Changing Pattern of Urbanization in Uttar Pradesh

Vishwas Tiwari[1], Alok Kumar Shukla[1*]

[1]*Assistant Professor, Department of Statistics, D.A-V. College, Kanpur, UP, India*
[*]*Corresponding Author*

ABSTRACT

This paper endeavours to illuminate on the process of urbanization in Uttar Pradesh with emphasis on degree, tempo of urbanization and population concentration using Indian census data during 1951-2011. It will try to trace changing pattern of urbanization and urban problem. We have also discussed various types of measurement used for finding urbanization pattern. As population increases in the urban areas, the demand for housing, education, medical, facilities, transportation, drinking water etc. increase simultaneously.

Keyword: - *Urbanization, Uttar Pradesh, Ratio, and Percentage.*

1. INTRODUCTION

Urbanization is the process of becoming urban associated with changes from agriculture to other pursuits common to cities such as trade, manufacturing industry and management, and also corresponding changes in the behavior pattern of people. It is the process of expansion in the entire system of interrelationships by which a population maintains itself in its habitat.

Urbanization takes place when the major economic activity of a particular area moves from agricultural sector to an industrial sector or service sectors (Davis, 1962).

The agricultural activities mainly concentrate on labour intensive techniques and major activities are not spatially concentrated. As the development proceeds income automatically increases the relative demand for different sectors. In agricultural sector the use of high yielding variety of seeds, chemicals, fertilizers, pesticides and most modern techniques has increased the agricultural productivity with less number of laboures. So in the villages, the surplus labour has not found any jobs in the rural areas and thus moves towards urban areas for finding jobs.

The increasing number of cities in the developing countries offer number of employment opportunities not only for skilled and technologically efficient persons but also for their own family members. The jobs attract the more skilled and educated persons from smaller cities and other states also (Premi, 1991). This in turn generates more employment opportunities, better communication, transportation, housing, water, sewerage system, education, hospitals system all of which make it possible for the cities to grow.

Globalization, liberalization and privatization addressing negative process of urbanization in India or Uttar Pradesh. Under globalization survival and existence of the poor are affected adversely. Liberalization (Kundu and Gupta, 2000) permits cheap import of goods which also affects rural economy, handicrafts, household industries run by rural persons. Liberalization (Deshpande and Deshpande, 1998) benfits only those who acquire new skills. Common man and the poor will not benfit from the liberalization. Privatization cause retrenchment of workers. All these negative syndrome forces poverty induced migration of urban poor to urban informal sectors (Kundu, Lalitha and Arora, 2001). Hence migration which is one of the components of urban growth occurs not due to urban pull but due to rural push.

Urban area is defined in two different ways, demographic and social. Demographically, the focus is on the size and density of the population and nature of work of the majority of the adult males. Sociologically, the focus is on heterogeneity, impersonality, interdependence and the quality of life.

In India, the demographic and economic indexes are important in defining specific areas as towns or city. The census definition of 'town' remained more or less the same for the period 1901-1951. Up to 1951, town included:
1. An in habitat locality with a total population of not less than 5000 persons
2. Every municipality corporation and notified area of whatever size
3. All civil lines not included with in municipal limits

Thus, the primary criteria for deciding whether a particular place is a town or not was the administrative set-up rather than the size of the population. Because of this definition many of towns in reality were nothing more than over grown villages.

In 1961 'town' was redefined and determined on the basis of the following properties:
1. A minimum population of 5000
2. A density of not less than 1000 per square mile.
3. Three fourths of the occupations of the population should be outside of agricultural
4. The place should have a few characteristics and amenities such as newly founded industrial areas, large housing settlements, and places of tourist importance and civic amenities. The 1961 basis was adopted in the 1971, 1981, 1991, 2001 and 2011 census too for defining towns.

1.1 Urban Agglomeration

The 1971 census introduced the term urban agglomeration. An urban agglomeration is a continuous spread constituting a town and its adjoining urban outgrowths or two or more physical contiguous town together and any adjoining urban outgrowths are such towns. Examples of outgrowths are railway colonies, university campus, port-area, military campus etc. that may come up near a statutory town or city. For census of India, 2001, it was decided that the core town or at least one of the constituent towns of an urban agglomeration should necessarily be a statutory town and the total population of all the constituents should not be less than 20000. With these two basic criteria having been met the following are the possible different situations in which urban agglomerations could be constituted:-
1. A city or town with one or more contiguous outgrowths
2. Two or more adjoining towns with or without their outgrowths
   A city or one or more adjoining towns with their outgrowths all of which form a continuous spread.

