

Process and Pattern of Urban Growth: A Case Study of Muzaffarnagar City

S. Kumar¹ and B.R. Pant²

¹Susheel Kumar, research scholar, dept. of Geography, MBGPG College Haldwani (Nainital)

²B.R. Pant, HOD & Professor in dept. of Geography, MBGPG College Haldwani (Nainital)

Abstract

The process that results in the growth of population living in town and large cities is called Urbanization. The process of urbanization associated with industrialization, scientification and technological development, which reflects in the life style of people. Like most developing countries, the urban population of India has been increasing at a faster rate than was anticipated and has resulted in uncontrolled, overcrowded and unplanned urban settlements extending into physical settlements ill-suited for human habitation. There are various implication of rapid urbanization for the infrastructure and service needs for the cities, since in most cases urban population are increasing at rates that are outstripping any reasonable expectations in improvements on housing, health care, employment opportunities and infrastructure required for healthy living environments. The failure of government to expand water supply, sanitation, energy resources, security, social amenities, aesthetics and transportation to unplanned settlements in the urban periphery where most of urban poor live has resulted in misery and urban decay. All these positive and negative characteristics are raised through a special process and pattern of urban growth. There is a process of increasing of population of any city, in which urbanization increases along with its assistive innovative elements such as employment availability, urban facilities, industrialization, education and health facilities, this called the process of urban growth. There are many residential areas in each town, some of which are found in densely and in some cases, the distribution and ordinance found in this accommodation are called urban pattern. In this study, the analysis of secondary data which collect from Census and other means have been tried to know that the growth of Muzaffarnagar city has been done through the which pattern and process and what kind of extension it has, so that to settle the population in a planned manner, diagnose urban problems and make improve the quality of life in city.

Keywords: Urbanization, industrialization, overcrowded, environment, employment

Introduction

Urbanization is the event that begins with industrialization in the world. Very first in the world the process of urbanization was started with industrial revolution continued unabated through the 19th century. Generally urbanization is a shifting of population from village to city (*Taylor, 1957*) but in the true sense of words urbanization represent a revolutionary change in the whole pattern of social life, it is itself a product of basic economy and technological development, it trends in turn, once it comes into being to effect every aspect of existence (*Davis, 1964*). At present urbanization is the sign of development. All developed countries are highly urbanized. The growth of urban centers in form of population and area is related with the different aspect of human life such as economic development, technological advancement, political stability, cultural growth, social awareness and ecological setting (*Julfikar, 2012*). Much of the literature on the urbanization

process and the pronouncements of policy-makers have both hailed growing urbanization as a sign of progress (*Chang G.H., 2006*). Today, 55 percent of the world's population lives in urban areas, a proportion that is expected to increase to 68 percent by 2050. Projections show that urbanization, the gradual shift in residence of the human population from rural to urban areas, combined with the overall growth of the world's population could add another 2.5 billion people to urban areas by 2050, with close to 90 percent of this increase taking place in Asia and Africa, according to a new United Nations data set. The urban population of the world has grown rapidly from 751 million in 1950 to 4.2 billion in 2018. The level of urbanization in Asia is now approximating 50 percent, it is a low ratio in compare to America and Europe continent. Together, India, China and Nigeria will account for 35 percent of the projected growth of the world's urban population between 2018 and 2050. By 2050, it is projected that India will have added 416 million urban dwellers (*U.N. - 2018*). On the national level in India, according to the U.N. World Urbanization Prospects 2018 Report About 34 percent of India's population now lives in urban areas. This is an increase of about three percentage points since the 2011 Census. Many problems like Increasing slums, decrease living standard of people residing in urban areas are main causes behind rapid rise in urban population in India and due to this rapid raise in urban population the Environmental is also damage (*Sivaramakrishna 1993*).

Objectives

1. To know the relation between urban growth and urban problems like over population, the accretion of slums etc.
2. To examine the impact of urban growth on problem of pollution.
3. To know the decadal growth of families and population in the city.
4. To examine the physical and demographic profile of city.

