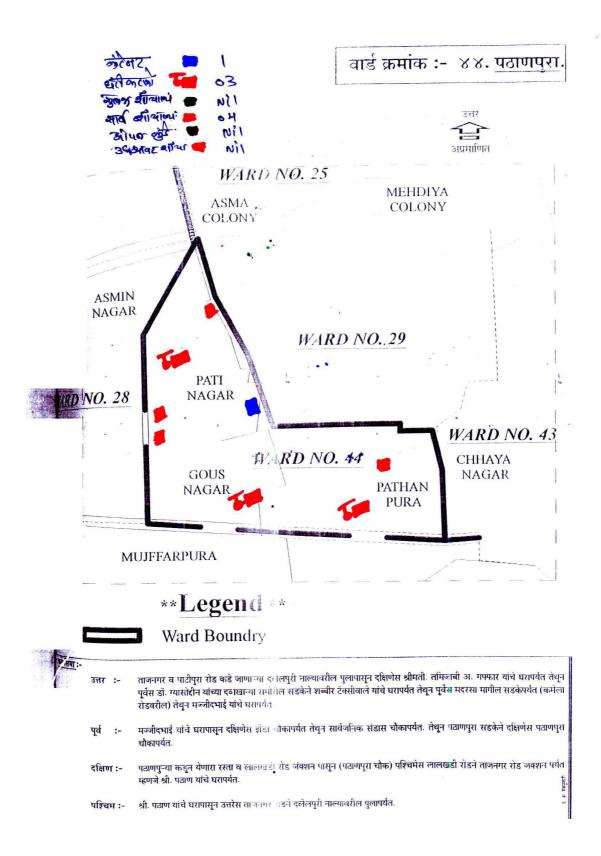


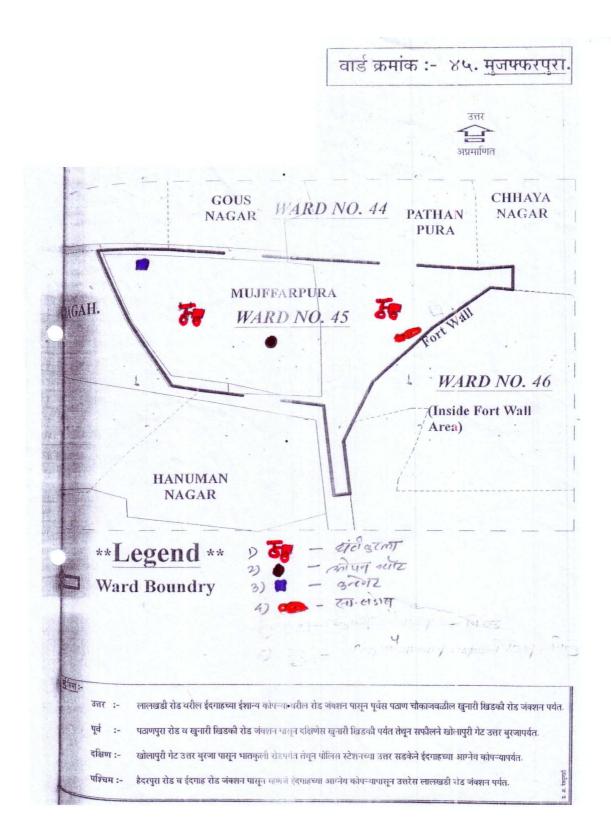


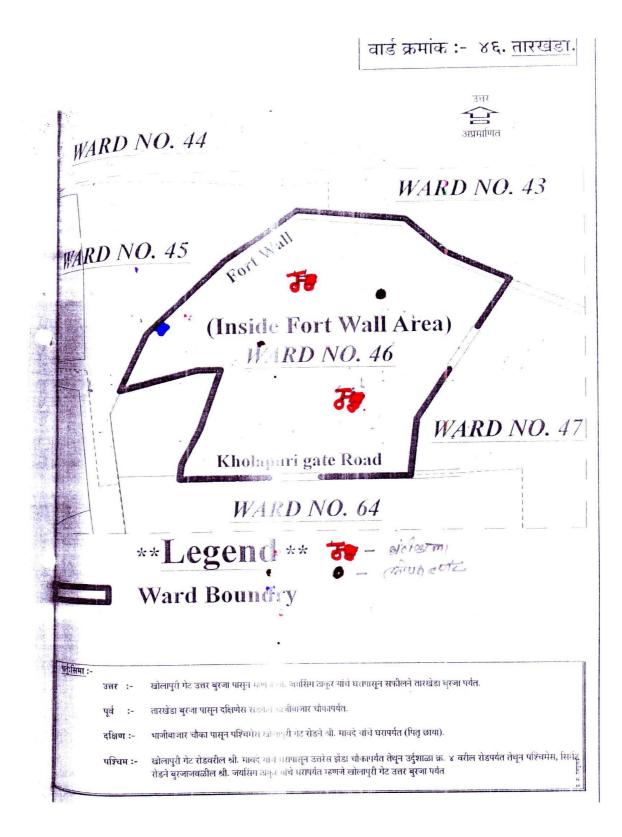


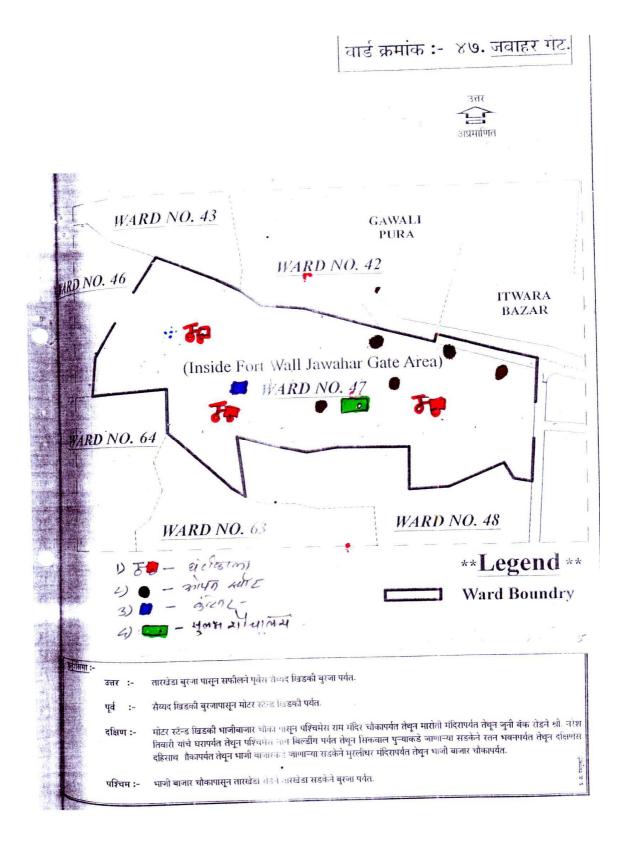


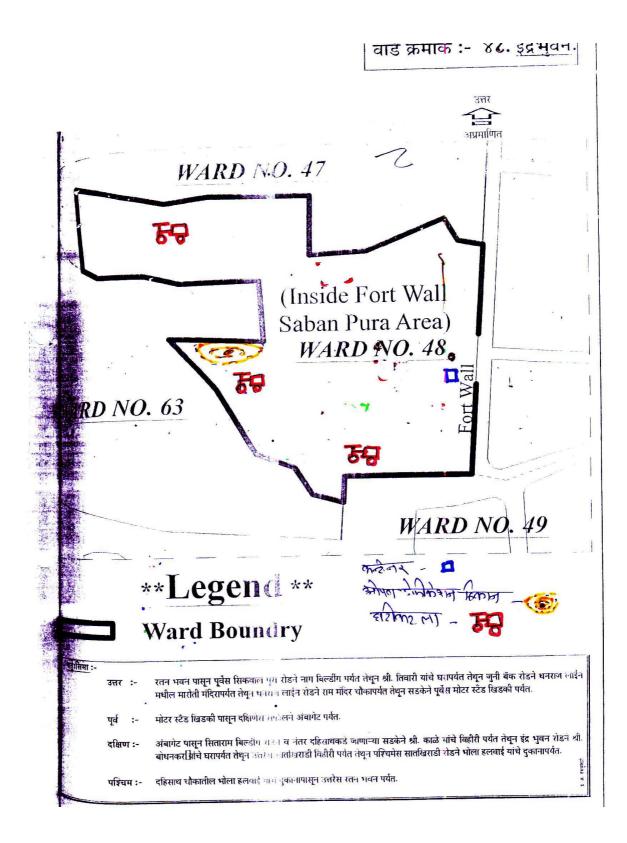


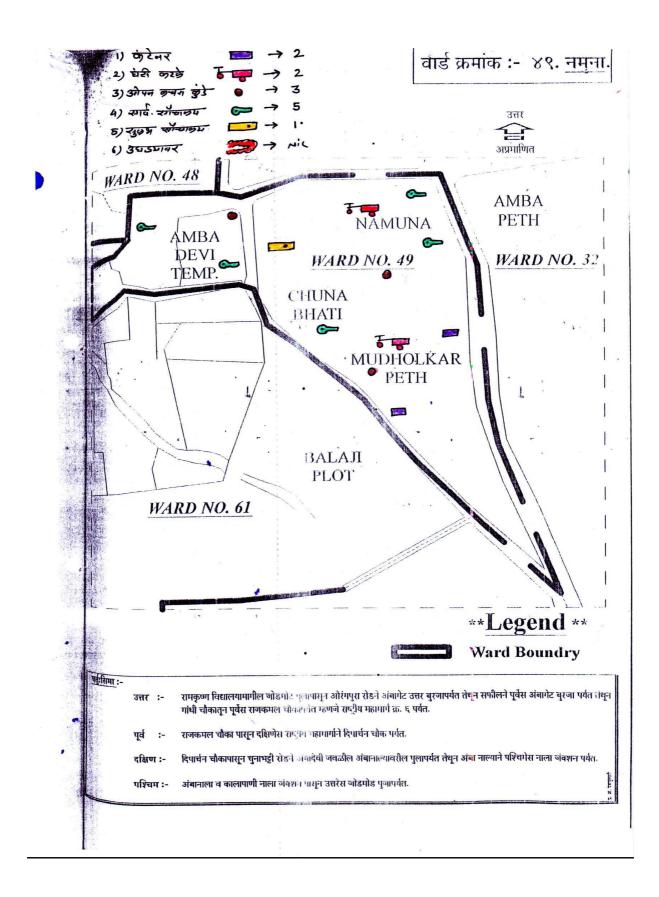


