

**An Analysis of Gorakhpur City**  
**(Base line study of socio-economic status)**

**(Under Reducing Vulnerability to Climate Change)**

**Study Conducted by**  
**Gorakhpur Environmental Action Group**

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## **Acknowledgements**

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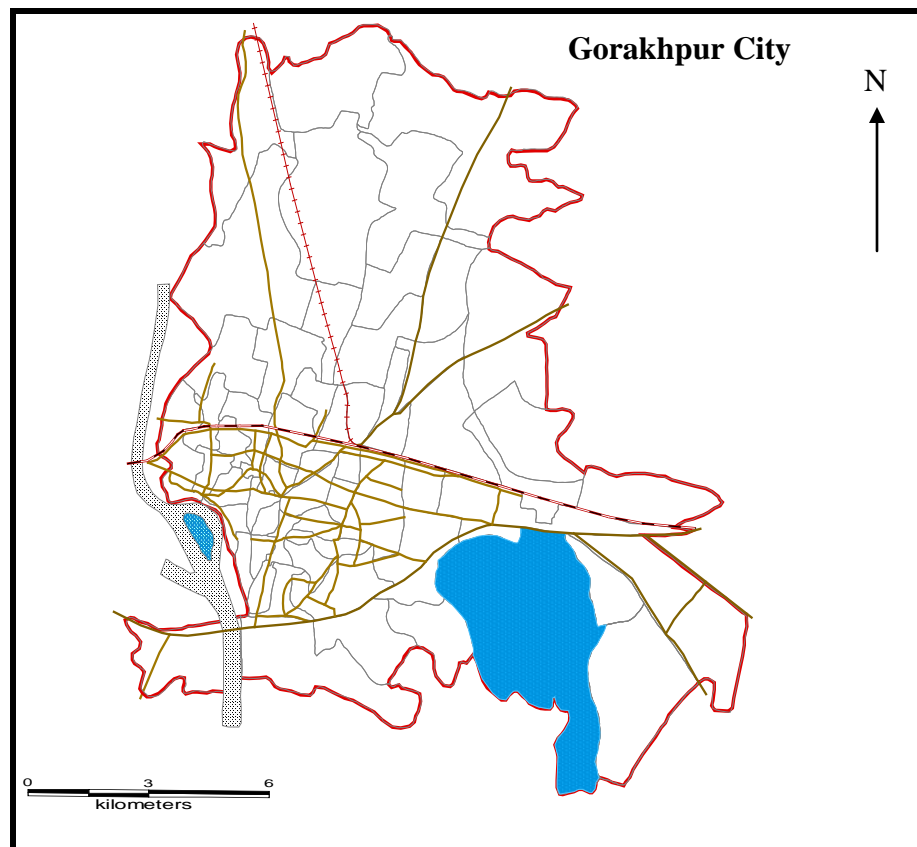
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## Location

Gorakhpur, the administrative head quarter of the north eastern railways as well as the district of the same name, is also the regional centre of the Suryu par plain at present. The city Gorakhpur is geographically located in (20° 45' North and 83° 22' East) in Suryu par plain of middle Ganga plain between the Rapti and Rohin river basin. It lies in one of the most fertile parts of the world where one of the poorest people live. In the past several towns took their origin in this plain (Suryu par plain) but with the passage of time they either declined or were deserted except Gorakhpur. At present it is most fast accelerating city in sense of population and economic growth after Varanasi in Middle Ganga plain. The average altitude of the city from mean sea level is about 102 m (302 feet). The city is well connected by rail, road and air transport network from other areas of the country. It is located on lakhnow- barauni broad gauge main line. It lies at a distance of 810 kilometre from kolkatta, 360 km from Allahabad.



**Fig. 1**

## Histogenesis of the City

The old Gorakhpur city was initially settled north of the present railway line. In the ancient time Gorakhpur was a part of a Janpad of a same name which included the district of Basti, Deoria and part of Nepal tarai. It is said that in the tenth century A.D Rathore Rajpur Mansen refounded the settlement of Gorakhpur. He constructed mansorobar Tal. The present name of the city is derived from the yogi Gorakhnath.

The earlier settler appears to have occupied a site to the north of the present town. The presence of Mohallas- Jatepur, Purana Gorakhpur and Madhopur, reveal the existence of former settlement. The temple of gorakhnath was the nucleus of old settlement.

During medieval period i.e until the close of eighteenth century, Gorakhpur passed through a more or less similar phase of development. It expanded in a haphazard fashion. The old Gorakhpur round the temple of Gorakhpur had declined during the later Muslim period probably due to the retreat of the Rapti to the south and lands became covered with jungle over which Humanuyanpur, Rassolpur and other village grew up while the southern portion of the city became densely populated. During this period the Gorakhpur had two important market centres i.e one is Urdu bazaar and another Alinagar bazaar.

The phenomenal growth of the city was seen during the British period. It is also said that Gorakhpur became an important centre of activity during the first war of independence. In 1891, Gorakhpur became the regional headquarter and commissioner's office was stabled here.

### **Climate**

Climate influence human being and his activities. Therefore it is essential to know the climatic condition prevailing in the city Gorakhpur city situated in the subtropical continental part of the Saryu Par Plain. The climate of the city can be considered under three seasons: the summer, the winter and rainy season. The table 1 shows the average value of 20 years of Relative humidity, temperature, and rainfall in different months of the year.

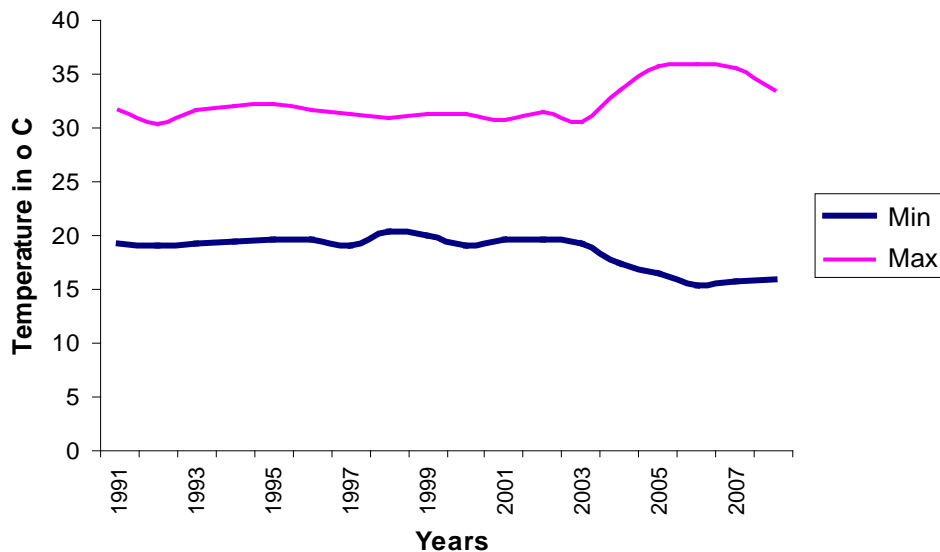
**Table :1 Meteorological Information**

<b>Month</b>	<b>Relative Humidity</b>	<b>High Temperature in °c</b>	<b>Low temperature in °c</b>	<b>Average temperature in °c</b>	<b>Rainfall mm</b>
January	74.0	22.79	9.17	15.98	17.95
February	67.90	25.41	11.18	18.33	10.83
March	57.80	32.25	16.35	24.30	8.13
April	51.50	37.42	21.85	29.33	18.59
May	54.10	38.30	24.96	31.55	24.58
June	57.70	26.08	25.24	31.15	138.52
July	85.50	32.75	26.19	29.47	318.93
August	88.00	32.02	25.95	28.94	338.04
September	88.00	32.47	25.13	28.80	229.57
October	75.40	31.75	20.29	26.27	72.55
November	72.90	27.85	14.07	25.96	1.15
December	73.50	23.53	9.90	16.76	4.47
<b>Average</b>	<b>70.35</b>	<b>31.05</b>	<b>19.03</b>	<b>25.57</b>	<b>1183.37</b>

## Temperature

Temperature is one of the most important elements of climate. The average temperature of the Gorakhpur city is  $25.57^{\circ}\text{C}$ . From the observation of the above table.... it is clear that the temperature of the city rises gradually from March to May and from May it begins to fall gradually. During the summer period it reached upto  $42.8^{\circ}\text{C}$ . May is the hottest and January is coolest month. The Table 2 depicts the temperature variation during the last 18 years. From the observation of the table and figure 2 it is clear that during last 18 years, the trends of maximum and minimum temperature, especially during last five years has shown a phenomenal characteristic. The summer months are becoming more hooter and cooler months are becoming cooler. The average maximum temperature during 1991 was  $31^{\circ}\text{C}$  which has now risen to  $33^{\circ}\text{C}$  while the average minimum temperature has dropped from  $19.2^{\circ}\text{C}$  in 1991 to  $15.98^{\circ}\text{C}$  in 2008.