1.2 Problems of Urbanizations

As population increases in the urban areas, the demand for housing, education, medical, facilities, transportation, drinking water etc. increase simultaneously. Some of important problems of urbanization faced in different parts of India are as follows:-

Unemployment:- Metropolitan cities such as Kolkata, Mumbai, Delhi, Chennai etc. have reached saturation level of employment generating capacity (Kundu, 1997). Since these metropolitan cities have so many urban problems such as poverty, housing shortage, unemployment, crisis in urban infrastructural services these metropolitan cities can not absorve rural migrants who are illiterates and unskilled agricultural laboures.

Housing and Slums:- Metropolitan cities grow in urban population (Nayak, 1962) not in urban prosperity and culture. There is acute shortage of housing in metropolitan cities and some of the available accommodation is qualitatively of substandard variety. The problem has tended to worsen over the years due to rapid increase in population fast rate of urbanization and proportionally inadequate addition to the housing stock. Private developer find little profit in building houses for the poor. With large scale migration to urban areas many find that the only options they have is substandard conditions of slums. Slums are characterized by substandard housing, overcrowding, lack of electrification, ventilation, sanitation, roads and drinking water facility (Kundu, Bagchi and Kundu, 1999) to the extreme poor and rural migrants.

Over Crowding:- In major cities in India like Mumbai, Kolkata, Pune and Kanpur, more than two third of the households lives in one or two rooms. In some homes five to six persons live in one room. Overcrowding encourages spreads diseases and creates conditions for mental illness, alcoholism and riots. Urbanization is degenerating social and economic inequalities which warrants social conflicts, crimes and anti social activities (Kundu and Gupta, 1996).

Water Supply, Drainage and Sanitation:- No city has well water supply in India. Many small towns have no main water supply at all and are dependent on the wells. Non existence of a drainage system, large pools of stagnant water can be seen in city even in summer months. Basic sanitation needs of cities of cities are not tackled by municipal corporations.

Transportation & Traffic:- Absence of planned and adequate arrangements for traffic and transport is another problem in urban centers in India. The increasing number of two-wheelers and cars make the traffic problem worse. They cause air pollution. The number of buses playing the metropolitan cities is not adequate and commuters have to spend long hours to travel.

Power Shortage:- Power supply has remained insufficient in a majority of the urban centers in Uttar Pradesh. Establishment of new industries and the expansion of the old ones has also increased dependence on electricity.

2. STUDY OBJECTIVE

This paper endeavours to illuminate on the process of urbanization in Uttar Pradesh and Kanpur Metropolitan city with emphasis on degree, tempo of urbanization and population concentration using Indian census data during 1951-2011. It will try to trace changing pattern of urbanization and urban problem.

3. RESEARCH METHODOLOGY

Urbanization is a multi-dimensional phenomenon and as such different measures are required to tap its different dimensions. Following are the important measures which have been used in the study:

3.1 Degree or Level of Urbanization

The degree or level of urbanization is defined as the relative number of people who live in urban areas. Sum of the indices for measuring the degree of urbanization in population are :

   (i)   percent of population in urban areas
   (ii)   the urban rural ratio
   (iii)   mean city population size

3.1.1 Percent of Population in Urban Areas

it is a most frequently used index for measuring the degree of urbanization and is calculated as

$$PU = (U/P)*100$$

Where PU = percent urban
         U= urban population of an area
         P= total population of an area

Higher the percentage of urban population to total population higher is the level of urbanization. A disadvantage of this index is that ones a country or an area of a country achieves a high proportion of urban population, further increase in the percent urban is negligible, although the urban process may continue in the sense that the size of cities continues to increase.

3.1.2 Urban/Rural Ratio

This index measures the relative number of urbanites for each rural person in an area

$$UR = (U/R)*100$$

Where UR= urban rural ratio of an area
         U = urban population of the area
         R = rural population of the area

When the whole population is rural then the value of the index will be zero. The value of the index will be 1 when fifty percent of the population is rural. The value of the index will be infinite when the country has no rural population.

3.2 Tempo of Urbanization

The tempo, speed or rate of urbanization refers to the change in the level of urbanization over a specified period of time. If the degree of urbanization is measured by the percent of population living in urban places, by the urban rural ratio or by the mean city population size, the speed of urbanization would be the change registered in these indices over a period of time. The tempo of urbanization can be measured in the following different ways:

3.2.1 Annual Change of Percentage Points

$$TA = \frac{1}{n}(PU^{t+n} - PU^{t})$$

Where TA = tempo of urbanization, n = number of years, PU^{t}, PU^{t+n} = percent urban at the years t & $t+n$.