Study area-

The study area is city Muzaffarnagar, a part of Saharanpur Division, is a district headquarter of Uttar Pradesh. At the time of Sayyid rules in 1633 Sayyid Munawar Lashkar Ali named the city and the District as Muzaffarnagar in honor of his father, Sayyid Muzaffar Ali Khan. The city is located 116 km. north east to the national capital. The city is linked to Delhi by National highway 58 and Railway line also. The city lies on the geographical coordinates of 29°29'20" North latitude and 77°42'32" East Longitude. The city is located on the elevation of 237 to 245 meters from sea level. The **largest Gud market of Asia** is located at Muzaffarnagar city. There are 45 Municipal wards in Muzaffarnagar which are spread over 1205 hectares of area.

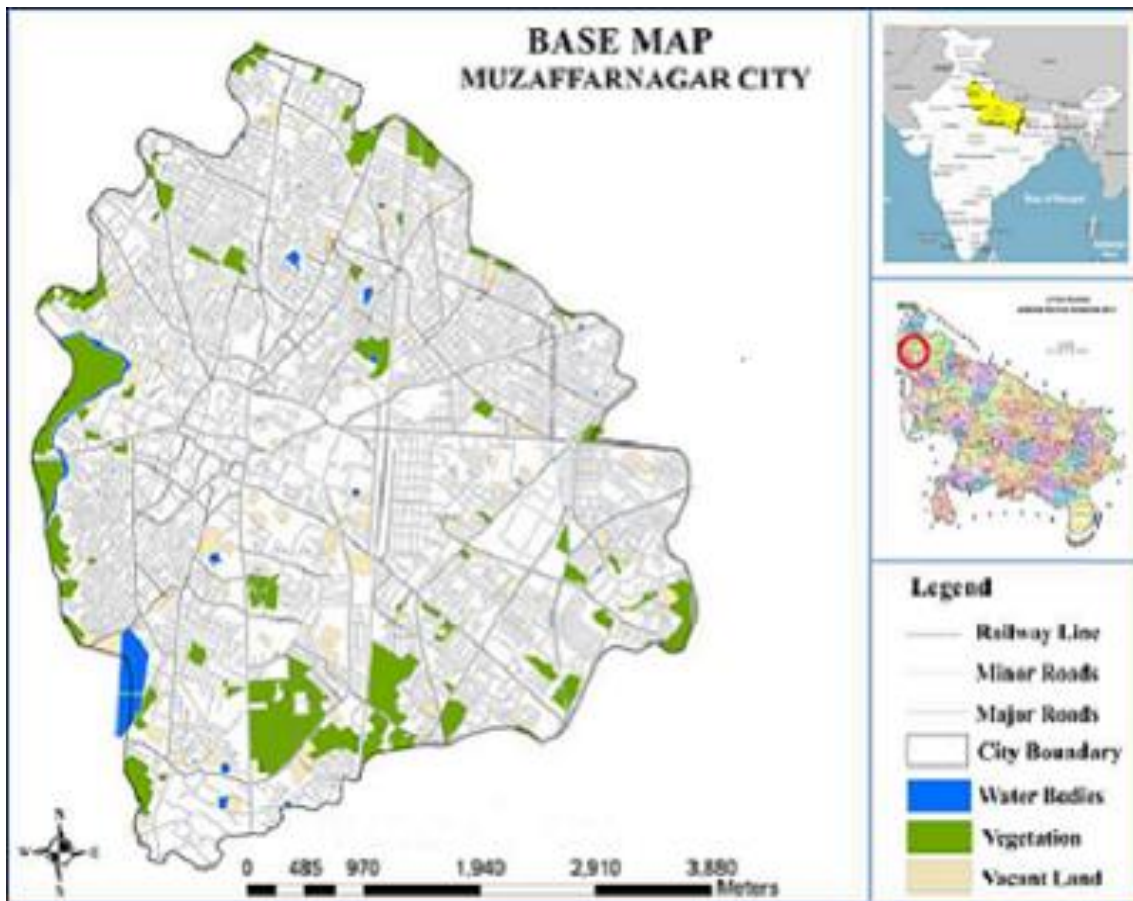


Fig. :1 – Location Map

Demographic Profile of city

As per the Census 2011, a population of 392768 live in 68975 houses. After analyzing the ward wise population in the city, the maximum population among all wards was in ward no. 37, which was 10364 in 1439 families. According to the religion 55.79 percent of population was Hindu in the city and 41.39 percent of total population was Muslim, other religion like Buddhist, Jain and Christian were contribute only 2.82 percent in city's population. There is a sex ratio of 897 female per 1000 male in 2011, which was 892 in 2001. The literacy rate of city in 2011 was 70.94 percent, in which 74.86 percent male and 66.56 percent female were literate.