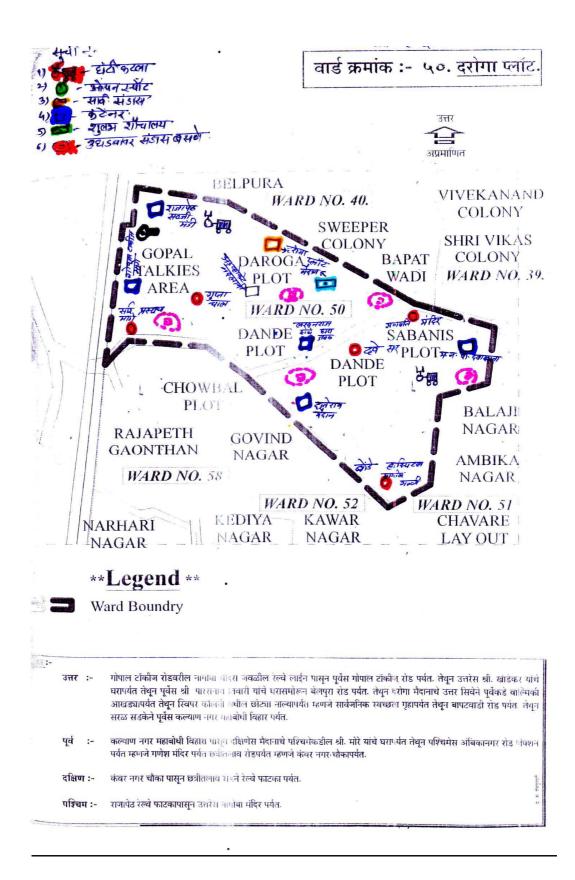


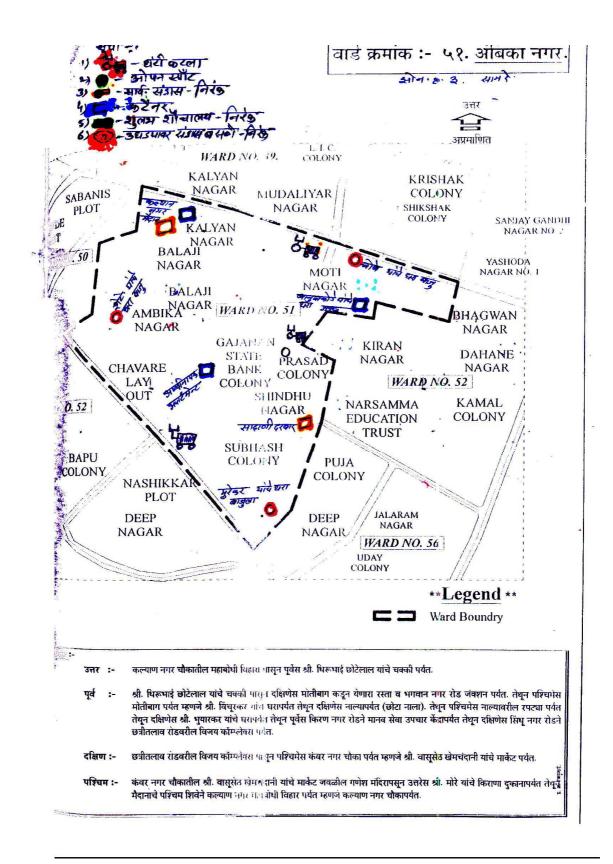


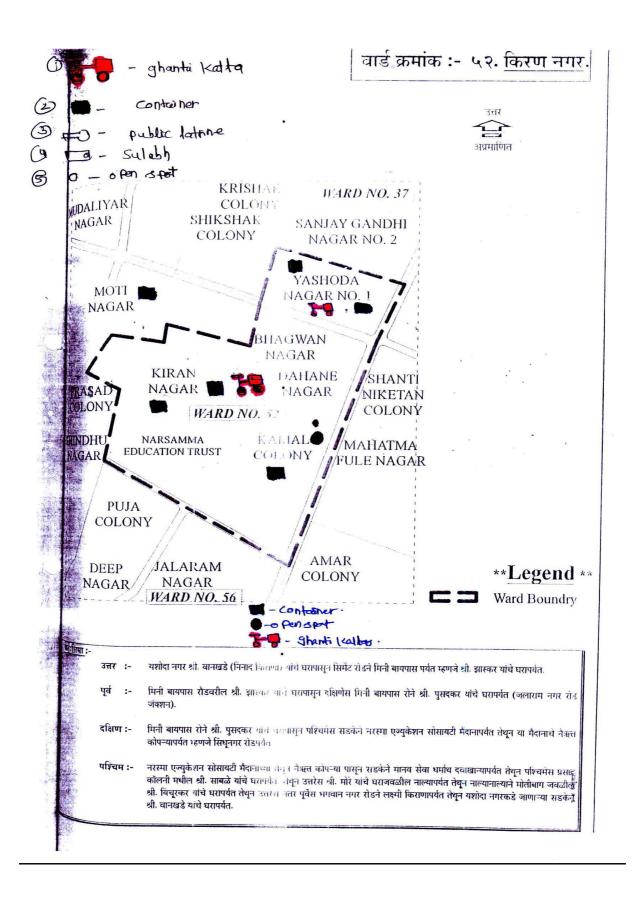


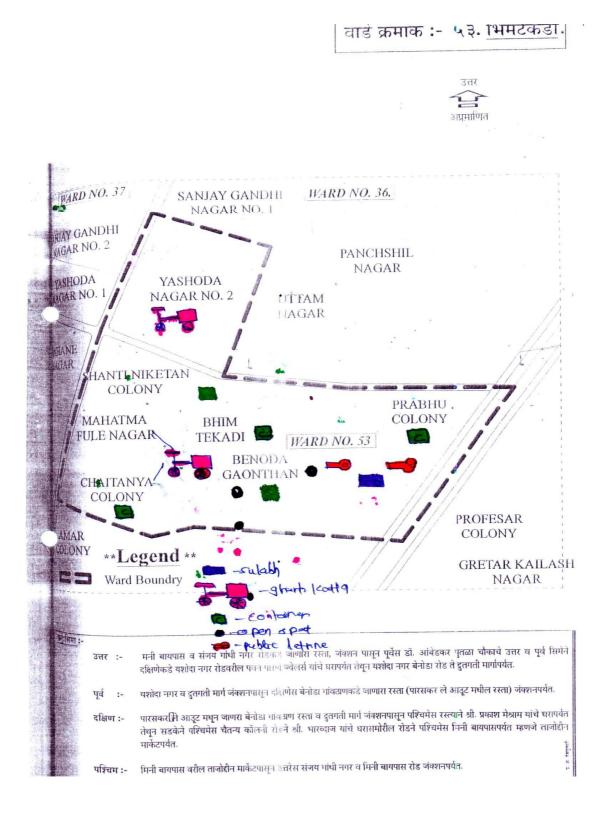




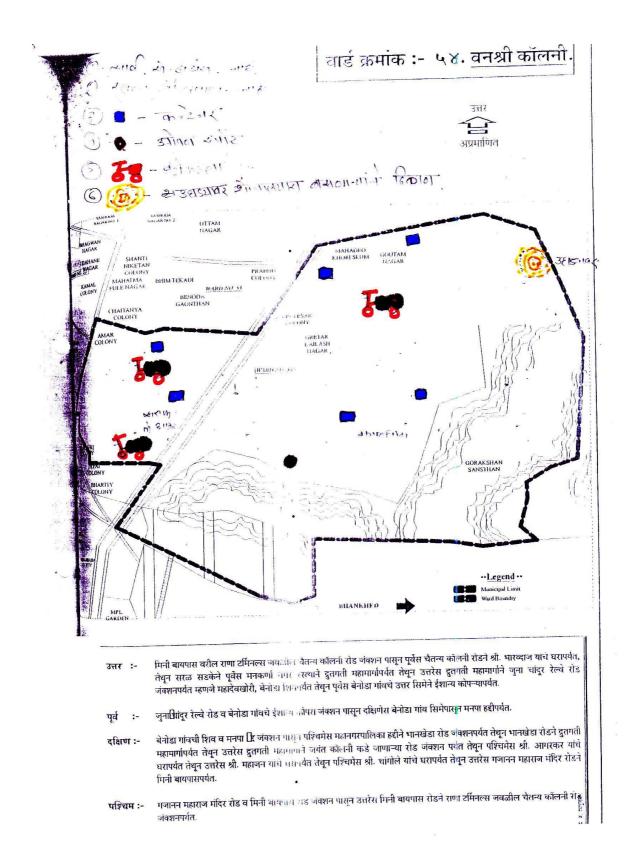