**Gorakhpur City: Trends of Temperature Variation (1991-2008)**



**Fig. 2**

### **Rainfall:**

Being located in the Middle Ganga Plain, the average annual rainfall of the Gorakhpur city is 1118.37 mm. The rainy season starts from mid of June and continues up to the end of September. August is the rainiest month and records highest rainfall. The figure 3 shows the trends of 13 years of rainfall in Gorakhpur city. It is clear from the figure that the average rain fall from 1995 to 2008 has reduced and also indicates the regular ups and down.

**Table: 2 Gorakhpur City: Maximum- Minimum Temperature (1991-2008)**

Month	1991		1992		1993		1994		1995		1996		1997		1998		1999	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Jan	9.6	20.5	8.4	23.2	9.2	19.9	10.4	24.1	9.3	22.1	10.0	23.3	8.5	23.2	8.2	18.9	8.6	20.2
Feb	12.1	27.6	9.4	24.6	12.4	27.7	11.3	25.4	11.5	26.0	11.7	26.2	10.3	25.7	12.1	26.2	13.5	27.3
Mar	16.5	31.6	15.7	32.9	15.0	30.3	16.6	32.9	16.1	31.2	17.7	33.3	15.7	32.5	15.4	29.5	17.3	34.3
April	21.3	37.6	22.4	39.8	20.5	38.9	21.5	37.7	21.4	39.1	20.9	38.3	20.2	34.3	21.4	35.8	22.5	40.5
May	25.0	40.4	23.7	38.6	24.4	37.7	25.3	39.5	26.9	42.5	25.5	41.1	23.8	38.8	25.7	37.7	25.3	36.2
June	26.5	34.5	25.5	39.5	25.8	36.5	26.8	37.3	27.3	37.4	26.1	36.6	26.7	36.8	28.4	39.2	26.5	33.9
July	26.4	34.3	26.7	34.4	26.9	35.0	26.5	33.7	26.1	33.2	26.3	32.7	26.3	32.0	26.4	32.0	26.1	31.7
Aug	26.0	32.8	25.8	33.1	25.7	32.6	25.9	32.9	25.8	31.6	25.7	32.3	26.0	32.3	26.2	31.2	25.8	31.3
Sept	24.9	33.3	24.9	34.0	24.3	31.1	24.3	31.9	24.7	32.5	24.4	32.3	24.7	31.6	25.8	32.0	25.0	32.1
Oct	19.3	33.9	21.2	32.6	20.7	34.2	20.0	33.3	21.3	33.2	21.1	31.8	20.0	31.9	23.9	32.1	21.9	32.3
Nov	13.9	29.0	14.0	30.7	15.7	31.1	14.4	30.7	15.0	30.3	13.8	31.3	16.1	29.7	18.4	30.4	15.6	30.5
Dec	9.7	24.8	10.6	23.9	10.1	26.1	11.3	25.9	9.3	26.5	11.3	20.9	11.0	25.9	11.6	25.9	11.6	25.5

Month	2000		2001		2002		2003		2004		2005		2006		2007		2008	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Jan	9.3	21.4	9.8	22.1	10.1	23.1	6.5	15.5	8.8	18.1	7.9	26.2	4.3	27.7	5.2	28.2	4.3	26.5
Feb	10.3	24.2	11.8	26.0	12.9	26.6	13.0	25.5	12.1	27.4	9.1	31.3	10.2	35.1	8.8	30.2	3.3	27.8
Mar	15.2	31.4	16.5	32.1	17.0	32.8	15.0	31.1	18.1	35.0	14.8	38.1	10.0	39.5	11.2	38.8	10.3	36.3
April	21.8	37.7	20.8	39.5	21.7	37.0	22.0	39.0	22.1	37.2	18.2	42.2	16.3	41.3	17.2	40.5	15.2	41.3
May	25.1	38.4	24.8	35.4	24.1	35.4	24.5	39.4	19.8	45.2	19.2	44.0	21.6	45.0	18.9	41.6	18.8	40.3
June	26.4	37.0	25.7	32.3	25.9	34.9	25.9	35.1	21.3	38.0	22.6	45.0	22.8	38.7	24.0	42.4	22.3	40.0
July	26.2	33.2	26.7	32.2	26.3	34.9	26.0	32.0	23.3	34.0	27.7	35.0	23.3	35.5	23.0	37.3	23.6	35.4
Aug	25.4	32.1	26.2	32.8	25.9	34.0	26.0	32.3	24.3	36.2	22.0	35.1	22.3	36.0	22.2	35.8	23.0	36.4
Sept	24.1	31.9	24.8	32.2	24.1	31.7	25.0	31.4	24.3	36.7	23.4	36.0	21.6	35.3	20.8	37.1	20.8	35.5
Oct	19.8	33.0	22.3	32.3	21.3	32.4	20.8	31.6	16.4	33.7	17.1	35.2	16.3	35.6	19.2	35.1	24.2	34.2
Nov	14.3	30.4	15.6	30.0	15.3	30.6	14.9	29.8	12.1	32.3	9.0	31.3	9.3	32.6	12.4	31.3	18.7	31.9
Dec	10.3	25.8	10.5	21.6	10.9	24.0	10.8	24.5	6.3	29.4	7.3	29.3	5.7	29.4	5.4	28.1	7.3	16.5

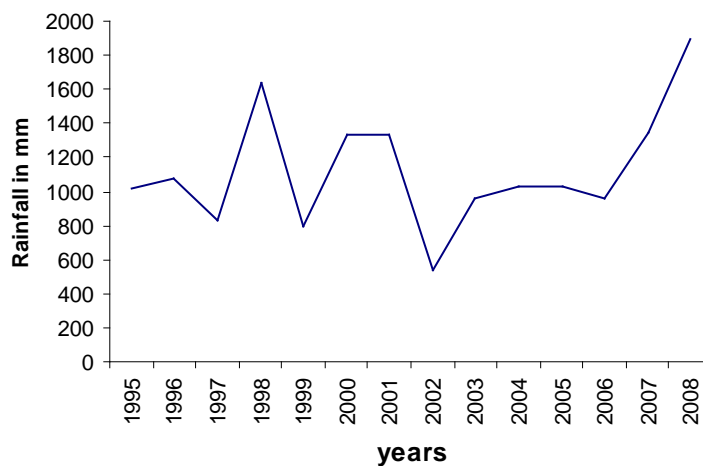
**Source: Meteorological Department, Gorakhpur**

**Table : 3 Trends of Rainfall in Gorakhpur City ( 1995-2008)**

Year	Monthly rainfall in monsoon period in (mm)				Total rainfall during monsoon period in mm	Date of Arrival of Monsoon
	June	July	August	September		
1995	131.7	290.1	325.8	264.7	1012.3	18.6.95
1996	177.7	179.5	641.8	81.6	1080.6	22.6.96
1997	109.9	262.0	131.1	321.9	824.9	18.6.97
1998	13.1	815.4	730.4	74.3	1633.2	23.6.98
1999	256.7	242.0	273.7	57.7	800.1	10.6.99
2000	386.3	351.4	333.3	258.1	1329.1	7.6.00
2001	353.9	284.5	361.2	332.9	1332.5	16.6.01
2002	109.4	146.5	089.6	194.0	539.5	15.06.02
2003	191.7	295.9	273.6	198.3	959.5	22.6.03
2004	287.2	335.9	406.4	004.8	1034.3	16.6.04
2005	74.3	446.4	410.4	103.1	1034.2	21.6.05
2006	317.5	336.3	205.9	100.9	960.6	21.6.06
2007	85.7	372.9	499.2	382.7	1340.5	11.6.07
2008	474.4	730.5	455.6	235.8	1896.3	05.6.08

Source: Source: Meteorological Department, Gorakhpur

**Trends of Rainfall in Gorakhpur City  
1995-2008**



**Fig.3**

## DEMOGRAPHIC CHARACTERISTICS

It is well known that population characteristics are the vital components for planning a city and hence it is very imperative to study the population growth, distribution, literacy and occupational structure of the city. Gorakhpur being an ancient city in its origin, displays a more balanced demographic structure than the other modern cities.