Data based and methodology

The study is purely based on secondary data which were collected from many government and non-Government bodies. Authentic census data is too used for population and household numbers analysis in the study. Related statistical data are arranged in row and tables and conclusions obtained from many statistical methods such as arithmetic mean, median and average analysis etc.

Urban Growth and Urbanization in Muzaffarnagar

The city was established in 1633 by Siyyad Munnawar Lashkar Ali, but the authentic population record of city was found from 1901. In 1901 the total population of city was only 23444, after 100 year in

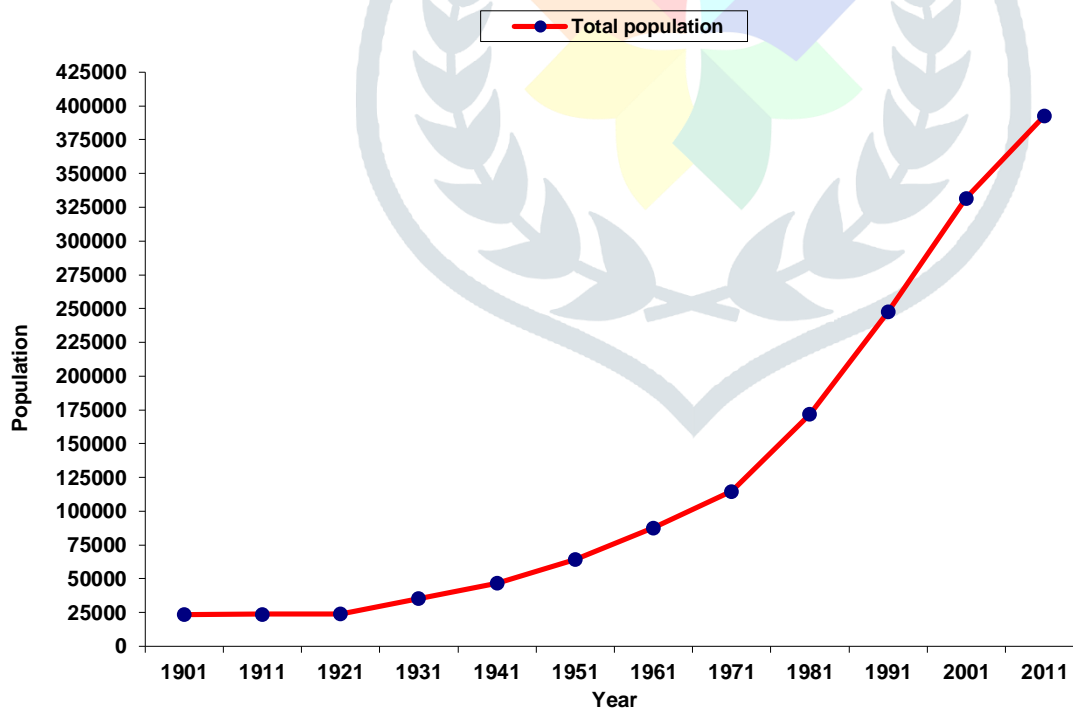
2001 the population is gone 331668 with rapid growth rate. The tendencies of rapid urbanization in Muzaffarnagar were found from 1971, in 1981 the growth rate of population in city was 49.69%, it was the highest Decadal growth rate in history of Muzaffarnagar's population.