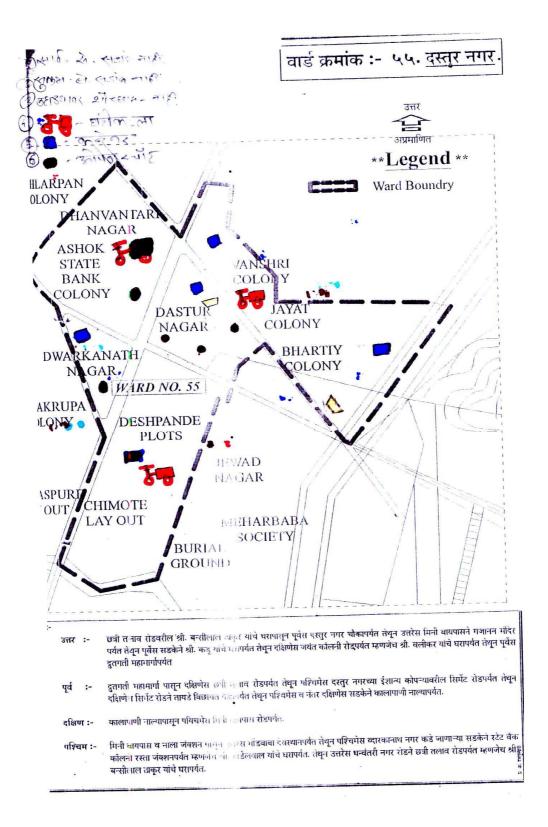


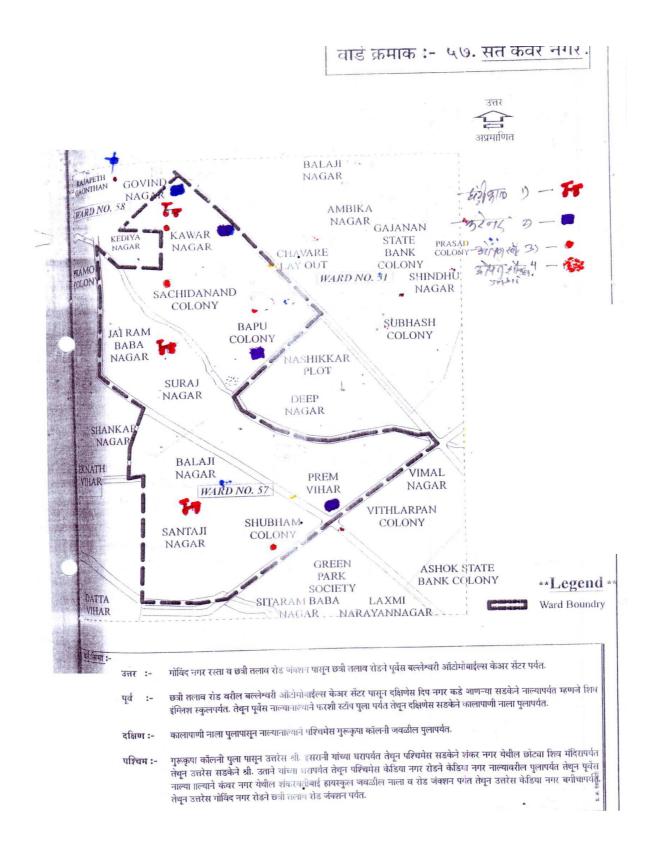


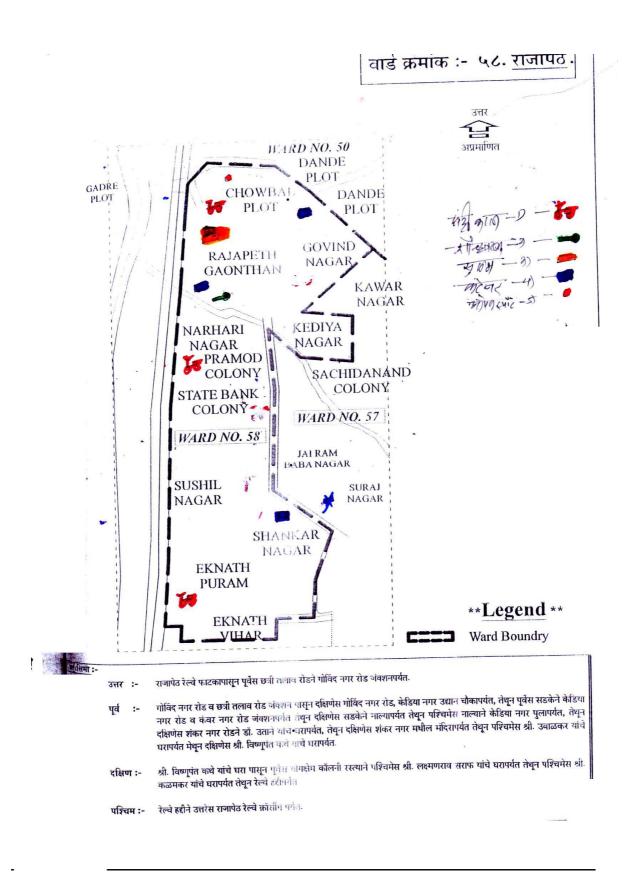


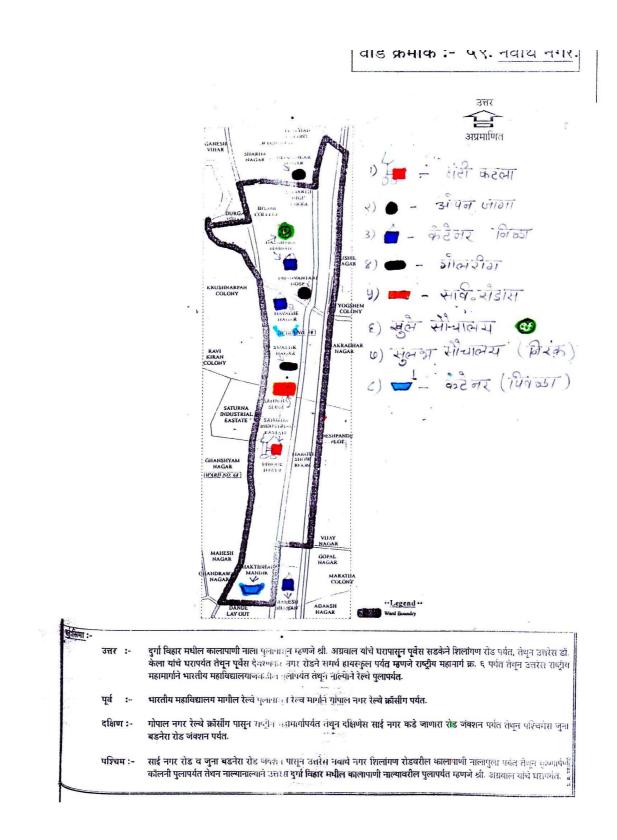
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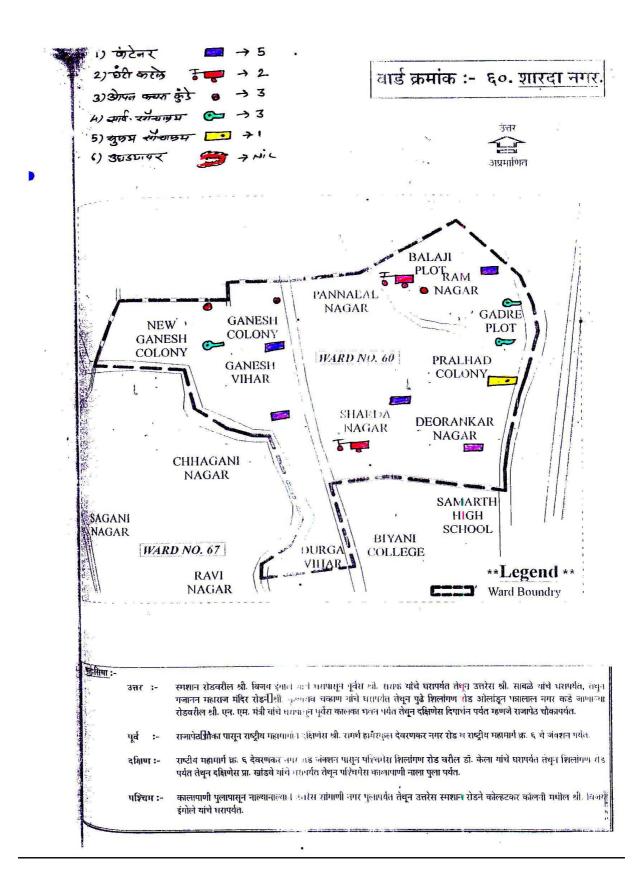


