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पत्रांकं : 1007/स्टोर–कार्या0/2016–17 दिनांक : 26/12/2016

कार्यादेश

जे0टी0 ऊर्जा प्र0लि0,
185/402, गफ्फार मुजिल
स्ट्रीट नं0–5, जामिया नगर
नई दिल्ली–110025

भारत सरकार/उ0प्र0 सरकार की गाईड लाइन के अनुसार नगर पालिका परिषद, इटावा के सम्पूर्ण क्षेत्र के सिटी सेनीटेशन प्लान कार्य हेतु दिनांक 15.02.2016 को आमन्त्रित की गयी निविद्राओं में आपकी निविदा दर न्यूनतम किन्तु आगणन दर से अधिक होने पर आपसे हुयी वार्तानुसार रू0 11,00,000.00 पर प्लान कार्य की लिखित सहमति के कारण अध्यक्ष महोदय, नगर पालिका परिषद, इटावा द्वारा स्वीकार कर ली गयी है। अतः आप निविदा शर्तों के अनुरूप भारत सरकार/उ0प्र0 सरकार की गाईड लाइन के अनुसार नगर पालिका परिषद, इटावा के सम्पूर्ण क्षेत्र के सिटी सेनीटेशन प्लान कार्य 01 मांह के अन्दर पूर्ण किया जाना सुनिश्चित करें तथा प्लान कार्य का भौतिक एवं तकनीकी सत्यापन मुख्य सफाई एवं खाद्य निरीक्षक से करा लें। साथ ही रू0 100/– के नॉन ज्यूडिशियल स्टाम्प पर निविदा शर्तों एवं शासनादेश के अनुरूप अनुबन्ध तहरीर कर शेष जमानत राशि रू0 88,000.00 की एफ0डी0आर0 जमा कर बिल भुगतान हेतु प्रस्तुत करें।

अधिशाषी अधिकारी
नगर पालिका परिषद, इटावा

प्रतिलिपि : 1. अध्यक्ष महोदय, नगर पालिका परिषद, इटावा की सेवा में सादर सूचनार्थ प्रेषित।
2. मुख्य सफाई एवं खाद्य निरीक्षक को इस निर्देश के साथ कि तकनीकी जाँच कर बिल भुगतान हेतु अग्रसारित करें।

अधिशाषी अधिकारी
नगर पालिका परिषद इटावा

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SITUATION ANALYSIS REPORT

CITY SANITATION PLAN OF ETAWAH

2017

JT Urja Pvt. Ltd.

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1 BACKGROUND

The Govt. of India had identified 100% sanitation as a goal during 11th five year plan. The Ministry of Urban Development (MoUD) officially launched a country wide National Urban Sanitation Policy **(NUSP)** on Nov. 12, 2008 with an objective to call upon individual states to draft their own strategy based on NUSP while taking into account their specific requirements.

The key issues of urban sanitation policy are to address the awareness in poor, social and occupational hazards to sanitation workers, gaps and overlaps existing in roles and responsibilities of institutions at national, state and city levels, full scale integrated safe confinement, disposal and treatment, searching for alternative cost effective and sustainable technological options, reaching to the un-served and poor (non-notified slums) population, and needs to demand responsive.

1.1 CONCEPT OF TOTALLY SANITIZED CITIES

A totally Sanitized City will be one that has achieved the outputs or milestones specified in the National Urban Sanitation policy, the salient features of which are as follows:

- Cities must be open defecation free
- Must eliminate the practice of manual scavenging and provide adequate personnel protection equipment that addresses the safety of sanitation workers.
- Municipal wastewater and storm water drainage must be safely managed
- Recycle and reuse of treated wastewater for non-potable applications should be implemented wherever possible.
- Solid Waste collected and disposed-off fully and safely
- Services to the Poor and Systems for Sustaining Results

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- Improved Public Health Outcomes and Environmental Standards

1.2 Uttar Pradesh Urban Sanitation Policy

1.2.1 Vision

All the cities and towns become totally sanitized healthy and liveable.

1.2.2 Goals

- Awareness generation and behaviour change.
- Open defecation free cities.
- Integrated city- wide sanitation.
- Sanitary and Safe Disposal.

1.3 Rating and Categorization of Cities by NUSP

The rating of cities in regard to their performance in sanitation improvements will be based on set of objective indicators of outputs, processes and outcomes.

Three Categories of Indicators

The rating exercise will involve three categories of indicators:

Output Related Indicators: pertain to the city having achieved certain results or outputs in different dimensions of sanitation ranging from behavioral aspects and provision, to safe collection, treatment and disposal without harm to the city's environment. There are nine main output-indicators accounting for 50 points of the total of 100 points.

Process Related Indicators: pertain to systems and procedures that exist and are practiced by the city agencies to ensure sustained sanitation. There are seven main process-indicators accounting for 30 points of the total of 100 points.

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Outcome Related Indicators: include the quality of drinking water and that of water in water-bodies of city, as also the extent of reduction in sanitation-related and water-borne diseases in the city over a time period. There are three main outcome-indicators accounting for 20 points of a total of 100 points1.

Ideally, data for the above outputs, processes and outcomes are regularly collected by city authorities but at present, very few cities will have, at best, partial data available. This rating exercise will help in highlighting the need for regular data-collection and monitoring of indicators.

On the basis of the said rating scheme, cities will be placed in different categories as presented in Table 1 and the distribution of the 436 cities is also depicted. National rating survey data will utilize these categories for publication of results. On the basis of plans prepared and implemented, cities will be able to measure the results of their actions, and be able to clearly chart out their improvements over time compared to their baseline situation.

TABLE 1-1: RATINGS OF CITIES

S. No.	Category	points	No. of cities	Description
1	Red	≤33	204	Cities on the brink of public health and environmental "emergency"; needing immediate remedial action
2	Black	34-66	228	Needing considerable improvements
3	Blue	67-90	4	Recovering but still diseased
4	Green	91-100	0	Healthy and Clean city

On achievement of remarkable results, i.e. coming into the Green category (Healthy and Clean City), cities will typically become eligible for the national award. Other cities showing remarkable incremental performance or selective achievements may also be given special or honorary awards. Cities in different size-classes may also be considered for category-wise awards. Based on results of the Rating survey and

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selection of awardees, cities will be invited to participate in a National Urban Sanitation Award ceremony.

Findings of a survey commissioned by MoUD rated 423 Class-I (with a population of more than 100,000) Indian cities on safe sanitation practices. Etawah has been ranked at 382 out of 423 Class I cities, scoring 22.950 marks out of 100 marks and in Red category. This means performance of Etawah in regard to safe sanitation is worst on various indicators.

1.4 Sanitation Related Policies and Laws

Municipal Solid Waste Rules, 2000

The Municipal Solid Wastes (Management and Handling) Rules, 1999 were published under the notification of the Government of India in the Ministry of Environment and Forests. In exercise of the powers conferred by section 3, 6 and 25 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby made the rules to regulate the management and handling of the municipal solid wastes, 2000.

Municipal Solid Waste (Management & Handling) Rules, 2000 (MSW Rules) are applicable to every municipal authority responsible for collection, segregation, storage, transportation, processing and disposal of municipal solids. The Rules contains four Schedules namely;

TABLE 1-2: SCHEDULE DETAILS OF MSW RULES, 2000

Schedule-I	Relates to implementation Schedule
Schedule-II	Specifications relating to collection, segregation, storage, transportation, processing and disposal of municipal solid waste (MSW).
Schedule-III	Specifications for land filling indicating; site selection, facilities at the

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	site, specifications for and filling, Pollution prevention, water quality monitoring, ambient air quality monitoring, Plantation at landfill site, closure of landfill site and post care.
Schedule-IV	Indicate waste processing options including; standards for composting, treated I lakhtates and incinerations.

The MSW Rules -2000 categorically state the roles and responsibilities of ULBs, the State Govt., the Union Territory Administrations and the Pollution Control Boards.

The roles of the ULBs as stated are as follows:

- Every municipal authority shall, within the territorial area of the municipality, be responsible for the implementation of the provisions of these rules, and for any infrastructure development for collection, storage, segregation, transportation, processing and disposal of municipal solid wastes.
- The municipal authority or an operator of a facility shall make an application in Form-I, for grant of authorization for setting up waste processing and disposal facility including landfills from the State Board or the Committee in order to comply with the implementation programme laid down in Schedule I.
- The municipal authority shall comply with these rules as per the implementation schedule laid down in Schedule I.
- The municipal authority shall furnish its annual report -
    - To the Secretary-in-charge of the Department of Urban Development of the concerned State or as the case may be of the Union territory, in case of a metropolitan city; or
    - To the District Magistrate or the Deputy Commissioner concerned in case of all other towns and cities, with a copy to the State Board or the Committee on or before the 30th day of June every year.

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Swachh Bharat Mission (SBM)

This campaign aims to accomplish the vision of a **'Clean India'** by 2 October 2019, the 150th birthday of Mahatma Gandhi.

Mission Objectives

- Elimination of open defecation
- Eradication of Manual Scavenging
- Modern and Scientific Municipal Solid Waste Management
- To effect behavioural change regarding healthy sanitation practices
- Generate awareness about sanitation and its linkage with public health
- Capacity Augmentation for ULB's
- To create an enabling environment for private sector participation in Capex (capital expenditure) and Opex (operation and maintenance)

1.5 Objectives and Goals of CSP

The City Sanitation Plan (CSP) is aimed at developing and maintaining a clean, safe and pleasant physical environment in Etawah city to promote social, economic and physical well-being of all sections of the population. It encompasses plan of action for achieving 100% sanitation in the city of Etawah through demand generation and awareness campaign, sustainable technology selection, construction and maintenance of sanitary infrastructure, provision of services, O&M issues, institutional roles and responsibilities, public education, community and individual action, regulation and legislation.

The objective of CSP is to prepare urban sanitation strategy for Etawah city for management of its liquid and solid waste. The goals of CSP are:

- To achieve 100% sanitation and making the Etawah free from open defecation by promoting proper disposal arrangements at public private and community levels as per the norms of NUSP.
- To create awareness to urban poor for change in their behaviour for healthy sanitation practices.
- Reorientation of institutions for integrated city -wide sanitation approach.
- To provide complete management of waste including its safe disposal and O&M of all sanitary installations.
- Implementation scheme keeping into consideration the available financial resources and effectiveness of already existing facilities.

1.6 CITY SANITATION TASK FORCE (CSTF)

The first step in making the cities 100% sanitized is to elevate the consciousness about sanitation in the mind of municipal agencies, government agencies and most importantly, amongst the people of the city. As per the requirement of CSP, major role is to be played by the members of institutions, organizations, individuals, NGOs, academics, journals, local councillors, industry owners, consultants, representatives of private sector, etc. Constitution of CSTF is facilitated by drawing members from these groups in consensus with PNNP who will be constantly supporting the CSP preparation by analysing the strengths and competencies required to overcome the current situation and for better sanitation facilities.

For this purpose, CSTF has to be constituted in the ULB and it has to organize a multi-stakeholder, multi-party meeting in the preparatory stage, and take a formal resolution to make the city 100% sanitized. CSTF has been constituted by Etawah Nagar Palika Praishad (NNP). The roles and responsibilities of CSTF will include:

- Launching the City 100% Sanitation Campaign
- Generating awareness

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- Approving materials and progress reports
- Approving the City Sanitation Plan
- Providing overall guidance
- Fixing of responsibilities on a permanent basis.

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2 CITY PROFILE ETAWAH

2.1 INTRODUCTION

Etawah classified as Class I town is a statutory town and the administrative head-quarters of Etawah district falls under Kanpur division of Uttar Pradesh state. The city is situated on the bank of River Yamuna was an important centre for the Revolt of 1857.

2.2 PHYSICAL CHARACTERISTICS OF THE CITY

2.2.1 LOCATION

The city is located about 154 Kms west to Kanpur along the National Highway No.2 connecting Delhi to Kolkata. The city lies on the geographical coordinates of 26°21' North Latitude and 79°45' East Longitude.

2.2.2 TOPOGRAPHY

Etawah district forms a part of the Gangetic plains, but its physical features vary considerably and are determined by the rivers which cross it. The tract on the northern part of the city forms a plain surface whereas the southern part situated on the banks of river

Yamuna forms an undulating tract. The contour line is from north-west to south-east of the place of sangam between Yamuna and Chambal. The region falls under Seismic Zone-III termed as moderate damage risk zone city.

2.2.3 CLIMATE

Etawah has a warm subtropical climate with very cold and dry winters from December to Mid-February and dry, hot summers from April to Mid-June. About 85% of the annual rainfall is received during the south west monsoon season from mid-June to mid-September, where it gets an average rainfall of 1000 mm. During extreme winter the maximum temperature is around 23 degrees Celsius and the minimum is in the 3 to 4 degrees Celsius range. Fog is quite common from late December to late January. Summers can be quite hot with temperatures rising to 46 degree Celsius range. During the rainy season the relative humidity is generally high being over 70%. Thereafter the humidity decreases and by summer which is the driest part of the year the relative humidity's in the afternoons become less than

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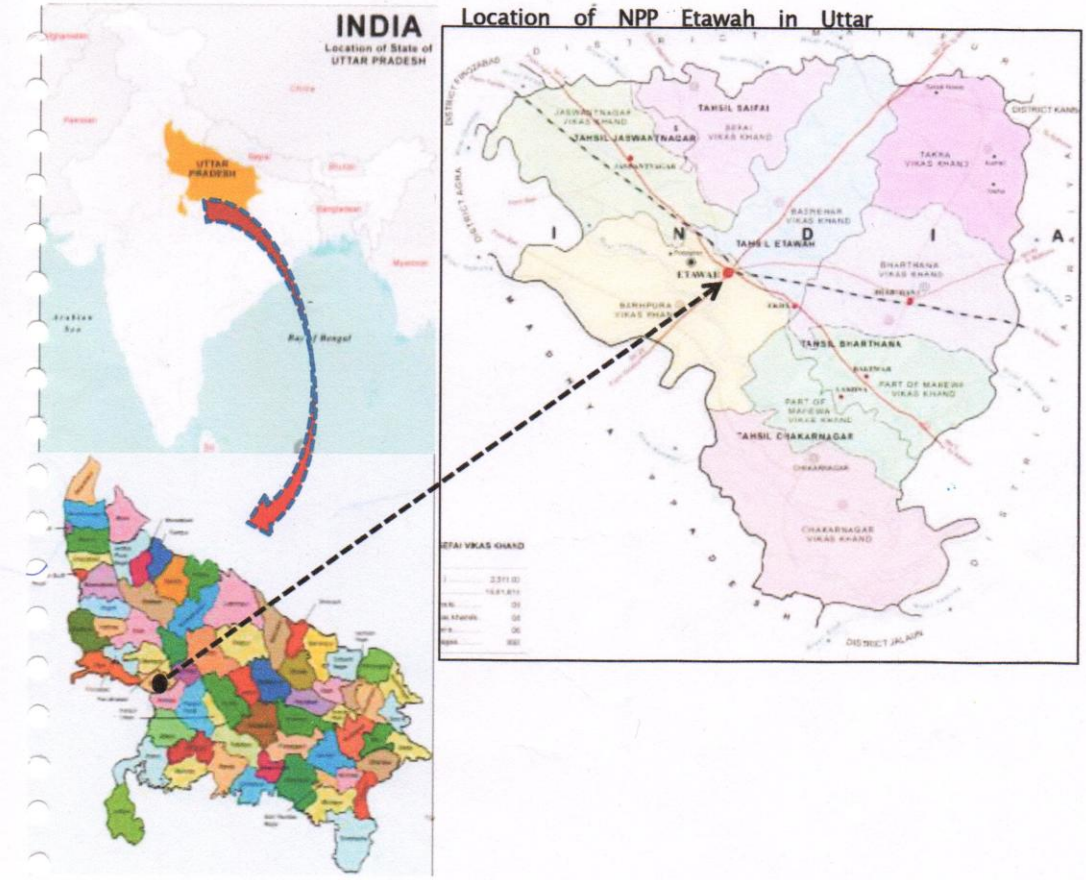
30%. Winds are generally light and are mostly from directions between south-west and north-west. In May, the south-west monsoon winds also blow from directions between north-east and south-east.

2.2.4 AREA

The geographical area of the Etawah city is 48 sq. kms in year 2011, the city has divided into 36 wards. City administration is headed by the Executive Officer and Chairman. Figure 1 shows the location map of Etawah city with its major road network, and establishments.

FIGURE 2-1: GEOGRAPHICAL LOCATION MAP OF ETAWAH CITY



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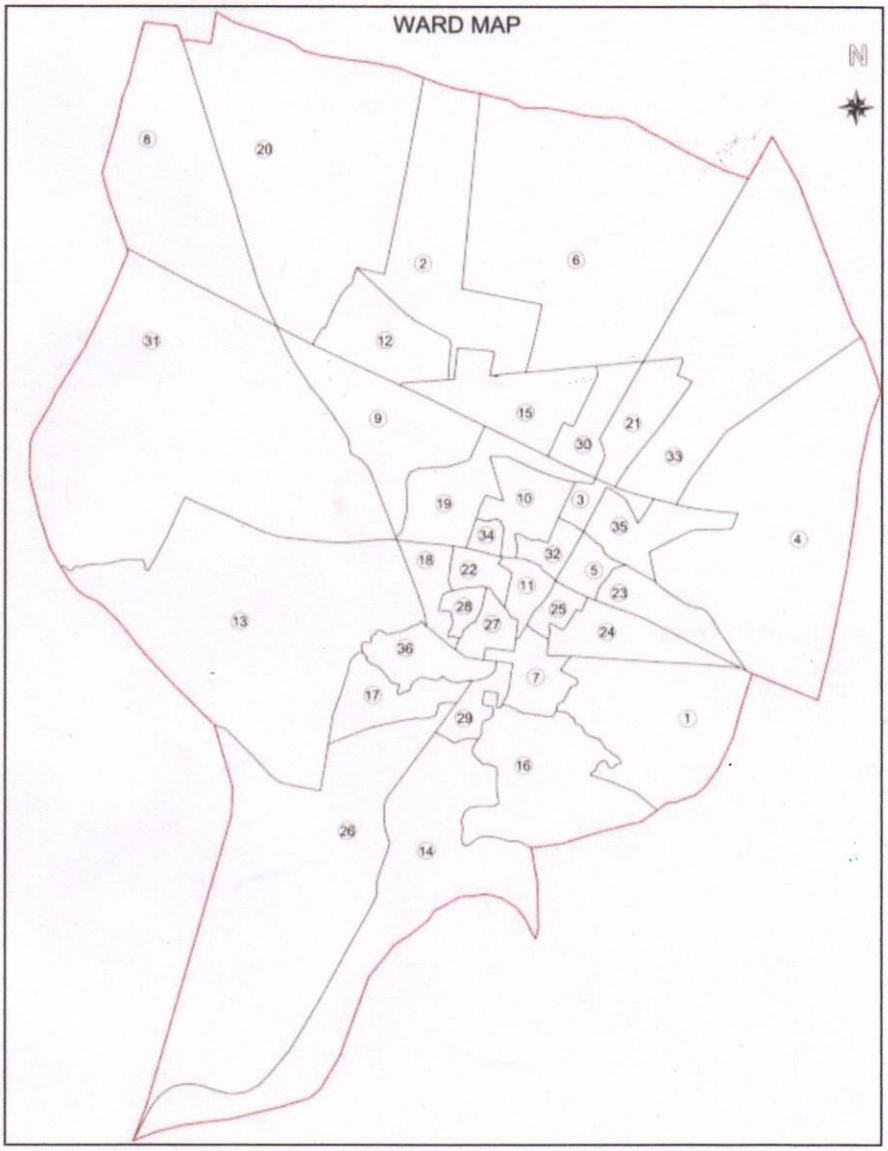
MAP 2-1: WARD MAP OF ETAWAH



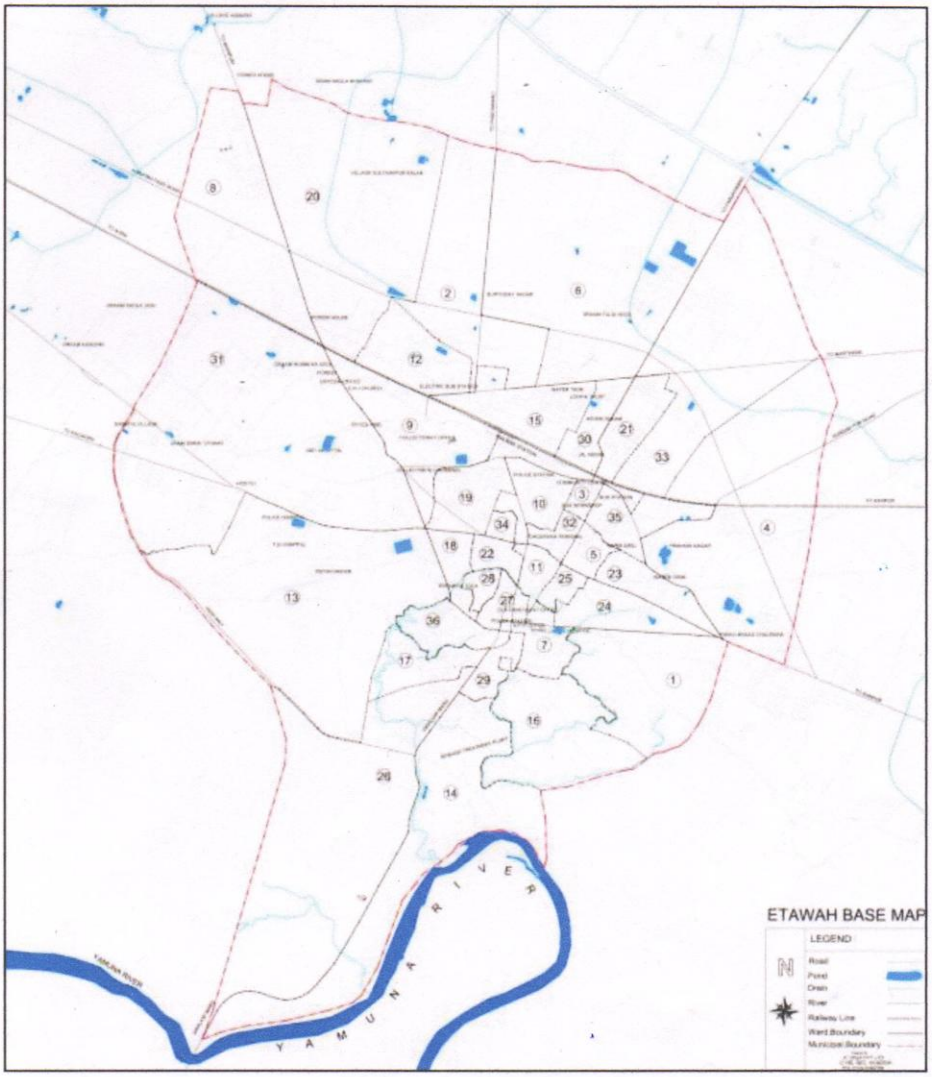
2.3 REGIONAL SETTING & CONNECTIVITY

Etawah situated between the major cities of Agra and Kanpur of Uttar Pradesh state is well connected to the other parts of state both by road and railways. The city lies

ANNEXURE 11.1.1

on Allahabad – Delhi section of Northern Railways. By train, the city is situated at a distance of 138 Km west of Kanpur, 127 km east to Agra, 296 km east to Delhi and 331 km west to Allahabad. By road the city is situated at a distance of 98 km from Farukhabad, 140 km from Gwalior, 130 km from Agra and 158 km away to Kanpur. The national Highway No.2 connecting Delhi to Kolkata via, Agra, Kanpur, Allahabad, Varanasi, Mughalsarai and Dhanbad passes through the midst of the city.

MAP 2-2: ROAD NETWORK OF ETAWAH



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north by the districts of Farrukhabad and Mainpuri, while the small extent of western border adjoins Tehsil Bah of the Agra district. The eastern frontier marches with the district of Kanpur. Along the south it is bounded by Jalaun and District Gwalior of Madya Pradesh state along south west.

The total Road length of Etawah is given below:

TABLE 2-1: ROAD LENGTH OF ETAWAH

S. No.	Road Length	Unit(km)
1.	Pucca Road	92.320
2.	Semi Pucca Road	29.045
3.	Kuchha Road	35.35
Total		**156.72 km**

SOURCE : NPP ETAWAH

2.3.1 Demographic Data

As of 2011 India Census, Etawah city had a population of 256838 of which males constitute 135439 (52.73%) of the population and females 121399 (47.26%). The city has witnessed significantly high population growth rate of about during 22.04% 2001-11, which is one of the high in urban India. Demographically, city is primarily having residential population with total number of households at present are 44659. It indicates the great housing and development activities in the city in last decade. However, the average family size 5.7.As per Census of India, 2011 the average literacy rate of Etawah is 72.04%, which is higher than the national average of 70.8%. Male literacy is 55.25%, and female literacy is 44.74%. In Etawah, 11.8% of the population is under 6 years of age.

Besides, slums /vulnerable population clusters are scattered throughout the city. The slum population of the city shows the migration of poor people from surrounding rural in search of work in Etawah city.

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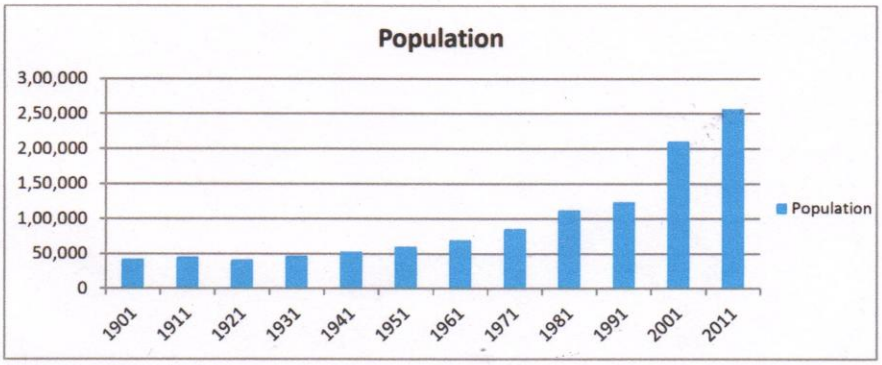
FIGURE 2-2: TREND OF POPULATION IN ETAWAH



Source: Census of India, GoI

2.3.2 ECONOMY

Financial aspect of any city depends on the capacity of production of various activities and the surrounding areas. Any change with respect to increase or decrease in the financial activities leads to the change in growth of city. Despite being the tehsil and headquarters of district, Etawah is a major service and agriculture centre in the region. In 1981, the Work force participation rate in the city was 26.52, where 20.40 percent of work force / population are depended on primary sector, 24.60 percent in secondary sector and 55 percent in territory sector. In 1991, the work participation rate reduced to 25.55 percent; where there is a drastic fall in the working population engaged in primary sector i.e., only 5.87 percent of total work force are engaged in primary sector. At the same time, the percentage of work force engaged in territory sector increased to 69.78 percent and the percentage in secondary sector remained same with 24.60 percent, when compared with the work participation statistics of 1981. As on 2001, the work force participation rate in the city was 25.20, with 5.29 percent of work force in primary sector, 9.69 in secondary sector and 85.02 in territory sector. These statistics reveal the speedy shift of workforce from primary sector, secondary sector to territory sector of economy. It is further evident that, from 1981 to 2001, there is a decrease in the work participation rate of 1.32 percent.

ANNEXURE 11.1.1

2.3.3 Work Profile

Out of total population, 76531 were engaged in work or business activity. Of this 64091were males while 12440 were females. In census survey, worker is defined as person who does business, job, service, and cultivator and labor activity. Of total 76531 working population, 77.49% were engaged in Main Work while 22.50% of total workers were engaged in Marginal Work.

TABLE 2-2: OCCUPATIONAL STRUCTURE IN ETAWAH

	Total Workers	Main Workers	Marginal Workers
Total	76531	59308	17223
Male	64091	51575	12516
Female	12440	7733	4707

Source: Census of India, 2011

ANNEXURE 11.1.1

3 SITUATIONAL ANALYSIS

More than 1000 primary survey was carried out across all the wards of Etawah city and results of the primary survey are presented below. The survey predominantly concentrated on availability of water and sanitation facility in the city like toilet facility, MSW facility, water source and quality of life etc. A willingness to pay was also carried out as a part of primary survey.

3.1 PRESENT STATUS OF HOUSEHOLD TOILETS

According to Census 2011, the total population of Etawah is 256838 and the number of households is 44659. Among these households, only 86.9 % have toilet facility within the premises and rest of the 13.1% of the population either going for open defecation or using public toilets.