### Process of Urbanization

In saryu par plain the Gorakhpur city holds a significant position. It is the main cultural and economic centre of not only Gorakhpur district but also for the entire saryu par plain. Since from long time it was the main attraction point for the people living in the adjacent rural areas. The process of rapid urbanization has taken its impetus only after independence due to general improvement of the living condition of the people along with the other development in the city. From the observation of demographic feature of the city it is clear that the growth of its population was more or less continuously increasing since 1881 except a short break during the 1901-11 decades when it decreased from 64,148 to 56,892. During this period all the factors which cause a general decline of population were in operation such as poor harvest, consequent drought, spread of epidemic on large scale and other irregularities of weather, flood etc but it was mainly due to the occurrence of plague epidemic. The decades 1921-31 has shown an increase of 30.45 per cent in the population in the city. There were many reasons for this increase among which the increase in health service and absence of severe epidemic, famine and scarcity during this period were important. The decade 1931-41 witnesses an increase of 25.76 per cent in the population of the Gorakhpur city. (Table 4)

**Table : 4 Demographic Characteristics: Population Growth**

Years	Population	Absolute Growth	Decadal Percentage change
1881	50,908	-	-
1891	63620	12712	24.97
1901	64148	528	0.83
1911	56892	-7256	-11.31
1921	57985	1093	1.92
1931	75644	17659	30.45
1941	95127	19483	25.76
1951	1,32,436	37309	39.22
1961	1,80,255	47819	36.11
1971	2,30,911	50656	28.10
1981	3,07,501	76590	33.17
1991	5,05,566	198065	64.41
2001	6,22,701	117135	23.61
2011*	7,59,051		

Source : Census of India, 2001,1991,1981,1971,and 1961

\* Projected population (based on geometric progression :  $P = p \{ 1 + (r/100) \}^t$  )



During 1941 census the city had 95127 populations but after independence very high growth rates were recorded particularly during the 1941-51 (i.e 39.22 %). The main cause of such unprecedented growth was large number of immigration into the city for employment. During 1981-91 census a phenomenal growth in urban population has been noticed i.e 64.41 percent. The main cause of such growth was that during 1991, a part of the population of fertilizer nagar and 47 surrounding villages were included in Gorakhpur urban agglomeration. From the present population growth rate and considering the assumption that if present socio- economic setup persist then population of 2011 would be around 7,59,051.

### **Gorakhpur City Trends of Urbanization**

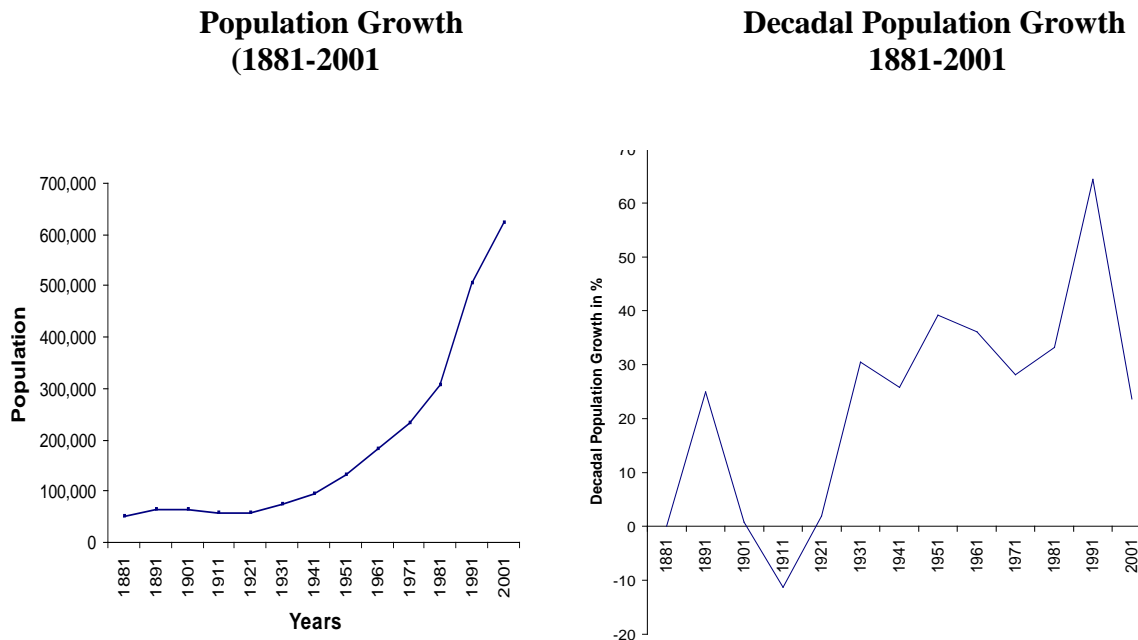
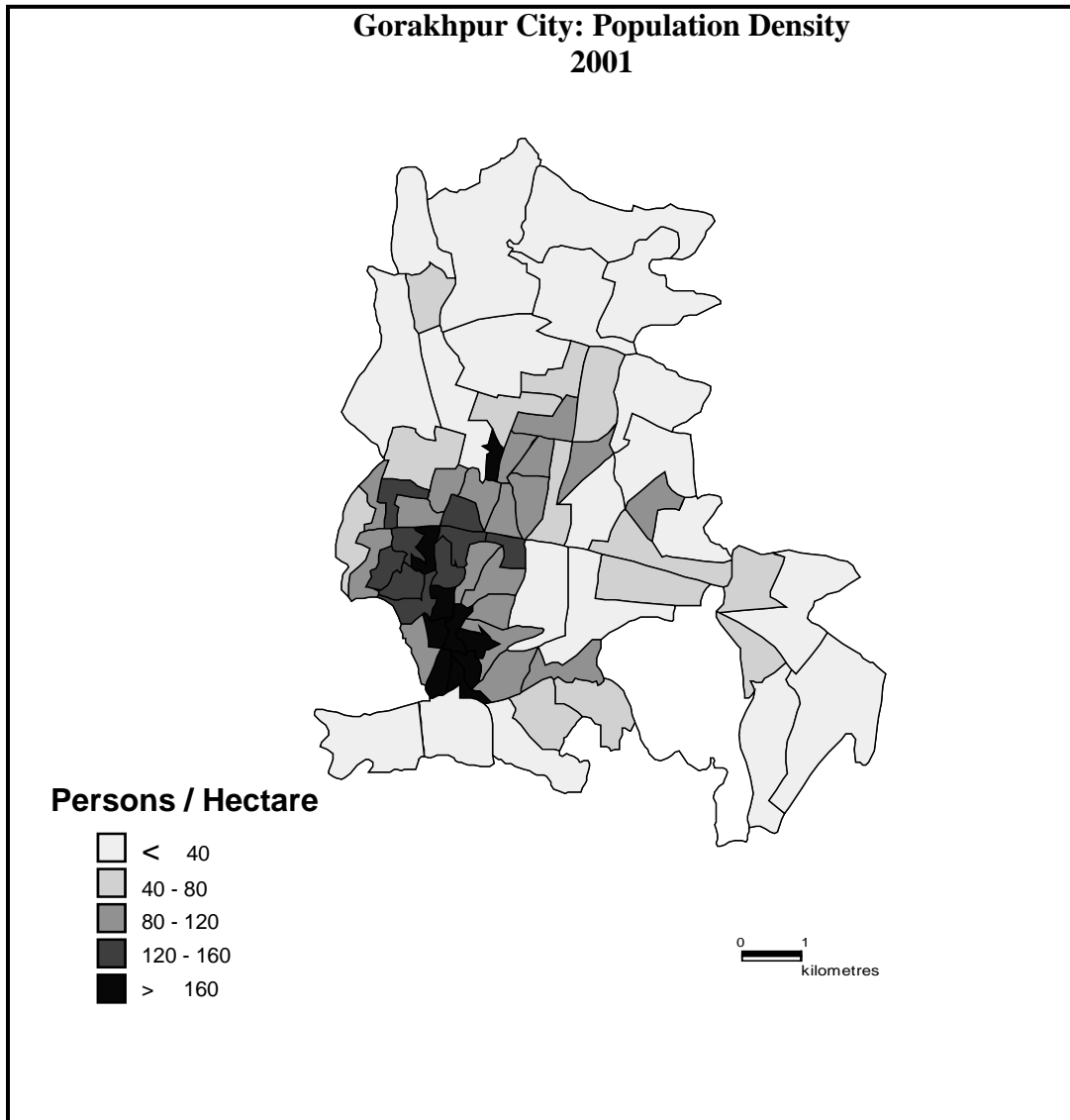


Fig .4

### **Population Density**

The ward wise varying density of population also confirms the uneven distribution of population in the city. The density of population is highest in the inner zone but it gradually decreases in the middle and out zones and reaches at the lowest level in the suburban zone. At present the Gorakhpur Municipal board is divided into 70 wards where the density varies from < than 40 people/ ha in the northern and eastern parts to the highest >160 people / ha in the central and south central part of the city. The main reasons for the high density in the central part is due to central business area and oldest nature of the city evolution

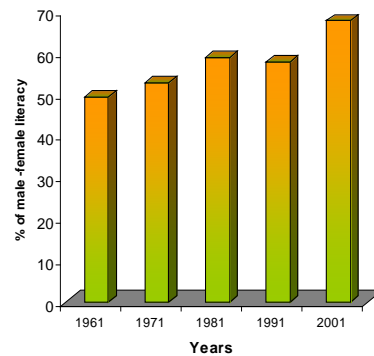


**Fig 5**

### Literacy

Literacy is one of the main resources for any society. Being located in the backward area the city has wide variation in literacy pattern.