3.2.2 Average Annual Rates of Change of the Percent Urban

This can be defined as the annual rate of change in the number of people in urban areas per hundred or per thousand population in the country. The different assumptions about the pattern of change in percent urban that is linear, exponential, geometric or hyperbolic. The most frequently used assumptions are linear and exponential pattern of change. When the time period involved is more than ten years and the gap between two points of time is not the same then it is desirable to use an exponential model. When the time period is not longer than ten years, the linear model can be used.

Linear Model: **Exponential Model:**

$$TR = \frac{1}{n}\left(\frac{PU^{t+n}}{PU^{t}} - 1\right) \times 100 \qquad\qquad TR = \frac{1}{n} \times \ln\left(\frac{PU^{t+n}}{PU^{t}}\right) \times 100$$

Where TR = tempo of urbanization, n = number of years,

PU^{t}, PU^{t+n} = percent urban at the years t & $t+n$.

3.3 Index of City Distribution

A number of studies have shown that there exists a regularity between the size of the city and its rank and this relationship between the sizes of the cities and their ranks is known as Rank Size Rule. By this method it is possible to adjust the distribution of cities with a function which relates the population size of any city to its rank and to the population size of the largest city. This relation ship can be written as

$$C_k = C_1 K^{-z}$$

Where C_k = the population of the city ranked in place k from the largest city to the smallest city in population size. C_1 = population of the largest city, k = rank order, z = constant, the index of city distribution

Then by using the least square method we can estimate Z as

$$Z = \frac{\left[\sum \ln\left(\frac{C_1}{C_k}\right) \times \ln(k)\right]}{\sum [\ln(k)]^2}$$

Each value of Z characterizes a city distribution. The greater the value of Z, the greater is the concentration of population in the largest city relative to the smallest cities.

3.4 Primacy Index

The primacy index can be calculated for a two city, a four city, or even ten city primacy index. The four city primacy index is given by

$$PI_4 = \frac{C_1}{\sum\limits_{k=2}^{4} C_k}$$

Where C_1 = population of the largest city

C_k = (for k=2, 3&4) the population of the second, third and fourth largest city.

The eleven –city primacy index is given by

$$PI_{11} = \frac{2C_1}{\sum\limits_{k=2}^{11} C_k}$$

Where $C_1 =$ the population of the largest city and

C_k = (for k= 2,3….11) the population of second, third……and eleventh largest city.

The index measures the concentration of the first city in relation to the remaining three cities or eleven cities. The greater the index value the greater is the concentration in the largest city.

3.5 Average Annual Growth Rate of Urban Population

The average annual growth rate of urban population is calculated by taking the assumptions as the average annual growth rate of total population, i.e. linear or exponential. Let us suppose that U^t and U^{t+n} are the total urban population of A country/state at time t and $t+n$ respectively. And U_r is the growth rate of urban population

Linear Growth Rate: **Exponential Growth Rate:**

$$U_r = \frac{1}{n}\left(\frac{U^{t+n}}{U^n} - 1\right) \times 100$$ $$U_r = \frac{1}{n}\ln\left(\frac{U^{t+n}}{U^n}\right) \times 100$$

4. URBANIZATION PATTERN IN UTTAR PRADESH

Uttar Pradesh has the highest number of persons in the country and treated as the first rank population wise as per the census of India (2011). There is well developed infrastructural, industrial facilities available in the selected urban areas of the state. Agriculture is the leading occupation in Uttar Pradesh. Wheat is the state's principal food crop and sugarcane is the main commercial crop. State industries are localized in the Kanpur region. The Mughal Sarai is home to a number of major locomotive plants. Major manufacturing products include engineering products, electronics, cables, steel, leather, textiles, jewellery, automobiles, railway coaches and wagons. More small-scale industrial units are situated in Uttar Pradesh than any other state.

The table (1) represents the population of India and Uttar Pradesh during the last 60 year. According to census of India, the population of India in 1991 was 846.3 million. The population of India as per 2011 census exceeds 1210.57million. The population of Uttar Pradesh in 1991 was 139.11million. The population of Uttar Pradesh as per 2011 census exceeds 199.82 million. The figure 1 and figure 2 represents the changing pattern of urbanization in India and Uttar Pradesh respectively.