TABLE 3-1: GAP OF TOILET FACILITY

S. No.	Description	No.	%
1	Total number of Households	44659	100
2	Number of households having latrine facility within the premises	38809	86.9
	Gap	**5850**	**13.1**

Source: Census of India, 2011

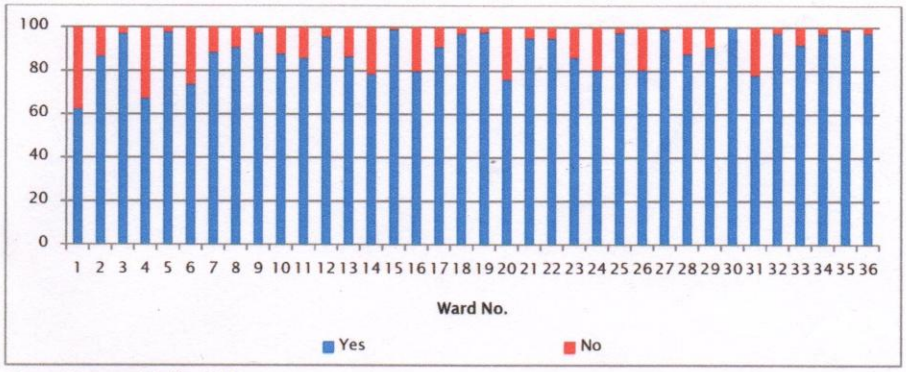
Here under Swachh Bharat Mission (SBM) Nagar Palika Parishad Etawah is proposing individual toilets. Particularly it is proposing in the areas where people are going open defecation. The mobile toilets should be placed in the congested areas where sufficient land is not available for the construction of toilet and septic tank. All the toilets septic tanks should connected with sewer system.

ANNEXURE 11.1.1

3.1.1 Availability of Toilet Facility at household level (Ward Wise)

As the figure below depicts about the availability of toilet facility at household level, the condition is worst in the 1, 4, 6, 20, 24 and others.

FIGURE 3-1: AVAILABILITY OF TOILET FACILITY AT HOUSEHOLD LEVEL (WARD WISE)



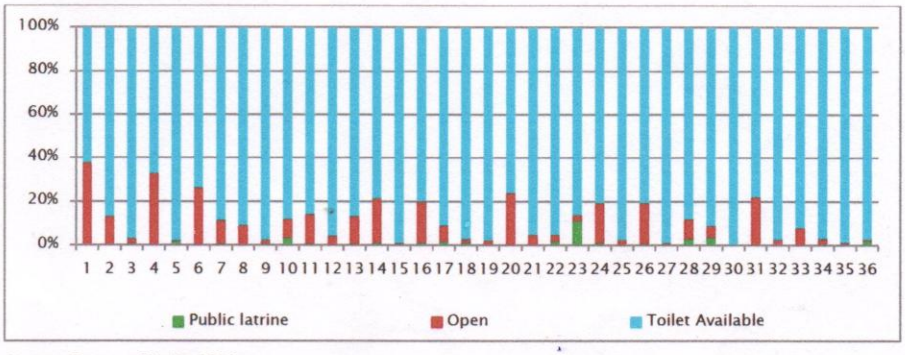
Source: Census of India, 2011

3.1.2 Type of Toilet Facility (Ward Wise)

Most of the respondent reported access to individual toilets with Septic Tanks. On the other hand all these people those doesn't have Toilet facility at household level, shares neighbour's toilet or goes to outside for Open Defecation.

3.1.3 Open Defecation (Ward Wise)

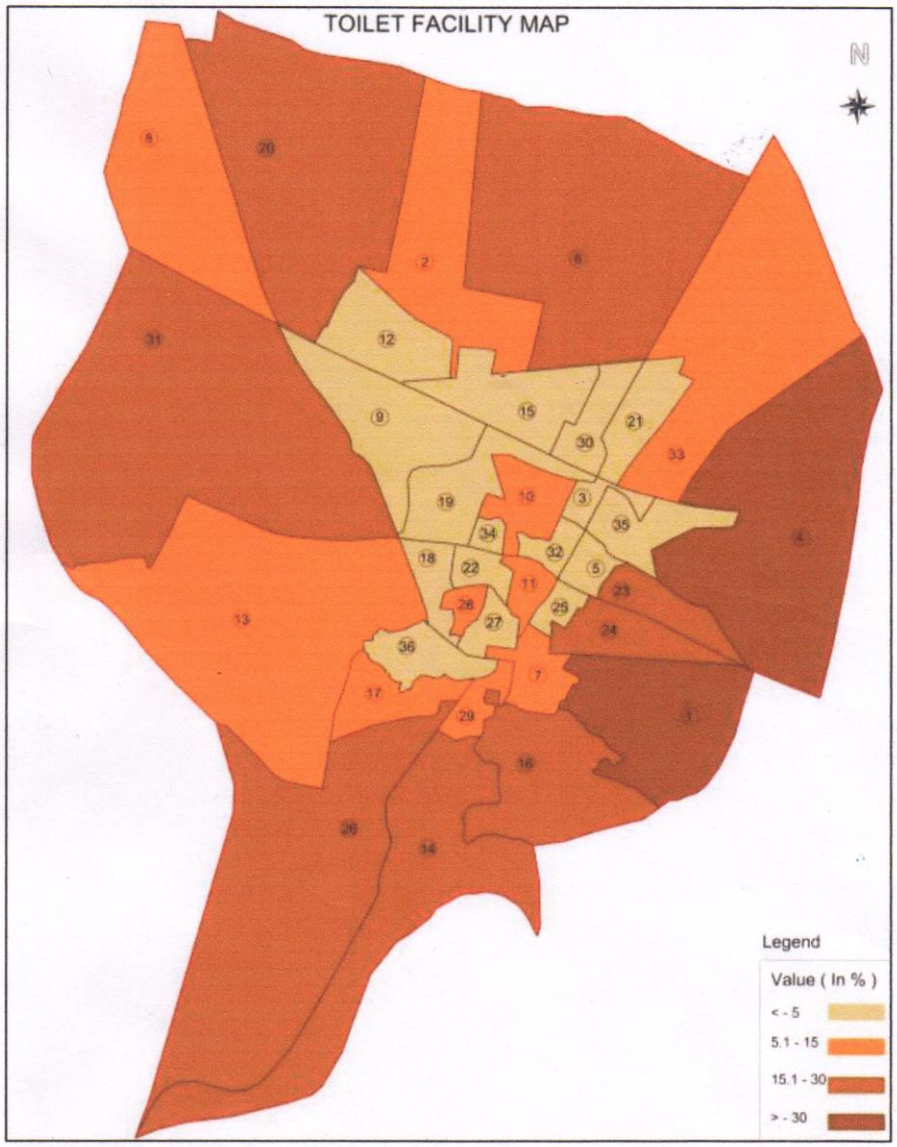
FIGURE 3-2: OPEN DEFECATION (WARD WISE)



Source: Census of India, 2011

ANNEXURE 11.1.1

MAP 3-1: AVAILAIBILTY OF TOILET AT HOUSEHOLD LEVEL



Open defecation is common in many wards in the city due to the non-availability of Toilet at Household level and absence of the community Toilet.

ANNEXURE 11.1.1

3.1.4 Presence of Community Toilet in Locality (Ward Wise)

People are using Public Toilets as an alternative source. The inner city wards are having the Public Toilet Facility but the outer areas are devoid of the Public and Community Toilets.

As evident from figure below most of the respondents reported absence of community toilet facility in their concerned residential area. It is well known that Community toilets are critical for reaching the goal of open defecation free city.

Public Toilets

There are total 7 Public Toilets within area of Etawah city, 1 at Railway Station, 1at Bus Stand and 1near Nagar Palika Parishad.

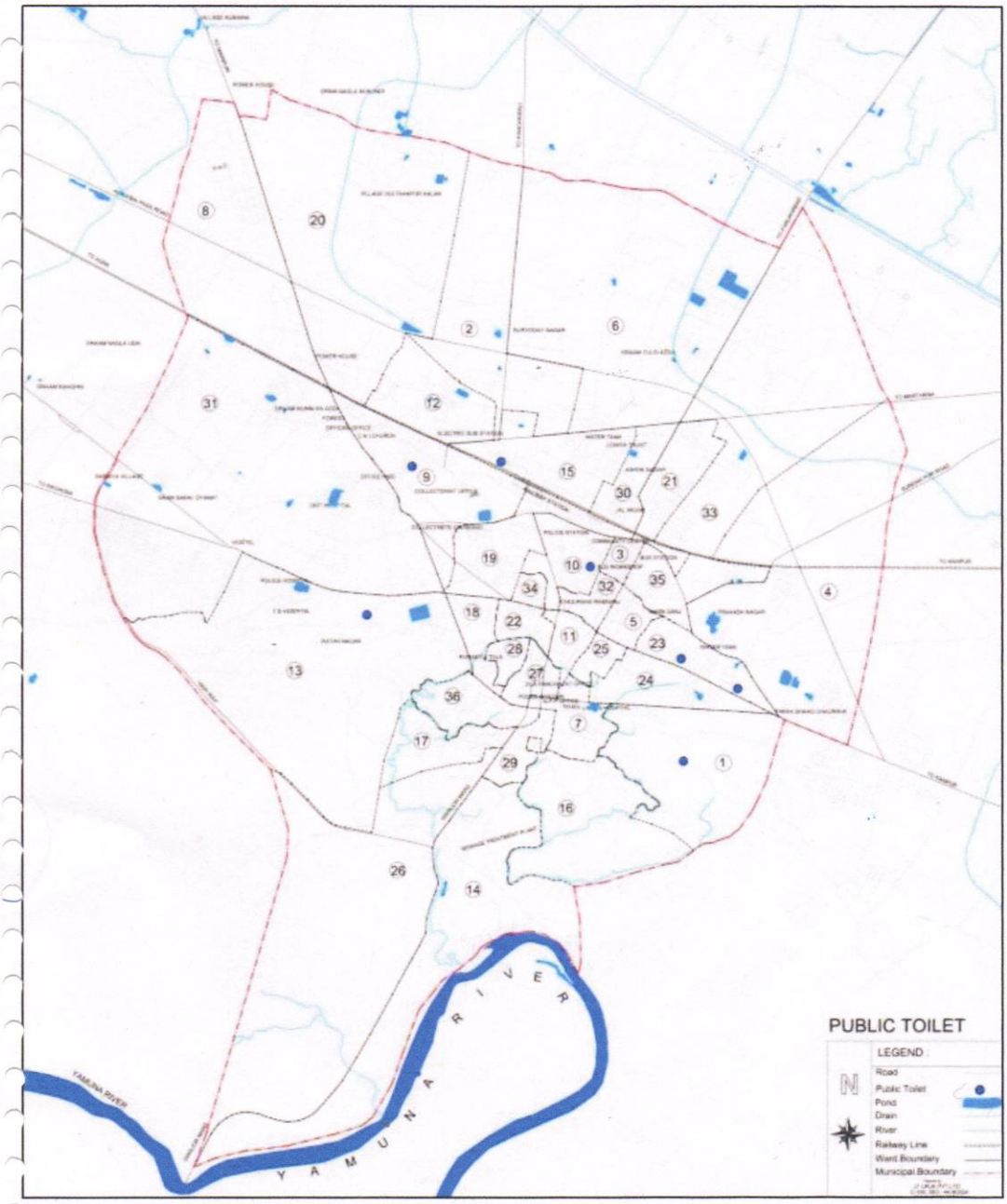
Community Toilets

There is not a single community toilet in the Etawah city which is normally built for a group of households in backward area.

PHOTOGRAPH:

ANNEXURE 11.1.1

MAP 3-2: PUBLIC TOILET LOCATION IN ETAWAH



ANNEXURE 11.1.1

3.1.5 Availability of Toilet for Physical Handicapped (Ward Wise)

There is not a single toilet where the facility for Physical Handicapped people has been provided in the city. In India there is no tradition of having Physical Handicapped toilet. This facility should provide for physical handicapped people for the sustainable and holistic development of city.

3.1.6 Willingness to pay for Physical Handicapped Toilet

Nobody wants to contribute for the Physical Handicapped Toilet.

3.1.7 Willingness to Contribute to O& M for Toilet (Ward Wise)

In the residential areas of Etawah city people do not want to contribute in the Operation and Maintenance of the toilet facility. In all the wards most of the respondents are not willing to contribute for the toilet facility in Etawah.

3.2 Water Supply

Drinking water supply is very important for upkeep of sanitation facilities and a for better environment/health status it is necessary to have sufficient water. Poor quality of water as well as insufficient quantity of potable water can pose serious public health hazardous and water borne diseases in the cities, particularly among the urban poor. MoUD, GoI has specified a performance indicator for drinking water sector. Hence drinking water supply is also taken into consideration as one of the element of CSP.

There are total 26790 water connections in the city.

Type of connection	Number
Household service connections	26790 nos.

Source: Nagar Palika Parishad, Etawah

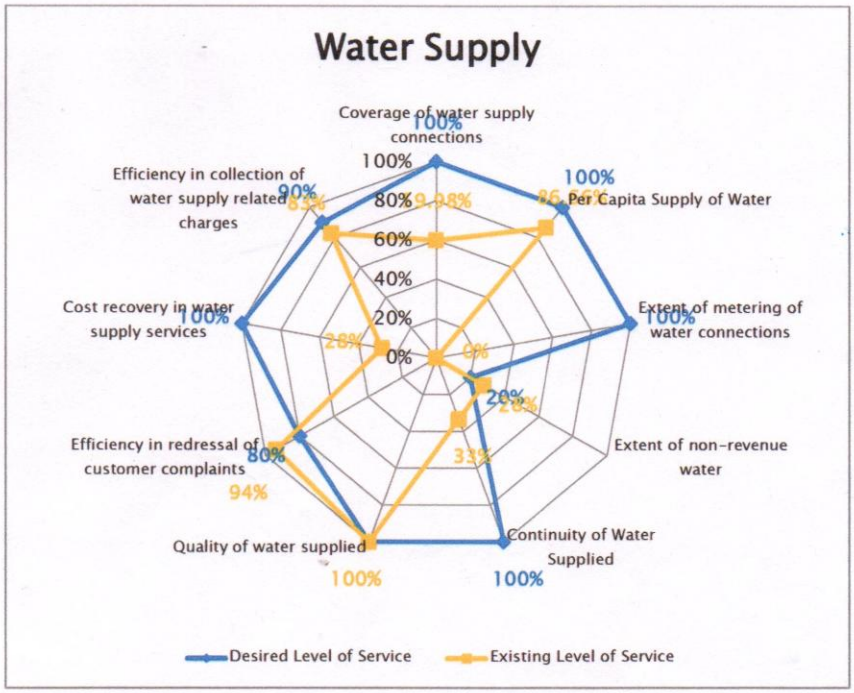
ANNEXURE 11.1.1

TABLE 3-2: SERVICE LEVEL BENCHMARK OF WATER SUPPLY, ETAWAH

	Desired Level of Service	Existing Level of Service
Coverage of water supply connections	100%	59.98%
Per Capita Supply of Water	135lpcd	117 lpcd
Extent of metering of water connections	100%	0%
Extent of non-revenue water	20%	28%
Continuity of Water Supplied	24 hrs	8 hrs
Quality of water supplied	100%	100%
Efficiency in redressal of customer complaints	80%	94%
Cost recovery in water supply services	100%	28%
Efficiency in collection of water supply related charges	90%	83%

Source: SLB and Nagar Palika Parishad,Etawah

FIGURE 3-3: WATER SUPPLY IN ETAWAH



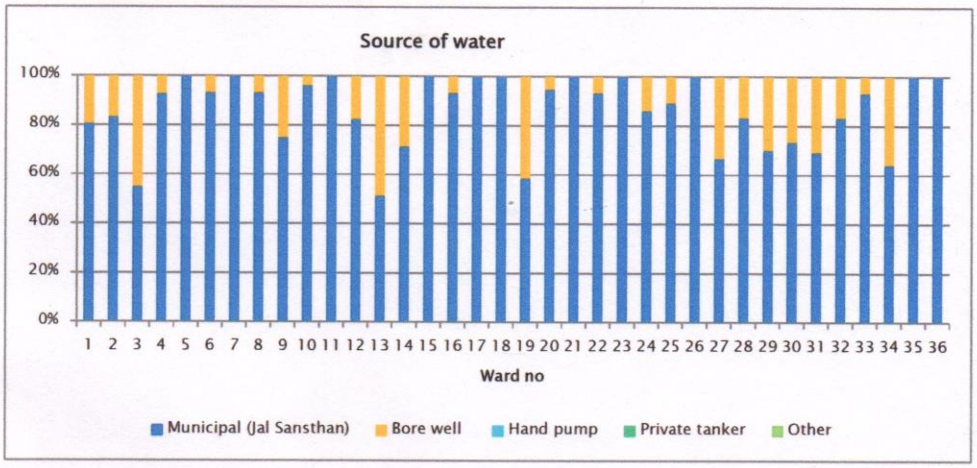
Source: SLB 2014-2015

ANNEXURE 11.1.1

3.2.1 Source of Water

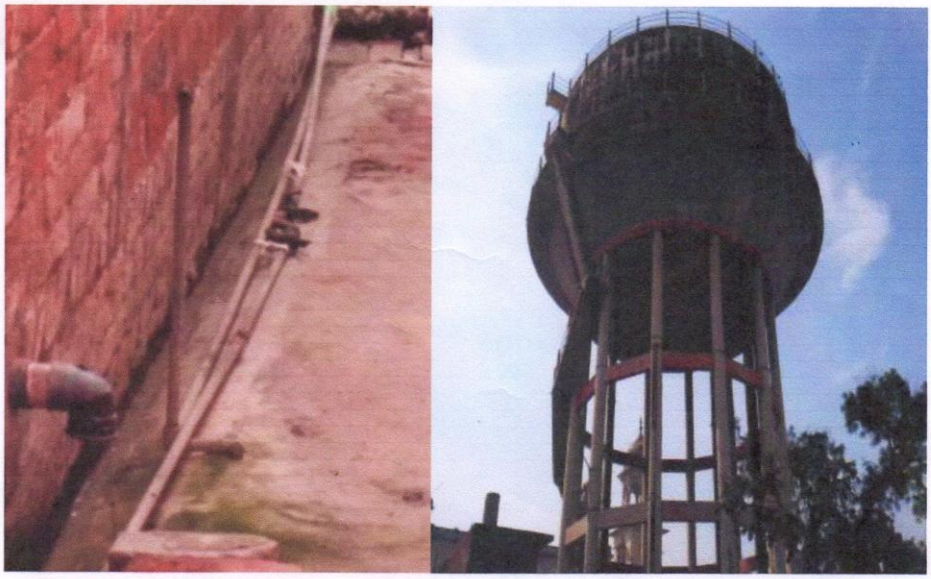
As per primary survey, in all the wards the major source of water is Municipal water, Hand Pumps and Bore wells.

FIGURE 3-4: SOURCE OF WATER (WARD WISE)



Source: Census of India, 2011

PHOTOGRAPH: HAND PUMP AND OVERHEAD TANK (NPP)



Source: Primary Survey, 2017

ANNEXURE 11.1.1

As per Secondary Sources the Etawah city is relying only on ground water sources. There are 52 Tube Wells and 16 Overhead Tank existing (11 proposed) located in Etawah.

The Etawah city is relying only on ground water sources. Out of total water production 20% is wasted in leakages, and available water to the public is hardly 30 mld, which is supplied to household population (256838 current population as per Census). As per the standard of 135 lpcd, the present water demand for domestic use in Etawah Municipal Corporation is 34.67 MLD.

Tube wells

There are in total 52 tube wells in the city from which the water is supplied for drinking purpose.

Hand pumps

There are 985 hand pumps installed across the town functioning in the city in which the people are directly taking water for their domestic purpose.

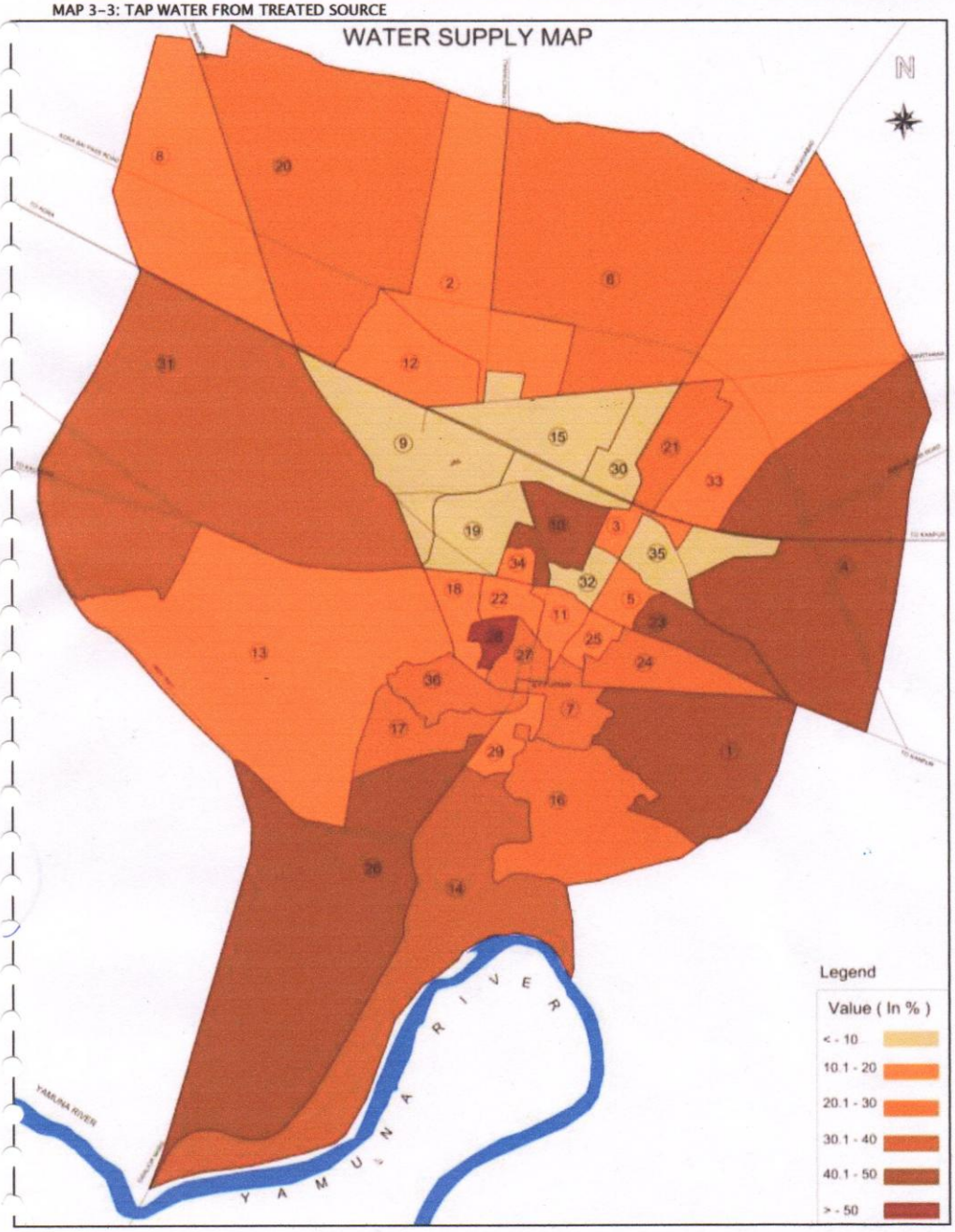
Water Supply Network

Old Water Supply Network: 90 km

New Water Supply Network: 257 km

ANNEXURE 11.1.1

MAP 3-3: TAP WATER FROM TREATED SOURCE

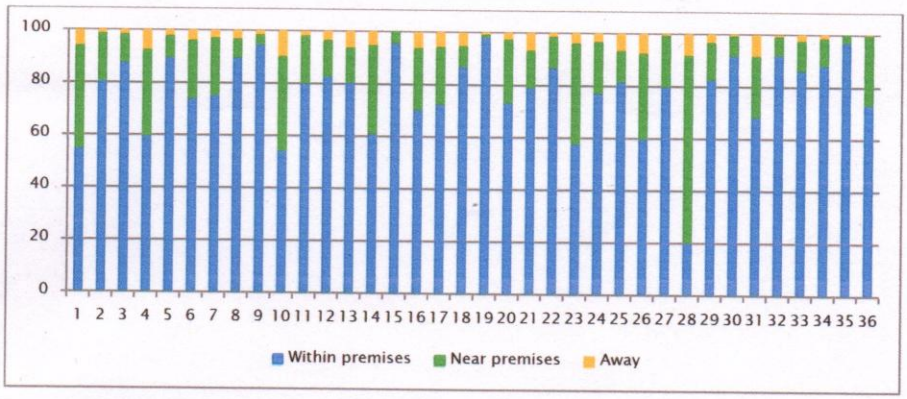


ANNEXURE 11.1.1

3.2.2 Location of Drinking Water

In ward 28,1 and 10 are having the large number of Households which does not have water facility within their premises.

FIGURE 3-5: LOCATION OF DRINKING WATER

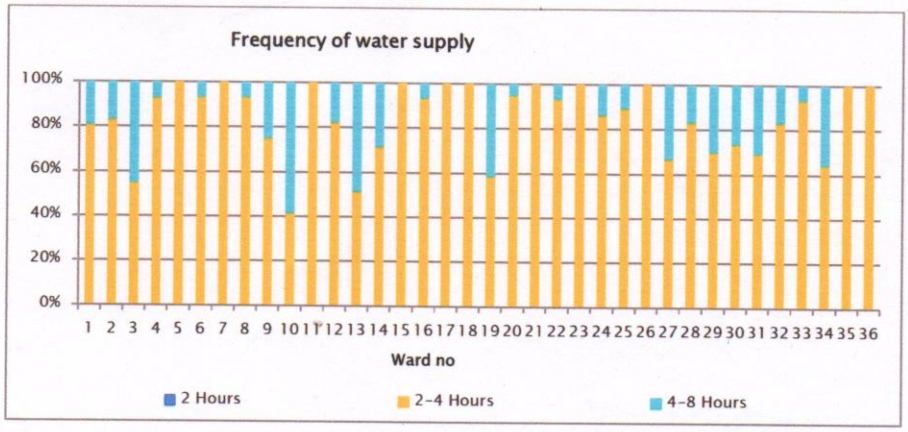


Source: Census, 2011

3.2.3 Frequency of Water Supply

The water from Municipal comes for 2-4 and 4-8 hours and the respondents having their own bore well and Hand Pump getting water for than 8 hours.

FIGURE 3-6: FREQUENCY OF WATER SUPPLY (WARD WISE)



Source: Primary Survey, 2017

ANNEXURE 11.1.1

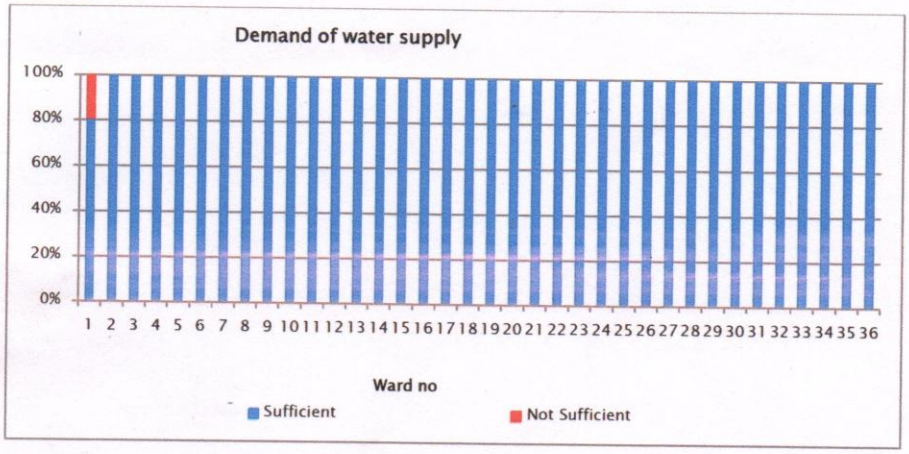
3.2.4 Quality of Water

In all the wards most of the respondents reported to get drinkable water.

3.2.5 Water Sufficiency

In all the wards some respondents are getting sufficient water and some of them are not getting sufficient water supply to fulfill for their needs.