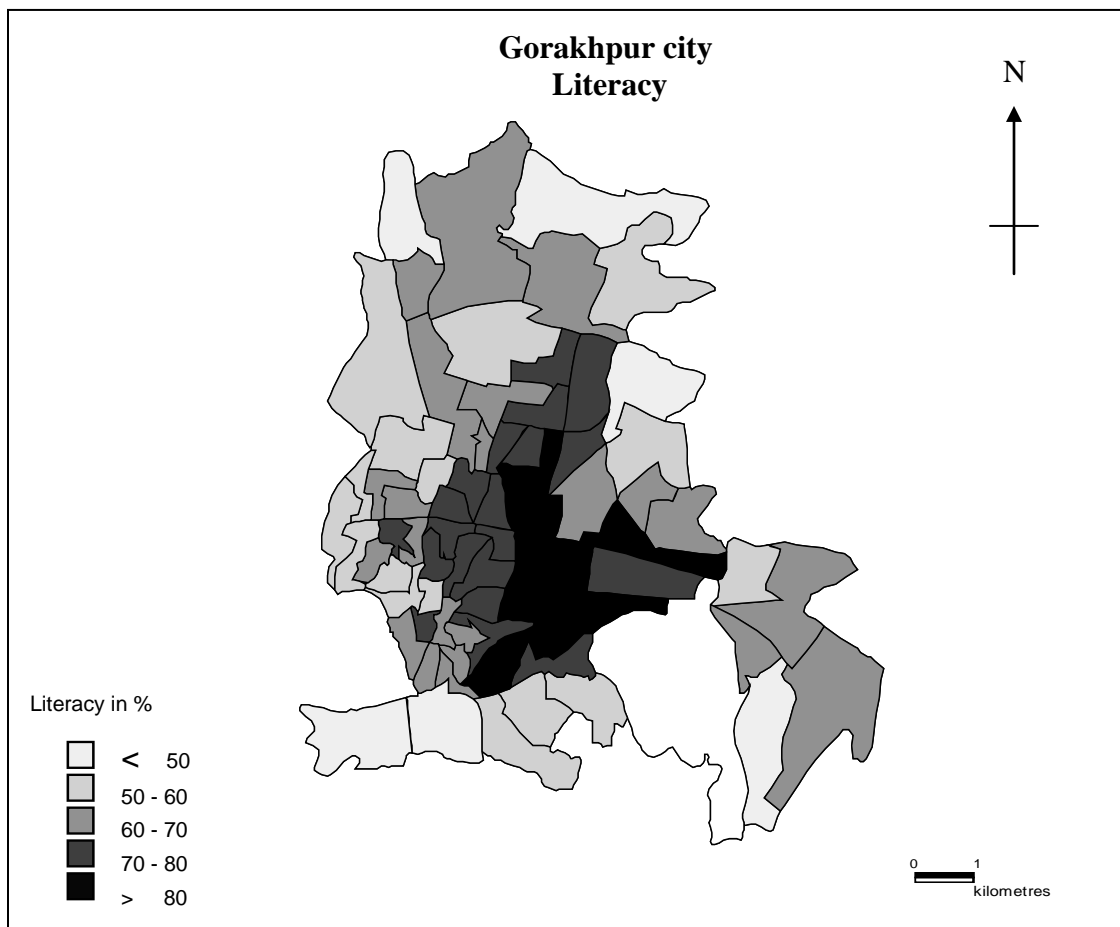
The main factors for the low literacy in the city are poverty, poor mentality of the people and their indifference towards education. Although in time frame the percentage of literacy has successively increased. From the table 6 it is quite apparent that the proportion of literates and educated persons has increased considerably over the last decades. The total literacy has increased from 49.2 per cent in



1961 to 67.6 per cent in 2001.

**Table :6 Trends of Literacy Pattern**

Years	Total Literacy	Male	Female
1961	49.2	61.9	36.5
1971	52.7	62.9	40.5
1981	58.8	67.4	47.5
1991	57.6	66.2	47.6
2001	67.6	73.8	60.8



. Fig 7

### Land Use Pattern

A city is the principal focus of material culture. In case of Gorakhpur city material culture as residence, business, industry and trade and commerce have played the significant role in shaping the urban morphology of the city. Like other cities, it performs different function to cater to the need of the local inhabitants and the surrounding region. Gorakhpur, a multifunctional city, is the focus of commercial, industrial, professional, administrative and social activities. The influence which the city exerts on the social and economic structure of the area helps in the formation of its land use pattern. Differential functional character area is found concentrated at different places. The table 7 exhibits the proportion of the various categories of land use in which it is clear that residential use

is quite significant. Major changes in the land use pattern of the Gorakhpur city have been taken place since 1981. The opening of GDA and subsequent establishment of commercial, industrial units on the reclaimed land , development of new colonies in the north and opening of Baba Ragav das medical college and other educational institution in the city, shrinking of cultivated area in the north and transfer of many administrative office from the old area to Betia hata civil line ward , all have remarkably modified the old pattern of urban land use in the city .

**Table : 7 Land Use Changes**

S. No	Land use	1971		2001	
		Area in ha	% of total developed area	Area in ha	% of total developed area
1	Residential	1031.00	63.72	4103.00	72.10
2	Commercial	35.21	2.18	173.20	3.05
3	Industrial	56.05	3.46	445.00	7.82
4	Govt	90.34	6.08	161.00	2.83
5	Public and semi public	350.01	21.63	398.32	7.01
6	Park and open space	47.35	2.93	291.20	5.01
7	Transport	N.A	NA	117.10	2.07
	<b>Total</b>	1618.12	100.00	5689.12	100.00

Source: GDA, Gorakhpur

### **Trade and commerce activities in the city**

The city Gorakhpur is being considerably developed as a main commercial centre in the Saryu par plain, handled the business and trade of basis and non basic nature. In the city all markets, scattered shops and stores where business transacts are carried out on retail and wholesale basis. The present trade and commerce scenario of the city is very interesting. Now the participation of retail and wholesale shops holds a significant position in the entire trade and commerce fabrics of the city. With the change of time and sprawl of the city, the business and commercial areas have shifted from place to place within the city limits. The unplanned growth of the city has led to the haphazard development of the city and thus the whole city has lost its physical coherence. Not a single market of the Gorakhpur city has been planned properly before the development of Golghar chowk area. Now mall culture is gradually being development in the city too. Till recently Bhalotia market (near town hall) Baldeoplaza, Islamia complex, Pratibha complex (jubilee road), City mall complex ( Ganesh chowk) and Rapti complex between medical college road and Piperaich road etc are the best shopping complex and they are being fulfilling the modern demand. In the Gorakhpur city most of the shopping centers are found in the form of strips and ribbon along the main road of the city.

In the Gorakhpur city the typology of trade and commerce can be classified into various categories .In addition to these there area specialized wholesale and retail markets which have become the distinctive feature in the city's landscape.

**Wholesale Grain market** - Khoonipur and Lal diggi

**Vegetable market** - Shahib ganj muhhalla, Ali nagar bazaar, Gorakhnath, Asuran chowk, Holseganj, panday hata, alahdapur, etc

**Cloth market** - Geeta press, Urdu bazaar, civil line (golghar market)

**Retail and other market**- Reti chowk, Golghar road

**Building and hardware market** – laldiggi, North of sahibganj muhhalla, Nakahas, reti chowk etc

**Banking and finance** :**Bakshipur**

**Export item from Gorakhpur city:** Sugar, Timber, Foodgrain, Sugarcane Oil seeds Alcohol

**Import items of Gorakhpur city:** Salt Coal cloths General merchandise Rice

### Livelihood profile

The growth of population is directly related to the character of occupation and profession adopted by the city folk. The growth of commercial and industrial activities during the previous years has considerably changed the livelihood pattern of the city. A glance over the livelihood pattern of 2001 census reveals that only 22.9 per cent of total population is classified as worker. Thus, it reveals that Gorakhpur city have high dependency ratio. From the table 8 it is clear that 92.52 per cent people are getting their livelihood from the service while the second source of highest employment is industry. Only 2.96 per cent people are engaged in cultivation and other agricultural allied activities.