Table- 1: Rural and Urban Classification of Population (in million) in India and Uttar Pradesh
1951- 2011(Source: Census of India Data)

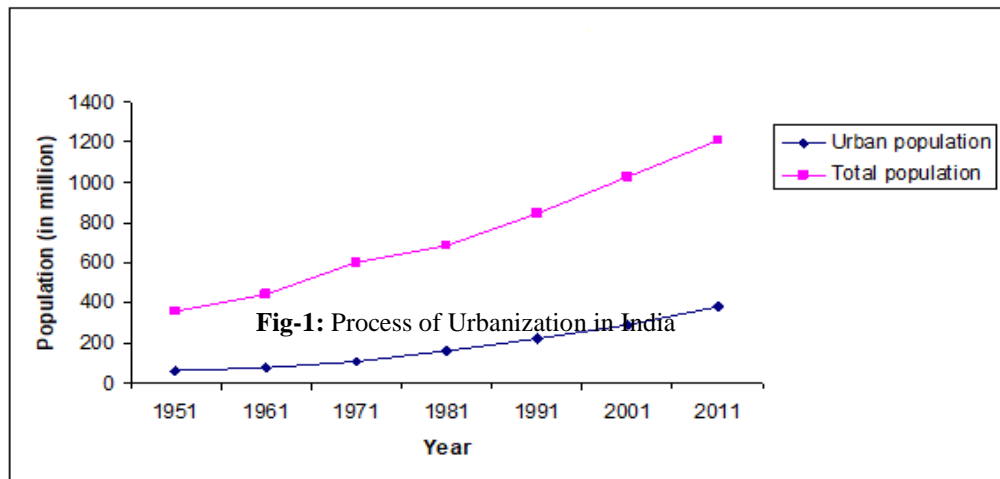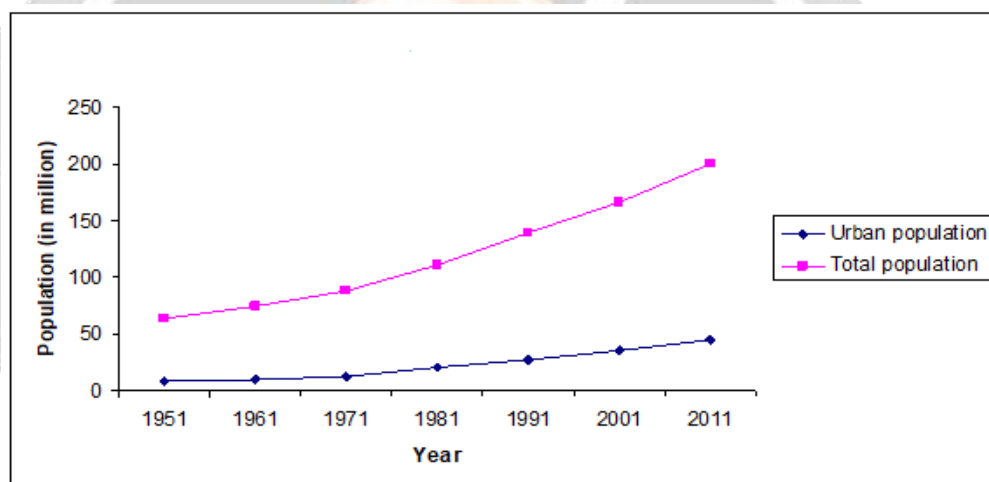| Years	India			Uttar Pradesh		
	Rural	Urban	Total	Rural	Urban	Total
1951	298.64	62.44	361.09	54.59	8.63	63.22
1961	360.3	78.94	439.23	64.27	9.48	73.75
1971	489.05	109.11	598.16	76	12.36	88.36
1981	523.87	159.46	683.33	90.96	19.9	110.86
1991	627.15	217.17	846.32	111.51	27.6	139.11
2001	741.66	285.36	1027.02	131.54	34.51	166.05
2011	833.46	377.11	1210.57	155.32	44.5	199.82