FIGURE 3-7: WATER SUFFICIENCY (WARD WISE)



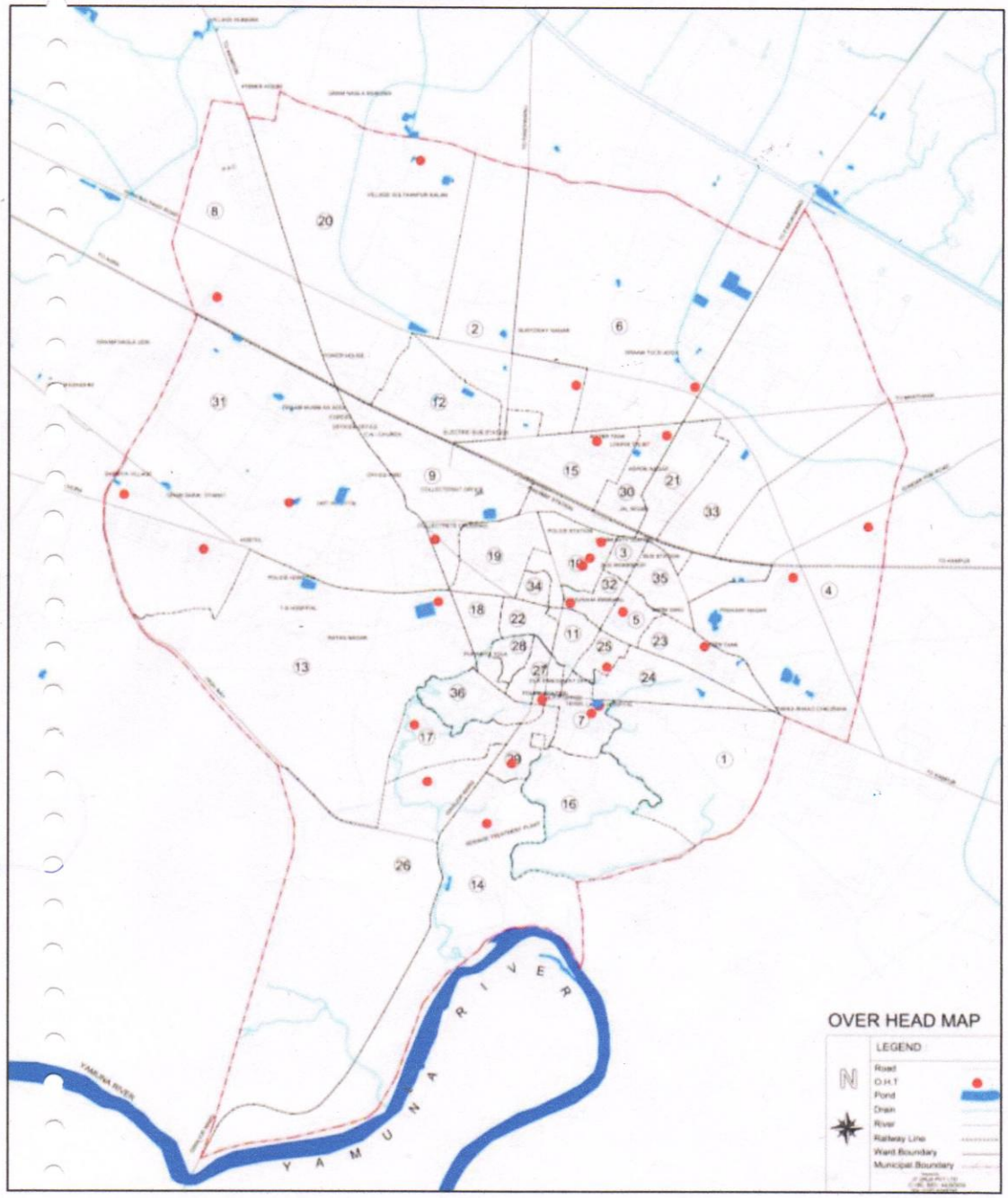
Source: Primary Survey, 2017

3.2.6 Storage

Presently, clear water being collected in Overhead Tank. Over all 16 Overhead Tank (11 Proposed) are there in the city. The total capacity of the Overhead Tanks is 36500 KLD.

ANNEXURE 11.1.1

MAP 3-4: LOCATION OF OVERHEAD TANK MAP IN ETAWAH



Source: Nagar Palika, Etawah

ANNEXURE 11.1.1

At present there is no Water Treatment Plant in the city.

3.2.7 Demand and Gap Analysis

TABLE 3-3: DEMAND AND GAP OF WATER

S. No.	Indicator	Gap
1	Gap in Household Connection	17869 (40.01%)
2	Water Supply Gap	4 MLD
4	WTP	34.6 MLD

Source: Calculated Value

3.3 Sewerage

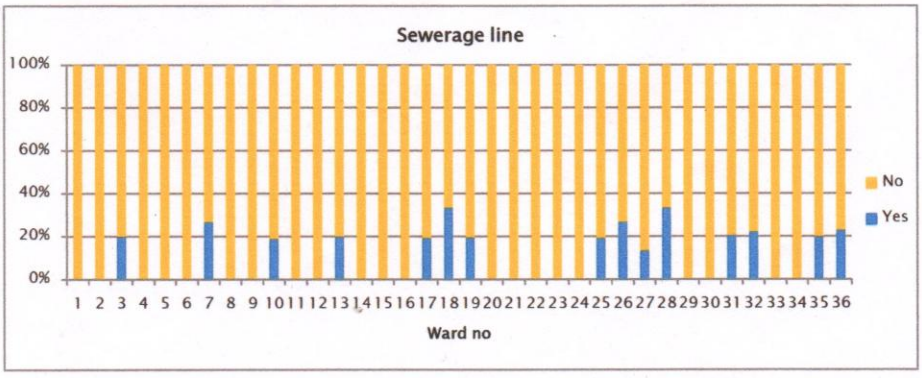
The city is having the sewerage network but the connections. There is no sewerage facility people are using their own septic tanks.

TABLE 3-4: SEWERAGE STATUS OF ETAWAH

S. No.	Status	Value
1	Sewerage Network	22.15
3	Sewerage Treatment Plant(STP)	10 MLD
3	No. of STP	2 (1 Operational)
4	No. of Household Connections	120 (0.26)

Source: NPP Etawah

FIGURE 3-8: SEWERAGE LINE IN ETAWAH



Source: Primary Survey, 2017

ANNEXURE 11.1.1

TABLE 3-5: GAP ANALYSIS OF SEWERAGE

S. No.	Present Gap	Value
1	Sewerage Network	235 km
2	Sewerage Treatment Plant(STP)	17 MLD
3	No. of Household Connections	120 (100%)

Source: Calculated Value

3.4 Septic Tank

In the absence of sewerage network people are using Septic Tank for the Black Water.

3.4.1 Type of Septic Tank (Ward Wise)

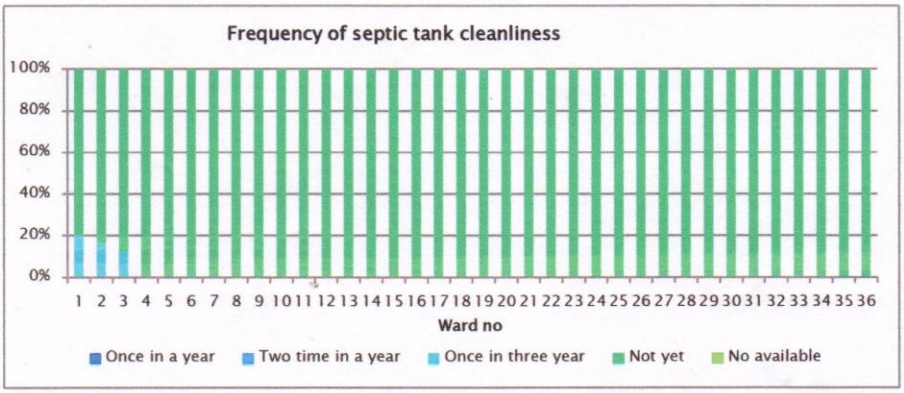
Residents are having individual septic Tanks or either they do not have anything.

3.4.2 Responsible for the Operation and Maintenance of Septic Tank (Ward Wise)

In all the ward residents they themselves are responsible for the operation and Maintenance of the Septic Tanks.

3.4.3 Frequency of Septic Tank Cleanliness (Ward Wise)

In all the wards residents do not yet had clean their Septic Tanks.



Source: Primary Survey, 2017

ANNEXURE 11.1.1

3.5 SOLID WASTE MANAGEMENT

Solid waste Management is an obligatory function of Etawah Nagar Palika Parishad. However, this service is not properly performed, resulting in problems of health, sanitation and environmental degradation. The major draw backs in the management of solid waste in the city are; Lack of sanitary workers **Lack of collection efficiency, Lack of trained manpower, Poor public participation and cooperation**. Etawah city is not an exception and different from other cities in terms of solid waste management. With the growth of population the problem of solid waste will increase day by day.

3.5.1 EXISTING SOLID WASTE MANAGEMENT SYSTEM

Local residents, Hotels, Restaurants, Bazaar and vegetable markets, Hospital and dispensaries are the major sources of generation of waste at city. About 55 MT of solid waste is generated every day in the city*.

Domestic waste is generated at the household level and varies from town to town and at an average, range between 300 to 400 gm. As per the standards, a town like Etawah will generate 350-400 gms of solid waste per head per day. Thus this domestic sector will generate 50-55 Metric Tonne solid waste per day with the current population of 256838. It comprises of maximum of organic material like vegetable waste, papers, cloths etc. which can be easily disposed. The household wastes include a small percentage of inorganic materials like metals and plastics.

3.5.2 COLLECTION SYSTEM

The waste collection and transportation activity is executed between 10AM and 3PM. approximately 50 waste collection points and approximate 75 dust bins are allocated at all wards. The depot area house several categories of vehicles which are directed to the different secondary collection points for waste collection and transportation to the composting site. Present waste management services in

ANNEXURE 11.1.1

Etawah are provided by Etawah Nagar Palika Parishad. Chief Sanitary Inspector, Sanitary Inspector, Jamadar, Supervisor, Garage Supt. & sweepers are deployed under Executive Officer. Cleaning work of a ward is looked after by administration through staff deployed at ward level.

TABLE 3-6: WORKING STAFF FOR SOLID WASTE

Sr. No	Description	Value
1	Chief Sanitary Inspector	1
2	Sanitary inspector	2
3	Sanitary Supervisors	30 (17+13)
4	Total sweepers(Contract+ Private)	287+397
5	Number Of Dustbin	75
6	Waste Collection	52-55 TPD
7	Wheel Barrow	350
8	Collection Point	50
9	Landfill Site	1 Kamet
10	SWM Plant	1(75 TPD)

Source: Nagar Palika Parishad Etawah

Maximum 60 % of municipal solid waste is actually collected and transported. Collection and transportation is being done in open vehicle creating an ugly look and littering on travelled road. Proper landfill site has been developed by Nagar Palika at kamet with the composting plant. Presently it is crudely dumped outside the city.

3.5.3 Details of Equipment

TABLE 3-7: DETAILS OF VEHICLES

S. No.	Vehicle	Number
1	Heavy Vehicles	10
2	Medium Vehicles	11
3	Light Vehicles	5
	Total	**26**

Source: Nagar Palika Parishad, Etawah

ANNEXURE 11.1.1

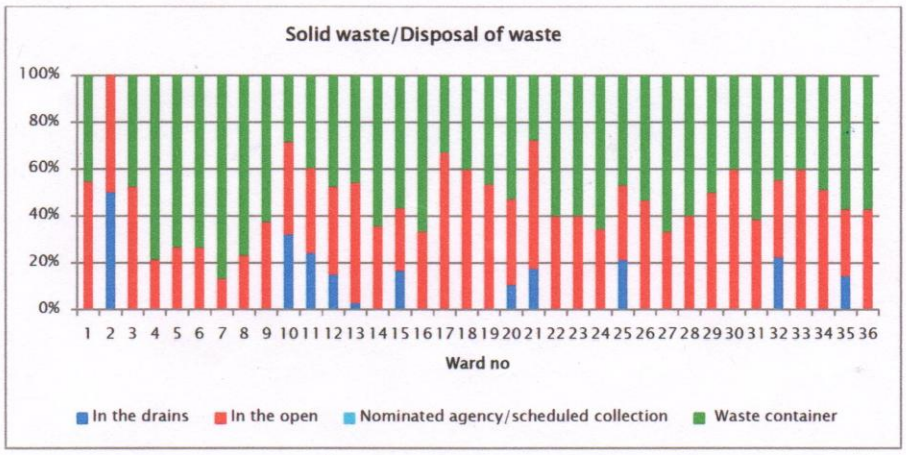
PHOTOGRAPH: DUSTBIN (PAKKA TALAB) WARD 13 AND 4 WHEELERS IN ETAWAH

Source: Primary Survey, 2017

3.5.4 METHOD OF SOLID WASTE DISPOSAL FACILITY (WARD WISE)

As per primary survey, in Etawah city disposal of solid waste in the open areas is very common as it is evident from the graph below. In few wards only there are the waste containers for the solid waste disposal.

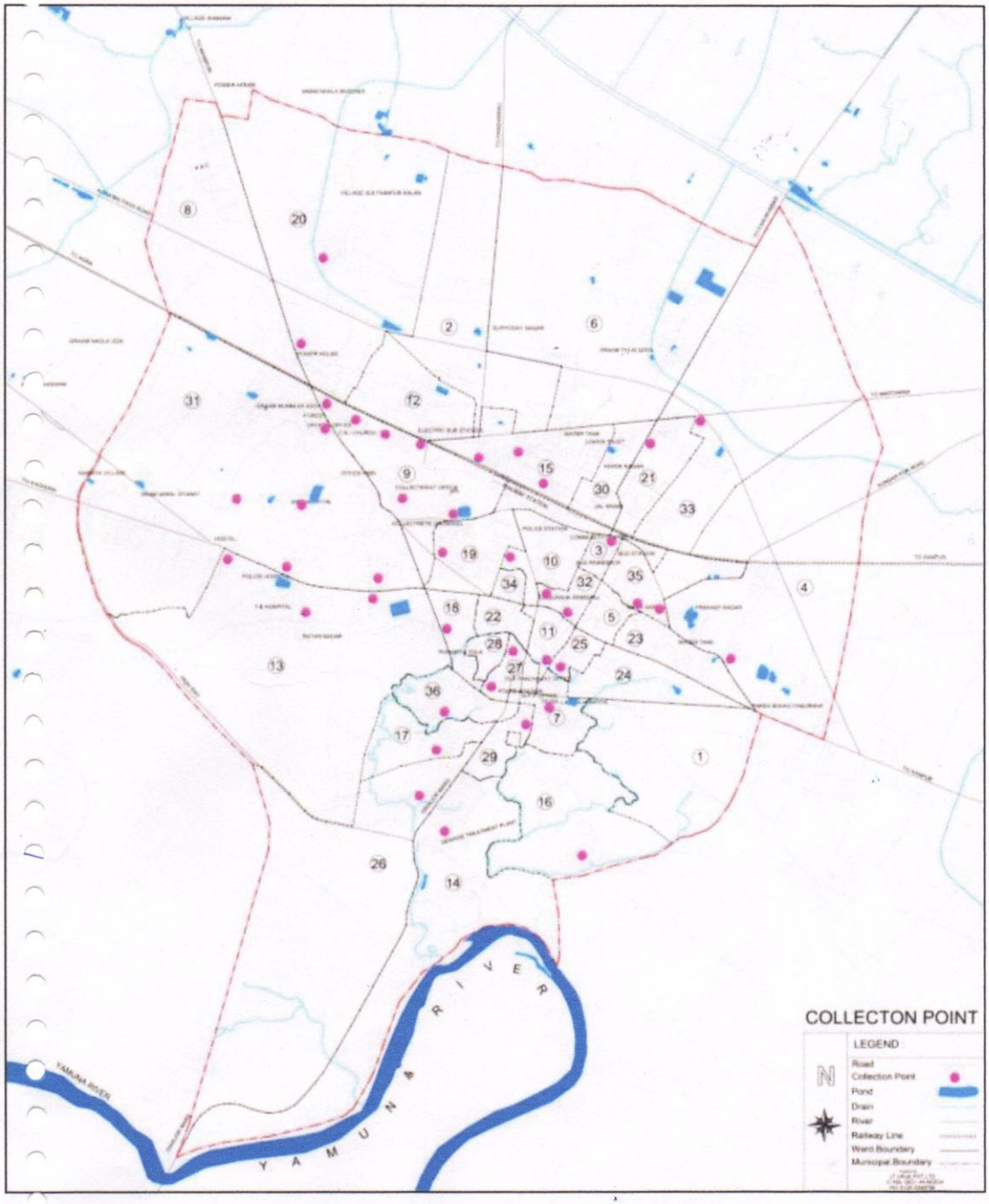
FIGURE 3-9: METHOD OF SOLID WASTE DISPOSAL FACILITY (WARD WISE)



Source: Primary Survey, 2017

ANNEXURE 11.1.1

MAP 3-5: COLLECTION POINTS IN ETAWAH



ANNEXURE 11.1.1

PHOTOGRAPH: WASTE IN THE OPEN AREAS

3.5.5 Distance of Waste Disposal Site (Ward Wise)

All the respondents reported to have the location of the waste disposal site is within the 50-100 mts of the resident area.

3.5.6 Frequency of Waste Collection (Ward Wise)

Below table it can be observed that the domestic waste is the major source of waste generation in the city.

Source: Primary Survey, 2017

ANNEXURE 11.1.1

As per primary survey in the residential areas most of the respondents reported that solid waste picked up in a day. Some of the respondents reported that solid waste collects once in two days and once in three days.

3.5.7 At Present Gap

- Requirement of Bins
- Door to Door Collection System
- Seg regation of Solid waste
- Requirement of Staff

TABLE 3-8: STAFF GAP

S. No	Indicators	Present	Required	Gap
1	Sanitation officer(1 per lac pop or part)	1	2	1
2	Sanitary Inspector(1 per 50000 pop)	2	5	3
3	Sanitary Supervisors(1 for 12500 pop)	30	21	0
4	Sweepers	684	770	87

Manual Municipal Solid Waste Management (MoUD, 2000), CPHEEO

3.6 Drainage

Drainage system of the city is very poor water chute is not according to gradient. The city urgently needs a drainage master plan. The main problem of Drainage system is no proper city plan. Main Nala has been as chocked by dumping garbage by the resident of city. The Nala is not according to gradient so it was over flow and submerges during rainy season. For better drainage system, plan made under the AMRUT scheme various parts of the city.

3.6.1 Present Status

There is one Main River **Yamuna Nadi** in which all the waste water of the city falls into. Some of drains/nallahs are bad in condition and these are damaged. Major problem in the city is cleaning of nallahs as 70% of nallahs are encroached upon. Residents have constructed houses/terrace on the nallahs.

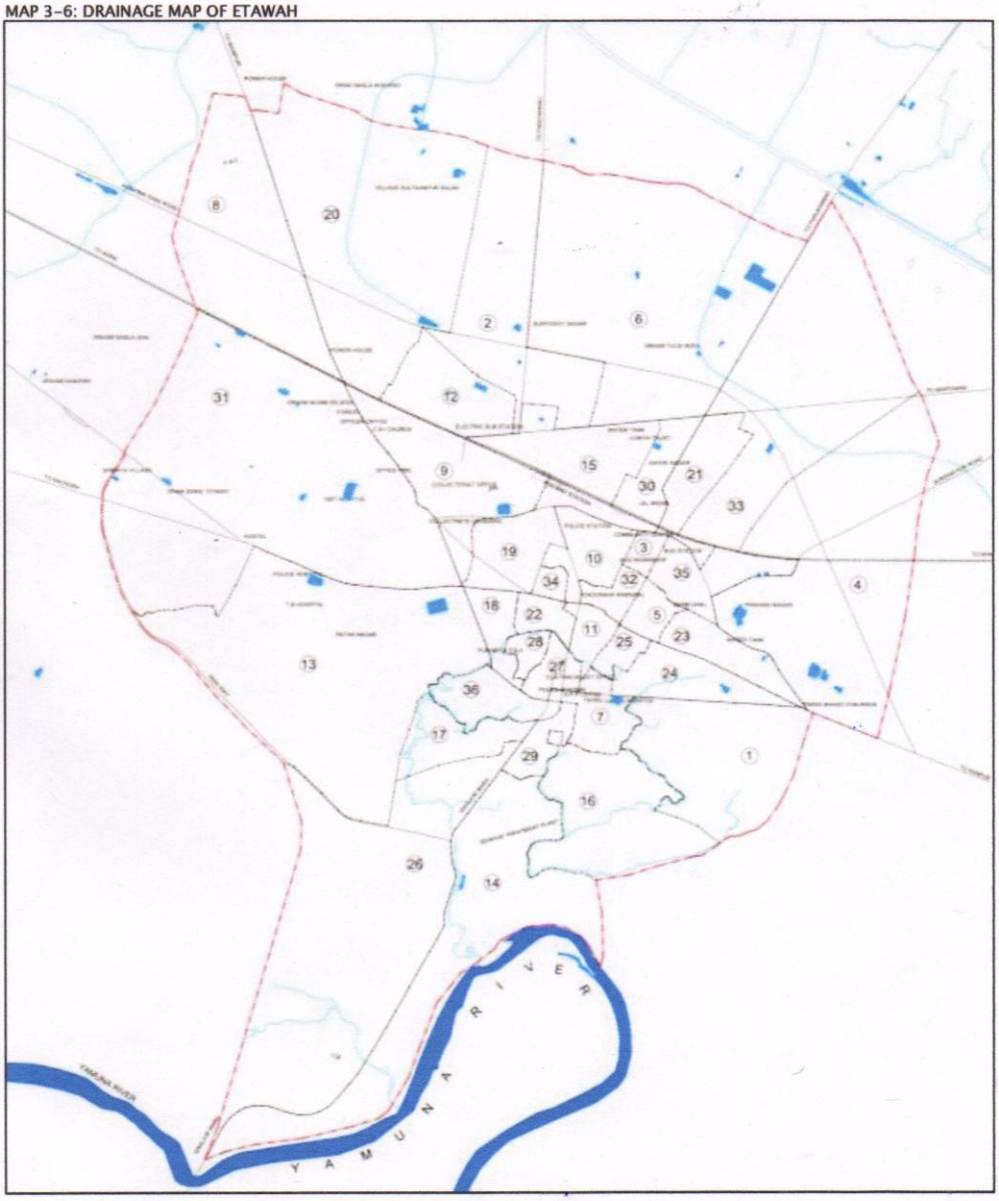
ANNEXURE 11.1.1

TABLE 3-9: LENGTH OF DRAINS

S. No	Category	Value
1	Drains	48 km

Source: Nagar Palika Parishad, Etawah

MAP 3-6: DRAINAGE MAP OF ETAWAH

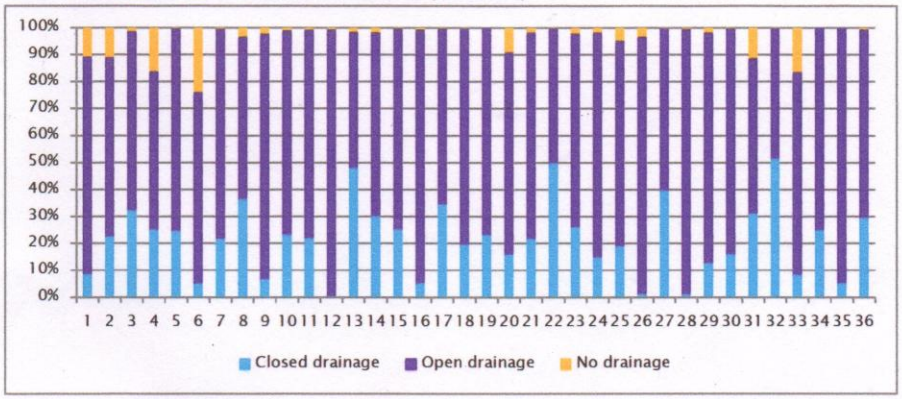


ANNEXURE 11.1.1

3.6.2 Households Connected to Drainage

The city needs urgently action to close the drainage and to provide the drainage to them. As these creates environment pollution. Bad smell from Open Drainage, Choked Drainage creates water logging, unhygienic condition for the people leads to the health problems.

FIGURE 3-10: HOUSEHOLDS CONNECTED TO DRAINAGE (WARD WISE)



Source: Census of India, 2011

3.6.3 Gap Analysis

TABLE 3-10: GAP ANALYSIS OF DRAINAGE

Type of Drainage	HHs Connection	In %	Remarks
Closed drainage	9825	22	
Open drainage	32512	72.8	Should Covered
No drainage	2367	5.3	Gap
Total	**44659**	**100**	**5.3**

Source: Census of India, 2011

ANNEXURE 11.1.1

PHOTOGRAPH: DRAINS NEAR KATRE FATEH MAHMOOD KHAN AND SABZI MANDI

3.6.4 WATER LOGGING AREAS

There are some areas which partially or permanent submerge during rainy season these areas are Azad Nagar Tila, Shanti colony near Soot mill, Moti Jheel

ANNEXURE 11.1.1

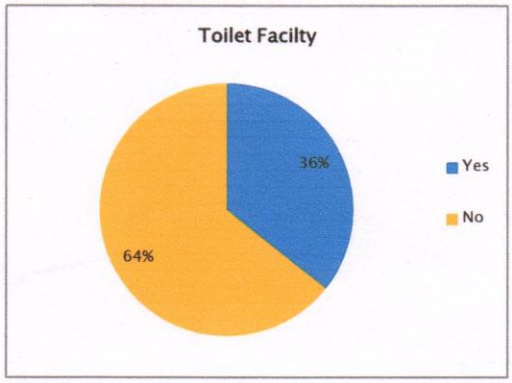
3.7 Present Status of Public & Semi Public Areas

Public place in the city refers for all the Government & Non-government institution, Schools, Colleges, Hospitals, Nursing Home, Parks and Tourist Places etc. There are 43 Schools, 8 Degree Colleges and 5 Banks. Here for CSP, Many primary surveys were also carried out across all wards of Etawah Public Places and results of the primary survey are presented below.

3.7.1 Toilet Facilities in PSP

In the primary survey, we have taken few educational institutes. In the city schools and colleges the toilet is there for the students but the ratio of students and Toilet is very low as per the standards. Other than schools the status of sanitation is given below:

FIGURE 3-11: TOILET FACILITY AT PSP



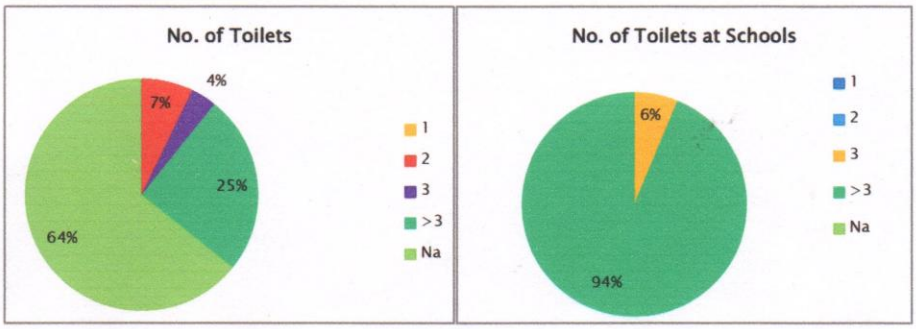
Source: Primary Survey, 2017

3.7.2 Number of Toilets in Public & Semi Public Areas

In Public Semi Public areas of Etawah city approximately 7% of respondent reported that they have only two toilet facilities at Public Semi Public areas, 4% reported that have three toilets in these areas. Around 25% reported they have more than three toilet facilities.

ANNEXURE 11.1.1

FIGURE 3-12: NUMBER OF TOILETS IN PUBLIC SEMI PUBLIC AREAS

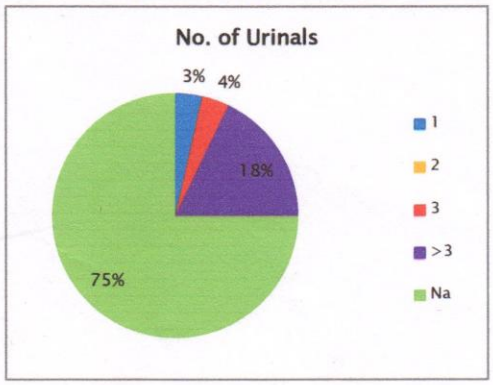


Source: Primary Survey, 2017

3.7.3 Number of Urinals in Public & Semi Public Areas

In Public Semi Public areas of Etawah city approximately 18% of respondent reported that they found more than 3 Urinals at Public Semi Public areas. Around 3% of the respondents reported that they have 1 Urinals at Public Semi Public areas.

FIGURE 3-13: NUMBER OF URINALS IN PUBLIC SEMI PUBLIC AREAS



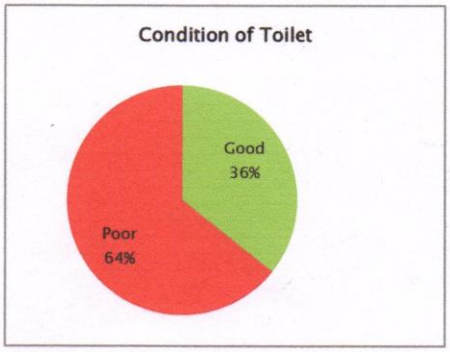
Source: Primary Survey, 2017

3.7.4 Condition of Toilets

From the below graph showing, 43% respondents reported that more than 43% people uses the public toilets.

ANNEXURE 11.1.1

FIGURE 3-14: CONDITION OF TOILETS

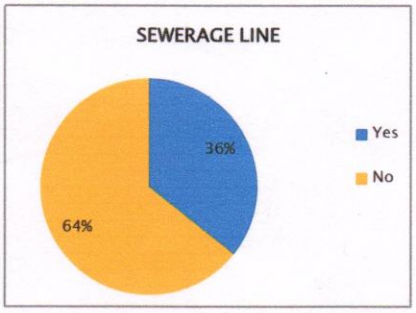


Source: Primary Survey, 2017

3.8 SEWERAGE

The figure shows the condition of sewerage line in the city. All the respondents reported about the sewerage line is available but the connection facility is not available. In this term condition is worst, nobody is responsible for the sanitation.

FIGURE 3-15: SEWERAGE LINE AVAILABILTY



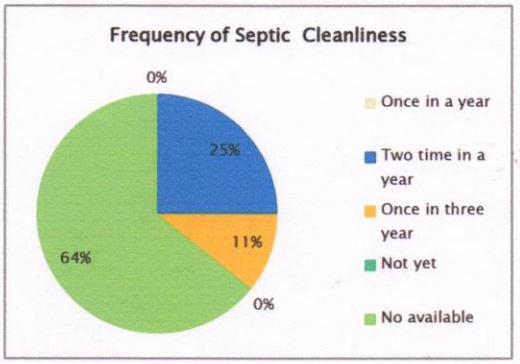
Source: Primary Survey, 2017

3.8.1 FREQUENCY OF SEPTIC TANK CLEANLINESS

The respondents around 25% have been reported that they done it two times in a year and 11% reported they had clean once in three years.