The outer part of the city fringe with rural surrounding, agricultural and other primary activities are still important mean of livelihood whereas in the inner part of the city majority of population are engaged in trade and industrial activities..

**Table : 8 Gorakhpur City Livelihood pattern**

Year	Total worker	Total main worker	Total marginal worker	Total Non worker
2001	142619	127955	14664	480082

Year	Total worker	Primary	secondary	Tertiary
2001	142619	4229	6431	131959

Source: Census of India , 2001

## Educational facilities

During the last 50 years the city has made remarkable progress in educational field. The Christian missionaries had have been playing the leading role in spreading education as they are still managing more than dozen of elementary and half dozen higher secondary school for boys and girls. The existing primary and secondary school provide school facilities to only 50 per cent children in the age group of 5 to 14 in the city. This clearly shows the backwardness of the educational standard of the city. There are 63 higher secondary schools in the city with total student strength of about 68 thousand. (Table 9) The missionary high school and other higher secondary schools are located at the fair distance in the middle and outer zone of the city. There are 11 degree colleges, mostly located in the central part of the city. The Gorakhpur University was made as a residential cum affiliating university which covered an area of 66 ha.

**Table : 9 Gorakhpur City: Educational Facilities 2007**

S. No	Facilities	Numbers
1	Primary / junior basic school	218
2	Senior secondary basic school	63
3	Montessori/ nursery school	389
4	Senior secondary school	49
5	Degree / PG college	11
6	University	1
7	Polytechnique collage	3
8	Engineering college	1
9	Medical college	1
10	ITI	3
11	Kendriya vidyalaya	2
12	Sanskrit pathshala	4
13	Ayurvedic pathshala	1

The government polytechnic in Gorakhpur was started by the railway company in 1909 and was handed over to state government in 1956. it is functioning under the control of the directorate of technical education, U.P. it impart training in mechanical, electrical and automobile engineering . The Maharana Pratap polytechnic which was started in 1956, runs the diploma course in civil, electrical and mechanical engineering. It has the capacity to enroll 120 trainees at a time. The Madan Mohan engineering college in Gorakhpur was started in 1962 to impart higher education in technical subjects. The Baba Raghav Das Medical College was started in 1972. It imparts training and education for the bachelor's course in medicine and surgery. It has an attached hospital as well.

### **Public health and medical institution**

Public health and medical facilities are one of the most important social welfare. The public health department of the Municipal board is looked after by the district medical officer of health. The board has a chief sanitary inspector, 5 sanitary inspector, 10 sanitary supervisors, 16 assistant sanitary supervisors, 5 midwives, 13 vaccinators and 718 sweepers to render sanitation and public health services in the city. The district Hospital, Gorakhpur is having 245 beds for male and 18 for female patients. The city has a 178 bedded women's hospital which is managed by a senior Medical superintended assisted by a senior medical officer and four doctors. The govt T. B clinic was opened in Gorakhpur near the district hospital. There are two paramedical and 19 non medical staff number. The govt. leprosy centre is situated in getta batika near Vishnu temple, Gorakhpur. It is a part of the district hospital. It provides only the outdoor treatment to the patients. In addition to it there us a private leprosy hospital established in 1955 by Baba ragav das which is known as Kusta seva ashram.

### **Medical Facilities**

S. No	Facilities	Numbers
1	Health post	15
2	Mother and child welfare centre	6
3	Ayurvedic health centre	4
4	Homeopathic centre	3
5	District Hospital	1
6	Medical college	1
7	Natural Hospital	1
8	Eye Hospital	1
9	Cancer hospital	1
10	Tuberculosis Hospital	1
11	Leprosy service centre	1

### **Residential Typologies:**

The Gorakhpur city has distinct types of residential typologies which provide specific picture of living condition. According to the census 2001 the total number of households within Gorakhpur city was 93356. The city does not represent any separate nucleus of residential area. From the observation of population distribution map it is

**Gorakhpur City  
POPULATION DISTRIBUTION, 2006  
(Based on 2001 Census)**



One Dot = 25 Persons

0 1  
kilometres

Fig 8

clear that residential area is being gradually developing around the periphery of the central business district as well as extended areas of Baba Raghav Das medical college to north and Madan Mohan Maliviya engineering college to south-east on kasia road. From the table 10 it is clear that the growth of houses has not kept with the steady growth of population in Gorakhpur city since 1951. During the last fifty years the growth of the population in the city was more than 370.1 per cent where as that of the houses was only 291.56 per cent. Consequently, in comparison to 1951, the average number of persons per houses has increased from 5.55 to 6.7 in the census year 2001. There are 93356 houses in the city. The new colonies in the city area have also added a good number of residential houses. The growth of houses and population has been relatively rapid since 1981 resulting emergence of number of residential colonies viz Sastri nagar, Sastripuram, Jawahar nagar Jan priya Vihar, Surya vihar, rapti nagar etc.



**Table 10: Gorakhpur City: Growth of Houses and Persons Per Houses**

Years	Population	No of houses	Variation	No of persons per houses
1951	1,32,436	23,842	-	5.55
1961	1,80,255	28,748	4906	6.27
1971	2,30,911	32,172	3442	7.17
1981	3,07,501	49,366	17194	6.30
1991	5,05,566	49,366	27250	6.60
2001	6,22,701	93,356	43990	6.70

Source: Computed from the Census of India, 1951-2001

From the above table it is obvious that except the 1971 figure of 7.17 the ratio of persons per houses has remained normal through out 1961- 2001 period. The growth trend of houses and population is not uniform all over the city.