Fig-1: Process of Urbanization in India

Fig-2: Process of Urbanization in Uttar Pradesh

Degree of Urbanization:- On applying the formula (3.1.1) and (3.1.2), we get the table 2 for degree of urbanization in India and Uttar Pradesh. Figure 3 and figure 4 represents degree of urbanization in India and Uttar Pradesh respectively. From Table(2), it is clear that percent urban has increased from 17.29% in 1951 to 27.82% in 2011. Percent Rural has shown gradual decrease from 82.71% to 72.18% over a period of sixty years. From table(2), we can say that in Uttar Pradesh percent urban has increased from 13.65% in 1951 to 22.27% in 2011, whereas percent rural has shown gradual decrease from 86.35% in 1951 to 77.73% in 2011.The urban-rural ratio for India in 1951 was 20.91% and in 2011 it turns out to be 38.54. it means that against every 100 ruralities there are almost 38 urbanites in India in 2011. The urban rural ratio for Uttar Pradesh in 1951 was 15.81 and in 2011 it turns out to be 28.65. it means that against every 100 ruralities there are almost 28 urbanites in Uttar Pradesh in 2011. Uttar Pradesh is less urbanized than India.

Table -2: Degree/Index of Urbanization in India and Uttar Pradesh 1951-2011

| Census Years	India			Uttar Pradesh		
	Percent Rural	Percent Urban	Urban-Rural Ratio	Percent Rural	Percent Urban	Urban-Rural Ratio
1951	82.71	17.29	20.91	86.35	13.65	15.81
1961	82.03	17.97	21.91	87.15	12.85	14.75
1971	81.76	18.24	22.31	86.01	13.99	16.26
1981	76.66	23.34	30.44	82.05	17.95	21.88
1991	74.10	25.66	34.63	80.16	19.84	24.75
2001	72.21	27.79	38.48	79.22	20.78	26.24
2011	68.85	31.15	45.24	77.73	22.27	28.65
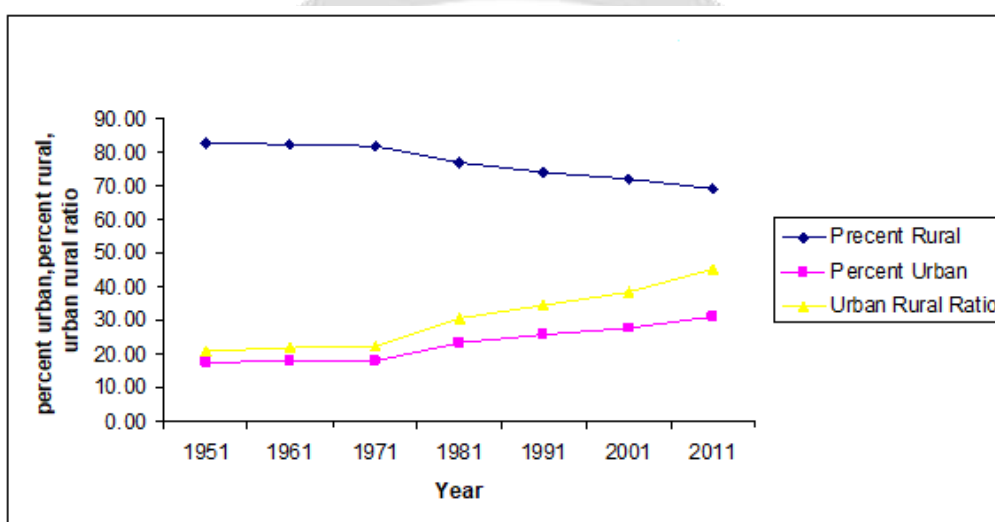
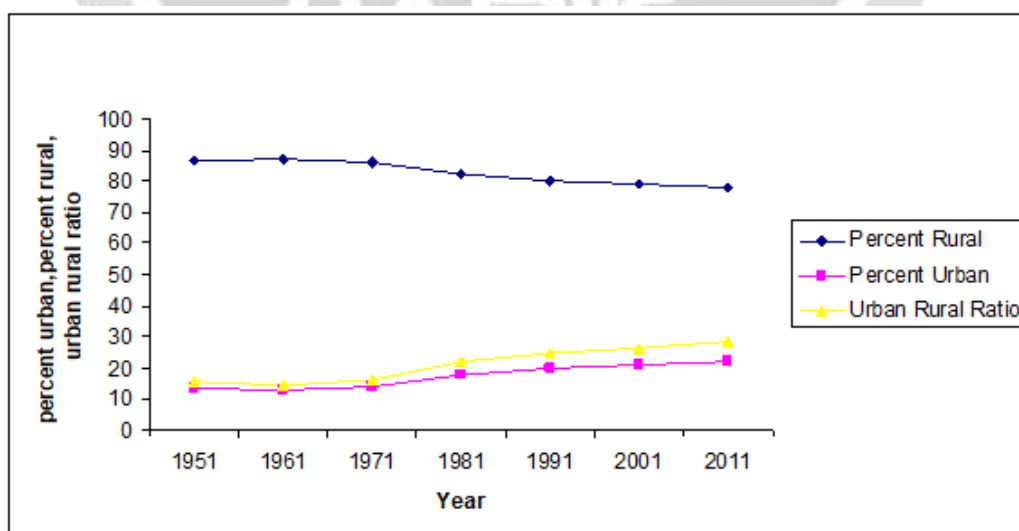**Fig-3:** Degree of urbanization in India 1951-2011