ANNEXURE 11.1.1

FIGURE 3-16: FREQUENCY OF SEPTIC TANK CLEANLINESS



Source: Primary Survey, 2017

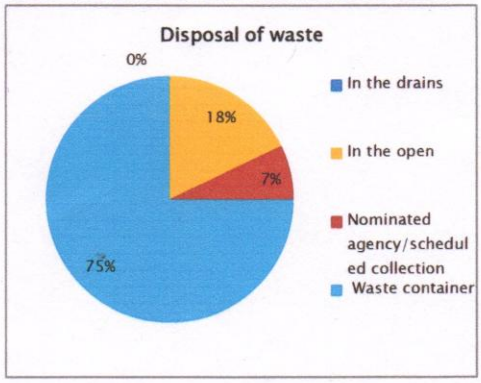
3.9 SOLID WASTE MANAGEMENT

At present from the hospitals bio-medical waste is generated in the city. At present 1 Hospitals, 1 Dispensary and private clinics are there. The waste is not segregated at source.

3.9.1 METHOD OF SOLID WASTE DISPOSAL FACILITY

Disposal of Solid waste in Open is common in most of the part in city. Around 75% of the respondents dispose in the waste container and 18% respondents reported to dump in the open areas. And the hospital waste which is 7% taken by agency.

FIGURE 3-17: METHOD OF SOLID WASTE DISPOSAL FACILITY



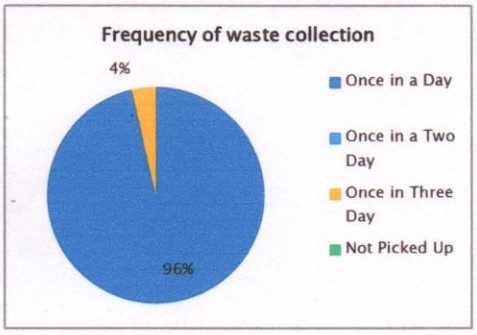
Source: Primary Survey, 2017

This may cause environmental and health hazard. The waste disposed in open finds its way in storm water drain and water bodies. Most of the time waste is disposed in low lying open areas and on surface water system, causing contamination of ground and surface water. Proper waste collection system needs to be designed for the city to prevent this.

3.9.2 Frequency of Waste Collection

In the PSP 96% are reported that waste collects once in a day and 4% reported that waste collects within three days.

FIGURE 3-18: FREQUENCY OF WASTE COLLECTION



Source: Primary Survey, 2017

3.10 Water Supply

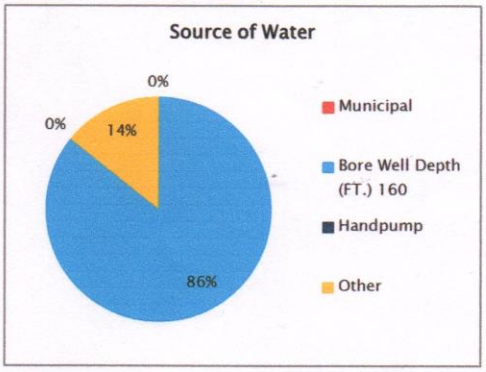
Hand Pump is the major source of water in at Public & Semi Public areas in Etawah City. The current sanitation and waste management practice in Etawah as witnessed earlier is highly detrimental to ground water quality and there is immediate threat of contamination of ground water if preventive measures are not taken. Thus the CSP should focus on avoiding contamination of ground water and preventing outbreak of epidemic by suggesting proper management practices for waste water and Municipal solid waste in the city.

ANNEXURE 11.1.1

3.10.1 SOURCE OF WATER

In Etawah in PSP 86% reported to have Bore-well and 14% used others sources as their source of water.

FIGURE 3-19: SOURCE OF WATER

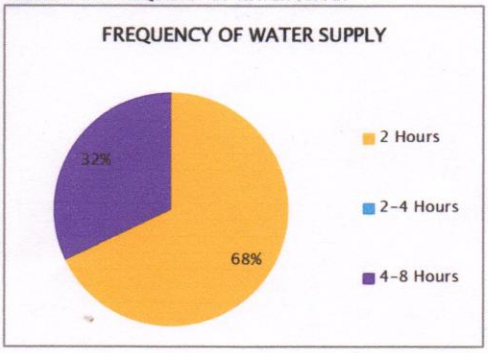


Source: Primary Survey, 2017

3.10.2 FREQUENCY OF WATER SUPPLY

Around 68% of the respondents reported that water comes only for 2hours, 32% respondents reported that water is supplying for 4-8 hours. The hours of supplying water is enough as these are having bore wells and Hand Pumps.

FIGURE 3-20: FREQUENCY OF WATER SUPPLY



Source: Primary Survey, 2017

ANNEXURE 11.1.1

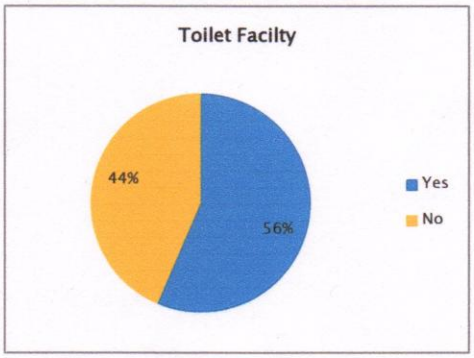
3.11 Present Status of Commercial Toilets

There are Markets 2 Sabzi Mandis, 2 Cinema Halls, 2 Malls and more than 25 Hotels in Etawah city. Many primary surveys were also carried out across all the wards of Etawah commercial area and results of the primary survey are presented below.

3.11.1 Availability of Toilet Facility

As can be seen in Pie chart below, most of the respondents (around 44% reported absence of toilet facility in the commercial area of Etawah city only 56% respondent reported presence of Toilet facility at establishment level.

FIGURE 3-21: TOILET FACILITY AT ESTABLISHMENTS



Source: Primary Survey, 2017

3.11.2 Type of Toilet Facility

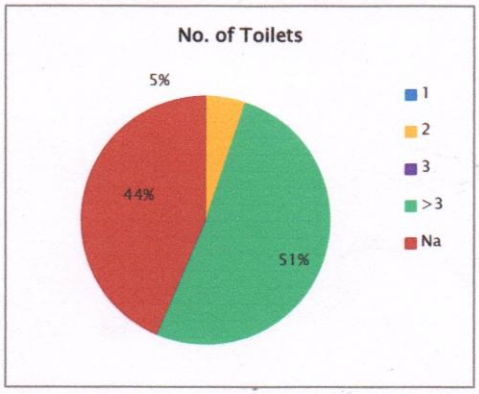
In commercial area of Etawah city a huge number approximately 44% of respondent reported that they do not have toilet facility at establishment level and rest of 56% of which includes only cinema hall, malls having toilet facility at establishment level, they are using Toilet facility of Septic Tank with Water.

3.11.3 Number of Toilets in Commercial Areas

In the commercial areas 51% respondents (in Cinema Halls, Malls and Hotels) reported to have more than 3 toilet facility.

ANNEXURE 11.1.1

FIGURE 3-22: NUMBER OF TOILETS IN COMMERCIAL AREAS



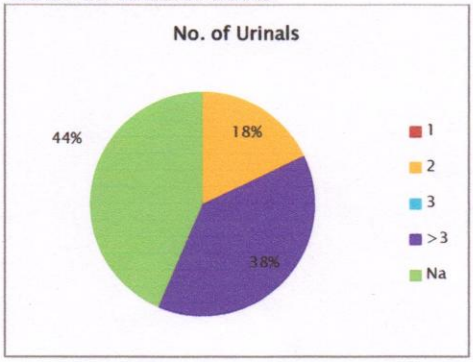
Source: Primary Survey, 2017

And only 5% reported to have 2 toilet facility.

3.11.4 NUMBER OF URINALS IN COMMERCIAL AREAS

The below figure shows the availability of urinal in commercial establishments. 38% are having more than 3 urinals and 18% are having only 2 urinals

FIGURE 3-23: NUMBER OF URINALS



Source: Primary Survey, 2017

3.11.5 RESPONSIBLE FOR THE SANITATION

Nobody is responsible for the sanitation in of the Public toilets in the Commercial Areas.

ANNEXURE 11.1.1

3.11.6 Open Defecation

People do not go for the open defecation here.

3.12 Septic Tank

3.12.1 Type of Septic Tank

In the Commercial areas the respondents reported to have their own septic Tank.

3.12.2 Responsible for the Operation and Maintenance of Septic Tank

In the Commercial areas respondents are reported that O& M has been done by the Individual.

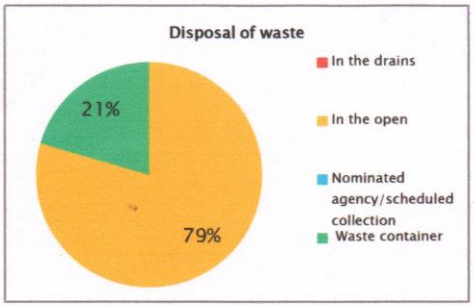
3.13 Solid Waste Management

The commercial waste includes the waste from shops, trading units, small street traders, etc. It mainly comprises of paper, plastics and other in-organics, which are finding their way to the disposal yard along with the domestic waste.

3.13.1 Method of Solid Waste Disposal facility

Disposal of Solid waste in Open is common in most of the part in city. Around 79% of the respondents dispose in the open areas, 21% in the waste containers.

FIGURE 3-24: METHOD OF SOLID WASTE DISPOSAL FACILITY



Source: Primary Survey, 2017

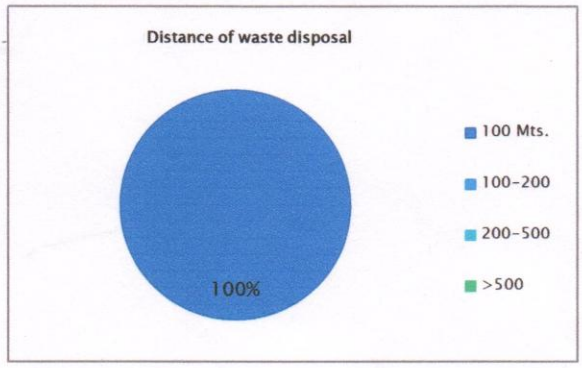
ANNEXURE 11.1.1

This may cause environmental and health hazard. The waste disposed in open finds its way in storm water drain and water bodies. Most of the time waste is disposed in low lying open areas and on surface water system, causing contamination of ground and surface water. Proper waste collection system needs to be designed for the city to prevent this.

3.13.2 Distance of Waste Disposal Site

A number of respondent reported waste disposal site to be less than 100 meters. Though most of these are open dumping sites and are not covered under municipal waste collection system, in absence of a designated waste disposal area and Dustbin in various parts of city, it is common for citizen to dispose waste in nearby areas.

FIGURE 3-25: DISTANCE OF WASTE DISPOSAL SITE

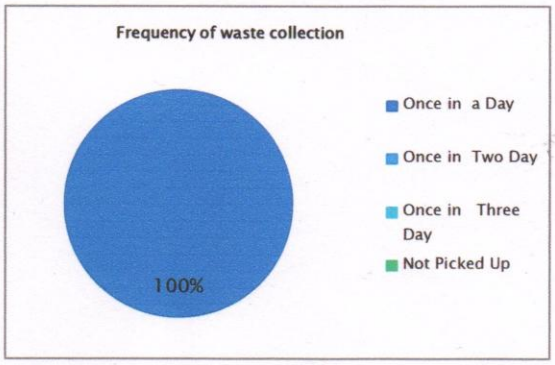


Source: Primary Survey, 2017

3.13.3 Frequency of Waste Collection

It can be seen in the graph that 100% respondents reported that collection of waste is done once in a day.

FIGURE 3-26: FREQUENCY OF WASTE COLLECTION



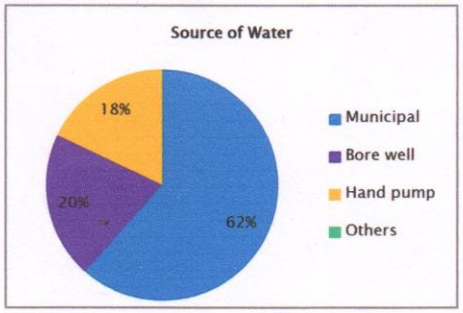
Source: Primary Survey, 2017

3.14 WATER SUPPLY

3.14.1 SOURCE OF WATER

Bore well and other sources forms are the major source of water in Etawah City. The current sanitation and waste management practice in Etawah as witnessed earlier is highly detrimental to ground water quality and there is immediate threat of contamination of ground water if preventive measures are not taken. Thus the CSP should focus on avoiding contamination of ground water and preventing outbreak of epidemic by suggesting proper management practices for waste water and Municipal solid waste in the city.

FIGURE 3-27: SOURCE OF WATER



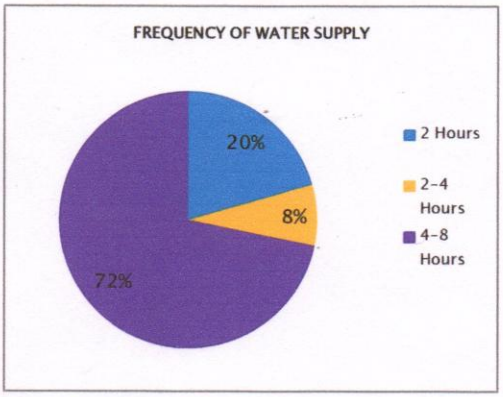
Source: Primary Survey, 2017

ANNEXURE 11.1.1

3.14.2 FREQUENCY OF WATER SUPPLY

Around 72% of the respondents reported that water comes for 2-4 hours, 20% reported to have water around 2 hours only 8% are getting 4-8 hours. The hours of supplying water is not enough.

FIGURE 3-28: FREQUENCY OF WATER SUPPLY



Source: Primary Survey, 2017

Page

ANNEXURE 11.1.1

3.15 SITUATION ANALYSIS OF SLUM AREAS

The chapter discusses about the slum population in the city with their access to basic services drawn from discussions with the slum people, discussions with the Nagar Palika officials and the secondary data. The aim is to identify the various issues related to the status of infrastructure and suggest strategies and proposals for the improvement and efficient service delivery. It also deals with the spatial location of the slums in the city.

As per the Census 2011, the total slum population in the city is 17920. The percentage of slum population in the city is 6.9 per cent of the total population. As per NPP there are 31 slum pockets (Map. (The slum pocket wise population is given in Annexure). The slum population in the city has been spread over in all the wards. As per Census, the household (HH) size in slums works out to be 5.19, which is less than the HH size of the total population (5.75).

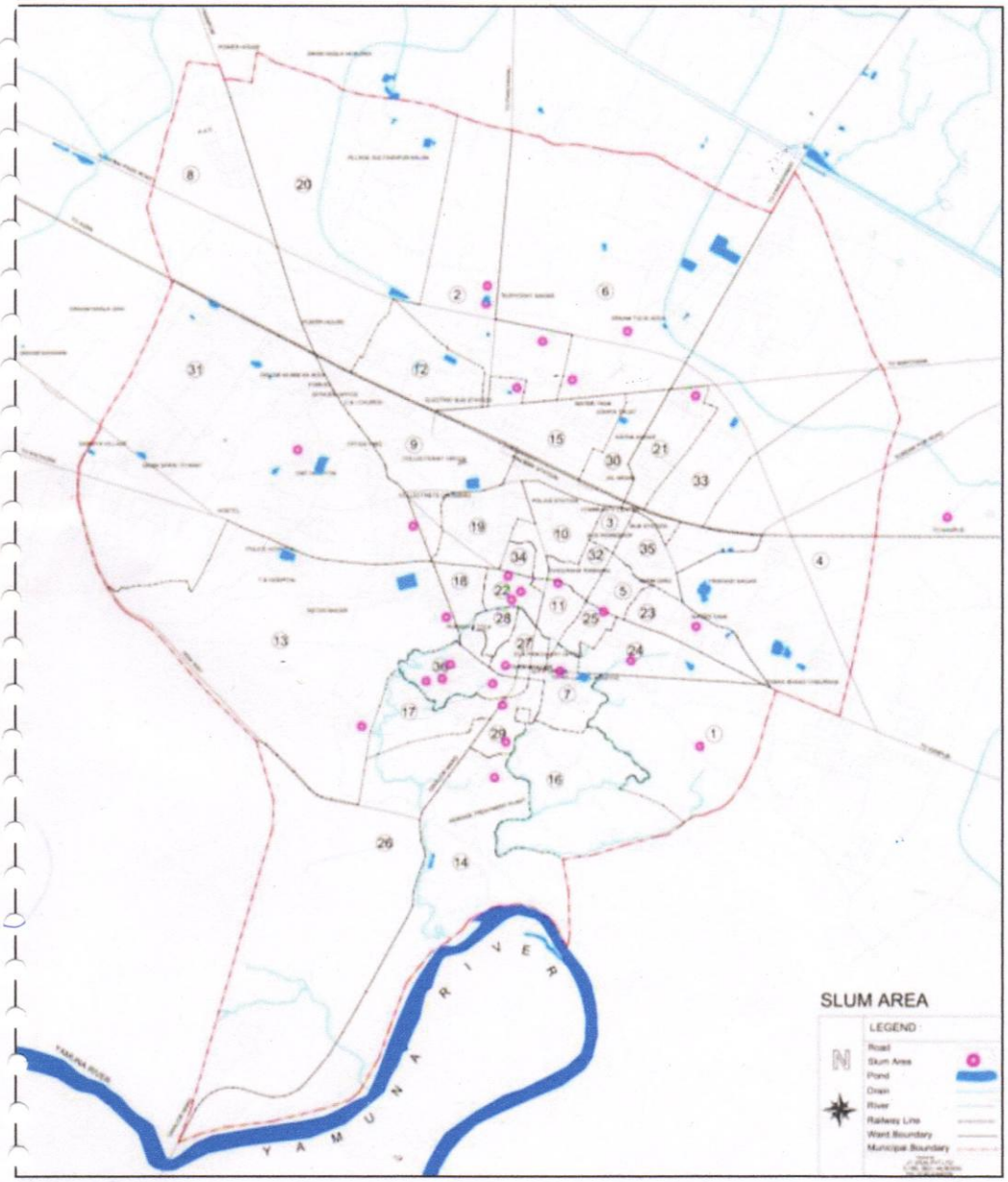
TABLE 3-11: SLUM PROFILE IN ETAWAH CITY

S. No	Description	Value
1	Total Population of city (in lakhs)	256838
2	Slum Population	17920
3	Slum Population as percentage of urban population	6.98%
4	Number of Notified Slums	31
5	Number of slums not notified	0
6	Slum Households	3450
7	Number of slums where households have individual water connections*	
8	Number of slums connected to sewerage network*	0
9	Sanitation Facility	84%
10	Solid Waste	
11	Storm Water Drainage	0%

SOURCE: CENSUS 2011, NATIONAL URBAN HEALTH MISSION (ETAWAH) AND NAGAR PALIKA PARISHAD ETAWAH

ANNEXURE 11.1.1

MAP 3-7: SLUM LOCATIONS IN ETAWAH NAGAR PALIKA



Source: NUHM

ANNEXURE 11.1.1

3.15.1 BASIC SERVICES

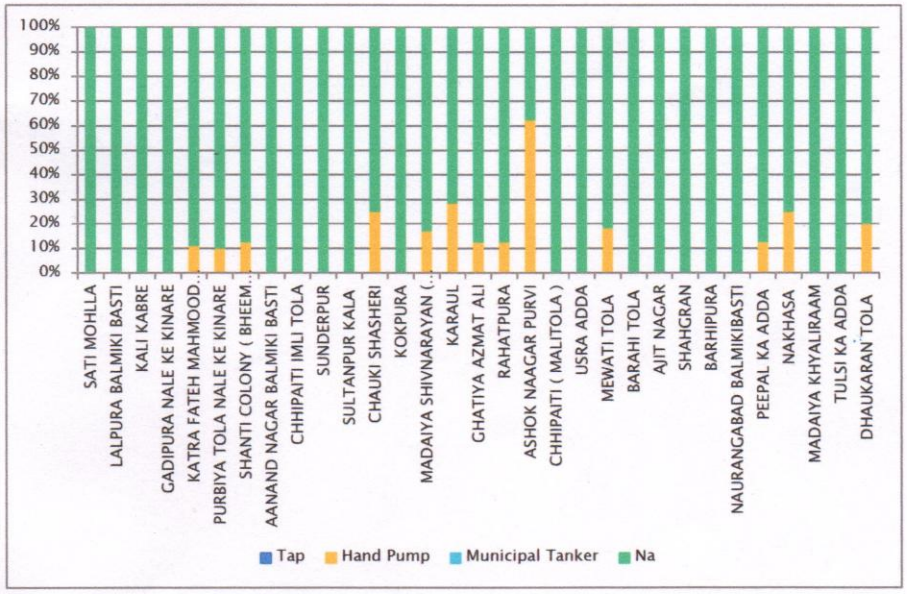
The living condition of the slum is very unhygienic due to lack of Infrastructure facilities like roads, drainage and proper water supply. Location of slum in a fast growing locality would encourage Mainstreaming the slum-dwellers into citywide network.

3.15.2 ACCESSIBILITY TO WATER SERVICES

The population in slum areas are getting Tap water at household level. Water Supply is good in Etawah due to the Water Supply Scheme of Jal Nigam.

But at Community Level people are having Hand Pumps as a source of water.

FIGURE 3-29: ACCESSIBILTY OF WATER AT COMMUNITY LEVEL



Source: Primary Survey, 2017

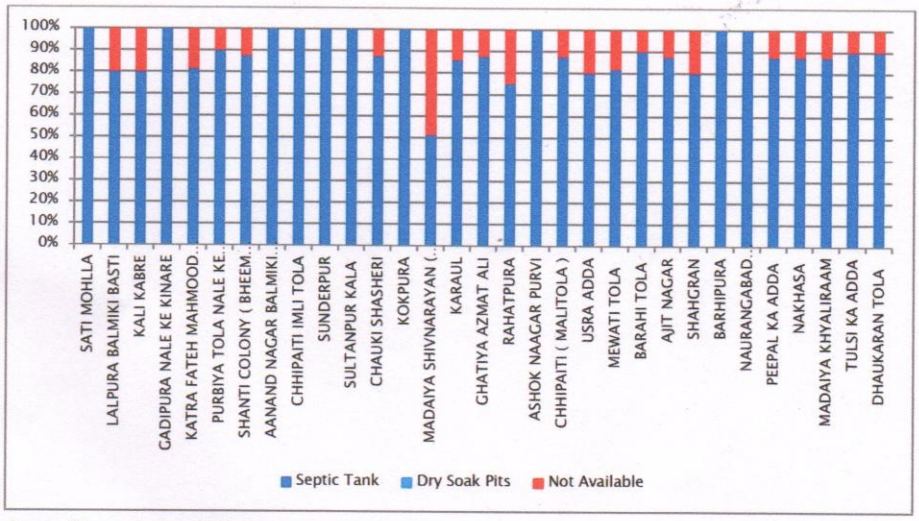
3.15.3 SANITATION FACILITY

In Madaya slum the condition is worst of sanitation the population does not have access to sanitation facility. A very less of 15 per cent of the population is having

ANNEXURE 11.1.1

private flush system. Open defecation is common in areas, which lack the toilet facility.

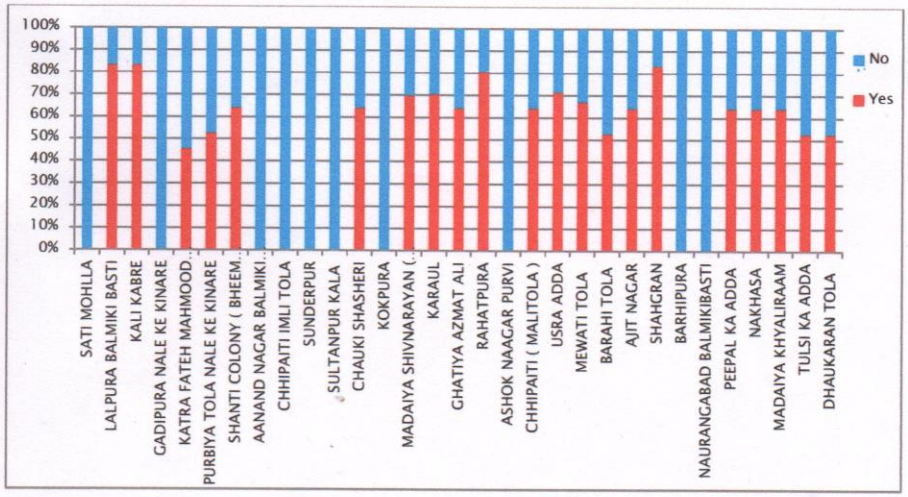
FIGURE 3-30: ACCESS TO TOILETS



Source: Primary Survey, 2017

3.15.3.1 OPEN DEFECATION

FIGURE 3-31: OPEN DEFECATION STATUS IN SLUM



Source: Primary Survey, 2017

ANNEXURE 11.1.1

People who do not have access to toilets are going for the open defecation which makes the sanitation situation very critical in Etawah.

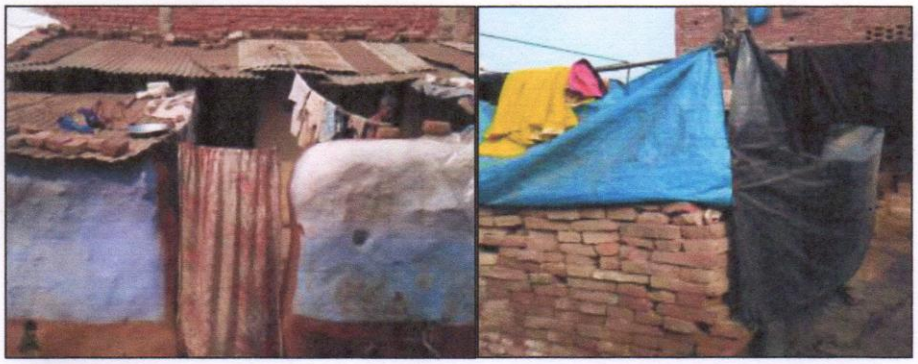
3.15.4 STORM WATER DRAINAGE

The poor sanitary conditions are prevailing due to lack of drains and collection of wastewater in pits. The clogged drains have also increased the vulnerability of the slum dwellers. Inside the settlements there are no paved drains or pathways, the wastewater from homes gets collected in open soak pits. The stagnant water in the pits results in mosquito breeding.

3.15.5 SOLID WASTE

There is no provision of solid waste collection or disposal in the slum areas. The waste was disposed in open spaces because the waste do not collects daily by Nagar Palika.

PHOTOGRAPH: SLUM AREAS, MADAYA SHIV NARAYAN



SOURCE: PRIMARY SURVEY, 2017

3.15.6 WILLINGNESS TO PAY

Every respondent those living in slum area reported that they are not willing to pay for the Toilets and Sewer lines. So Nagar Palika needs to provide Public Toilet facility in slum area with the help of local or state government under suitable sanitation scheme to stop open defecation in Etawah city.

ANNEXURE 11.1.1

3.15.7 WATER BORN DISEASE IN SLUM AREAS

In the Slum areas respondents are getting good quality of water .The water borne diseases is not the problem for slum dwellers in Etawah city.

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4 KEY ISSUES IN ETAWAH CITY

4.1 WATER

Water is supplied by the Municipal is not sufficient for the people of the city as it is supplying only for 7-8 hours in a day. The issue is to give water connections and user charges collection from the population.

The major issue in the city is solid waste management. The water bodies are polluting because of the waste dumped in the open.

4.2 SOLID WASTE

The critical issue in Etawah is about the open disposal of solid waste. Most of these are open dumping sites and are not covered under municipal waste collection system, in absence of a designated waste disposal area and Dustbin in various parts of city, it is common for citizen to dispose waste in nearby areas.

The city is lacking in the scientific segregation solid waste and management plan. Solid wastes are dumped in low lying areas posing a great threat for ground water. Public and Semi Public and commercial waste needs more attention in this regard.

4.3 SEWERAGE AND DRAINAGE

The sewerage condition is very critical in Etawah city as the city is not having sewage collection network. Very few Public toilets are there in the city which leads to the open defecation. There is a lack of proper septage management. Raw sewage and tank effluent being disposed to drains leading to health hazards in the city there is Sewage Treatment Plant which is not operational.

1. Main Nala has been chocked by dumping garbage by the resident of city.

ANNEXURE 11.1.1

2. The Nala is not according to gradient so it over flows and submerges during rainy season.
3. The city faces water logging problem due to the non-availability of storm water drainage network.
4. Economic loss faces by the city due to water logging problem in the city during rainy season.
5. Open Nallis which carries waste water from the residences carries storm water during rainy seasons and choked due to solid waste and creates problem for the people

4.4 SANITATION FOR URBAN POOR

In the slum areas Open defecation is very common which needs immediate action and attention. Slum dwellers need Community Toilets facility, Household level toilet facility so that the practice of Open Defecation can reduce. The ultimate goal of City Sanitation Plan can only be achieve when every section of the society must have to include in the planning process of City Sanitation Plan.