Table 1: Decadal Growth Trends and total population of Muzaffarnagar City

Census year	Population	Decadal population increase (In No.)	Decadal population growth rate (in %)
1901	23444	–	
1911	23811	367	1.57
1921	23937	126	0.53
1931	35347	11410	47.67
1941	46758	11411	32.28
1951	64213	17455	37.33
1961	87622	23409	36.46
1971	114783	27161	31.00
1981	171816	57033	49.69
1991	247624	75808	44.12
2001	331668	84044	33.94
2011	392768	61100	18.42

Source: Census of India

Fig. 2- Decadal Growth and tendencies of Urbanization in Muzaffarnagar city



According to Table no :1

After analyzing the decadal growth and total population data it is found that the process of urban growth in Muzaffarnagar can be divided into three time periods. There was a minimum increase of population in the city from 1901 to 1921, in this time period the decadal growth rate was less than 2 percent. But in 1931

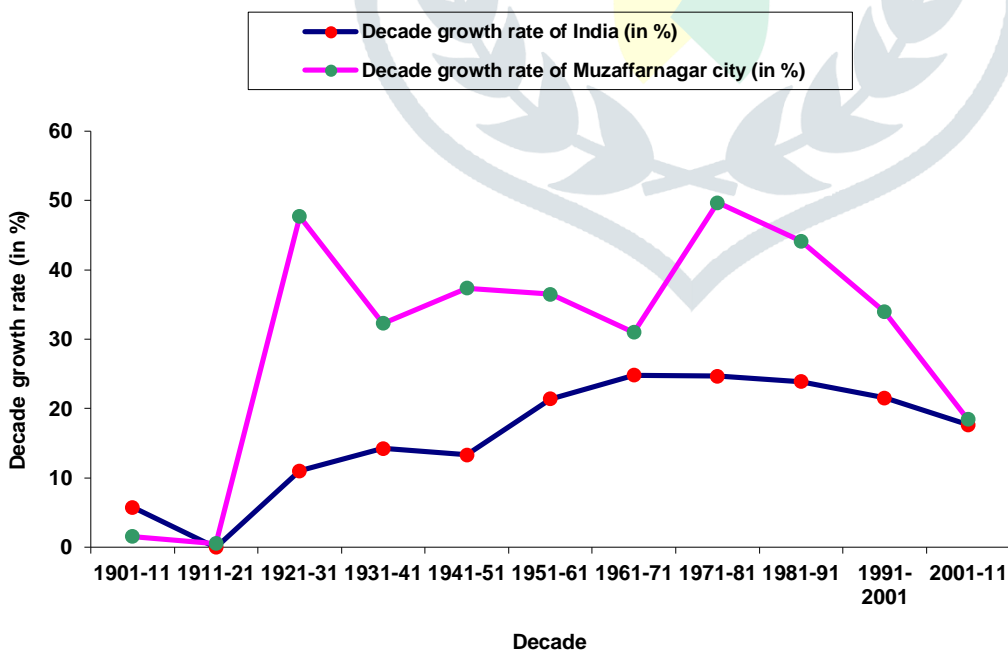
decadal growth rate surprisingly increase up to 47.67 percent in 1931 the total population rapidly gone up to 35347, after 1931 to 1971, the medium growth rate was found in city’s demographical history, it was between 30 to 40 percent per decade. The decadal time of 1971 to 1981 was the second critical threshold in Muzaffarnagar’s process of urban growth, in this decay the highest growth of city’s population history was found of 49.69 percent per decay. The time period from 1981 to 2011 is the third time period in the city’s population growth, in this time period the decadal growth rate is decreasing gradually. After a long time the decadal growth rate is gone down to 18.42 percent in 2011 from 33.94 percent in 2001, it is a positive sigh to development of city. If we were able to maintain such a minimum population growth in the future, perhaps improving the quality of life of urban population and the spread of urban facilities.

Table 2. Decade growth rate of city Muzaffarnagar and India

S. No.	Decay	Decadal Growth Rate of India (in %)	Decadal Growth Rate of Muzaffarnagar city
1	1901-1911	5.75	1.57
2	1911-1921	-0.31	0.53
3	1921-1931	11.00	47.67
4	1931-1941	14.22	32.28
5	1941-1951	13.31	37.33
6	1951-1961	21.64	36.46
7	1961-1971	24.80	31.00
8	1971-1981	24.66	49.69
9	1981-1991	23.87	44.12
10	1991-2001	21.54	33.94
11	2001-2011	17.64	18.42

Source : Census of India

Comparative study of decade growth rate of city Muzaffarnagar and India



According to Table no-2

When we compare the decadal growth rate of city to National growth rate, then we found that only between 1901 to 1911 the growth rate of city (1.57) is less than national rate (5.75) otherwise from 1911 to 2011, in every decay, the growth rate of city is always high than National growth rate. It is more interesting that from 1921 to 2001 the growth rate is always more than 30 percent but within same time period National growth rate of population is never be more than 25 percent per decay. A positive sign for urban development is found in the census of 2011 when the decadal growth rate of city (18.42) is decreased to near about national decadal growth rate (17.64). The above Graph shows that the highest disparity between national growth rate and Muzaffarnagar's growth rate was found in the decay of 1921-31.