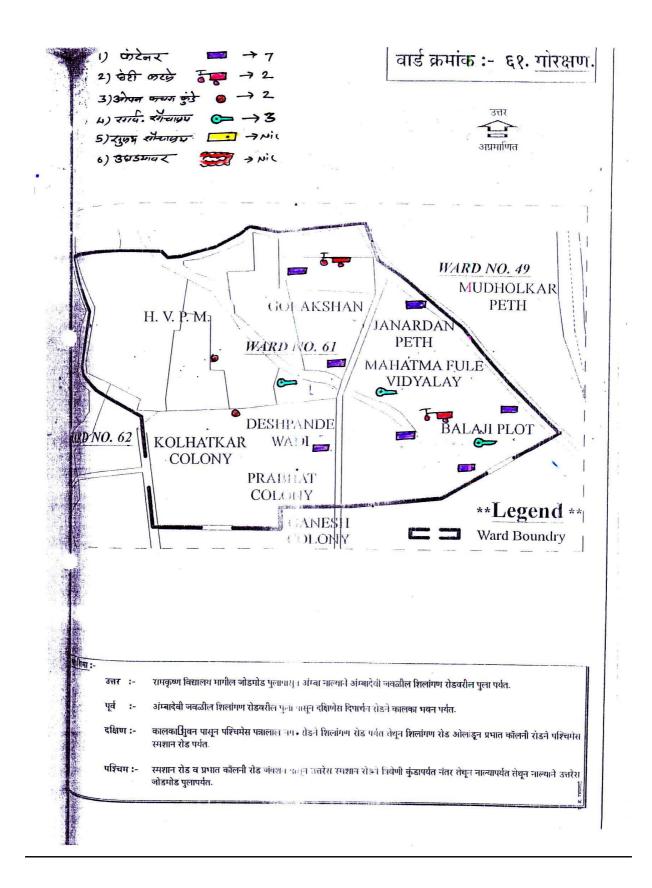


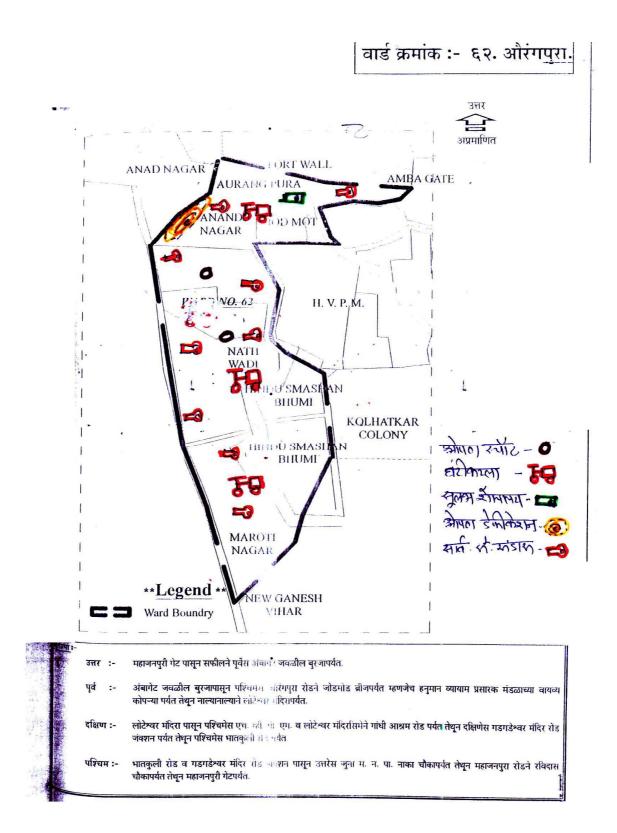


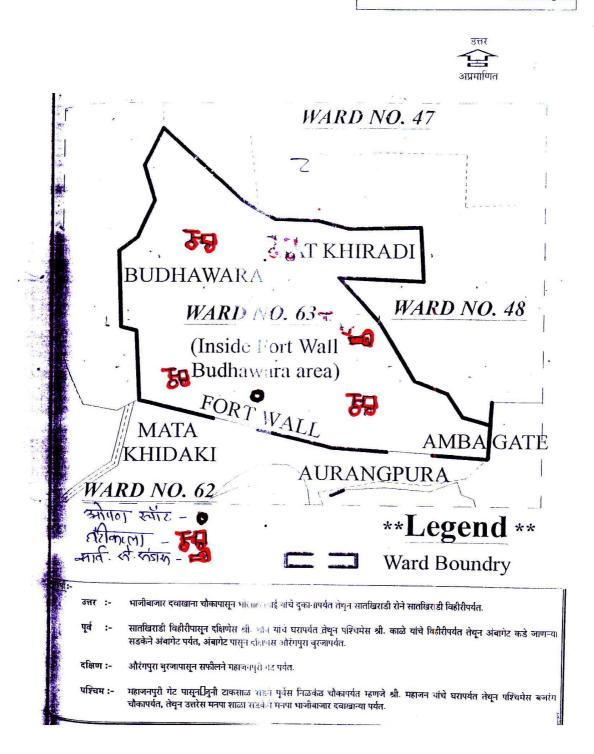


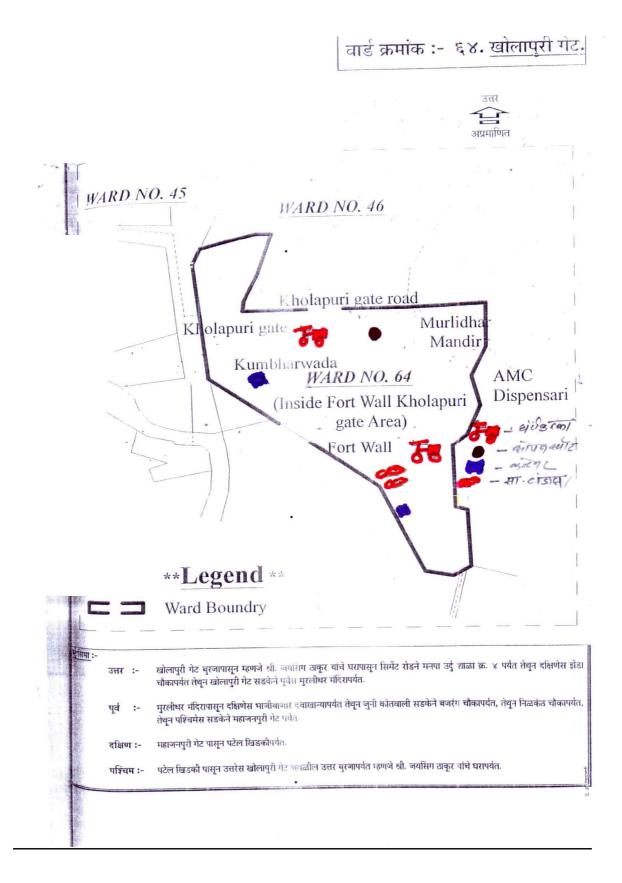


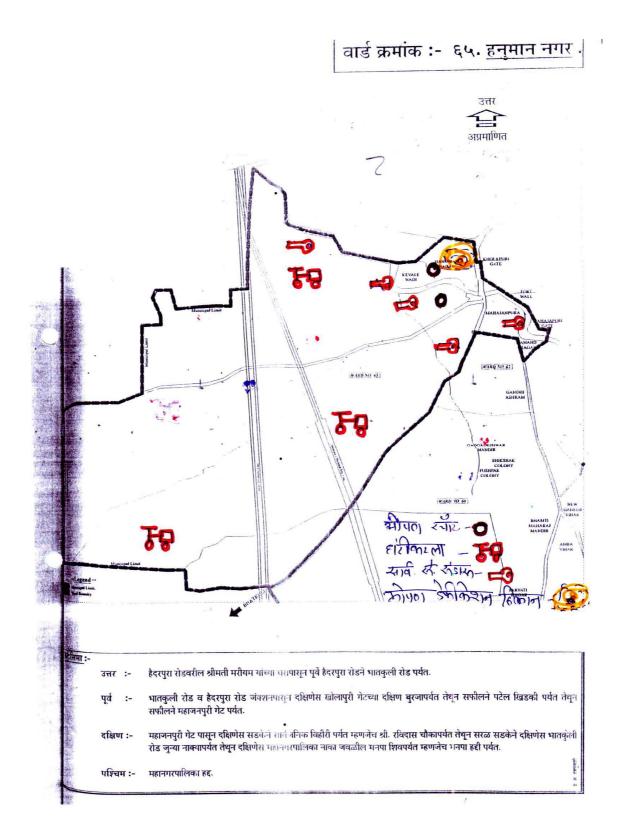


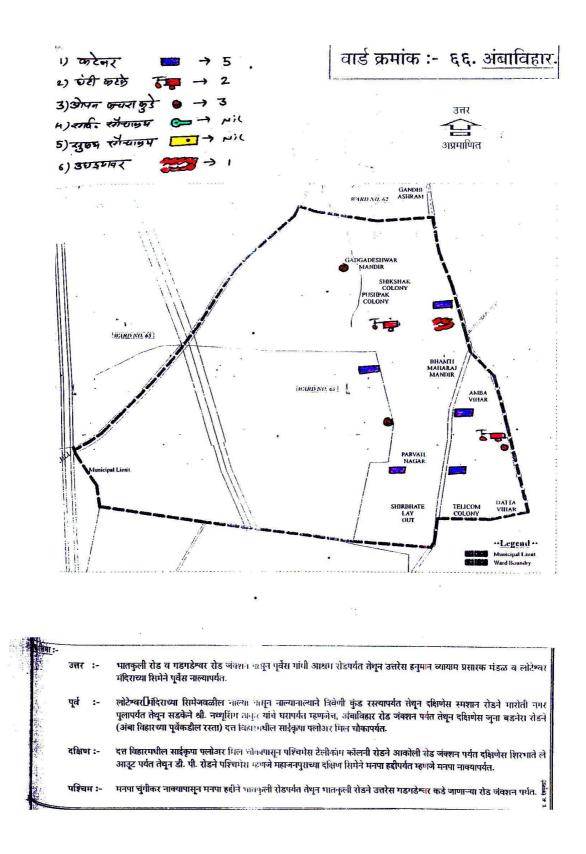


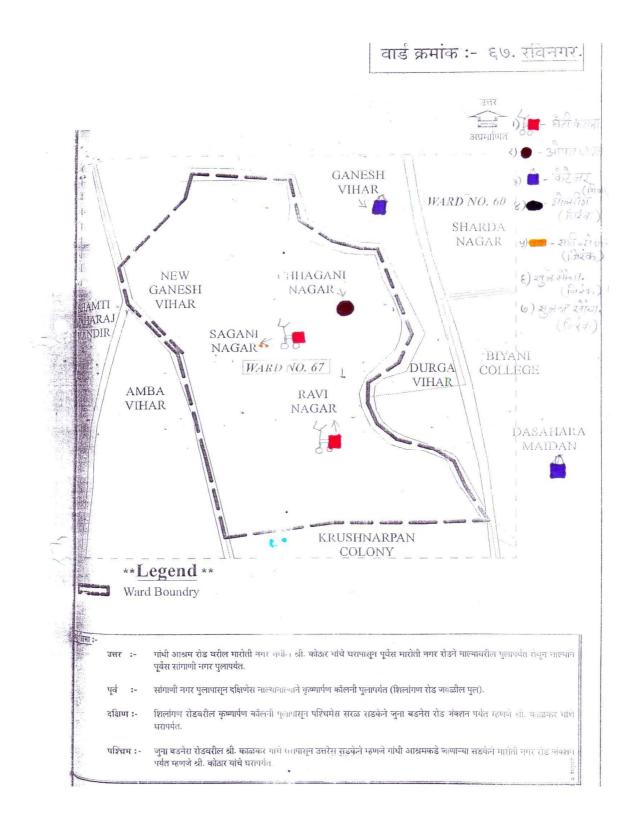


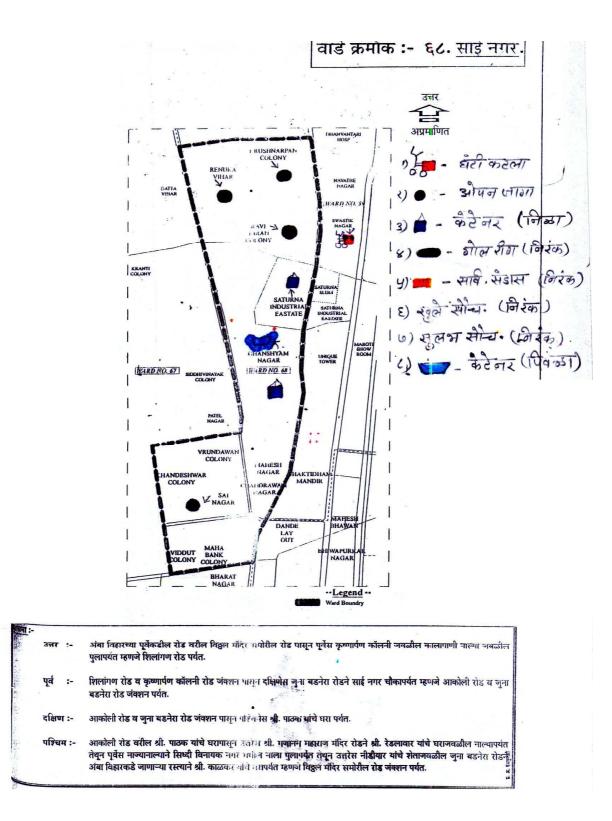


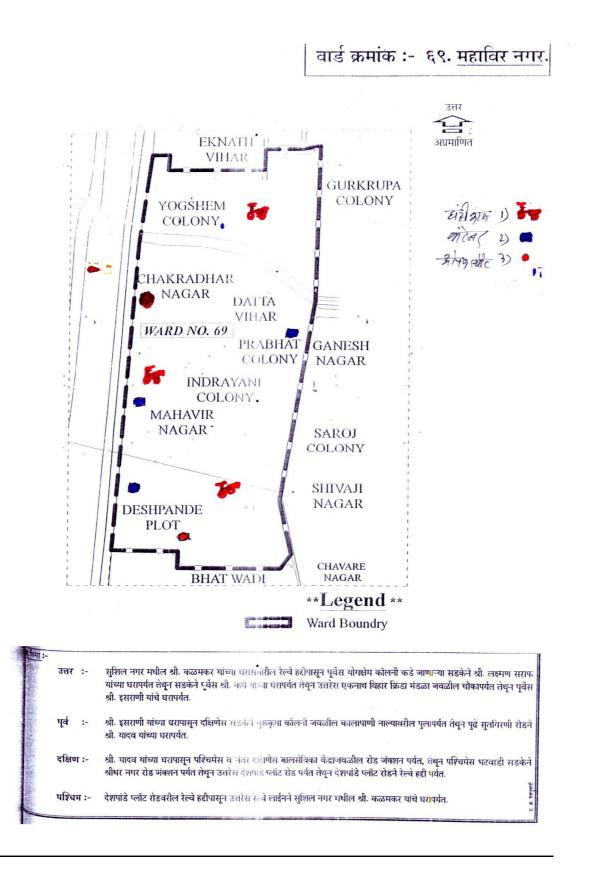


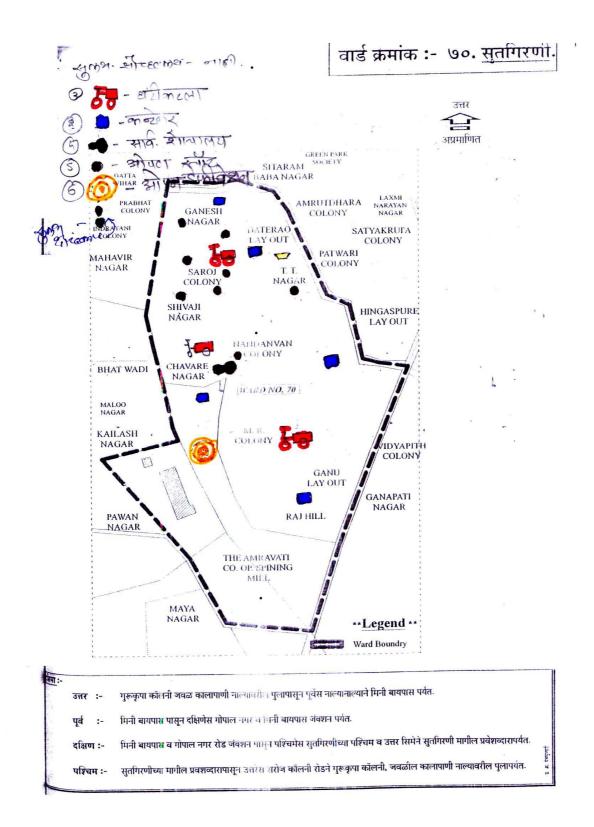


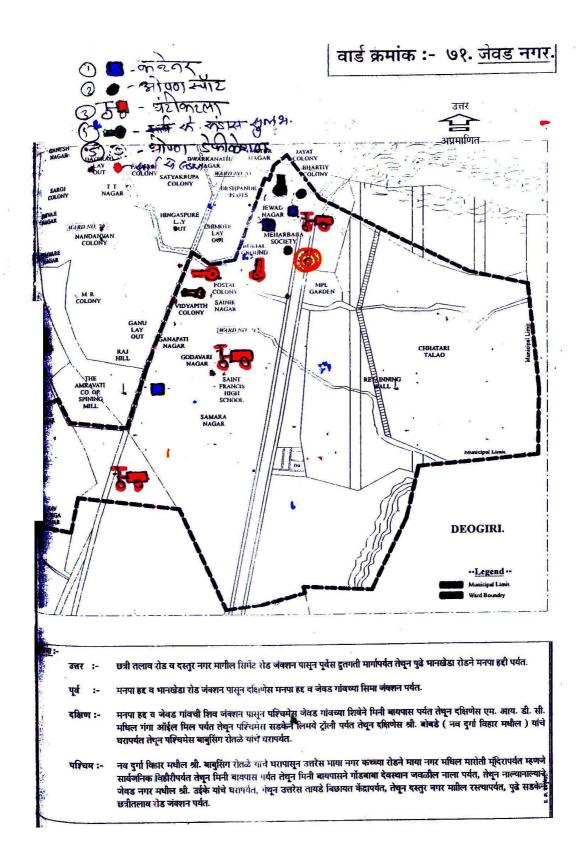


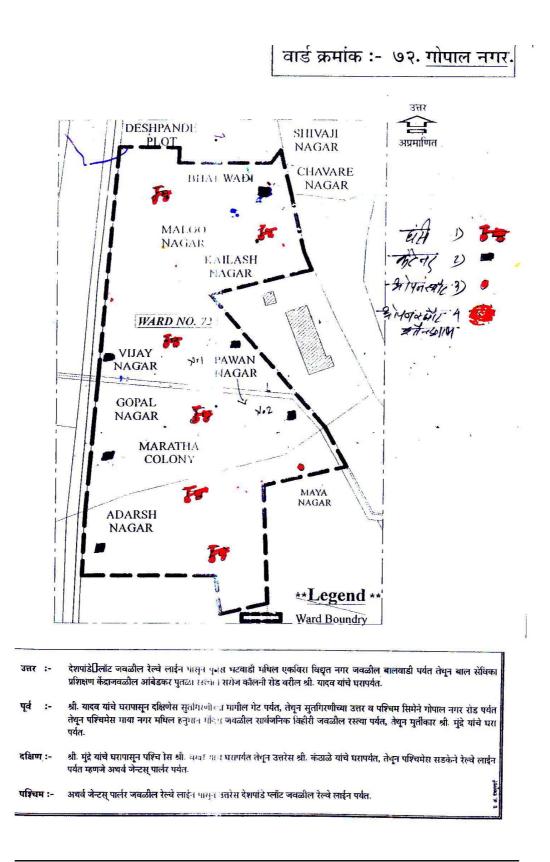


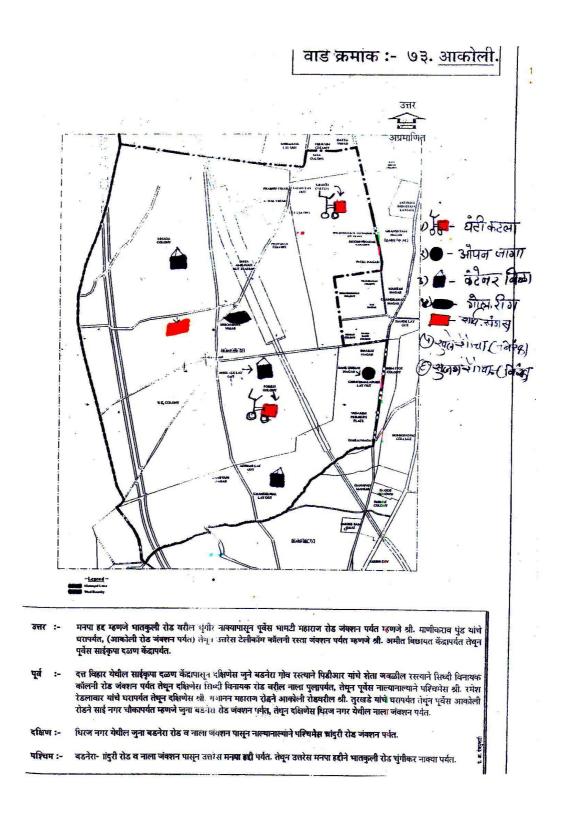