1. At present there are 5850 households does not have toilets in their premises.
2. The major are in the outer part of the city going for open defection.
3. Maximum 3% population depends on either public toilets or going for open defecation.

4.5 GENERAL

Awareness level needs to be enhanced more in the slum areas. There is a lack of coordination between various institutions responsible for urban services and development. In the Nagar Palika there is inadequate staff strength to handle and manage the services. Initiatives are inadequate on reforms to make the city better place and delay in work.

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REFERENCES

Census of India, 2011

National Urban Sanitation Policy, 2008

Central Public Health and Environmental Organization

UTTAR PRADESH STATE SANITATION POLICY

URBAN INFRASTRUCTURE DEVELOPMENT SMALL AND MEDIUM TOWNS

NAGAR PALIKA, ETAWAH-STATISTICAL SUMMARY REPORT

SERVICE LEVEL BENCHMARKING -GENERAL INFORMATION OF CITY

District Census Handbook 2011

National Urban Health Mission-2013-14

Nagar Palika Parishad Etawah 2017

Swachh Bharat Mission Guidelines

Manual of City Sanitation Plan

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SITUATION ANALYSIS REPORT

CITY SANITATION PLAN OF ETAWAH

2017

JT Urja Pvt. Ltd.

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1 BACKGROUND

The Govt. of India had identified 100% sanitation as a goal during 11th five year plan. The Ministry of Urban Development (MoUD) officially launched a country wide National Urban Sanitation Policy **(NUSP)** on Nov. 12, 2008 with an objective to call upon individual states to draft their own strategy based on NUSP while taking into account their specific requirements.

The key issues of urban sanitation policy are to address the awareness in poor, social and occupational hazards to sanitation workers, gaps and overlaps existing in roles and responsibilities of institutions at national, state and city levels, full scale integrated safe confinement, disposal and treatment, searching for alternative cost effective and sustainable technological options, reaching to the un-served and poor (non-notified slums) population, and needs to demand responsive.

1.1 CONCEPT OF TOTALLY SANITIZED CITIES

A totally Sanitized City will be one that has achieved the outputs or milestones specified in the National Urban Sanitation policy, the salient features of which are as follows:

- Cities must be open defecation free
- Must eliminate the practice of manual scavenging and provide adequate personnel protection equipment that addresses the safety of sanitation workers.
- Municipal wastewater and storm water drainage must be safely managed
- Recycle and reuse of treated wastewater for non-potable applications should be implemented wherever possible.
- Solid Waste collected and disposed-off fully and safely
- Services to the Poor and Systems for Sustaining Results

ANNEXURE 11.1.1

- Improved Public Health Outcomes and Environmental Standards

1.2 Uttar Pradesh Urban Sanitation Policy

1.2.1 Vision

All the cities and towns become totally sanitized healthy and liveable.

1.2.2 Goals

- Awareness generation and behaviour change.
- Open defecation free cities.
- Integrated city- wide sanitation.
- Sanitary and Safe Disposal.

1.3 Rating and Categorization of Cities by NUSP

The rating of cities in regard to their performance in sanitation improvements will be based on set of objective indicators of outputs, processes and outcomes.

Three Categories of Indicators

The rating exercise will involve three categories of indicators:

Output Related Indicators: pertain to the city having achieved certain results or outputs in different dimensions of sanitation ranging from behavioral aspects and provision, to safe collection, treatment and disposal without harm to the city's environment. There are nine main output-indicators accounting for 50 points of the total of 100 points.

Process Related Indicators: pertain to systems and procedures that exist and are practiced by the city agencies to ensure sustained sanitation. There are seven main process-indicators accounting for 30 points of the total of 100 points.

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Outcome Related Indicators: include the quality of drinking water and that of water in water-bodies of city, as also the extent of reduction in sanitation-related and water-borne diseases in the city over a time period. There are three main outcome-indicators accounting for 20 points of a total of 100 points1.

Ideally, data for the above outputs, processes and outcomes are regularly collected by city authorities but at present, very few cities will have, at best, partial data available. This rating exercise will help in highlighting the need for regular data-collection and monitoring of indicators.

On the basis of the said rating scheme, cities will be placed in different categories as presented in Table 1 and the distribution of the 436 cities is also depicted. National rating survey data will utilize these categories for publication of results. On the basis of plans prepared and implemented, cities will be able to measure the results of their actions, and be able to clearly chart out their improvements over time compared to their baseline situation.

TABLE 1-1: RATINGS OF CITIES

S. No.	Category	points	No. of cities	Description
1	Red	≤33	204	Cities on the brink of public health and environmental "emergency"; needing immediate remedial action
2	Black	34-66	228	Needing considerable improvements
3	Blue	67-90	4	Recovering but still diseased
4	Green	91-100	0	Healthy and Clean city

On achievement of remarkable results, i.e. coming into the Green category (Healthy and Clean City), cities will typically become eligible for the national award. Other cities showing remarkable incremental performance or selective achievements may also be given special or honorary awards. Cities in different size-classes may also be considered for category-wise awards. Based on results of the Rating survey and

ANNEXURE 11.1.1

selection of awardees, cities will be invited to participate in a National Urban Sanitation Award ceremony.

Findings of a survey commissioned by MoUD rated 423 Class-I (with a population of more than 100,000) Indian cities on safe sanitation practices. Etawah has been ranked at 382 out of 423 Class I cities, scoring 22.950 marks out of 100 marks and in Red category. This means performance of Etawah in regard to safe sanitation is worst on various indicators.

1.4 Sanitation Related Policies and Laws

Municipal Solid Waste Rules, 2000

The Municipal Solid Wastes (Management and Handling) Rules, 1999 were published under the notification of the Government of India in the Ministry of Environment and Forests. In exercise of the powers conferred by section 3, 6 and 25 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby made the rules to regulate the management and handling of the municipal solid wastes, 2000.

Municipal Solid Waste (Management & Handling) Rules, 2000 (MSW Rules) are applicable to every municipal authority responsible for collection, segregation, storage, transportation, processing and disposal of municipal solids. The Rules contains four Schedules namely;

TABLE 1-2: SCHEDULE DETAILS OF MSW RULES, 2000

Schedule-I	Relates to implementation Schedule
Schedule-II	Specifications relating to collection, segregation, storage, transportation, processing and disposal of municipal solid waste (MSW).
Schedule-III	Specifications for land filling indicating; site selection, facilities at the

ANNEXURE 11.1.1

	site, specifications for and filling, Pollution prevention, water quality monitoring, ambient air quality monitoring, Plantation at landfill site, closure of landfill site and post care.
Schedule-IV	Indicate waste processing options including; standards for composting, treated I lakhtates and incinerations.

The MSW Rules -2000 categorically state the roles and responsibilities of ULBs, the State Govt., the Union Territory Administrations and the Pollution Control Boards.

The roles of the ULBs as stated are as follows:

- Every municipal authority shall, within the territorial area of the municipality, be responsible for the implementation of the provisions of these rules, and for any infrastructure development for collection, storage, segregation, transportation, processing and disposal of municipal solid wastes.
- The municipal authority or an operator of a facility shall make an application in Form-I, for grant of authorization for setting up waste processing and disposal facility including landfills from the State Board or the Committee in order to comply with the implementation programme laid down in Schedule I.
- The municipal authority shall comply with these rules as per the implementation schedule laid down in Schedule I.
- The municipal authority shall furnish its annual report -
    - To the Secretary-in-charge of the Department of Urban Development of the concerned State or as the case may be of the Union territory, in case of a metropolitan city; or
    - To the District Magistrate or the Deputy Commissioner concerned in case of all other towns and cities, with a copy to the State Board or the Committee on or before the 30th day of June every year.

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Swachh Bharat Mission (SBM)

This campaign aims to accomplish the vision of a **'Clean India'** by 2 October 2019, the 150th birthday of Mahatma Gandhi.

Mission Objectives

- Elimination of open defecation
- Eradication of Manual Scavenging
- Modern and Scientific Municipal Solid Waste Management
- To effect behavioural change regarding healthy sanitation practices
- Generate awareness about sanitation and its linkage with public health
- Capacity Augmentation for ULB's
- To create an enabling environment for private sector participation in Capex (capital expenditure) and Opex (operation and maintenance)

1.5 Objectives and Goals of CSP

The City Sanitation Plan (CSP) is aimed at developing and maintaining a clean, safe and pleasant physical environment in Etawah city to promote social, economic and physical well-being of all sections of the population. It encompasses plan of action for achieving 100% sanitation in the city of Etawah through demand generation and awareness campaign, sustainable technology selection, construction and maintenance of sanitary infrastructure, provision of services, O&M issues, institutional roles and responsibilities, public education, community and individual action, regulation and legislation.

The objective of CSP is to prepare urban sanitation strategy for Etawah city for management of its liquid and solid waste. The goals of CSP are:

ANNEXURE 11.1.1

- To achieve 100% sanitation and making the Etawah free from open defecation by promoting proper disposal arrangements at public private and community levels as per the norms of NUSP.
- To create awareness to urban poor for change in their behaviour for healthy sanitation practices.
- Reorientation of institutions for integrated city -wide sanitation approach.
- To provide complete management of waste including its safe disposal and O&M of all sanitary installations.
- Implementation scheme keeping into consideration the available financial resources and effectiveness of already existing facilities.

1.6 CITY SANITATION TASK FORCE (CSTF)

The first step in making the cities 100% sanitized is to elevate the consciousness about sanitation in the mind of municipal agencies, government agencies and most importantly, amongst the people of the city. As per the requirement of CSP, major role is to be played by the members of institutions, organizations, individuals, NGOs, academics, journals, local councillors, industry owners, consultants, representatives of private sector, etc. Constitution of CSTF is facilitated by drawing members from these groups in consensus with PNNP who will be constantly supporting the CSP preparation by analysing the strengths and competencies required to overcome the current situation and for better sanitation facilities.

For this purpose, CSTF has to be constituted in the ULB and it has to organize a multi-stakeholder, multi-party meeting in the preparatory stage, and take a formal resolution to make the city 100% sanitized. CSTF has been constituted by Etawah Nagar Palika Praishad (NNP). The roles and responsibilities of CSTF will include:

- Launching the City 100% Sanitation Campaign
- Generating awareness

ANNEXURE 11.1.1

- Approving materials and progress reports
- Approving the City Sanitation Plan
- Providing overall guidance
- Fixing of responsibilities on a permanent basis.

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2 CITY PROFILE ETAWAH

2.1 INTRODUCTION

Etawah classified as Class I town is a statutory town and the administrative head-quarters of Etawah district falls under Kanpur division of Uttar Pradesh state. The city is situated on the bank of River Yamuna was an important centre for the Revolt of 1857.

2.2 PHYSICAL CHARACTERISTICS OF THE CITY

2.2.1 LOCATION

The city is located about 154 Kms west to Kanpur along the National Highway No.2 connecting Delhi to Kolkata. The city lies on the geographical coordinates of 26°21' North Latitude and 79°45' East Longitude.

2.2.2 TOPOGRAPHY

Etawah district forms a part of the Gangetic plains, but its physical features vary considerably and are determined by the rivers which cross it. The tract on the northern part of the city forms a plain surface whereas the southern part situated on the banks of river

Yamuna forms an undulating tract. The contour line is from north-west to south-east of the place of sangam between Yamuna and Chambal. The region falls under Seismic Zone-III termed as moderate damage risk zone city.

2.2.3 CLIMATE

Etawah has a warm subtropical climate with very cold and dry winters from December to Mid-February and dry, hot summers from April to Mid-June. About 85% of the annual rainfall is received during the south west monsoon season from mid-June to mid-September, where it gets an average rainfall of 1000 mm. During extreme winter the maximum temperature is around 23 degrees Celsius and the minimum is in the 3 to 4 degrees Celsius range. Fog is quite common from late December to late January. Summers can be quite hot with temperatures rising to 46 degree Celsius range. During the rainy season the relative humidity is generally high being over 70%. Thereafter the humidity decreases and by summer which is the driest part of the year the relative humidity's in the afternoons become less than

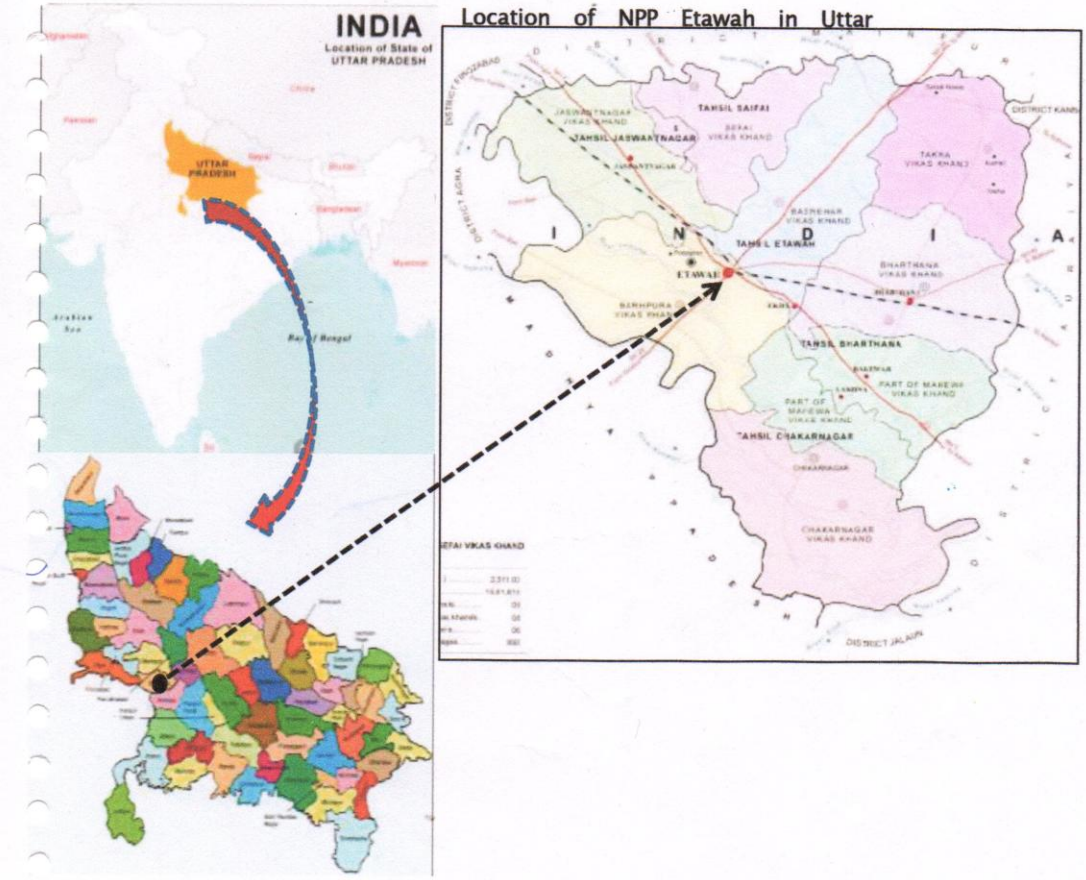
ANNEXURE 11.1.1

30%. Winds are generally light and are mostly from directions between south-west and north-west. In May, the south-west monsoon winds also blow from directions between north-east and south-east.

2.2.4 AREA

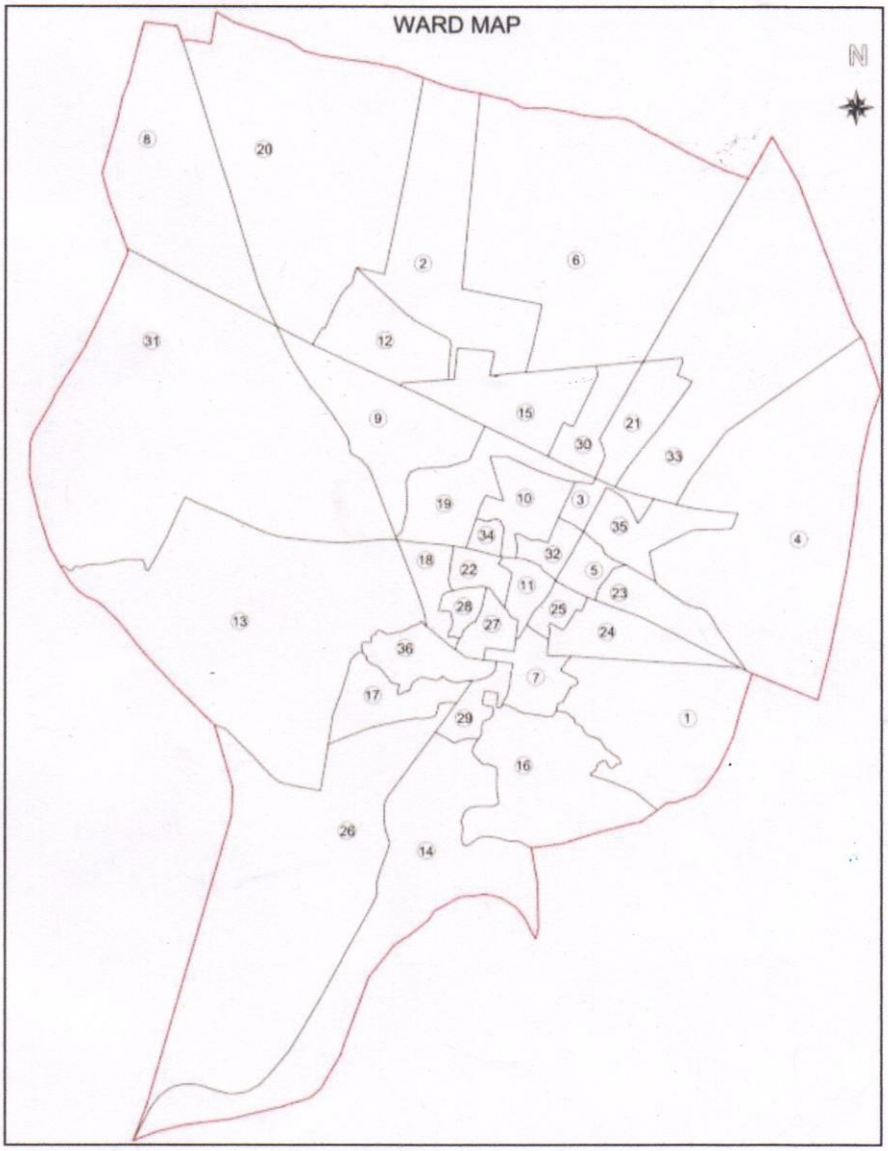
The geographical area of the Etawah city is 48 sq. kms in year 2011, the city has divided into 36 wards. City administration is headed by the Executive Officer and Chairman. Figure 1 shows the location map of Etawah city with its major road network, and establishments.

FIGURE 2-1: GEOGRAPHICAL LOCATION MAP OF ETAWAH CITY



ANNEXURE 11.1.1

MAP 2-1: WARD MAP OF ETAWAH



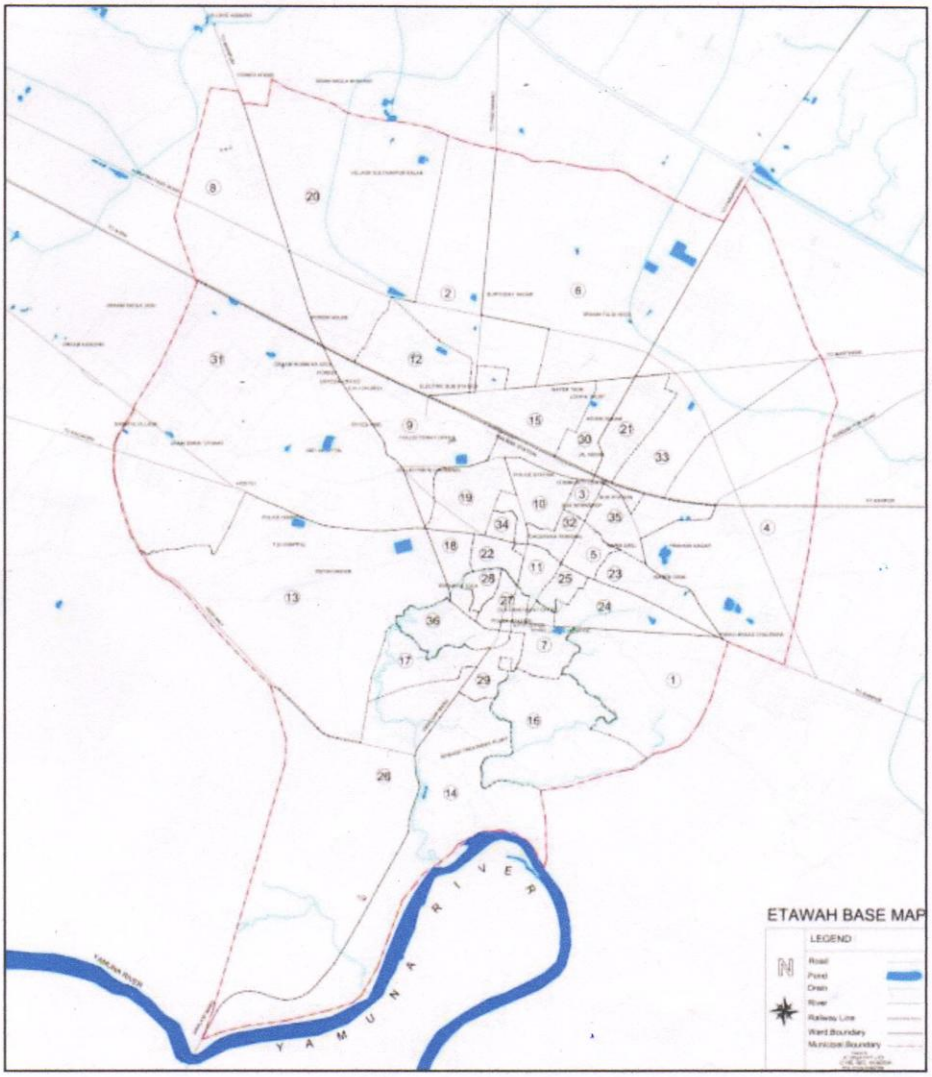
2.3 REGIONAL SETTING & CONNECTIVITY

Etawah situated between the major cities of Agra and Kanpur of Uttar Pradesh state is well connected to the other parts of state both by road and railways. The city lies

ANNEXURE 11.1.1

on Allahabad – Delhi section of Northern Railways. By train, the city is situated at a distance of 138 Km west of Kanpur, 127 km east to Agra, 296 km east to Delhi and 331 km west to Allahabad. By road the city is situated at a distance of 98 km from Farukhabad, 140 km from Gwalior, 130 km from Agra and 158 km away to Kanpur. The national Highway No.2 connecting Delhi to Kolkata via, Agra, Kanpur, Allahabad, Varanasi, Mughalsarai and Dhanbad passes through the midst of the city.

MAP 2-2: ROAD NETWORK OF ETAWAH



ANNEXURE 11.1.1

north by the districts of Farrukhabad and Mainpuri, while the small extent of western border adjoins Tehsil Bah of the Agra district. The eastern frontier marches with the district of Kanpur. Along the south it is bounded by Jalaun and District Gwalior of Madya Pradesh state along south west.

The total Road length of Etawah is given below:

TABLE 2-1: ROAD LENGTH OF ETAWAH

S. No.	Road Length	Unit(km)
1.	Pucca Road	92.320
2.	Semi Pucca Road	29.045
3.	Kuchha Road	35.35
Total		**156.72 km**

SOURCE : NPP ETAWAH

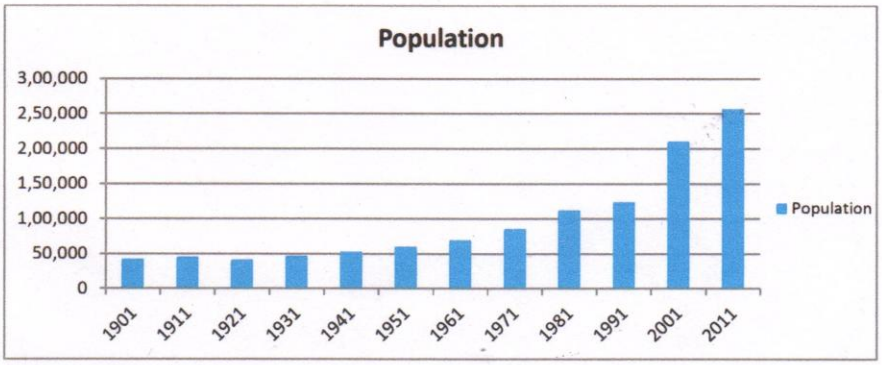
2.3.1 Demographic Data

As of 2011 India Census, Etawah city had a population of 256838 of which males constitute 135439 (52.73%) of the population and females 121399 (47.26%). The city has witnessed significantly high population growth rate of about during 22.04% 2001-11, which is one of the high in urban India. Demographically, city is primarily having residential population with total number of households at present are 44659. It indicates the great housing and development activities in the city in last decade. However, the average family size 5.7.As per Census of India, 2011 the average literacy rate of Etawah is 72.04%, which is higher than the national average of 70.8%. Male literacy is 55.25%, and female literacy is 44.74%. In Etawah, 11.8% of the population is under 6 years of age.

Besides, slums /vulnerable population clusters are scattered throughout the city. The slum population of the city shows the migration of poor people from surrounding rural in search of work in Etawah city.

ANNEXURE 11.1.1

FIGURE 2-2: TREND OF POPULATION IN ETAWAH



Source: Census of India, GoI

2.3.2 ECONOMY

Financial aspect of any city depends on the capacity of production of various activities and the surrounding areas. Any change with respect to increase or decrease in the financial activities leads to the change in growth of city. Despite being the tehsil and headquarters of district, Etawah is a major service and agriculture centre in the region. In 1981, the Work force participation rate in the city was 26.52, where 20.40 percent of work force / population are depended on primary sector, 24.60 percent in secondary sector and 55 percent in territory sector. In 1991, the work participation rate reduced to 25.55 percent; where there is a drastic fall in the working population engaged in primary sector i.e., only 5.87 percent of total work force are engaged in primary sector. At the same time, the percentage of work force engaged in territory sector increased to 69.78 percent and the percentage in secondary sector remained same with 24.60 percent, when compared with the work participation statistics of 1981. As on 2001, the work force participation rate in the city was 25.20, with 5.29 percent of work force in primary sector, 9.69 in secondary sector and 85.02 in territory sector. These statistics reveal the speedy shift of workforce from primary sector, secondary sector to territory sector of economy. It is further evident that, from 1981 to 2001, there is a decrease in the work participation rate of 1.32 percent.

ANNEXURE 11.1.1

2.3.3 Work Profile

Out of total population, 76531 were engaged in work or business activity. Of this 64091were males while 12440 were females. In census survey, worker is defined as person who does business, job, service, and cultivator and labor activity. Of total 76531 working population, 77.49% were engaged in Main Work while 22.50% of total workers were engaged in Marginal Work.

TABLE 2-2: OCCUPATIONAL STRUCTURE IN ETAWAH

	Total Workers	Main Workers	Marginal Workers
Total	76531	59308	17223
Male	64091	51575	12516
Female	12440	7733	4707

Source: Census of India, 2011

ANNEXURE 11.1.1

3 SITUATIONAL ANALYSIS

More than 1000 primary survey was carried out across all the wards of Etawah city and results of the primary survey are presented below. The survey predominantly concentrated on availability of water and sanitation facility in the city like toilet facility, MSW facility, water source and quality of life etc. A willingness to pay was also carried out as a part of primary survey.

3.1 PRESENT STATUS OF HOUSEHOLD TOILETS

According to Census 2011, the total population of Etawah is 256838 and the number of households is 44659. Among these households, only 86.9 % have toilet facility within the premises and rest of the 13.1% of the population either going for open defecation or using public toilets.

TABLE 3-1: GAP OF TOILET FACILITY

S. No.	Description	No.	%
1	Total number of Households	44659	100
2	Number of households having latrine facility within the premises	38809	86.9
	Gap	**5850**	**13.1**

Source: Census of India, 2011

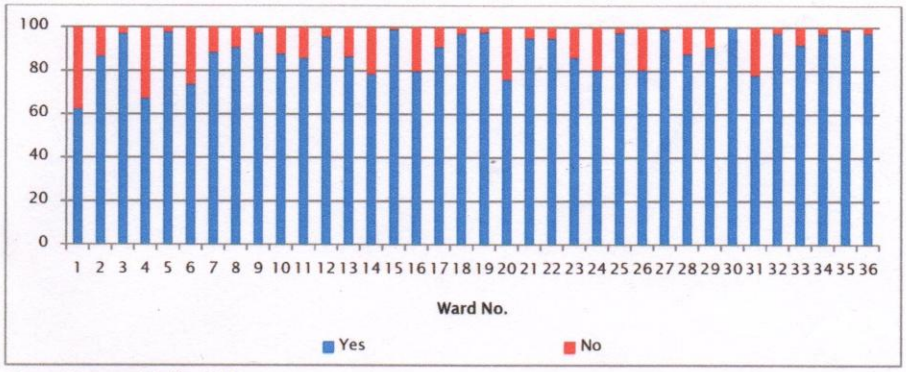
Here under Swachh Bharat Mission (SBM) Nagar Palika Parishad Etawah is proposing individual toilets. Particularly it is proposing in the areas where people are going open defecation. The mobile toilets should be placed in the congested areas where sufficient land is not available for the construction of toilet and septic tank. All the toilets septic tanks should connected with sewer system.