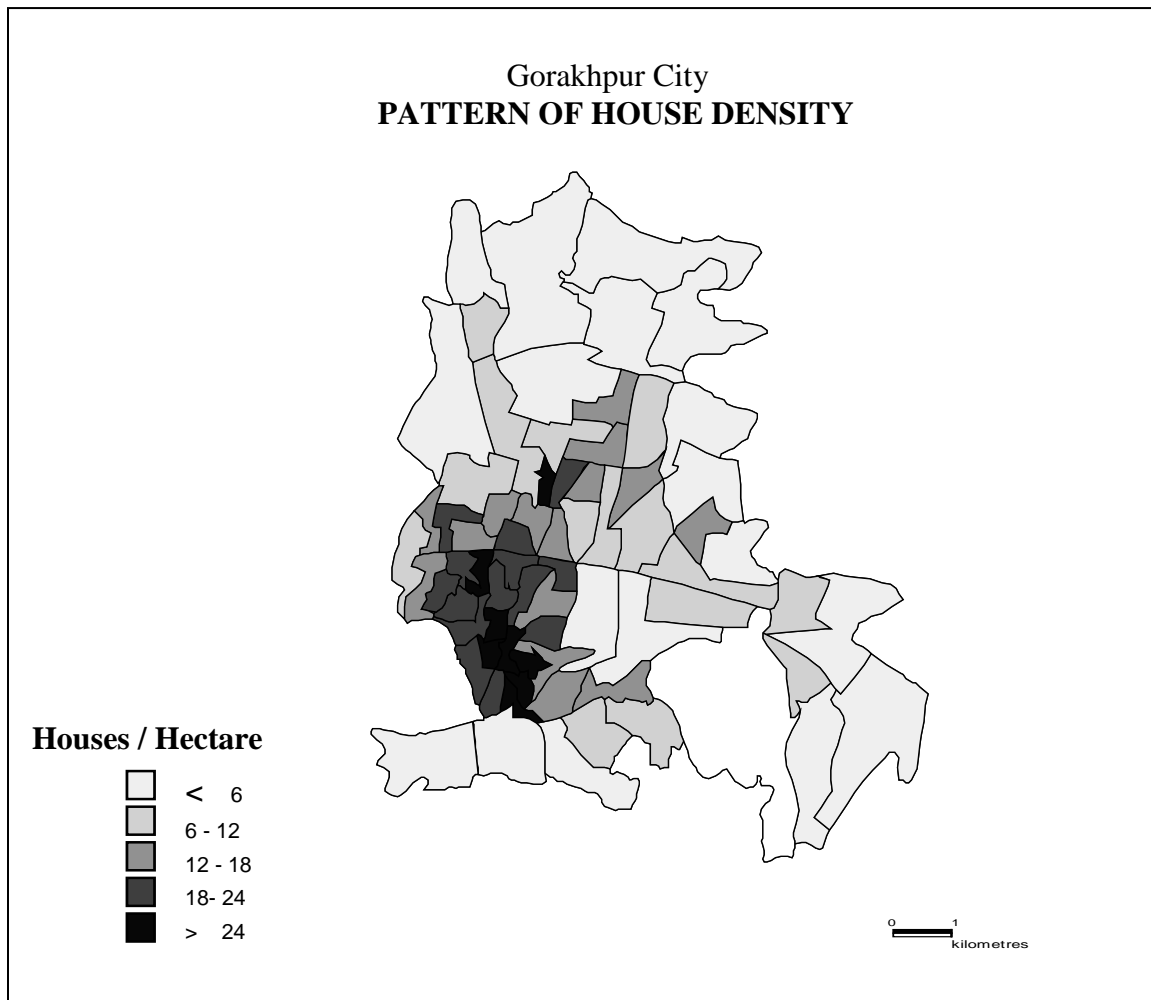


Fig 9

The growth of population compares to houses has been very rapid due to the provision of Market facilities nearby working place, low house rent and other social and cultural facilities. In this way it is seen that there is the maximum over crowding in the central part of the city. The over all density of houses in Gorakhpur city limit is 6 per hectare but it does not gives the correct picture as the density of houses is not uniform all over the city. The highest density of houses per hectare built up area is seen in Urdu bazaar followed by Bakshipur and Khoni pur. There are 23 wards which shows the high density (18-24 ) houses per hectare and 29 ward exhibits a moderate density ( 6-18) houses per hectare and the remaining 18 wards comprises the low density ( below 6) houses per hectare

Because of the important industrial and commercial centre, the city has drawn the people of different classes and communities with varied socio economic and cultural status. Here in the following table, the city has been categories into three categories ie. Higher residential group, middle residential group, low income group and slums area.

### High class Residential Area

The areas of better housing facilities are very limited due to the increasing air and noise pollution along with ever increasing pressure in already settled and congested areas. Fortunately, there is a marked growing tendency to settle down in the outer area of the city, especially the aristocrats and well- to- do- people. Wealthy and high class business communities have prepared the area near the national highway no 28 and Baba Raghav Das medical college due to availability of fresh and smoke free air.

**Table: 11 Gorakhpur City: Residential Typology**

Residential class	Area	Characteristic
High class	<ol style="list-style-type: none"> <li>1. Near the <b>national high way 28</b></li> <li>2. <b>Area near Baba Raghavdas medical college</b></li> </ol>	<ol style="list-style-type: none"> <li>1. Average density of houses is less than 6</li> <li>2. less than 50 people/ ha built up area</li> <li>3. Structure of houses is like the bungalow with sufficient attached green grass park.</li> <li>4. They have been well provided with other facilities like ample water electricity, flush latrine , good sewerage etc</li> </ol>
Middle class residential area	<ol style="list-style-type: none"> <li>1. <b>Betiahata ,</b></li> <li>2. <b>Surajkund</b></li> <li>3. <b>Shastri nagar</b></li> <li>4. <b>Shastripuram</b></li> </ol>	<ul style="list-style-type: none"> <li>• It is mainly in central part of the city.</li> <li>• They represents a transitional character between the congested inner zone and partly built up outer zone</li> <li>• Density of houses per ha. Built up area is between 6 to 24 and population between 125 to 250</li> </ul>
Low class	<ul style="list-style-type: none"> <li>• <b>The entire area of the</b></li> </ul>	<ul style="list-style-type: none"> <li>• Average density of houses are more</li> </ul>

residential area	<b>ancient and medieval geo cultural</b> <ul style="list-style-type: none"> <li>• Kuraghat ,</li> <li>• Mohaddhipur</li> </ul>	than 24 <ul style="list-style-type: none"> <li>• 350 people per ha. Built up area.</li> <li>• This types area exhibits a poor condition of living space and consequently unhygienic condition.</li> </ul>
Slums		<ul style="list-style-type: none"> <li>• At present the Municipal Corporation of Gorakhpur has recognized 110 slums scatter all around the city. These slums are distributed in such a way that no part of the city is full from them.</li> <li>• But one remarkable things can be said regarding the Gorakhpur city's slums is that if the strict meaning of slums is applied then a grater part of the city can be declared as a slums</li> </ul>
Old slums area	<b>Mostly located in and around the CBD area like Zafra bazaar, Urdu bazaar, Geeta press area and area nearby fort.</b>	
New slums	<b>They are located in good residential area like civil line Betiahata, Shatripirum and near fertilizer nagar</b>	
Temporary Hutments	<b>Mostly along railway station, Sastrinagar South of the national high way i.e near Naushar, east of the kasia road etc</b>	

### **Middle class residential area**

This residential group includes higher middle and middle income groups' people. The higher middle class people previously living in the overcrowded parts of the city , have built new residence in the newly developed and well planned colonies like in Betiahata, Suraj kund , Sastri Nagar Sastri puram etc . In the central part of the city, majority of these residential areas belong to the people of middle income group, who earn just enough to maintain their livelihood and most of them in the rented houses or flat. These areas which are scatterd in different part of the city provide accommodation to the people who are mostly official and high grade civilian of their localities. The middle class areas represent a traditional character between the congested inner zones and partly built up outer zone.

## Low class residential area

This group of residential area generally comprises the persons of low income group employed in various factories or workshop. The rickshaw pullers and the similar class people are the main resident of these areas. The entire area of the ancient and medieval geo culture zone comprising **Kuraghat** and **Mohaddhipur** shows the overcrowded house and population. This type of area exhibits a poor condition of living space and consequently, the hygienic condition has become worst.

## Slums area

A slum connotes an extreme condition of blight in which the housing is so unfit as to constitute a menace to health and morals of the community. A residential area may be classified as slums where overcrowding, lack of ventilation, light and sanitary facilities etc are not available. Alike other old city, Gorakhpur city too have some areas where extremely undesirable condition prevailed due to overcrowding, degraded poor and dilapidated houses with the shortage of many basis civil amenities. These overcrowded parts with most unsatisfactory sanitary conditions are characterized by a higher death rate than the city average. At present in Gorakhpur city there are 110 slums spot and in which near about 33 % of the city's population have their residence in this area (Table12). At present that rate expansion of this area is very rapid due to influx of rural poor people who can neither pay the rent nor properly maintain their houses. These slums are distributed in such a way that no part of the city is full from them. If the strict meaning of the slums is applied, a greater part of the city can safely be declared as slums. The slums of Gorakhpur city may be classified into old slums new slums and temporary hutments