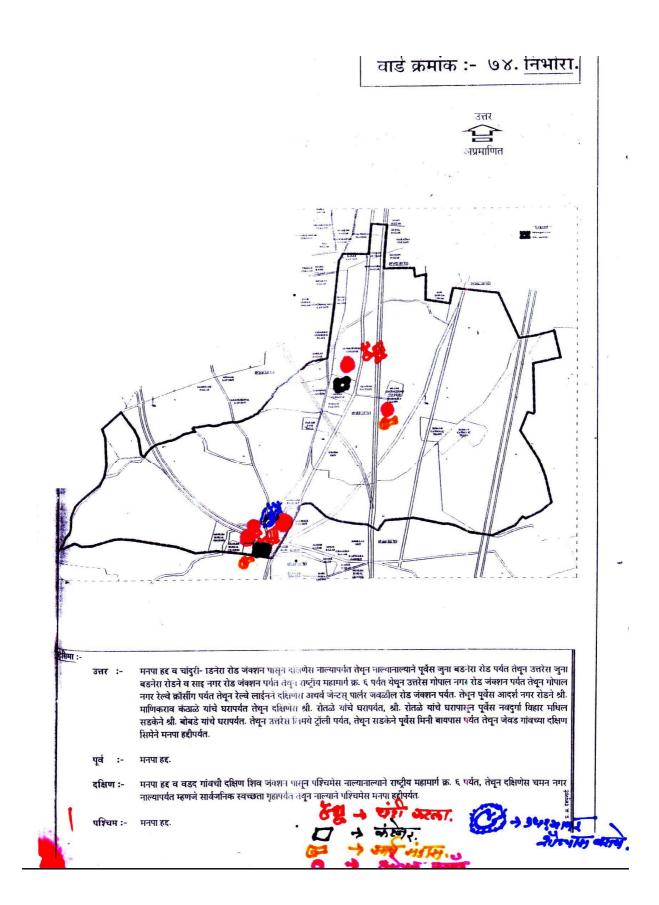


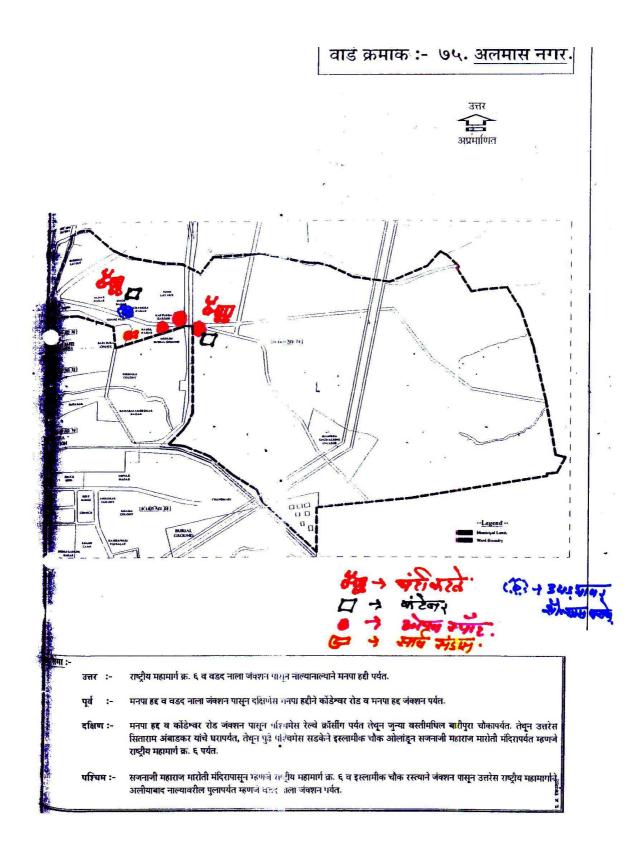


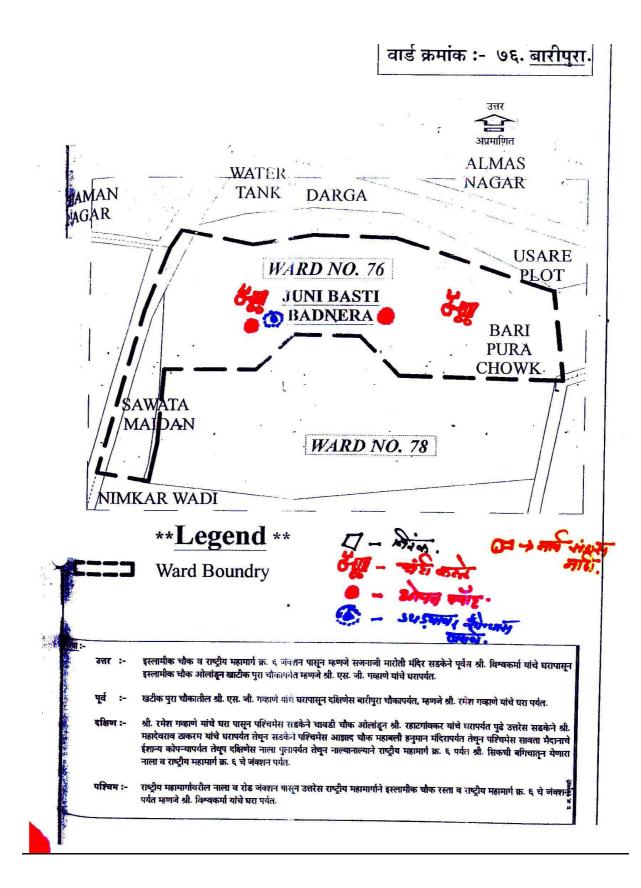


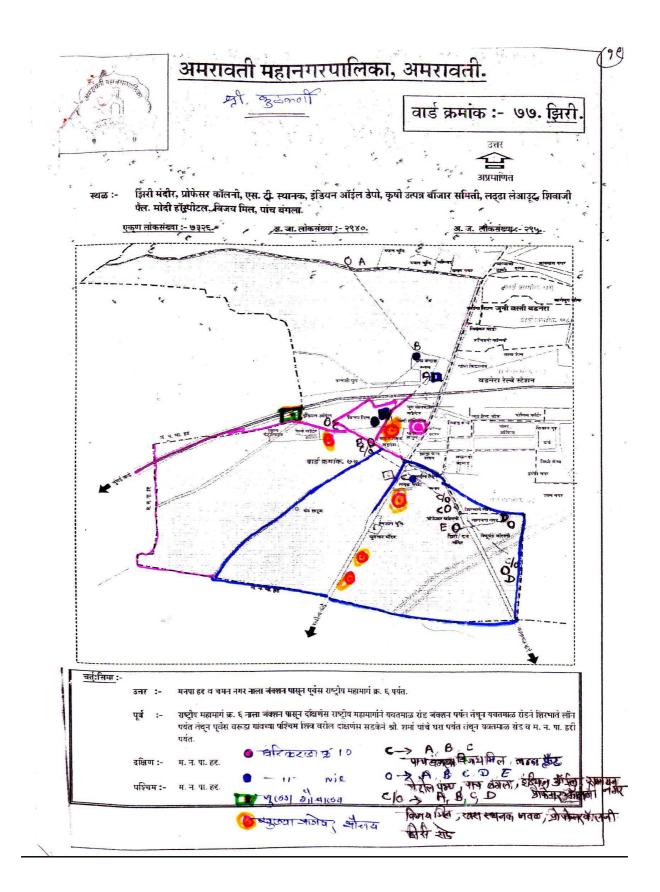


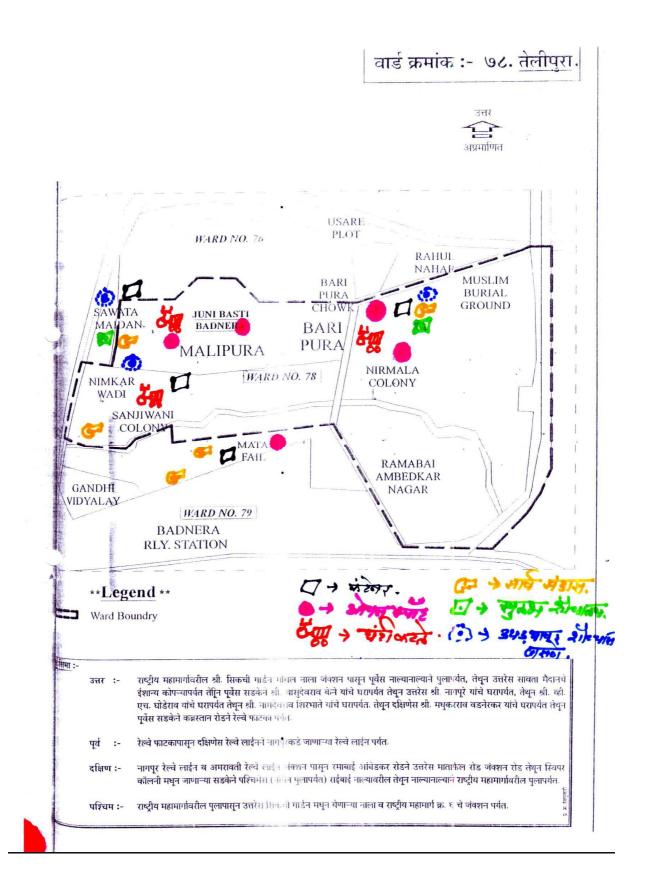


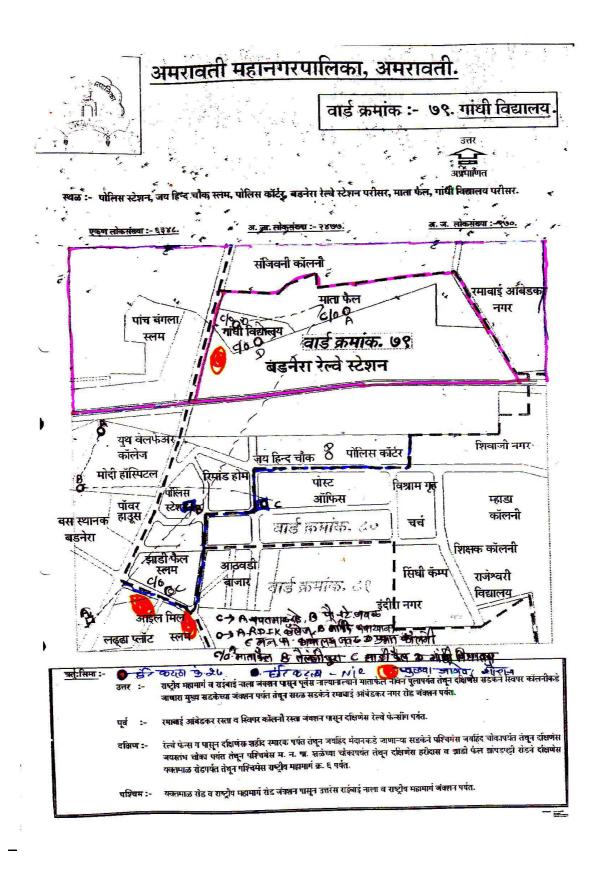


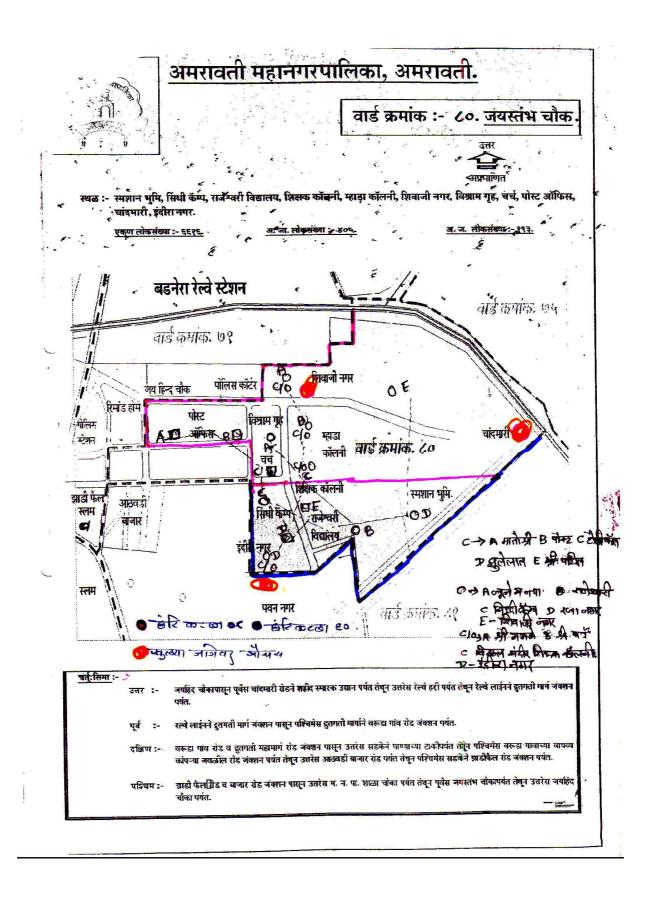


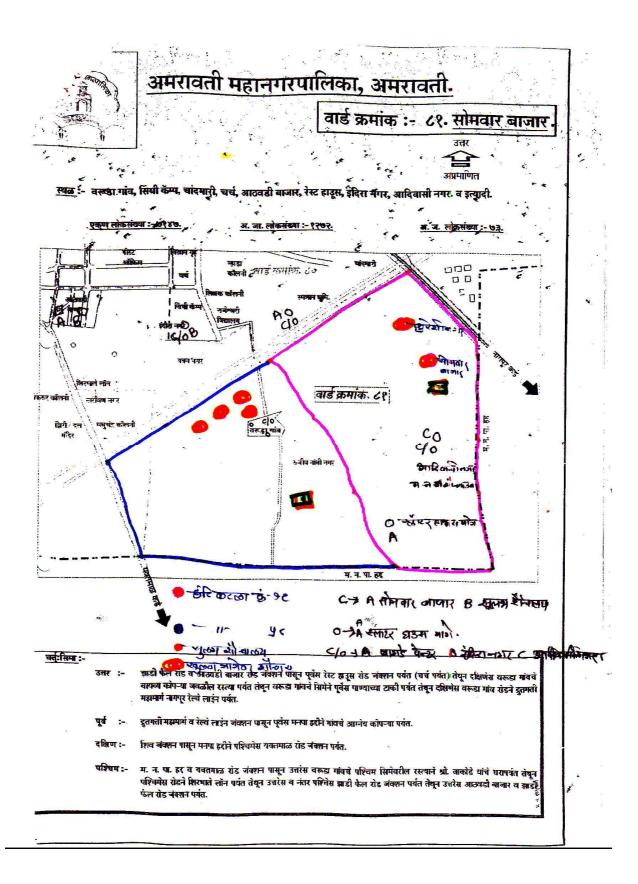




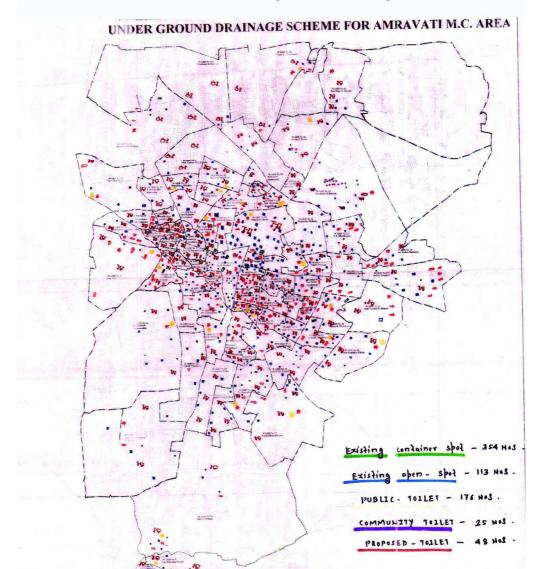








ANNEXURE II CITY MAP Amravati Municipal Corporation



LEGEND

WARDWISE AREA AND LIST OF HON MEMBERS OF M.C.