ANNEXURE 11.1.1

3.1.1 Availability of Toilet Facility at household level (Ward Wise)

As the figure below depicts about the availability of toilet facility at household level, the condition is worst in the 1, 4, 6, 20, 24 and others.

FIGURE 3-1: AVAILABILITY OF TOILET FACILITY AT HOUSEHOLD LEVEL (WARD WISE)



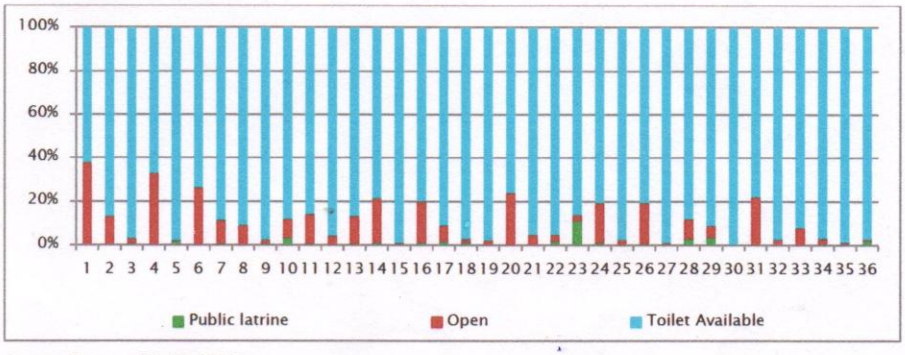
Source: Census of India, 2011

3.1.2 Type of Toilet Facility (Ward Wise)

Most of the respondent reported access to individual toilets with Septic Tanks. On the other hand all these people those doesn't have Toilet facility at household level, shares neighbour's toilet or goes to outside for Open Defecation.

3.1.3 Open Defecation (Ward Wise)

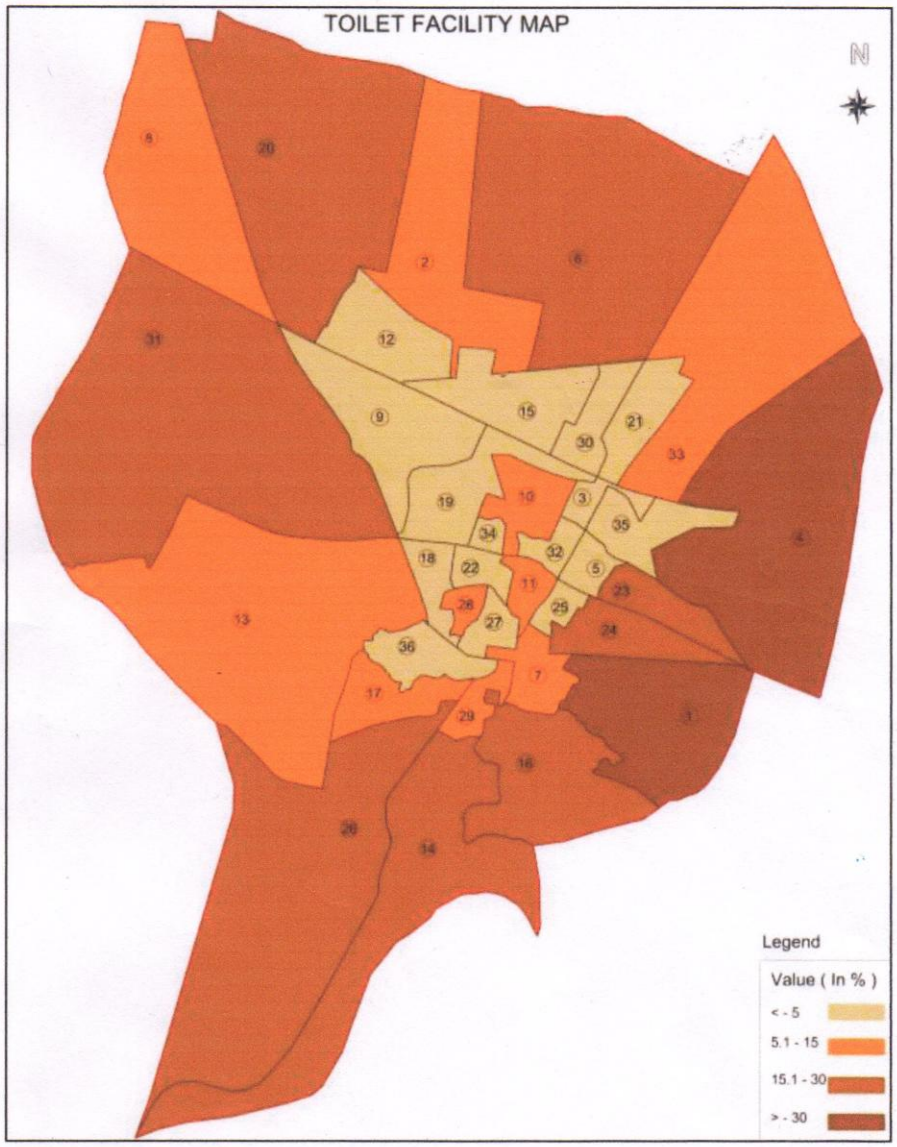
FIGURE 3-2: OPEN DEFECATION (WARD WISE)



Source: Census of India, 2011

ANNEXURE 11.1.1

MAP 3-1: AVAILAIBILTY OF TOILET AT HOUSEHOLD LEVEL



Open defecation is common in many wards in the city due to the non-availability of Toilet at Household level and absence of the community Toilet.

ANNEXURE 11.1.1

3.1.4 Presence of Community Toilet in Locality (Ward Wise)

People are using Public Toilets as an alternative source. The inner city wards are having the Public Toilet Facility but the outer areas are devoid of the Public and Community Toilets.

As evident from figure below most of the respondents reported absence of community toilet facility in their concerned residential area. It is well known that Community toilets are critical for reaching the goal of open defecation free city.

Public Toilets

There are total 7 Public Toilets within area of Etawah city, 1 at Railway Station, 1at Bus Stand and 1near Nagar Palika Parishad.

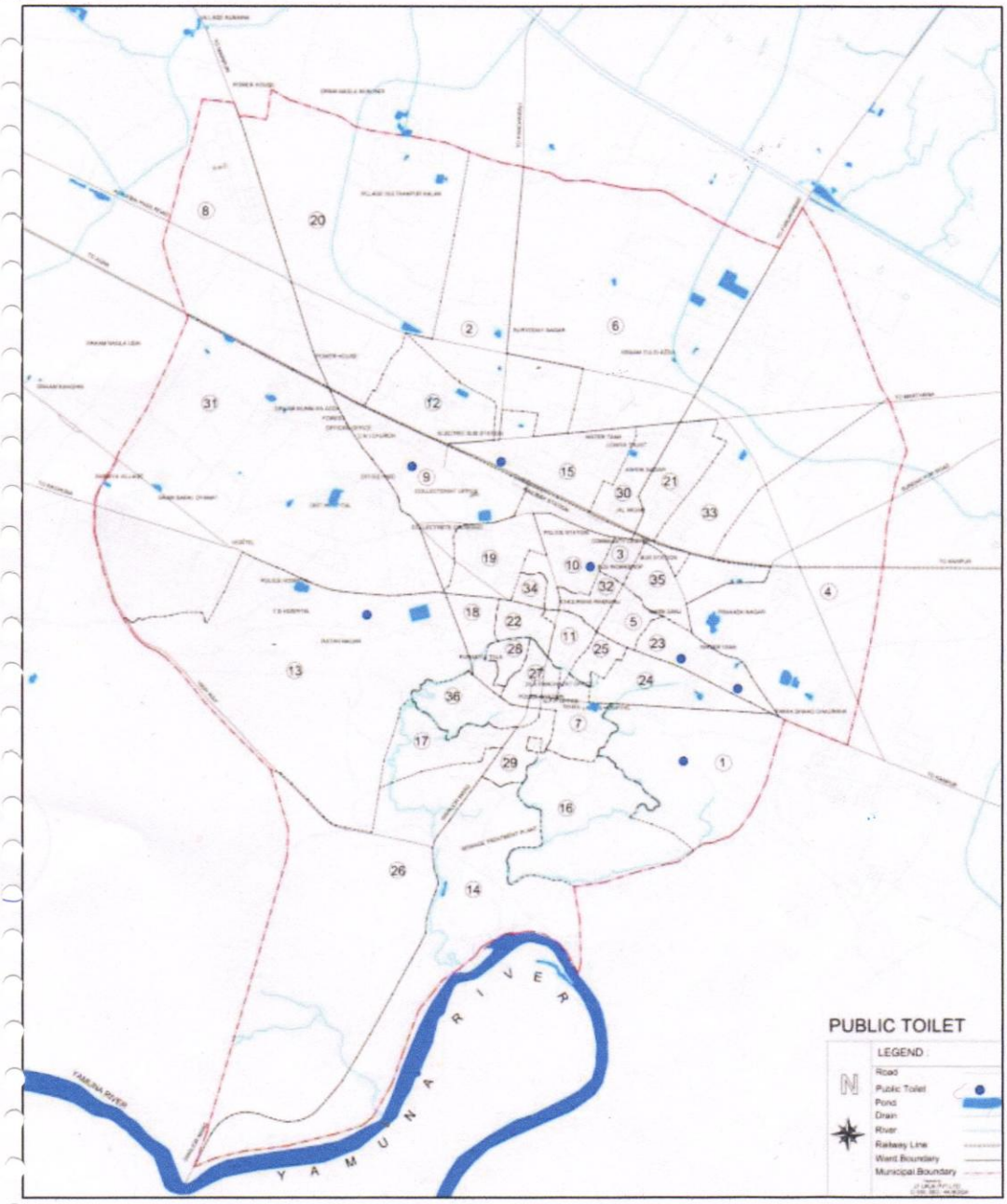
Community Toilets

There is not a single community toilet in the Etawah city which is normally built for a group of households in backward area.

PHOTOGRAPH:

ANNEXURE 11.1.1

MAP 3-2: PUBLIC TOILET LOCATION IN ETAWAH



ANNEXURE 11.1.1

3.1.5 Availability of Toilet for Physical Handicapped (Ward Wise)

There is not a single toilet where the facility for Physical Handicapped people has been provided in the city. In India there is no tradition of having Physical Handicapped toilet. This facility should provide for physical handicapped people for the sustainable and holistic development of city.

3.1.6 Willingness to pay for Physical Handicapped Toilet

Nobody wants to contribute for the Physical Handicapped Toilet.

3.1.7 Willingness to Contribute to O& M for Toilet (Ward Wise)

In the residential areas of Etawah city people do not want to contribute in the Operation and Maintenance of the toilet facility. In all the wards most of the respondents are not willing to contribute for the toilet facility in Etawah.

3.2 Water Supply

Drinking water supply is very important for upkeep of sanitation facilities and a for better environment/health status it is necessary to have sufficient water. Poor quality of water as well as insufficient quantity of potable water can pose serious public health hazardous and water borne diseases in the cities, particularly among the urban poor. MoUD, GoI has specified a performance indicator for drinking water sector. Hence drinking water supply is also taken into consideration as one of the element of CSP.

There are total 26790 water connections in the city.

Type of connection	Number
Household service connections	26790 nos.

Source: Nagar Palika Parishad, Etawah

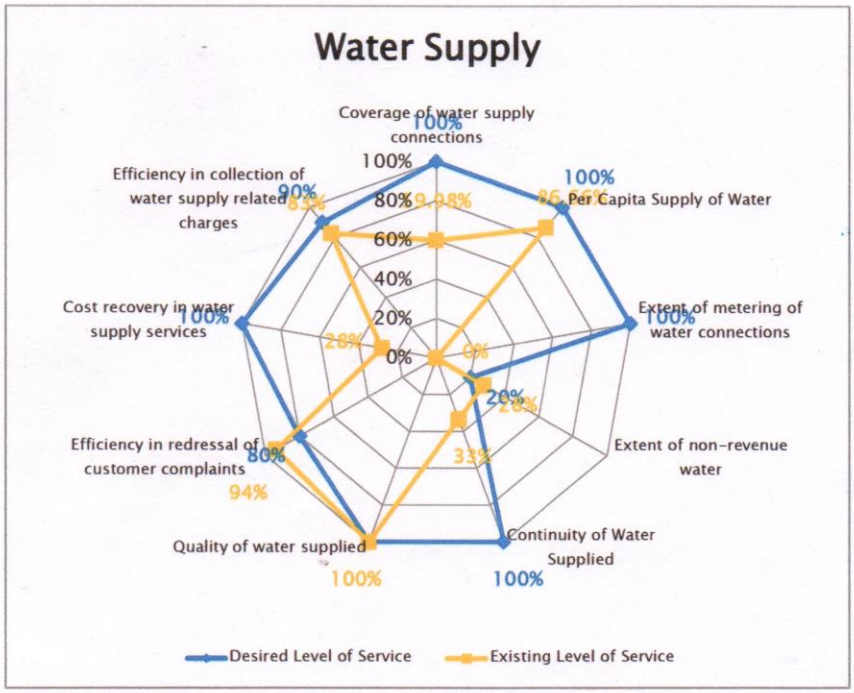
ANNEXURE 11.1.1

TABLE 3-2: SERVICE LEVEL BENCHMARK OF WATER SUPPLY, ETAWAH

	Desired Level of Service	Existing Level of Service
Coverage of water supply connections	100%	59.98%
Per Capita Supply of Water	135lpcd	117 lpcd
Extent of metering of water connections	100%	0%
Extent of non-revenue water	20%	28%
Continuity of Water Supplied	24 hrs	8 hrs
Quality of water supplied	100%	100%
Efficiency in redressal of customer complaints	80%	94%
Cost recovery in water supply services	100%	28%
Efficiency in collection of water supply related charges	90%	83%

Source: SLB and Nagar Palika Parishad,Etawah

FIGURE 3-3: WATER SUPPLY IN ETAWAH



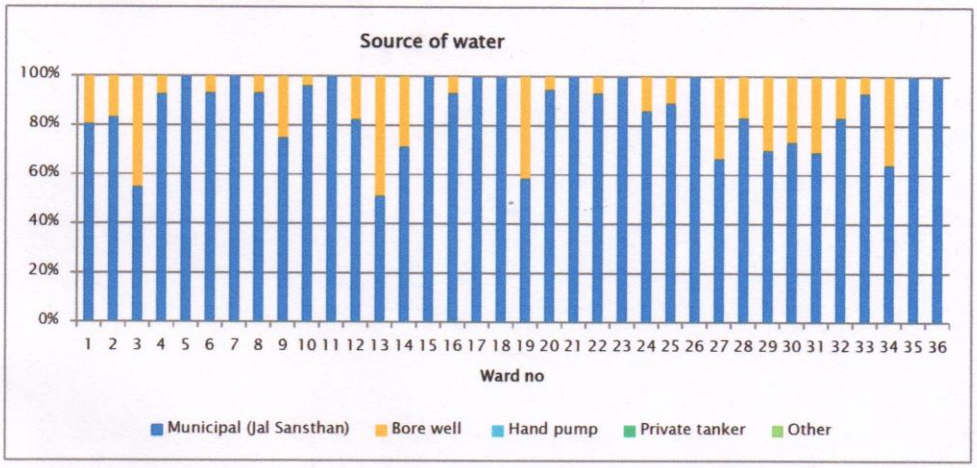
Source: SLB 2014-2015

ANNEXURE 11.1.1

3.2.1 Source of Water

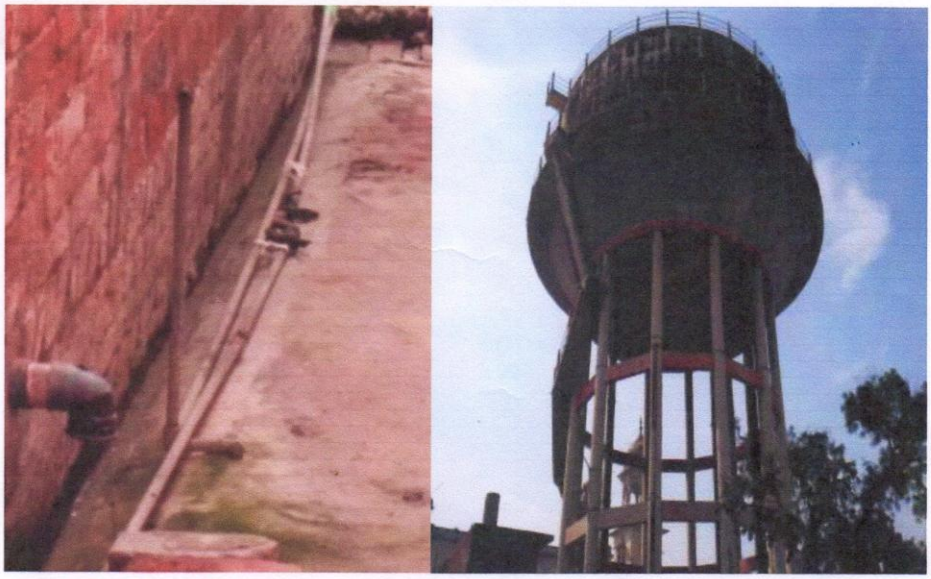
As per primary survey, in all the wards the major source of water is Municipal water, Hand Pumps and Bore wells.

FIGURE 3-4: SOURCE OF WATER (WARD WISE)



Source: Census of India, 2011

PHOTOGRAPH: HAND PUMP AND OVERHEAD TANK (NPP)



Source: Primary Survey, 2017

ANNEXURE 11.1.1

As per Secondary Sources the Etawah city is relying only on ground water sources. There are 52 Tube Wells and 16 Overhead Tank existing (11 proposed) located in Etawah.

The Etawah city is relying only on ground water sources. Out of total water production 20% is wasted in leakages, and available water to the public is hardly 30 mld, which is supplied to household population (256838 current population as per Census). As per the standard of 135 lpcd, the present water demand for domestic use in Etawah Municipal Corporation is 34.67 MLD.

Tube wells

There are in total 52 tube wells in the city from which the water is supplied for drinking purpose.

Hand pumps

There are 985 hand pumps installed across the town functioning in the city in which the people are directly taking water for their domestic purpose.

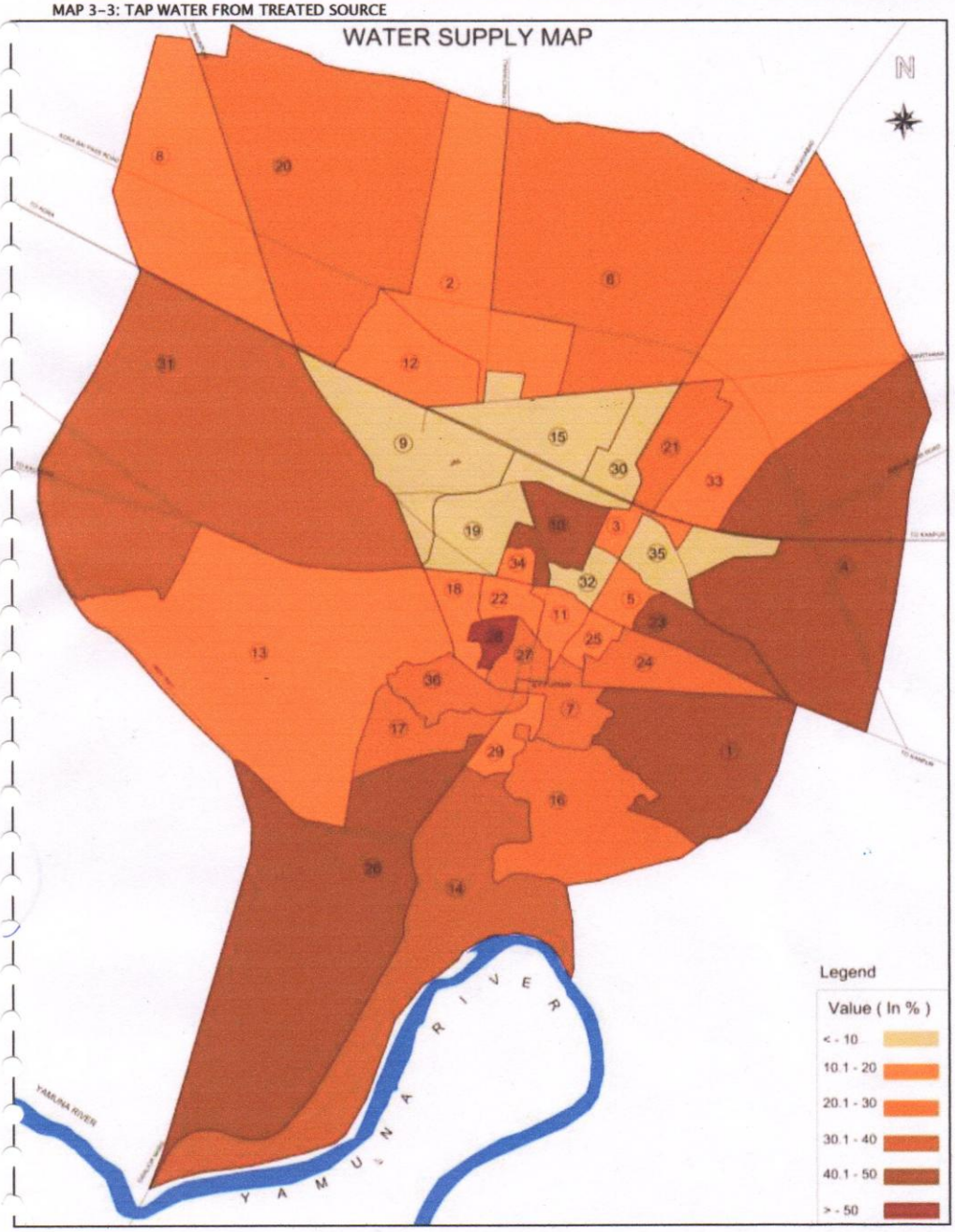
Water Supply Network

Old Water Supply Network: 90 km

New Water Supply Network: 257 km

ANNEXURE 11.1.1

MAP 3-3: TAP WATER FROM TREATED SOURCE

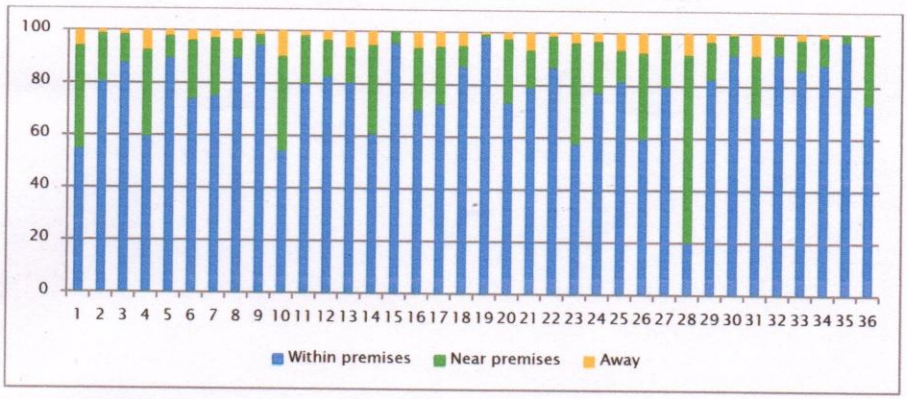


ANNEXURE 11.1.1

3.2.2 Location of Drinking Water

In ward 28,1 and 10 are having the large number of Households which does not have water facility within their premises.

FIGURE 3-5: LOCATION OF DRINKING WATER

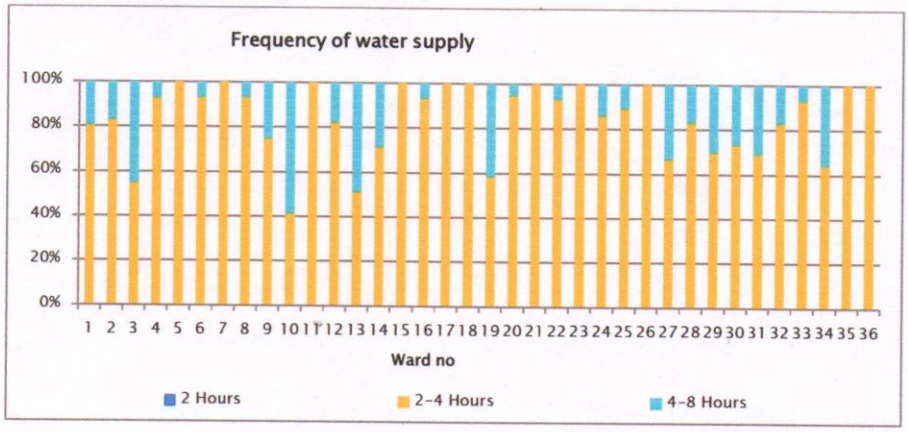


Source: Census, 2011

3.2.3 Frequency of Water Supply

The water from Municipal comes for 2-4 and 4-8 hours and the respondents having their own bore well and Hand Pump getting water for than 8 hours.

FIGURE 3-6: FREQUENCY OF WATER SUPPLY (WARD WISE)



Source: Primary Survey, 2017

ANNEXURE 11.1.1

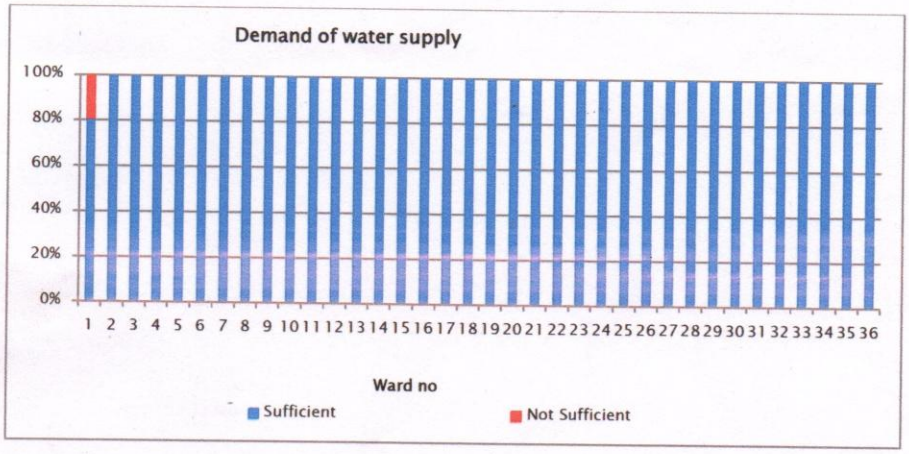
3.2.4 Quality of Water

In all the wards most of the respondents reported to get drinkable water.

3.2.5 Water Sufficiency

In all the wards some respondents are getting sufficient water and some of them are not getting sufficient water supply to fulfill for their needs.

FIGURE 3-7: WATER SUFFICIENCY (WARD WISE)



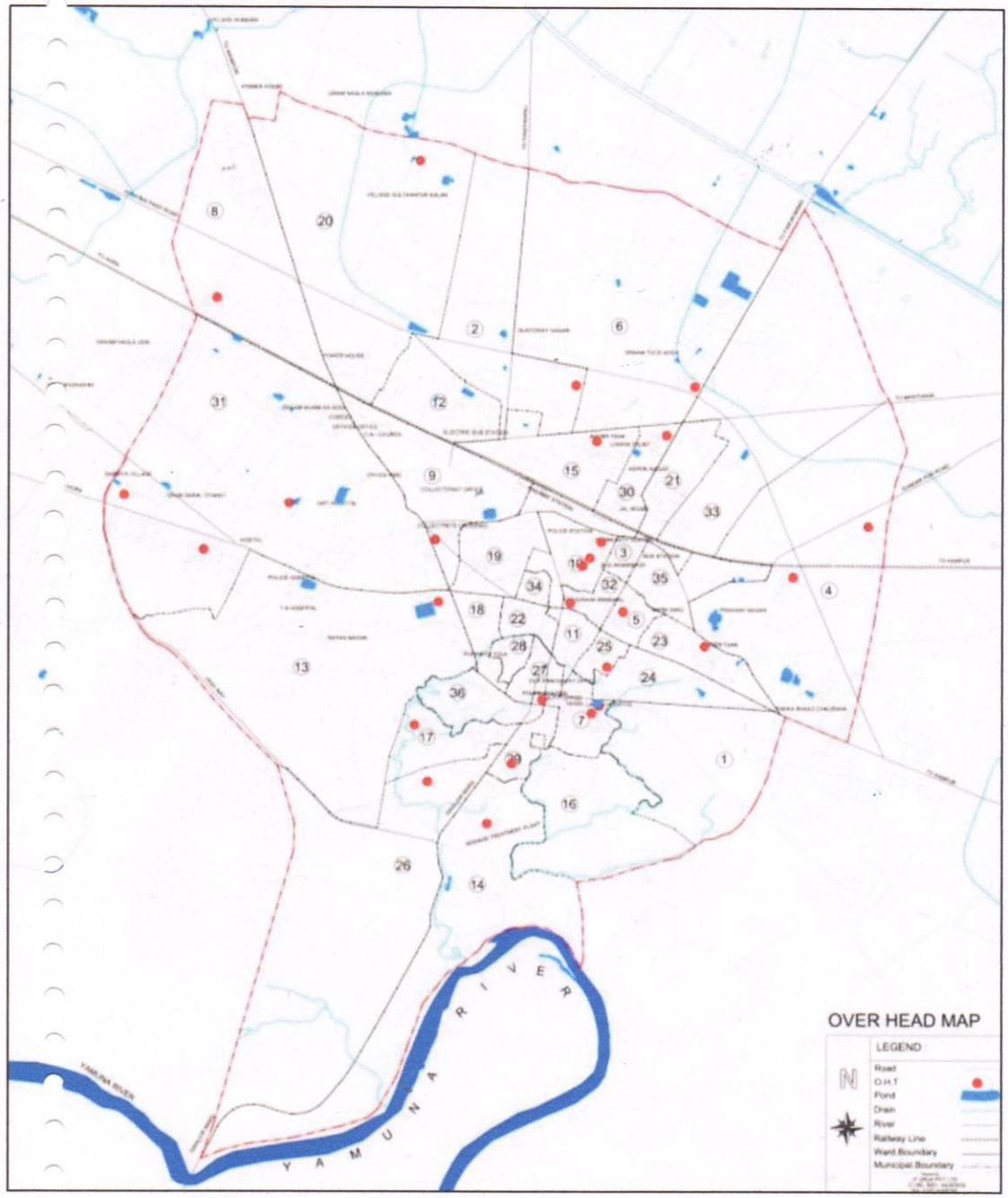
Source: Primary Survey, 2017

3.2.6 Storage

Presently, clear water being collected in Overhead Tank. Over all 16 Overhead Tank (11 Proposed) are there in the city. The total capacity of the Overhead Tanks is 36500 KLD.