**Table : 12 Location of Slums in Gorakhpur City and Their population**

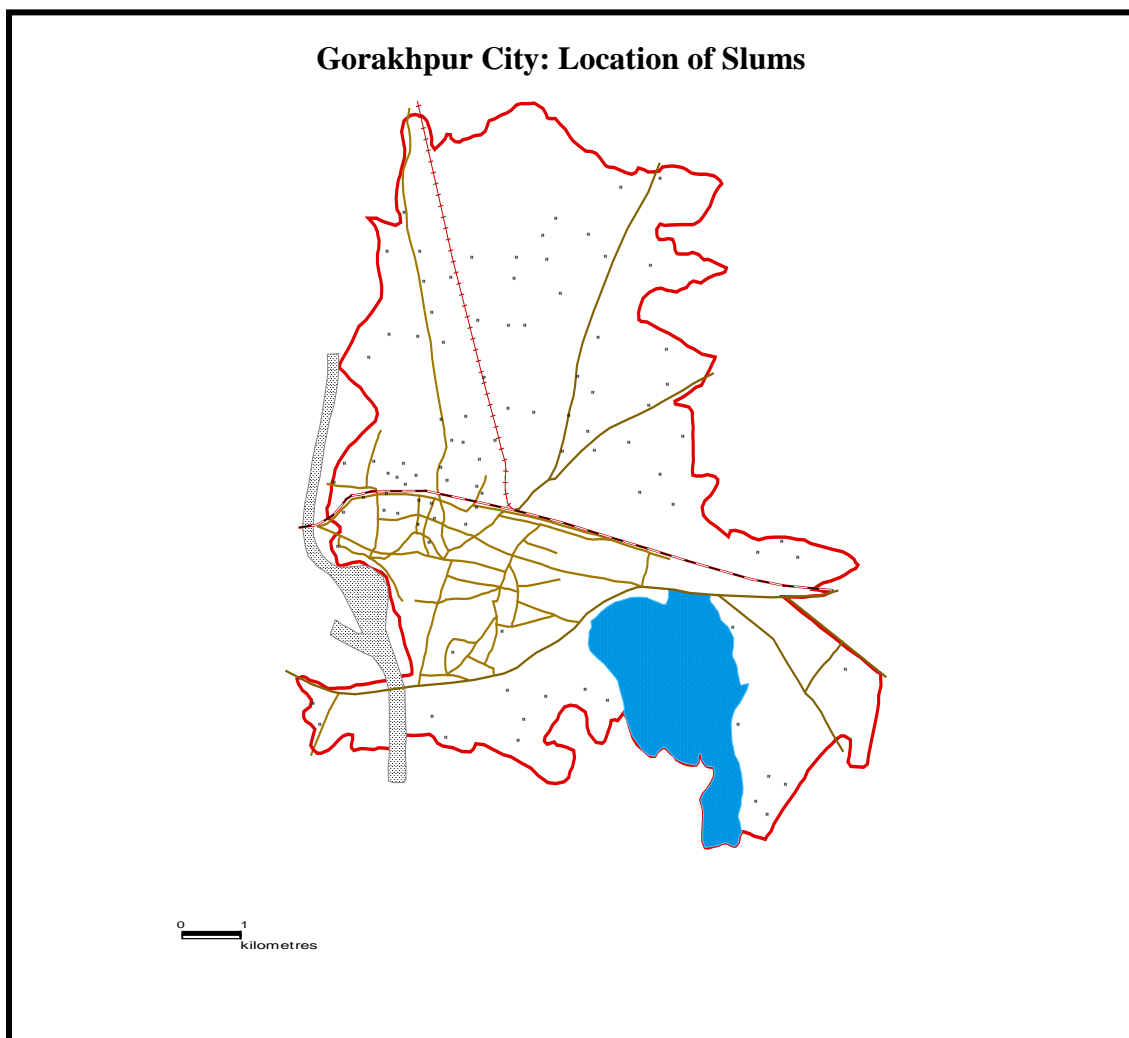
S. no	Location of the slums	Ward No	No of Houses	Total population
1	Andhiyari bagh (North)	Andhiyari bagh	2405	7504
2	Andhiyari bagh (South)			
3	Andhiyari bagh (west)			
4	Andhiyari bagh (east)			
5	Ramdattpur ( North )	kalyanpur	750	3694
6	Ramdattpur ( south )			
7	Zafara bazaar	Zafra bazar	700	4000
8	Zafara bazaar ( north )		625	3750
9	Bulakipur	kalyanpur	100	503
10	Singharipur ( North)	Singharipur	1325	7750
11	Singharipur ( South)			
12	Rasulpur	Rasulpur	1900	12742
13	Rasulpur (south )			
14	Madhoopur Harizan basti	madhopur	289	982
15	Ambedakar nagar	madhopur	197	901
16	Baharampur	madhopur	550	2140

17	Bilandpur khatta	Rasulpur	200	637
18	Takia kawaldah	Andhiyari bagh	90	585
19	Satguria	madhopur	242	1134
20	Chakala basantapur	basantpur	795	1760
21	Basantpur takia		166	1428
22	Diwan bazar	Diwan bazar	225	1353
23	Dilezakpur	Delizakpur	258	1070
24	Purdilpur	Purdilpur	250	1221
25	Dharmshala Harizan basti	Dharmshala bazar	125	625
26	Ghosipur ilahibag	illahibag	250	1317
27	Bharampur south	basantpur	271	1100
28	Laldiggi Domkhana		125	637
29	Kurmiyan tola (alinagar)	Alinagar	375	2262
30	Ghosi pur Harizan basti	Ghosipurwan	50	273
31	Mirzapur	Mirzapur	125	801
32	Mahewa bada purwa	Mahusudhaipur	146	870
33	Mahewa Chota purwa		75	410
34	Goplapur	Goplapur	295	1404
35	Rasulpur Betihata	Daudpur	175	840
36	Betiahata harizan basti	Betiahata	104	597
37	Mahuisukhar pur	Mahusudhaipur	1325	6861
38	Naushar yadav basti	Naushar	243	1452
39	Phoolwaria	W. Rustam	100	569
40	Chilmapur	Rustampur	150	366
41	Khurrampur Harizan basti	W. Rustampur	257	1105
42	Mirzapur bheriyan tola	Mirzapur	125	854
43	Naushar harizan basti	Naushar	185	1025
44	Ramgarh tal	Goplapur	1430	7175
45	Jatepur ( north )	Jatepur	1000	5000
46	Jatepur (south )		988	4412
47	Humayaupur ( north)	Humayun pur	1392	6851
48	Humayanpur (south)		1400	6851
49	Kurmiyan tola		121	102
50	Lohiya nagar		175	816
51	Humayaupur crossing		175	903
52	Koiritola jatepur	Jatepur	125	822
53	Humauanpur kasai tola	Humayunpur	200	599
54	Ahirantola		350	1261
55	Gangoli tola	Basaratpur	150	740
56	Sudia kuwan basaratpur		662	3300
57	Moti pokhara		175	881
58	Ganga tola		375	1878
59	Jhanjhawantola basaratpur		125	109
60	Pachpedwan chaksa husahin	Ramnathanpur	275	1371
61	Basaratpur north	Basaratpur	250	860

62	Krishanagar jatepur	Jatepur new area	625	3822
63	Basaratpur south	Bsaratpur south	250	780
64	Tenuwa	Nakhaha No 1	135	693
65	Pees shaid		114	601
66	Bagala		175	324
67	Karim nagar	Basartpur west	200	550
68	Chargawan	Chargawan	125	698
69	Hamidpur	Basaratpur west	190	594
70	Fatehpur	Chargarwan	351	1879
71	Semra No 1		268	832
72	Nakaha no 1	Jungal Nakaha	450	2307
73	Nakaha no 2		250	1902
74	Turha tola	Lakhipur	140	500
75	Japti tola		125	747
76	Telia kuwan		162	881
77	Patarkuyiyan		19	109
78	Bhagwanpur no 1	Nakha jungle No 1	300	1591
79	Bankatwan	Lakhipur	1497	3290
80	Zahidabad	Nathmalpur	275	1143
81	Rampur naya gawn	lakhipur	287	799
82	Maheshara moharipur	Moharipur	808	4439
83	Chaksa hussain	Chaksa hussain	350	1239
84	Bargadwan	Moharipur	225	1239
85	Boring No 510	Lakhipur	1494	3000
86	Shahpur	Shahpur	675	3375
87	Ghosipurwa shahpur		750	4500
88	Badhik tola		250	1360
89	Sheopur harizan basti	Sheopur shahbazganj	225	628
90	Jhugiya tola	Chargawan	1125	5529
91	Collectri tola	Sheopur shahbazganj	125	109
92	Sheopur shahbajganj		425	2624
93	Jungle mahuwan		112	593
94	Harshewakpur No 1	Basaratpur west	250	1250
95	Harshewakpur no 2		725	3625
96	Matadin	Sheopur sahbazganj	423	1725
97	Hakim no 1		250	1371
98	Jungal tulsiram	Jungal tulsiram	250	1410
99	Lalganj		400	2417
100	Akolwan		200	1176
101	Bisunpurwan tukra no 1		Giridharganj	1475
102	Rampur	Mahadeo jharkhandi No 1	89	434
103	Bhagata		150	720
104	Mahadeo jharkhandi		1725	8686
105	singharia		125	671
106	Ranideeha		200	1337
107	Mahadeo jharkhandi Tukra	Mahadeo Jharkhandi	725	3386

	2	No 1		
108	Dibhiya		508	2333
109	Jharna tola		350	1672
110	Dargahiya		450	2253
	Total		<b>45049</b>	<b>2,02341</b>

**Old slums:** The old city slums are mostly located around the CBD like Zafra Bazar and urdu bazaar. This zone is absolutely pukka but dilapidated mostly two or three storied building are found in this slums. General condition and amenities are poor, overcrowding, appalling congestion, houses without adequate repair, lack of sunlight and ventilation in ground floor and the absence of essential sanitary facilities is the common feature of such area. Old Gorakhpur is located mostly near the industrial estate and the old city area. There are so many slum hamlets which accommodate a large number of families. These areas were built in the medieval period of the city evolution. Latter on in the british period, they were used as labour activities. One cannot imagine the inhuman condition of these ‘Ahatas’ where each room is serving as a family quarter. The majority of the inhabitants of this area are the Hindus who are the totally uncared for the urban facilities. A common toilet, a primary school, a junior high school and two temples have facilitates for these area.