Morphology of Muzaffarnagar City

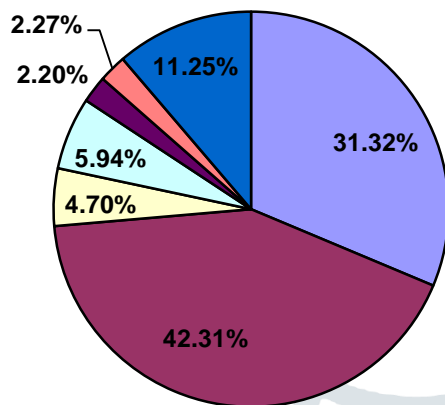
Urban morphology is the study of the form of human settlement and the process of their formation and transformation. The study seeks to understand the spatial structure and character of a city by examining the patterns of its component parts and the ownership or control and occupation. It can be described in terms of physical forms and arrangements of the spaces and buildings that compose the urban landscape or townscape of, as it may be called. Difference in either or both these intimately related aspects of urban morphology, function and forms, gives a basis for the recognition of urban regions (*Smailes, 1966*). When we discuss about the Morphology of city then we found that from the total area of 1938.67 hectares a large area (42.30 percent) of city is utilized under the residential area.

Table 03- Land use at Muzaffarnagar city 2007

Sr. No.	Parameter	Year 2007	
	Land use	Area (Ha.)	Percentage
1.	Built Area	607.04	31.31
2.	Residential	820.70	42.30
3.	Commercial	91.13	4.70
4.	Industrial	115.19	5.94
5.	Public and semi-public services	42.60	2.20
6.	Administrative offices	44.00	2.27
7.	Transportation	218.01	11.25
	Total	1938.67	100.00

Source: - Muzaffarnagar master plan 2020-21

Land Use of Muzaffarnagar city - 2007



INDEX

■ Built Area	■ Residential
□ Commercial	□ Industrial
■ Public and Semi Public Services	■ Administrative offices
■ Transportation	