ANNEXURE 11.1.1

MAP 3-4: LOCATION OF OVERHEAD TANK MAP IN ETAWAH



Source: Nagar Palika, Etawah

ANNEXURE 11.1.1

At present there is no Water Treatment Plant in the city.

3.2.7 Demand and Gap Analysis

TABLE 3-3: DEMAND AND GAP OF WATER

S. No.	Indicator	Gap
1	Gap in Household Connection	17869 (40.01%)
2	Water Supply Gap	4 MLD
4	WTP	34.6 MLD

Source: Calculated Value

3.3 Sewerage

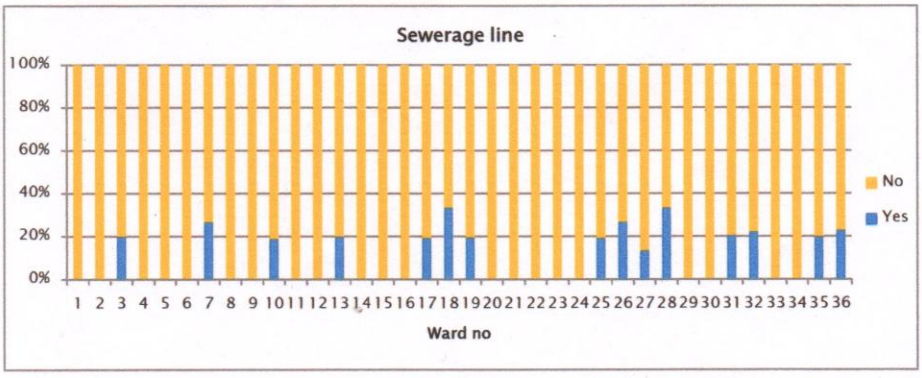
The city is having the sewerage network but the connections. There is no sewerage facility people are using their own septic tanks.

TABLE 3-4: SEWERAGE STATUS OF ETAWAH

S. No.	Status	Value
1	Sewerage Network	22.15
3	Sewerage Treatment Plant(STP)	10 MLD
3	No. of STP	2 (1 Operational)
4	No. of Household Connections	120 (0.26)

Source: NPP Etawah

FIGURE 3-8: SEWERAGE LINE IN ETAWAH



Source: Primary Survey, 2017

ANNEXURE 11.1.1

TABLE 3-5: GAP ANALYSIS OF SEWERAGE

S. No.	Present Gap	Value
1	Sewerage Network	235 km
2	Sewerage Treatment Plant(STP)	17 MLD
3	No. of Household Connections	120 (100%)

Source: Calculated Value

3.4 Septic Tank

In the absence of sewerage network people are using Septic Tank for the Black Water.

3.4.1 Type of Septic Tank (Ward Wise)

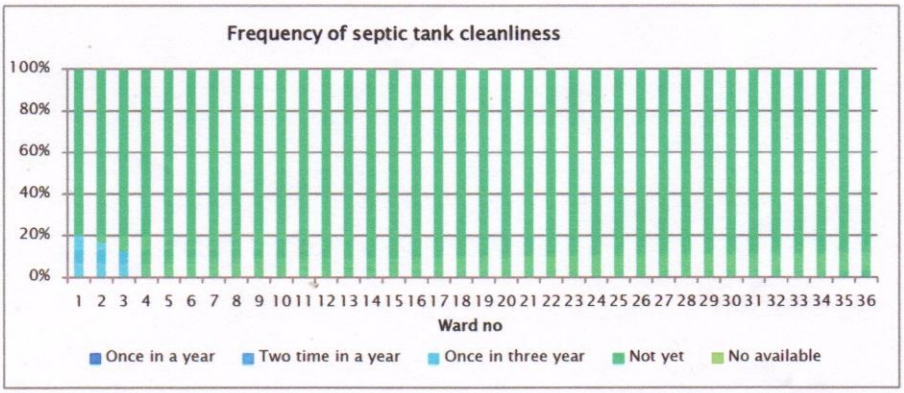
Residents are having individual septic Tanks or either they do not have anything.

3.4.2 Responsible for the Operation and Maintenance of Septic Tank (Ward Wise)

In all the ward residents they themselves are responsible for the operation and Maintenance of the Septic Tanks.

3.4.3 Frequency of Septic Tank Cleanliness (Ward Wise)

In all the wards residents do not yet had clean their Septic Tanks.



Source: Primary Survey, 2017

ANNEXURE 11.1.1

3.5 SOLID WASTE MANAGEMENT

Solid waste Management is an obligatory function of Etawah Nagar Palika Parishad. However, this service is not properly performed, resulting in problems of health, sanitation and environmental degradation. The major draw backs in the management of solid waste in the city are; Lack of sanitary workers **Lack of collection efficiency, Lack of trained manpower, Poor public participation and cooperation**. Etawah city is not an exception and different from other cities in terms of solid waste management. With the growth of population the problem of solid waste will increase day by day.

3.5.1 EXISTING SOLID WASTE MANAGEMENT SYSTEM

Local residents, Hotels, Restaurants, Bazaar and vegetable markets, Hospital and dispensaries are the major sources of generation of waste at city. About 55 MT of solid waste is generated every day in the city*.

Domestic waste is generated at the household level and varies from town to town and at an average, range between 300 to 400 gm. As per the standards, a town like Etawah will generate 350-400 gms of solid waste per head per day. Thus this domestic sector will generate 50-55 Metric Tonne solid waste per day with the current population of 256838. It comprises of maximum of organic material like vegetable waste, papers, cloths etc. which can be easily disposed. The household wastes include a small percentage of inorganic materials like metals and plastics.

3.5.2 COLLECTION SYSTEM

The waste collection and transportation activity is executed between 10AM and 3PM. approximately 50 waste collection points and approximate 75 dust bins are allocated at all wards. The depot area house several categories of vehicles which are directed to the different secondary collection points for waste collection and transportation to the composting site. Present waste management services in

ANNEXURE 11.1.1

Etawah are provided by Etawah Nagar Palika Parishad. Chief Sanitary Inspector, Sanitary Inspector, Jamadar, Supervisor, Garage Supt. & sweepers are deployed under Executive Officer. Cleaning work of a ward is looked after by administration through staff deployed at ward level.

TABLE 3-6: WORKING STAFF FOR SOLID WASTE

Sr. No	Description	Value
1	Chief Sanitary Inspector	1
2	Sanitary inspector	2
3	Sanitary Supervisors	30 (17+13)
4	Total sweepers(Contract+ Private)	287+397
5	Number Of Dustbin	75
6	Waste Collection	52-55 TPD
7	Wheel Barrow	350
8	Collection Point	50
9	Landfill Site	1 Kamet
10	SWM Plant	1(75 TPD)

Source: Nagar Palika Parishad Etawah

Maximum 60 % of municipal solid waste is actually collected and transported. Collection and transportation is being done in open vehicle creating an ugly look and littering on travelled road. Proper landfill site has been developed by Nagar Palika at kamet with the composting plant. Presently it is crudely dumped outside the city.

3.5.3 Details of Equipment

TABLE 3-7: DETAILS OF VEHICLES

S. No.	Vehicle	Number
1	Heavy Vehicles	10
2	Medium Vehicles	11
3	Light Vehicles	5
	Total	**26**

Source: Nagar Palika Parishad, Etawah

ANNEXURE 11.1.1

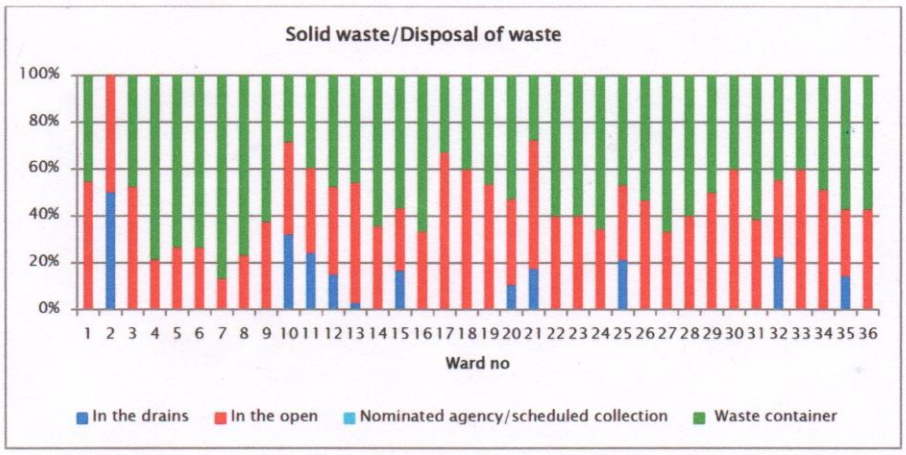
PHOTOGRAPH: DUSTBIN (PAKKA TALAB) WARD 13 AND 4 WHEELERS IN ETAWAH

Source: Primary Survey, 2017

3.5.4 METHOD OF SOLID WASTE DISPOSAL FACILITY (WARD WISE)

As per primary survey, in Etawah city disposal of solid waste in the open areas is very common as it is evident from the graph below. In few wards only there are the waste containers for the solid waste disposal.

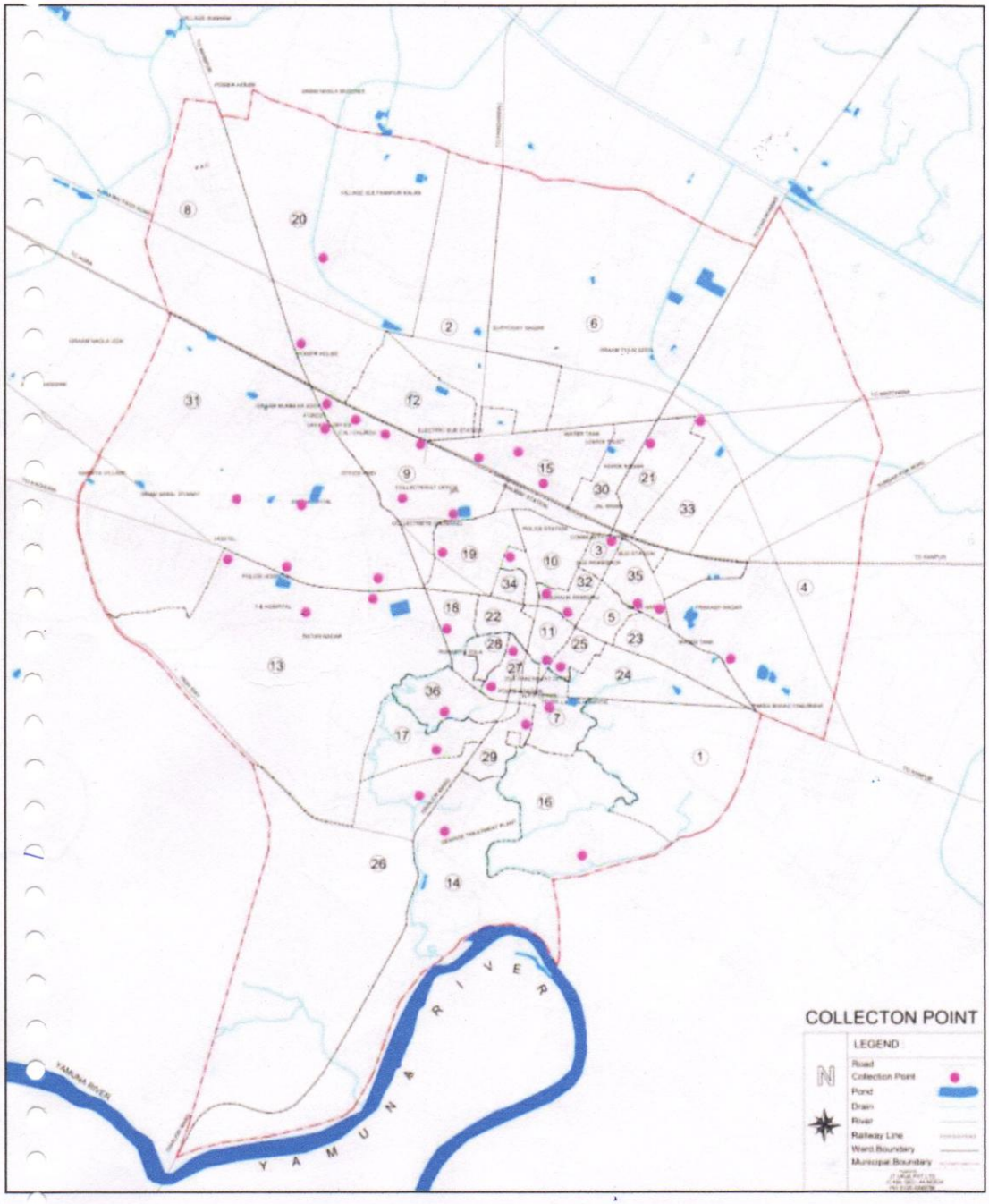
FIGURE 3-9: METHOD OF SOLID WASTE DISPOSAL FACILITY (WARD WISE)



Source: Primary Survey, 2017

ANNEXURE 11.1.1

MAP 3-5: COLLECTION POINTS IN ETAWAH



ANNEXURE 11.1.1

PHOTOGRAPH: WASTE IN THE OPEN AREAS

3.5.5 Distance of Waste Disposal Site (Ward Wise)

All the respondents reported to have the location of the waste disposal site is within the 50-100 mts of the resident area.

3.5.6 Frequency of Waste Collection (Ward Wise)

Below table it can be observed that the domestic waste is the major source of waste generation in the city.

Source: Primary Survey, 2017

ANNEXURE 11.1.1

As per primary survey in the residential areas most of the respondents reported that solid waste picked up in a day. Some of the respondents reported that solid waste collects once in two days and once in three days.

3.5.7 At Present Gap

- Requirement of Bins
- Door to Door Collection System
- Seg regation of Solid waste
- Requirement of Staff

TABLE 3-8: STAFF GAP

S. No	Indicators	Present	Required	Gap
1	Sanitation officer(1 per lac pop or part)	1	2	1
2	Sanitary Inspector(1 per 50000 pop)	2	5	3
3	Sanitary Supervisors(1 for 12500 pop)	30	21	0
4	Sweepers	684	770	87

Manual Municipal Solid Waste Management (MoUD, 2000), CPHEEO

3.6 Drainage

Drainage system of the city is very poor water chute is not according to gradient. The city urgently needs a drainage master plan. The main problem of Drainage system is no proper city plan. Main Nala has been as chocked by dumping garbage by the resident of city. The Nala is not according to gradient so it was over flow and submerges during rainy season. For better drainage system, plan made under the AMRUT scheme various parts of the city.

3.6.1 Present Status

There is one Main River **Yamuna Nadi** in which all the waste water of the city falls into. Some of drains/nallahs are bad in condition and these are damaged. Major problem in the city is cleaning of nallahs as 70% of nallahs are encroached upon. Residents have constructed houses/terrace on the nallahs.

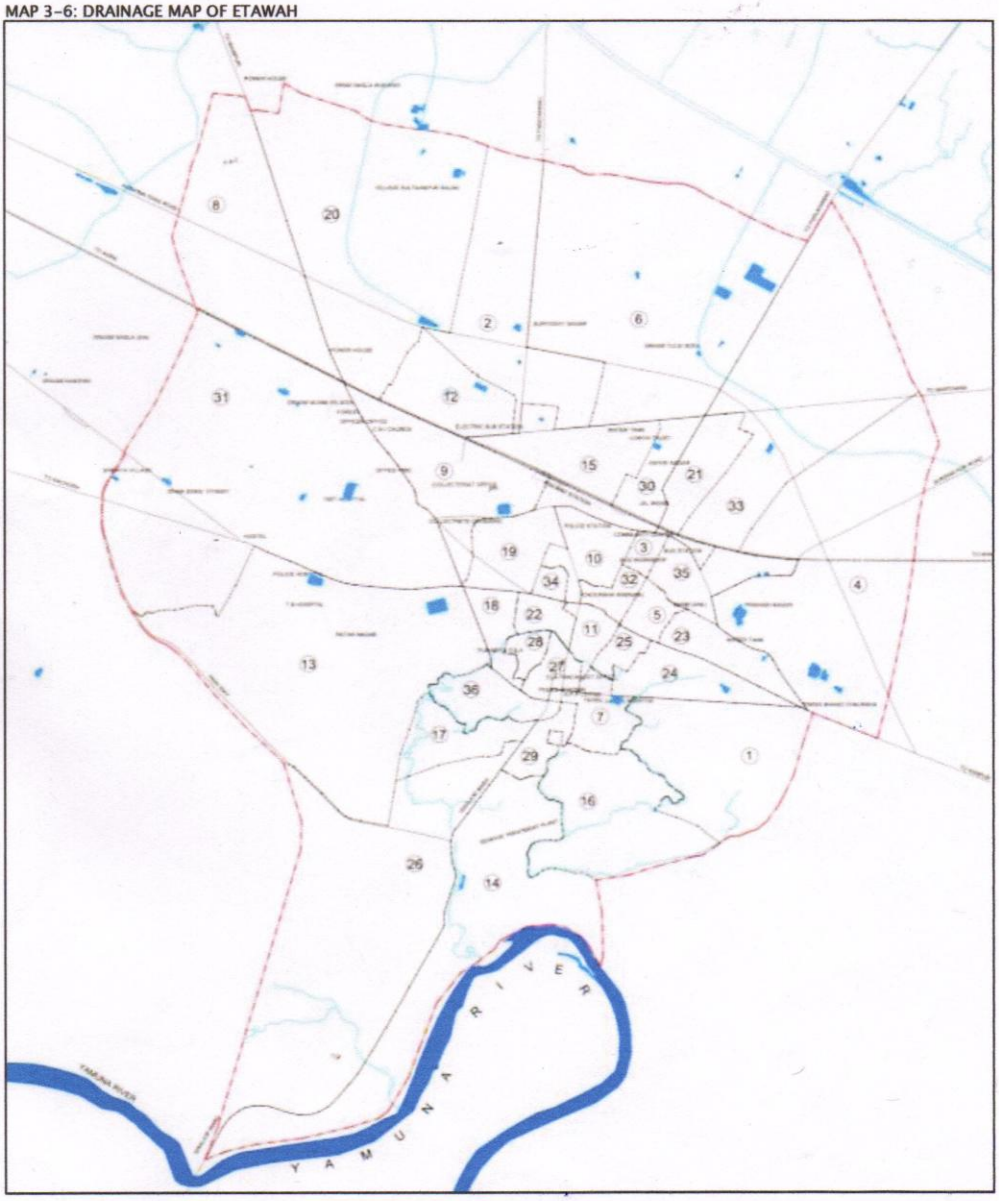
ANNEXURE 11.1.1

TABLE 3-9: LENGTH OF DRAINS

S. No	Category	Value
1	Drains	48 km

Source: Nagar Palika Parishad, Etawah

MAP 3-6: DRAINAGE MAP OF ETAWAH

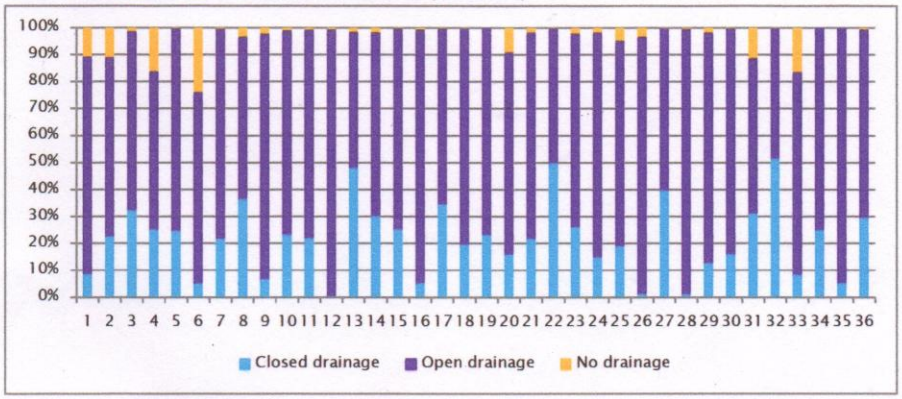


ANNEXURE 11.1.1

3.6.2 Households Connected to Drainage

The city needs urgently action to close the drainage and to provide the drainage to them. As these creates environment pollution. Bad smell from Open Drainage, Choked Drainage creates water logging, unhygienic condition for the people leads to the health problems.

FIGURE 3-10: HOUSEHOLDS CONNECTED TO DRAINAGE (WARD WISE)



Source: Census of India, 2011

3.6.3 Gap Analysis

TABLE 3-10: GAP ANALYSIS OF DRAINAGE

Type of Drainage	HHs Connection	In %	Remarks
Closed drainage	9825	22	
Open drainage	32512	72.8	Should Covered
No drainage	2367	5.3	Gap
Total	**44659**	**100**	**5.3**

Source: Census of India, 2011

ANNEXURE 11.1.1

PHOTOGRAPH: DRAINS NEAR KATRE FATEH MAHMOOD KHAN AND SABZI MANDI

3.6.4 WATER LOGGING AREAS

There are some areas which partially or permanent submerge during rainy season these areas are Azad Nagar Tila, Shanti colony near Soot mill, Moti Jheel

ANNEXURE 11.1.1

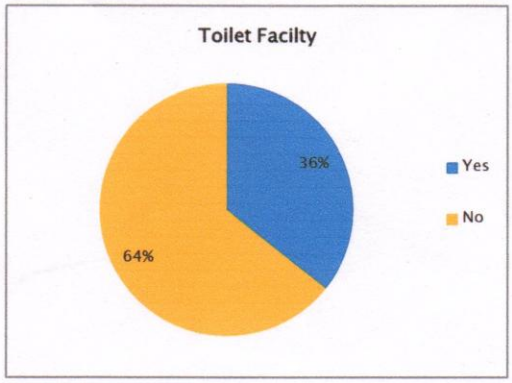
3.7 Present Status of Public & Semi Public Areas

Public place in the city refers for all the Government & Non-government institution, Schools, Colleges, Hospitals, Nursing Home, Parks and Tourist Places etc. There are 43 Schools, 8 Degree Colleges and 5 Banks. Here for CSP, Many primary surveys were also carried out across all wards of Etawah Public Places and results of the primary survey are presented below.

3.7.1 Toilet Facilities in PSP

In the primary survey, we have taken few educational institutes. In the city schools and colleges the toilet is there for the students but the ratio of students and Toilet is very low as per the standards. Other than schools the status of sanitation is given below:

FIGURE 3-11: TOILET FACILITY AT PSP



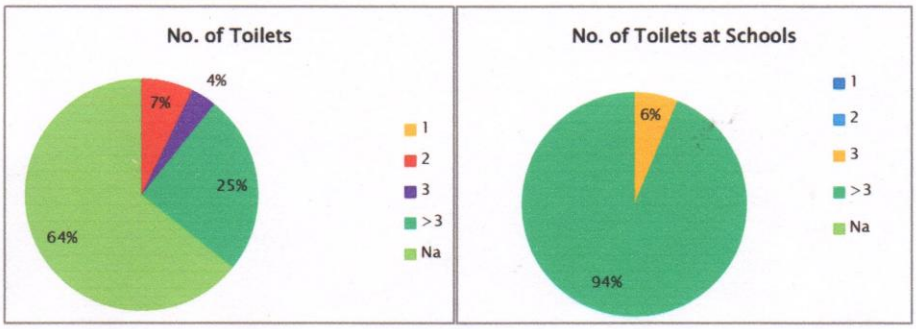
Source: Primary Survey, 2017

3.7.2 Number of Toilets in Public & Semi Public Areas

In Public Semi Public areas of Etawah city approximately 7% of respondent reported that they have only two toilet facilities at Public Semi Public areas, 4% reported that have three toilets in these areas. Around 25% reported they have more than three toilet facilities.

ANNEXURE 11.1.1

FIGURE 3-12: NUMBER OF TOILETS IN PUBLIC SEMI PUBLIC AREAS

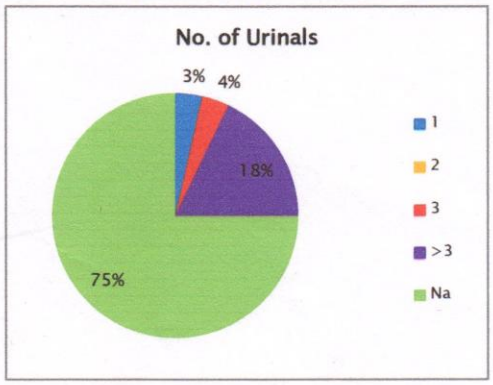


Source: Primary Survey, 2017

3.7.3 Number of Urinals in Public & Semi Public Areas

In Public Semi Public areas of Etawah city approximately 18% of respondent reported that they found more than 3 Urinals at Public Semi Public areas. Around 3% of the respondents reported that they have 1 Urinals at Public Semi Public areas.

FIGURE 3-13: NUMBER OF URINALS IN PUBLIC SEMI PUBLIC AREAS



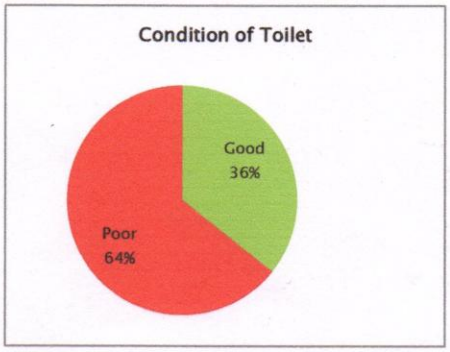
Source: Primary Survey, 2017

3.7.4 Condition of Toilets

From the below graph showing, 43% respondents reported that more than 43% people uses the public toilets.

ANNEXURE 11.1.1

FIGURE 3-14: CONDITION OF TOILETS

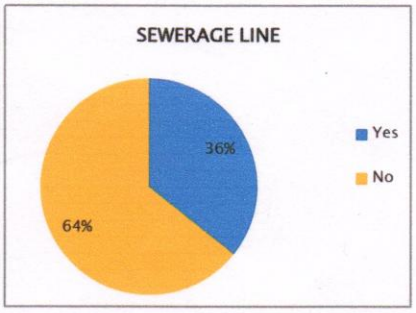


Source: Primary Survey, 2017

3.8 SEWERAGE

The figure shows the condition of sewerage line in the city. All the respondents reported about the sewerage line is available but the connection facility is not available. In this term condition is worst, nobody is responsible for the sanitation.

FIGURE 3-15: SEWERAGE LINE AVAILABILTY



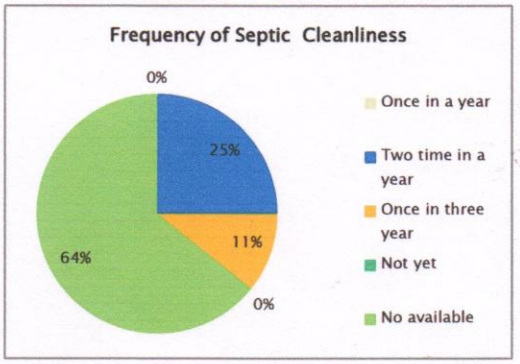
Source: Primary Survey, 2017

3.8.1 FREQUENCY OF SEPTIC TANK CLEANLINESS

The respondents around 25% have been reported that they done it two times in a year and 11% reported they had clean once in three years.