Fig-4: Degree of urbanization in Uttar Pradesh 1951-2011

Annual Growth Rate of Population:- On applying the formula (3.2.2), we get the table 3 for annual growth rate of population in India and Uttar Pradesh. It may be observed from the table 3 that the annual growth of population of India was higher than that of Uttar Pradesh. From table 1, the population of Uttar Pradesh has increased from 63.22 million in 1951 to 199.82 million in 2011. It may be also observed that the annual growth of urban population of India was some time higher than that of urban population of Uttar Pradesh. The slightly less annual growth rate of population during the 1991-2001 in Uttar Pradesh may be due to the partition of certain area of Uttar Pradesh in to and other state namely, Uttarakhand in that time. Moreover, the slow rate of growth of urban population in Uttar Pradesh may be due to low level of birth rate, high level of migration of skilled and semi-skilled and educationally and technically fitted persons to urban metro cities in other part of India.

Table- 3: Annual Growth Rate of Population

Year	India			Uttar Pradesh		
	Annual Growth Rate (Percent) of Total Population	Annual Growth Rate (Percent) of Urban Population	Annual Growth Rate (Percent) of Rural Population	Annual Growth Rate (Percent) of Total Population	Annual Growth Rate (Percent) of Urban Population	Annual Growth Rate (Percent) of Rural Population
1951-1961	2.16	2.64	2.06	1.67	0.98	1.77
1961-1971	3.62	3.82	3.57	1.98	3.04	1.83
1971-1981	1.42	4.61	0.71	2.55	6.10	1.97
1981-1991	2.39	3.62	1.97	2.55	3.87	2.26
1991-2001	2.14	3.14	1.83	1.94	2.50	1.80
2001-2011	1.79	3.22	1.24	2.03	2.89	1.81

Tempo of Urbanization:- On applying the formula (3.2.2) for exponential model , we get the table 4 for tempo of percent urban and percent rural population growth in India and Uttar Pradesh. Figure 5 and figure 6 represents tempo of urbanization in India and Uttar Pradesh respectively. Tempo of urbanization refers to speed of urbanization and is measured as change registered in the level or degree of urbanization over a specified period of time. From the Table-4 it is clear that tempo or speed of urbanization is not uniform over the years 1951 - 2011. For urban India, it shows fluctuating trend from 1951 to 1981. Declining trend appears from 1981 to 2001 and tempo of urbanization increases during the period 2001-2011. For urban Uttar Pradesh it shows increasing trend from 1951 to 1981 and shows declining trend from 1981 to 2001. In recent times urbanization process have started very well for Uttar Pradesh. It is very important that tempo of urbanization measured as a percent will tend toward zero as the urban population reaches the 100 percent level.

From Figure-5 and Figure-6, fluctuating tempo of urbanization can be easily verified. Growth rate of percent rural being negative, the corresponding curve for it moves down the horizontal axis