I. CONTAINER PLACE-2. OPEN SPOT 3. RUBLIC TOILET 4. COMMUNITY TOILET 5. GHANTIKATLA 6. OPEN-DEFECATION-S 7. COMMACTER 8. PROPOSS TOILET

Sr. No.	Particular	Unit	Amount in Rs.
1.	Public Toilet	1	Rs. 1 lakh
		seat	
2.	Individual Toilet	1	Rs. 10,000/-
		seat	
3.	Urinal	1 unit	Rs. 60,000/-
4.	Connection to sewerline or drain		Rs. 15,000/- RMT
5.	Individual Toilet Connection to Sewer Line		Rs. 10,000/- /
			connection
6.	Construction of STP		Rs. 1 crore / MLD
7.	Cost of Sewer / RMT		Rs. 2500/-
8.	Flushing Wet Lands and Composting		Rs. 0.6 crore / MLD
	Electrification		
9.	Waste Collected from Household		Rs. 2 lakh / Tonne
10.	Transportation of Waste		Rs. 5 lakh / Tonne
11.	Transportation of Waste Generated from Urban		Rs. 2.5 lakh / tonne
	Poor Communities		
12.	Construction of Road Side Drains for Disposal of		Rs. 200/- / Meter
	Storm Water		
13.	Channelisation of Water Resources or		Rs. 30,000/- / RMT
	Deepening		
14.	24*7 Water Supply Connection		Rs. 500/- per
			Capita

ANNEXURE III UNIT RATES FOR COST ASPECTS

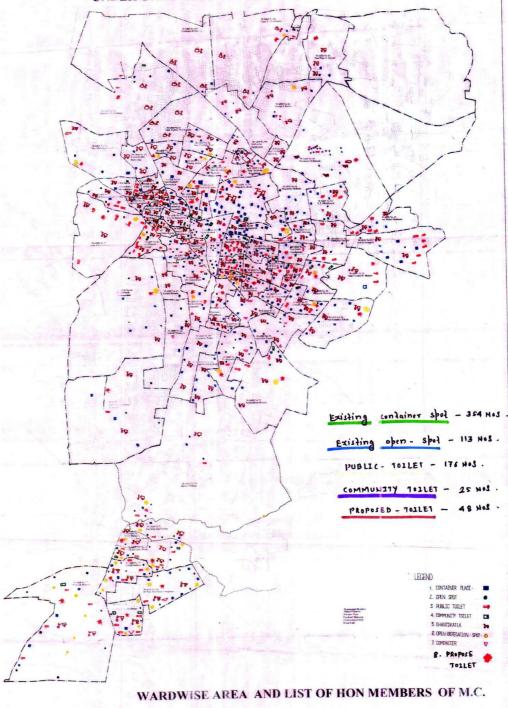
S.No	Norms	IS 10500: 1991 Desirable limit (mg/1 except for pH)