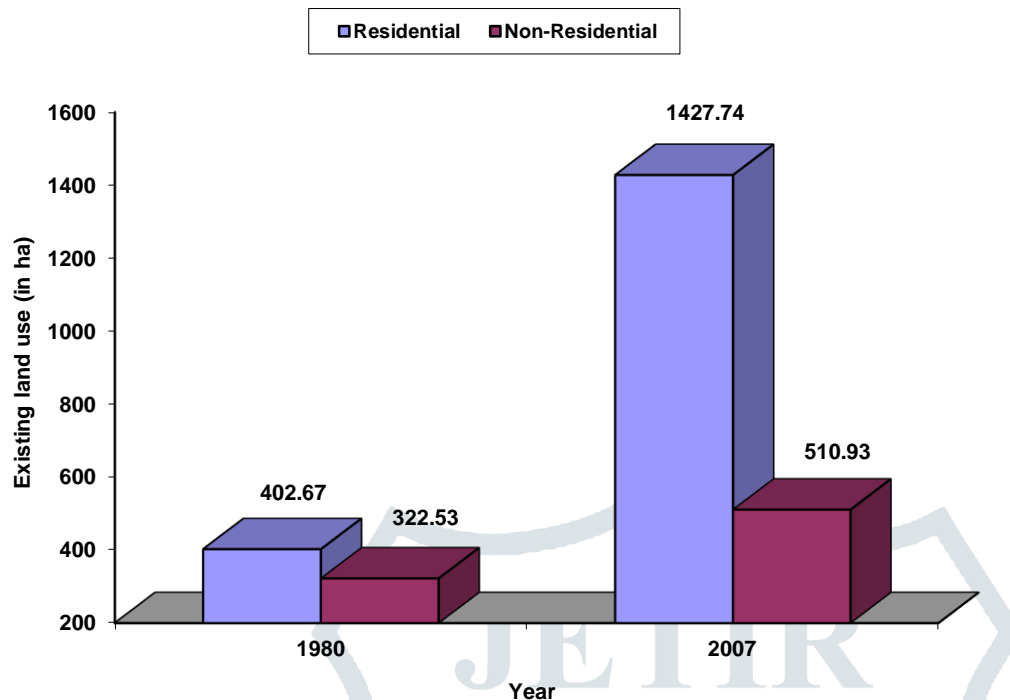
According to Table no-3

About half of the land (42.31%) in the city is used as residential area. The second largest utilization of land in the city is going under the buildup area which is 31.32 % of total area under the use in city. Third largest utilization of the land in city is under the transportation, it has a part of 11.25 % of total. Industries and commercial area conjunctively use about 11 % of total land in the city. Public and semi-public services utilize lowest part of land in city.

Table 4- (Comparison of change in Existing land use in the city between 1981 to 2007)

Sr. No.	Land use	Existing land use in Year 1980 (In Ha)	Existing land use in year 2007 (In Ha)	Land use growth from 1881-2007	Growth rate in (%) Percentage
1.	Residential	402.67	1427.74	1025.07	254.57
2.	Non-Residential	322.53	510.93	188.40	58.41
3.	Total	725.20	1938.67	1213.47	176.98

Source: Muzaffarnagar master plan – 2020-21

Fig. 3 : Existing land use in the city between 1981 to 2007**According to table no-4**

When we compare the temporal changes in the land use of city between 1980 to 2007, so we found that the residential land is increase rapidly from 402.67 hectares in 1980 to 1427.74 hectares in 2007, 1025.07-hectare area is increase under the residential area within 27 years the growth rate is more surprising of this incensement which is 254.57 %. The non residential area is also increase with residential area in these 27 years but on a small scale, the rate of incensement on non-residential area is only 54.41 percent.

The total land use of city in 1980 was 725 hectares which is gone up to 1938.67 in 2007. The total increment of land use within these 27 years is 1213.47 hectares and the growth rate are 176.98 percent.

Conclusion

Through the above quantitative analysis, it is found that the process of urban growth in Muzaffarnagar was so high up to 2001 then National growth rate but in 2011 it is decreased and come to a little high then National growth rate. If the city can maintain the same growth rate like 2011 in future, so city can improve the urban facilities and quality of life and the economy of city can grow fast. In land utilization of city, there is a need to increase the part of open land and parks in city's urban land use. The city needs a well-planned scheme for a perfect future expansion.

Suggestion

1. Government should pass laws that plan and provide environmentally sound city and smart growth of techniques considering that people should not reside in unsafe and polluted areas.
2. Government must ensure all populations within the urban areas have access to adequate essential social services namely education, health, sanitation, and water, technology, electricity and food.

3. The process and pattern of Urbanization must be well planned and properly structured to achieve an agenda of multidimensional development. The proportion of different sector in land use area and its increment should be well managed and growth rate should be controlled for a batter economy growth of the City.

References

- Ali,J., Varshney, D.(2012) *Spatial Modelling of urban growth and urban influence, An approach towards regional development in India*, Annals of the National Association of Geographers , India, Vol.-XXXII, No.2, December 2012, ISSN: 0970-972X, pp 27-49.
- Census of India, office of the registrar journal and census commissioner, ministry of home affaires, GOI, Delhi.
- Chang G.H., Brada J.C., (2006) *The Paradox of China's Growing Under Urbanization.*, Economic System 30: pp 24-44.
- Davis, K., (1964) *The origin and the growth of urbanization in the world*, Maye & Kohn, reading in urban geography. University of Chicago, Chicago pp-363
- Sivaramakrishna, K.C. ; Mahesh N. Buch (1 January 1993) *Urbanization in India; basic services and people's Participation*, Concept Publication Company, ISBN 978-81-7022, pp-2.
- Smailes, A. E.,(1966). *Geography of Towns*, Aldine publication Company, Venice, pp 84.
- Taylor,G.(1957). *Urban Geography*, Methuen & Co., London
- U.N. *World Urbanization prospect 2018 Report*, <http://www.un.org/development/desa/publications/revision-of-world-urbanization-prospects.html>