Table -4: Tempo of Urbanization

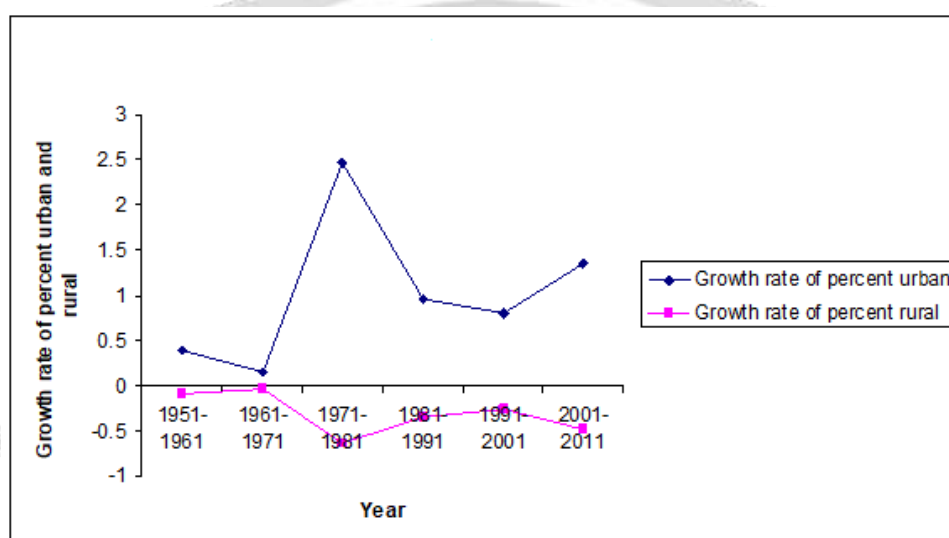| Year	India		Uttar Pradesh	
	Tempo of percent urban population growth	Tempo of percent rural population growth	Tempo of percent urban population growth	Tempo of percent rural population growth
1951-1961	0.38586	-0.08198	-0.6012	0.09182
1961-1971	0.14833	-0.03307	0.84542	-0.13098
1971-1981	2.46316	-0.64341	2.49405	-0.47162
1981-1991	0.94967	-0.33977	1.00099	-0.23302
1991-2001	0.79551	-0.25814	0.46409	-0.11827
2001-2011	1.35964	-0.47648	0.69249	-0.18987

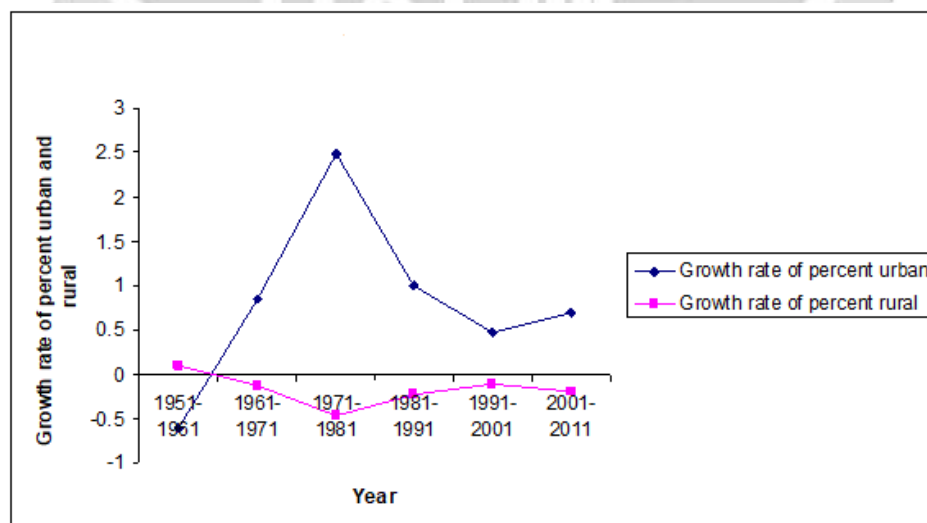**Fig-5:** Tempo of Urbanization in India 1951-2011

Fig-6: Tempo of Urbanization in Uttar Pradesh 1951-2011

Growth rate of urban rural ratio in India and Uttar Pradesh:- Growth rate in urban rural ratio also shows a fluctuating trend over the years in India and Uttar Pradesh as is evident from the following Table-5. Exponential growth rate formula (3.2.2) is used for urban rural ratio.

Table -5: Growth rate of urban rural ratio in India and Uttar Pradesh

Year	India	Uttar Pradesh
1951-1961	0.46783	-0.69302
1961-1971	0.18140	0.97640
1971-1981	3.10657	2.96567
1981-1991	1.28945	1.23401
1991-2001	1.05365	0.58236
2001-2011	1.62023	0.88061

The major advantage of measuring tempo of urbanization is by taking urban-rural ratio is that it does not tend to zero when the country approaches the hundred percent level of urbanization. However it does regress toward the growth rate of the urban population.

Calculation of constant Z in the rank size formula:- By applying the formula (3.3), we fined the concentration of population in largest city relative to the smallest cities.