**New slums:** New slums areas are located in good residential area like civil line, Betiahata, Shastripuram and near fertilizer nagar colony. Structure are partly pucca and rented to poor people and the uncontrolled building activities have turned them into unhygienic condition. This is most unpleasant to point out that some good residence and recently planned areas have been converted into slum. The upper class families have shifted from here and the poor people have occupied them. The crime and diseases are much prevalent in these areas due to very low income status of the residents.

### **Temporary hutments**

These are the poorest residential structures found in Gorakhpur near the railway station. Temporary huts are the common phenomena along the few roads near the railway line and the common middle part of the city. The main temporary hutments are located in Sastrinagar, south of the national high 28 naushar etc. structure of the poor and wooden scraps, old empty containers with dirty sacks etc are found here. There is no provision for the hygienic amenities. These area are occupied by beggars, construction worker, rickshaw puller, zamadars, industrial workers and squatters

### **Lifeline Infrastructure in the city: Current status**

**Water Supply System:** The water work of the city is quite in dilapidated condition. Though administrative authorities claim that water is supplied for twenty four hours but in reality it is quite far. At present as far as the availability of water in the city is concern there are 75 tube wells 14 overhead tanks and one semi sunk reservoir having a capacity of 11992.29 million liter of water whereas 112 million gallon of water was made available for daily distribution with the help of 260 km long pipe line network.

**Table: 13 Means of drinking water**

S. No	Source	Numbers
1	Tube well	75
2	Mini tube well	6
3	Overhead tank	14
4	Semi Sunk Reservoir	1
5	Tanker	8
6	Stand post	435
7	Indian mark 2 Hand pump	2825

### **Electricity Supply and Distribution**

The electric supply to the Gorakhpur city is made available through electric production center at 'barauhan' situated just 8 km far way from Gorakhpur city. At present there are 14 electric sub-centres in the city which have the capacity of 33/11 KV each. According to electricity department there are about 90000 electric connections in domestic sector. Apart from that 19,157 connections for commercial units, 1091 for small and medium



industry, 344 for heavy industry, 2 for street lighting and 1 for pump canal have been allotted. (Table 14)

**Table :14 Electric Supply and distribution**

S. No	Electricity services	Connection number
1	Domestic	83380
2	Commercial	19157
3	Small and medium Industry	1091
4	Heavy Industry	344
	<b>Total</b>	<b>1,03972</b>

Source : GDA Master Plan 2021

At present, on an average 60 million units of electricity per month is being supplied to the city. Though these amount varies from season to season. In summer season it is near about 60 million units while in winter and autumn season it is about 53 million units/month and 58 million unit/ month respectively. The total demand of electricity per month in the city is about 70 million units

**Sanitation and Sewerage system:**

The drainage system plays a quite important role in keeping the city neat and clean by draining out the rain and the liquid waste smoothly. In Gorakhpur city there was one old big drain called ‘Azwania nala’ parallel to the railway line which has now been chocked with the construction of the residential building The area lying out side the inner and middle zone of the city is also illdrained .

**Table: 15 Length of drains in Gorakhpur city**

Drain (Length in mts)	No of Drain	%
< 500	135	61.1
500-1000	65	29.4
>1000	21	9.5

Source : Municipal corporation, Gorakhpur

Many residential colonies have been developed without proper planning for their drainage. The length of the Pukka and Kutcha drain in the city is about 19 km and 14 km respectively. All the pukka drains are flushed by the municipal board. At present the city have only 4 water treatment plant which provides its service to the 22 per cent of the city area. In this way 78 per cent of the city area is devoid of this facility.The conservancy services in the city are most unsatisfactory. The table ..... shows the conservancy units present in the Municipal Corporation. There are about 2050 regular and daily wages staffs who are engaged for removing more than 300 tonnes of the street rubbish and soil per day. It is being dumped in the swampy area.

**Table: 16 Conservancy Units available in Municipal Corporation**

S.No	Means	Numbers
1	R. C vehicle	3
2	Dumper/ plusher	1
3	Crain	1
4	JCV machine	2
5	Loader truck	5
6	Truck	2
7	Tractor trolley	15
8	R.C Dice	283
9	Trolley	305

Sources Municipal Corporation board , Gorakhpur

The garbage from most of the parts is being used in filling the way for the construction of the road near low lying areas. There are two municipal truck which carry the garbage from 283 R.C been and some garbage houses. The entire city garbage is gathered at betiahata and Kuran ghat road near the north bank of ramgarh tal.

### **Means of Transport**

Transport system is the key for the economic development and material prosperity of a region. They are responsible for the efficient and smooth traffic flow by interweaving the internal and external relationship between the city and the country side

**Table 17 No. of Automobile in Gorakgpur city**

S. No	Means	Numbers
1	Car	15568
2	Jeep	6291
3	Motor cycle	361689
4	Bus	192
5	Truck	3538
6	Maxi cab	130
7	taxi	1121
8	Tempo / Auto rickshaw	1425
9	Tractor	3712
10	Others	3378

## **Identifying main risk**

### **Water logging**

Due to bowl shape physical location, the city has severe water logging problem. In Gorakhpur city, a slight downpour washed away many shops, godowns, basements and several houses collapsed as rain water entered into them. Adding to the woes of the people, dirty water from drains accumulated in several localities of the city. In the low lying areas particularly, residents felt trapped due to waterlogging. Among the worst affected regions were shops in the stretch from Ghantaghar crossing to Reti and from Geeta Press road to Sahibganj crossing, Humanupur, Golghar, transport nagar and surajkund etc. The water logging continued for hours creating a nuisance for local residents as well as commuters.

### **Problem of drainage and sewage disposal**

The surface shape of the city is just as a bowl and so many past flood imprints lay below the maximum limit of the river Rapti. Due to this there are serious problem of drainage and sewage disposal. The sludge is collected in small pools adjacent to residential area. In many areas the kuttcha drain runs in the centre of the lane creating awful condition due to lack of the connecting roads. Even the open drainage system has not been provided adequately in the city. Under the present sewage system of the old city the trunk sewer carry the sludge to the neighborhood of the river rapti by gravity It is used here for irrigation and excess sewer water flows towards the rapti river and ramgarh tal adding a lot of pollutants because no treatment is given before its discharge into the Ramgarh tal Domingarh and river rapti. Therefore a proper treatment of this sewer water is inevitable before discharging into ramgarh tal together with the river Rapti. Some area of the city have no drainage system and even some colonies developed by the private colonizer and Gorakhpur Development authority have no drainage system.

### **Shrinking water reservoir**

Due to haphazard development of the city, the water reservoirs within the limit of municipal boundary are gradually polluting and its area too is gradually dwindling. Further due to pollution it also contributes to pollute ground water reservoir of the city.

### **Problem of water supply**

The problem of water supply to domestic and industrial uses is very acute in the city and has to be taken care of owing to the increasing requirement of water for the present population and industries. At present 5 crore 45 lakh liter of water is being supplied to the people of Gorakhpur city, but @ of 225 lpcd, the present supplied amount is only useful for 2 lakh 72 thousand people only. Apart from pipeline water supply, drinking water is also being supplied by tube well and hand pumps. The cities water work authorities have already under taken a vast scheme of future expansion of water supply taking into the anticipated increase in water requirement.

## **Problem of Electricity and Power Supply**

The unceasing population growth and increasing demand of power and electricity is being mounting day by day in the city. At present 60 million units per month electricity is supplied to the people of the city. But the actual demand is above 70 million units per month. The power failure has become a regular feature here.

## **Transport and traffic problem**

Due to increasing numbers of vehicles, traffic congestion and air pollution has now become an important problem. Because of narrow roads as well as the increasing encroachment, the road have covered the crowded crossing and created the complicated traffic problems. The problem is more acute in Dharmshala crossing because pukka portion is less wide on this crossing. Shahpur crossing has the maximum carriage way. Thus, the traffic load of the city is increasing fast. The width of the roads has not increased since they were constructed. At present the national high way 28 has the highest transport pressure mainly due to unplanned expansion of the city and urban activities along both side of the road. Apart from this thousand of loaded trucks arrive daily in Gorakhpur from Lucknow, Kanpur, Varanasi, Allahabad and various parts of the U.P, Bihar and West Bengal.

## **Water quality and solid and hazardous waste**

The inflow of pollution in the form of excess nutrient and toxic substances into bodies of water around the urban area has deteriorated the water quality of the city very badly. According to municipal corporation information, daily about 300 metric tons of solid waste is being generated within the city. These huge amounts of solid waste is being conveyed with the help of 300 RC Bin, 6 dumper Pressure, and about 590 hand trolley to the 21 dumping sites located with the city.