ANNEXURE 11.1.1

FIGURE 3-16: FREQUENCY OF SEPTIC TANK CLEANLINESS



Source: Primary Survey, 2017

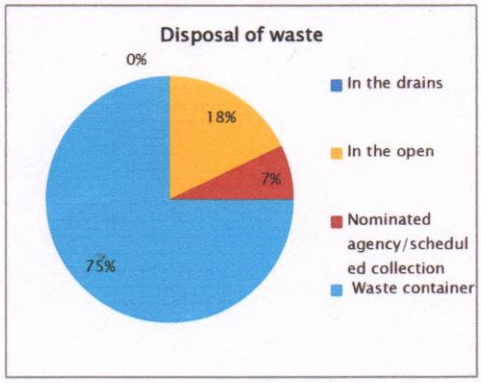
3.9 SOLID WASTE MANAGEMENT

At present from the hospitals bio-medical waste is generated in the city. At present 1 Hospitals, 1 Dispensary and private clinics are there. The waste is not segregated at source.

3.9.1 METHOD OF SOLID WASTE DISPOSAL FACILITY

Disposal of Solid waste in Open is common in most of the part in city. Around 75% of the respondents dispose in the waste container and 18% respondents reported to dump in the open areas. And the hospital waste which is 7% taken by agency.

FIGURE 3-17: METHOD OF SOLID WASTE DISPOSAL FACILITY



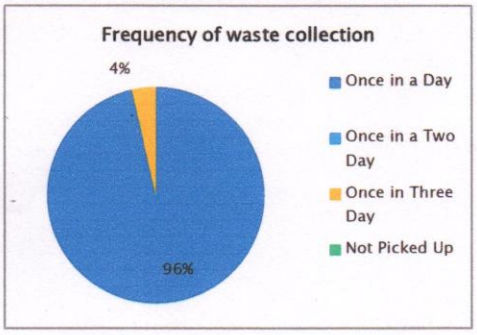
Source: Primary Survey, 2017

This may cause environmental and health hazard. The waste disposed in open finds its way in storm water drain and water bodies. Most of the time waste is disposed in low lying open areas and on surface water system, causing contamination of ground and surface water. Proper waste collection system needs to be designed for the city to prevent this.

3.9.2 Frequency of Waste Collection

In the PSP 96% are reported that waste collects once in a day and 4% reported that waste collects within three days.

FIGURE 3-18: FREQUENCY OF WASTE COLLECTION



Source: Primary Survey, 2017

3.10 Water Supply

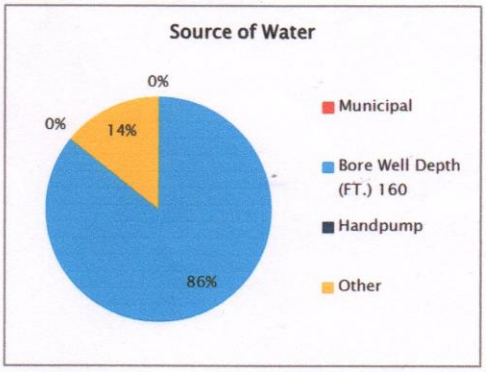
Hand Pump is the major source of water in at Public & Semi Public areas in Etawah City. The current sanitation and waste management practice in Etawah as witnessed earlier is highly detrimental to ground water quality and there is immediate threat of contamination of ground water if preventive measures are not taken. Thus the CSP should focus on avoiding contamination of ground water and preventing outbreak of epidemic by suggesting proper management practices for waste water and Municipal solid waste in the city.

ANNEXURE 11.1.1

3.10.1 SOURCE OF WATER

In Etawah in PSP 86% reported to have Bore-well and 14% used others sources as their source of water.

FIGURE 3-19: SOURCE OF WATER

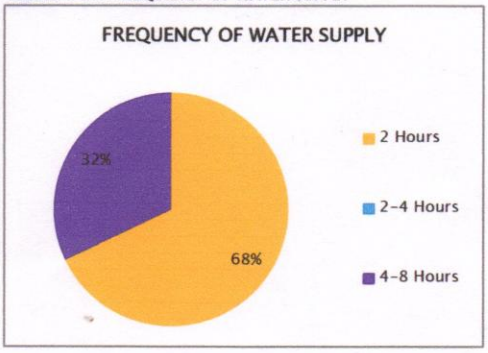


Source: Primary Survey, 2017

3.10.2 FREQUENCY OF WATER SUPPLY

Around 68% of the respondents reported that water comes only for 2hours, 32% respondents reported that water is supplying for 4-8 hours. The hours of supplying water is enough as these are having bore wells and Hand Pumps.

FIGURE 3-20: FREQUENCY OF WATER SUPPLY



Source: Primary Survey, 2017

ANNEXURE 11.1.1

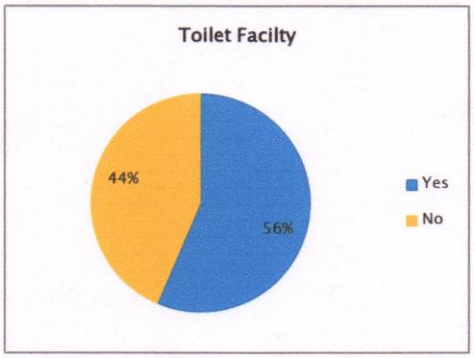
3.11 Present Status of Commercial Toilets

There are Markets 2 Sabzi Mandis, 2 Cinema Halls, 2 Malls and more than 25 Hotels in Etawah city. Many primary surveys were also carried out across all the wards of Etawah commercial area and results of the primary survey are presented below.

3.11.1 Availability of Toilet Facility

As can be seen in Pie chart below, most of the respondents (around 44% reported absence of toilet facility in the commercial area of Etawah city only 56% respondent reported presence of Toilet facility at establishment level.

FIGURE 3-21: TOILET FACILITY AT ESTABLISHMENTS



Source: Primary Survey, 2017

3.11.2 Type of Toilet Facility

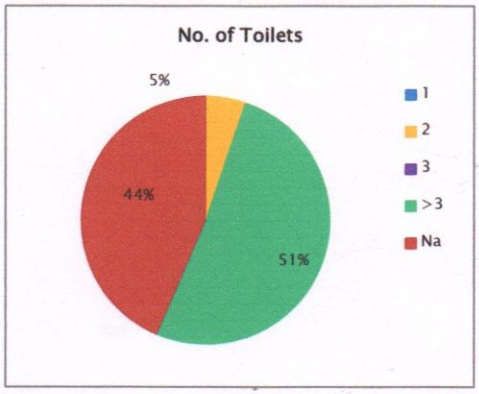
In commercial area of Etawah city a huge number approximately 44% of respondent reported that they do not have toilet facility at establishment level and rest of 56% of which includes only cinema hall, malls having toilet facility at establishment level, they are using Toilet facility of Septic Tank with Water.

3.11.3 Number of Toilets in Commercial Areas

In the commercial areas 51% respondents (in Cinema Halls, Malls and Hotels) reported to have more than 3 toilet facility.

ANNEXURE 11.1.1

FIGURE 3-22: NUMBER OF TOILETS IN COMMERCIAL AREAS



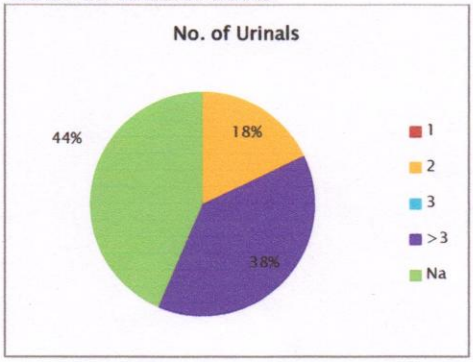
Source: Primary Survey, 2017

And only 5% reported to have 2 toilet facility.

3.11.4 NUMBER OF URINALS IN COMMERCIAL AREAS

The below figure shows the availability of urinal in commercial establishments. 38% are having more than 3 urinals and 18% are having only 2 urinals

FIGURE 3-23: NUMBER OF URINALS



Source: Primary Survey, 2017

3.11.5 RESPONSIBLE FOR THE SANITATION

Nobody is responsible for the sanitation in of the Public toilets in the Commercial Areas.

ANNEXURE 11.1.1

3.11.6 Open Defecation

People do not go for the open defecation here.

3.12 Septic Tank

3.12.1 Type of Septic Tank

In the Commercial areas the respondents reported to have their own septic Tank.

3.12.2 Responsible for the Operation and Maintenance of Septic Tank

In the Commercial areas respondents are reported that O& M has been done by the Individual.

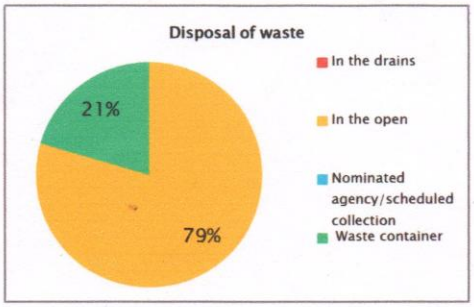
3.13 Solid Waste Management

The commercial waste includes the waste from shops, trading units, small street traders, etc. It mainly comprises of paper, plastics and other in-organics, which are finding their way to the disposal yard along with the domestic waste.

3.13.1 Method of Solid Waste Disposal facility

Disposal of Solid waste in Open is common in most of the part in city. Around 79% of the respondents dispose in the open areas, 21% in the waste containers.

FIGURE 3-24: METHOD OF SOLID WASTE DISPOSAL FACILITY



Source: Primary Survey, 2017

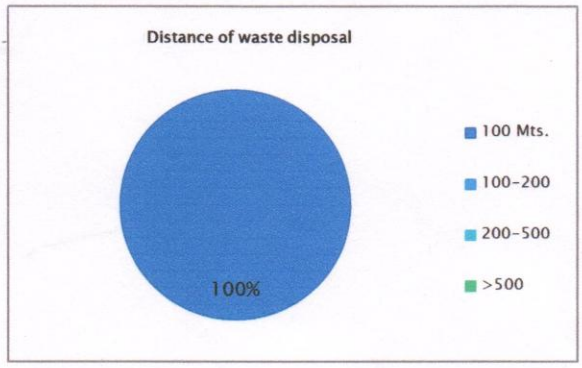
ANNEXURE 11.1.1

This may cause environmental and health hazard. The waste disposed in open finds its way in storm water drain and water bodies. Most of the time waste is disposed in low lying open areas and on surface water system, causing contamination of ground and surface water. Proper waste collection system needs to be designed for the city to prevent this.

3.13.2 Distance of Waste Disposal Site

A number of respondent reported waste disposal site to be less than 100 meters. Though most of these are open dumping sites and are not covered under municipal waste collection system, in absence of a designated waste disposal area and Dustbin in various parts of city, it is common for citizen to dispose waste in nearby areas.

FIGURE 3-25: DISTANCE OF WASTE DISPOSAL SITE

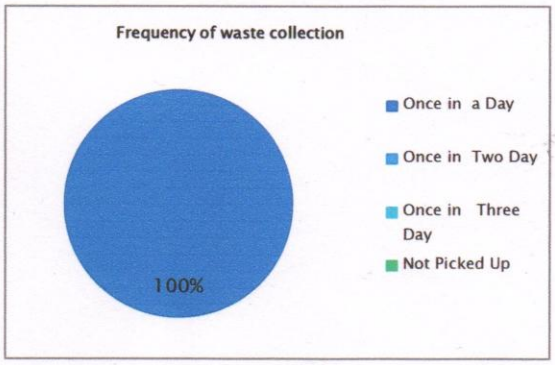


Source: Primary Survey, 2017

3.13.3 Frequency of Waste Collection

It can be seen in the graph that 100% respondents reported that collection of waste is done once in a day.

FIGURE 3-26: FREQUENCY OF WASTE COLLECTION



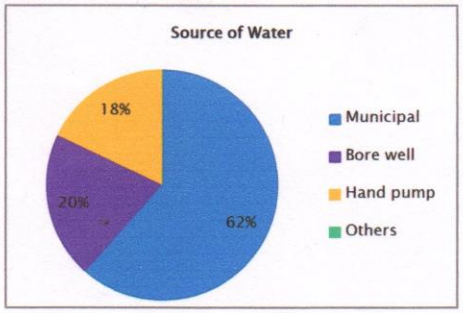
Source: Primary Survey, 2017

3.14 WATER SUPPLY

3.14.1 SOURCE OF WATER

Bore well and other sources forms are the major source of water in Etawah City. The current sanitation and waste management practice in Etawah as witnessed earlier is highly detrimental to ground water quality and there is immediate threat of contamination of ground water if preventive measures are not taken. Thus the CSP should focus on avoiding contamination of ground water and preventing outbreak of epidemic by suggesting proper management practices for waste water and Municipal solid waste in the city.

FIGURE 3-27: SOURCE OF WATER



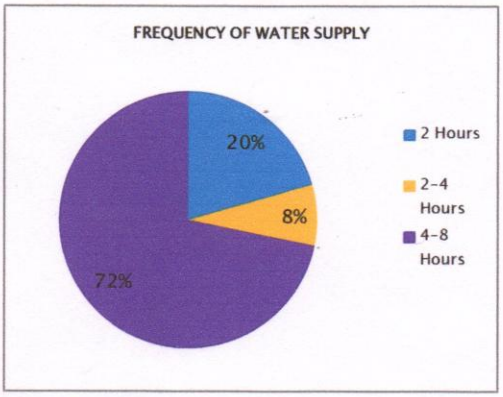
Source: Primary Survey, 2017

ANNEXURE 11.1.1

3.14.2 FREQUENCY OF WATER SUPPLY

Around 72% of the respondents reported that water comes for 2-4 hours, 20% reported to have water around 2 hours only 8% are getting 4-8 hours. The hours of supplying water is not enough.

FIGURE 3-28: FREQUENCY OF WATER SUPPLY



Source: Primary Survey, 2017

Page

ANNEXURE 11.1.1

3.15 SITUATION ANALYSIS OF SLUM AREAS

The chapter discusses about the slum population in the city with their access to basic services drawn from discussions with the slum people, discussions with the Nagar Palika officials and the secondary data. The aim is to identify the various issues related to the status of infrastructure and suggest strategies and proposals for the improvement and efficient service delivery. It also deals with the spatial location of the slums in the city.

As per the Census 2011, the total slum population in the city is 17920. The percentage of slum population in the city is 6.9 per cent of the total population. As per NPP there are 31 slum pockets (Map. (The slum pocket wise population is given in Annexure). The slum population in the city has been spread over in all the wards. As per Census, the household (HH) size in slums works out to be 5.19, which is less than the HH size of the total population (5.75).

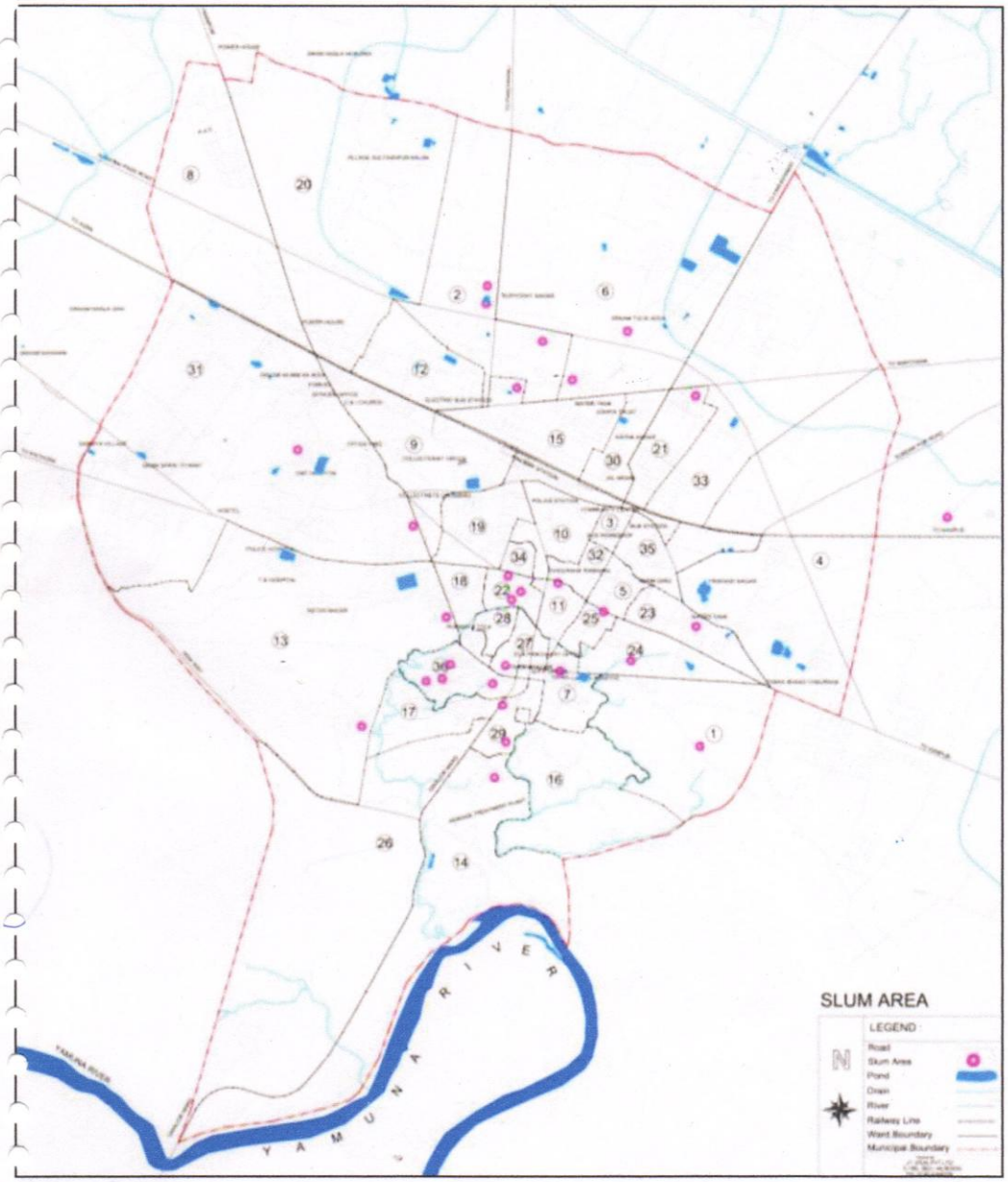
TABLE 3-11: SLUM PROFILE IN ETAWAH CITY

S. No	Description	Value
1	Total Population of city (in lakhs)	256838
2	Slum Population	17920
3	Slum Population as percentage of urban population	6.98%
4	Number of Notified Slums	31
5	Number of slums not notified	0
6	Slum Households	3450
7	Number of slums where households have individual water connections*	
8	Number of slums connected to sewerage network*	0
9	Sanitation Facility	84%
10	Solid Waste	
11	Storm Water Drainage	0%

SOURCE: CENSUS 2011, NATIONAL URBAN HEALTH MISSION (ETAWAH) AND NAGAR PALIKA PARISHAD ETAWAH

ANNEXURE 11.1.1

MAP 3-7: SLUM LOCATIONS IN ETAWAH NAGAR PALIKA



Source: NUHM

ANNEXURE 11.1.1

3.15.1 BASIC SERVICES

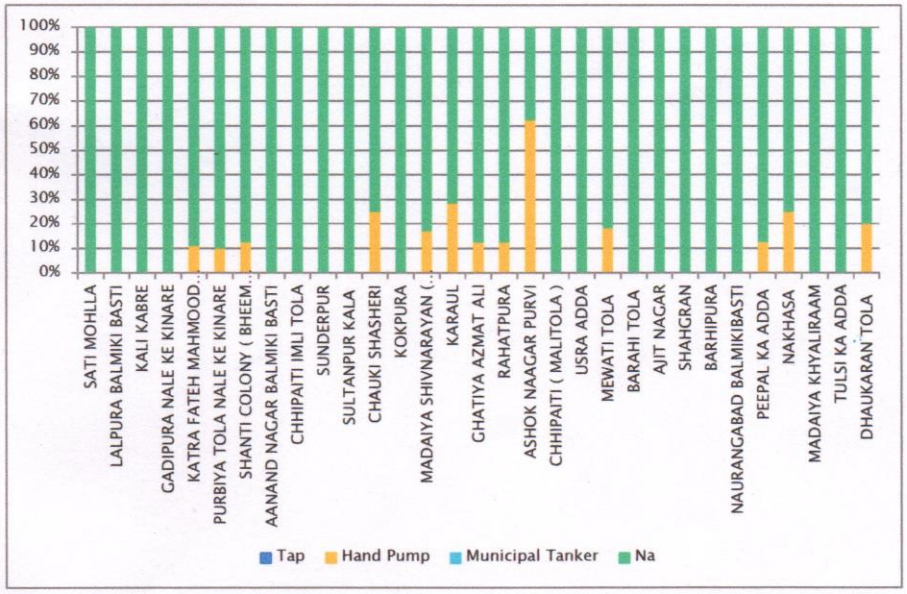
The living condition of the slum is very unhygienic due to lack of Infrastructure facilities like roads, drainage and proper water supply. Location of slum in a fast growing locality would encourage Mainstreaming the slum-dwellers into citywide network.

3.15.2 ACCESSIBILITY TO WATER SERVICES

The population in slum areas are getting Tap water at household level. Water Supply is good in Etawah due to the Water Supply Scheme of Jal Nigam.

But at Community Level people are having Hand Pumps as a source of water.

FIGURE 3-29: ACCESSIBILTY OF WATER AT COMMUNITY LEVEL



Source: Primary Survey, 2017

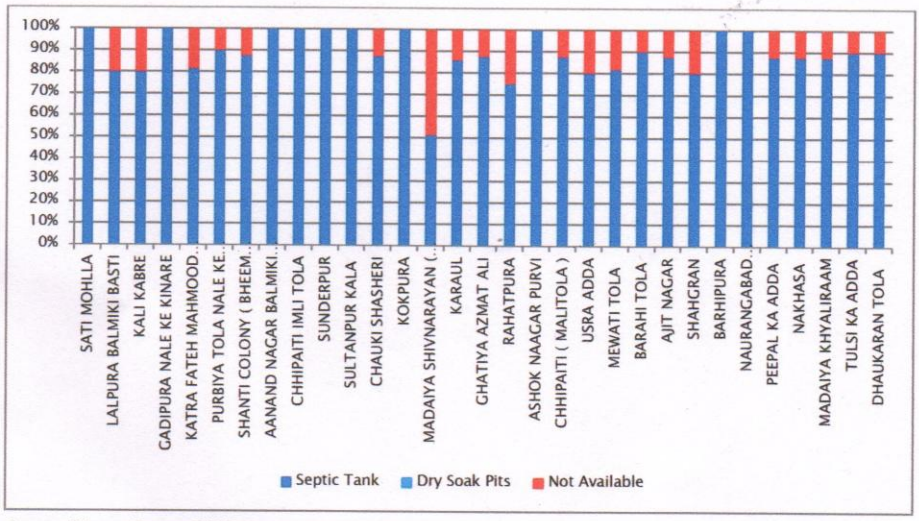
3.15.3 SANITATION FACILITY

In Madaya slum the condition is worst of sanitation the population does not have access to sanitation facility. A very less of 15 per cent of the population is having

ANNEXURE 11.1.1

private flush system. Open defecation is common in areas, which lack the toilet facility.

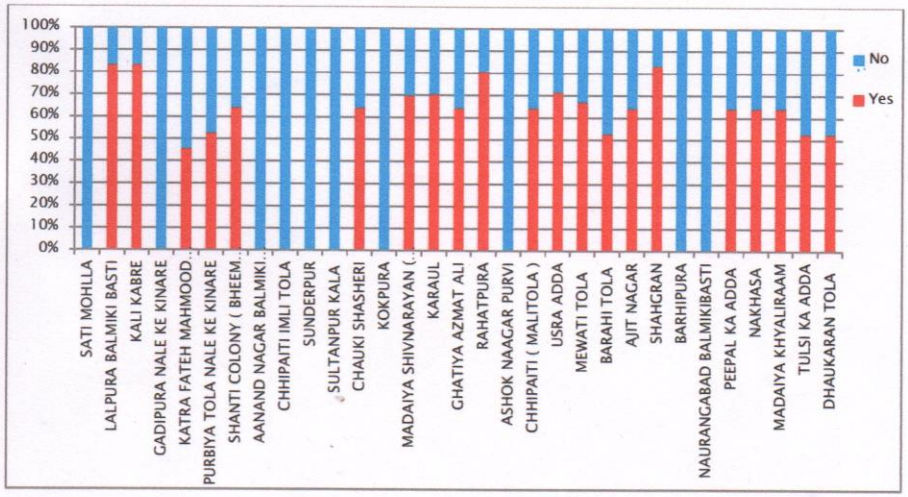
FIGURE 3-30: ACCESS TO TOILETS



Source: Primary Survey, 2017

3.15.3.1 OPEN DEFECATION

FIGURE 3-31: OPEN DEFECATION STATUS IN SLUM



Source: Primary Survey, 2017

ANNEXURE 11.1.1

People who do not have access to toilets are going for the open defecation which makes the sanitation situation very critical in Etawah.

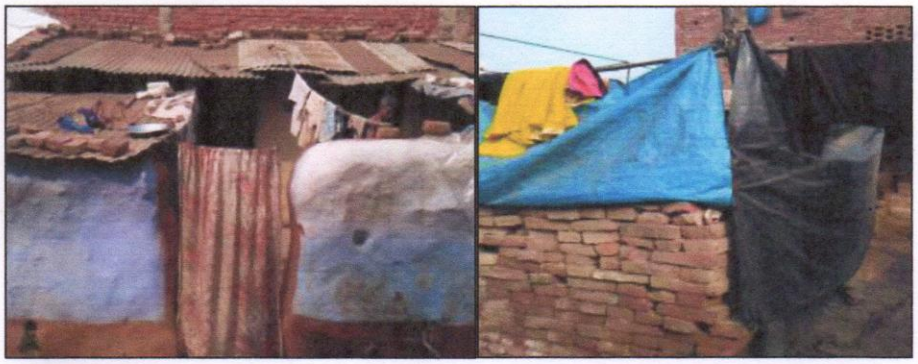
3.15.4 STORM WATER DRAINAGE

The poor sanitary conditions are prevailing due to lack of drains and collection of wastewater in pits. The clogged drains have also increased the vulnerability of the slum dwellers. Inside the settlements there are no paved drains or pathways, the wastewater from homes gets collected in open soak pits. The stagnant water in the pits results in mosquito breeding.

3.15.5 SOLID WASTE

There is no provision of solid waste collection or disposal in the slum areas. The waste was disposed in open spaces because the waste do not collects daily by Nagar Palika.

PHOTOGRAPH: SLUM AREAS, MADAYA SHIV NARAYAN



SOURCE: PRIMARY SURVEY, 2017

3.15.6 WILLINGNESS TO PAY

Every respondent those living in slum area reported that they are not willing to pay for the Toilets and Sewer lines. So Nagar Palika needs to provide Public Toilet facility in slum area with the help of local or state government under suitable sanitation scheme to stop open defecation in Etawah city.

ANNEXURE 11.1.1

3.15.7 WATER BORN DISEASE IN SLUM AREAS

In the Slum areas respondents are getting good quality of water .The water borne diseases is not the problem for slum dwellers in Etawah city.

Page

ANNEXURE 11.1.1

4 KEY ISSUES IN ETAWAH CITY

4.1 WATER

Water is supplied by the Municipal is not sufficient for the people of the city as it is supplying only for 7-8 hours in a day. The issue is to give water connections and user charges collection from the population.

The major issue in the city is solid waste management. The water bodies are polluting because of the waste dumped in the open.

4.2 SOLID WASTE

The critical issue in Etawah is about the open disposal of solid waste. Most of these are open dumping sites and are not covered under municipal waste collection system, in absence of a designated waste disposal area and Dustbin in various parts of city, it is common for citizen to dispose waste in nearby areas.

The city is lacking in the scientific segregation solid waste and management plan. Solid wastes are dumped in low lying areas posing a great threat for ground water. Public and Semi Public and commercial waste needs more attention in this regard.

4.3 SEWERAGE AND DRAINAGE

The sewerage condition is very critical in Etawah city as the city is not having sewage collection network. Very few Public toilets are there in the city which leads to the open defecation. There is a lack of proper septage management. Raw sewage and tank effluent being disposed to drains leading to health hazards in the city there is Sewage Treatment Plant which is not operational.

1. Main Nala has been chocked by dumping garbage by the resident of city.

ANNEXURE 11.1.1

2. The Nala is not according to gradient so it over flows and submerges during rainy season.
3. The city faces water logging problem due to the non-availability of storm water drainage network.
4. Economic loss faces by the city due to water logging problem in the city during rainy season.
5. Open Nallis which carries waste water from the residences carries storm water during rainy seasons and choked due to solid waste and creates problem for the people

4.4 SANITATION FOR URBAN POOR

In the slum areas Open defecation is very common which needs immediate action and attention. Slum dwellers need Community Toilets facility, Household level toilet facility so that the practice of Open Defecation can reduce. The ultimate goal of City Sanitation Plan can only be achieve when every section of the society must have to include in the planning process of City Sanitation Plan.

1. At present there are 5850 households does not have toilets in their premises.
2. The major are in the outer part of the city going for open defection.
3. Maximum 3% population depends on either public toilets or going for open defecation.

4.5 GENERAL

Awareness level needs to be enhanced more in the slum areas. There is a lack of coordination between various institutions responsible for urban services and development. In the Nagar Palika there is inadequate staff strength to handle and manage the services. Initiatives are inadequate on reforms to make the city better place and delay in work.

ANNEXURE 11.1.1

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Swachh Bharat Mission Guidelines

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