1.	Arsenic	0.05
2.	Cadmium	0.01
3.	Chromium	0.05
4.	Copper	0.05
5.	Cyanide	0.05
6.	Lead	0.05
7.	Mercury	0.001
8.	Nickel	-
9.	Nitrate as NO ₃	45.0
10.	PH	6.5 - 8.5
11.	Iron	0.3
12.	Total hardness (as CaCO ₃)	300.0
13.	Chlorides	250
14.	Dissolved solids	500
15.	Phenolic compounds (as C ₆ H ₅ OH)	0.001
16.	Zinc	5.0
17.	Sulphate (as SO ₄₎	200
18.	BOD	20 mg / litre
19.	COD	30 mg / litre

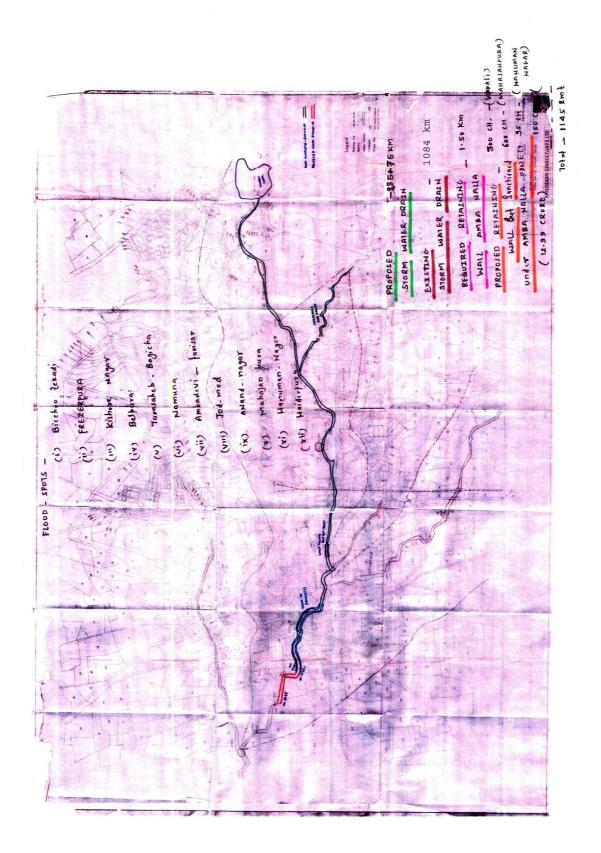
ANNEXURE IV STANDARD AND NORMS

1.



UNDER GROUND DRAINAGE SCHEME FOR AMRAVATI M.C. AREA





- 194 -