Table- 6.1: Calculation of constant Z in the rank size formula for Uttar Pradesh, 2001

City	Rank K (1)	Total Population (2)	C_1/C_k (3)	$Ln(C_1/C_k)$ (4)	$Ln(K)$ (5)	(4)*(5)= (6)	$(Ln K)^2$ (7)
Kanpur	1	2,656,607	1.00	0	0	0	0
Lucknow	2	2,185,927	1.22	0.19501	0.69314	0.13517	0.48045
Agra	3	1,275,124	2.08	0.73400	1.09861	0.80638	1.20694
Varanasi	4	1,103,952	2.41	0.87815	1.38629	1.21737	1.92181
Meerut	5	1,068,772	2.49	0.91053	1.60943	1.46545	2.59029
Allahabad	6	1,018,092	2.15	0.76411	1.79175	1.36910	3.21040
Ghaziabad	7	968,256	2.74	1.00930	1.94591	1.96402	3.78656
Total						6.95751	13.19647

Table -6.2: Calculation of constant Z in the rank size formula for Uttar Pradesh, 2011

City	Rank K (1)	Total Population (2)	C_1/C_k (3)	$Ln(C_1/C_k)$ (4)	$Ln(K)$ (5)	(4)*(5)= (6)	$(Ln K)^2$ (7)
Kanpur	1	2,920,067	1.00	0	0	0	0
Lucknow	2	2,901,474	1.01	0.00638	0.69314	0.00442	0.48045
Ghaziabad	3	2,358,525	1.24	0.21357	1.09861	0.23463	1.20694
Agra	4	1,746,467	1.67	0.51401	1.38629	0.71257	1.92181
Varanasi	5	1,435,113	2.03	0.71036	1.60943	1.14328	2.5902
Meerut	6	1,424,908	2.04	0.71111	1.79175	1.27414	3.21040
Allahabad	7	1,216,719	2.40	0.87544	1.94591	1.70354	3.78656
Total						5.0726	13.19647

By applying the Rank size rule we get.

For 2001, $Z = \dfrac{[\sum \ln(\frac{C_1}{C_k}) \times \ln(k)]}{\sum [\ln(k)]^2}$ = (6.95751/ 13.19647) = 0.52722

For 2011, $Z = \dfrac{[\sum \ln(\frac{c_1}{c_k}) \times \ln(k)]}{\sum [\ln(k)]^2}$ = (5.0726/13.9647) = 0.384391

Area we see that $Z = 0.527$ is higher than $Z = 0.384$. So we can say that in 2001 the concentration of population in the Kanpur is larger than other cities.

Primacy Index:- Having the Z vale also allows the calculation of primacy index. The primacy index shows the dominance of the largest city with respect to the second largest city or subsequent cities. Assuming that the exponent Z of the rank (constant Z in the rank-size formula) is one, the size of any city is equal to the largest city divided by its rank. Under this condition, the population of the largest city is equal to the population contained in the second, third and a fraction of the fourth ranked cities. On applying the formula (3.4). The primacy index for Uttar Pradesh 2001 based on first four cities

PI_4 (2001) = (2656607) / (2185927+1275124+1103952) = 0.58195

The primacy index for Uttar Pradesh 2011 based on first four cities

PI_4 (2011) = (2920067) / (2901474+2358525+1746467) = 0.41677

Since the primacy index for 2001 is greater than primacy index of 2011, show the population concentration in Kanpur in 2001is more than 2011.

6. CONCLUSION

     The level of urbanization in Uttar Pradesh is 6 percent less than the national average of 31.33 percent in 2011. During the period 2001-11, tempo of urbanization in Uttar Pradesh is lesser than national level. So, it can be said that there is slow speed of development in the state. It is found that against every 100 ruralities there are almost 28 urbanities I Uttar Pradesh in 2011. Uttar Pradesh is less urbanized than India. It is also observed that the annual growth of urban population of India was some time higher than that of urban population of Uttar Pradesh. In recent times urbanization processes have started very well for Uttar Pradesh. It is very important that tempo of urbanization measured in percent will tend toward zero as the urban population reaches the 100 percent level. The primacy index shows the dominance of the largest city with respect to the second largest city or subsequent cities. We find that population concentration in Kanpur in 2001 is more than 2011.

7. REFERENCES

[01] Despande, S. and Despande, L. (1998): " Impact of Liberalization of Labour Market in India: What Do Facts
     from NSSO's 50th Round Show" Economic and Political Weekly, Vol.33No22, ppL21-L31.

[02] Kundu A. (1997): "Trends and Structure of Employment in the 1990s: Implications for Urban Growth", Economic and Political Weekly, 32(24)

[03] Kundu A. and Gupta, S. (1996): "Migration Urbanization and Regional Inequality", Economic and Political Weekly, 31(52), December 26

[04] Kundu, A., Bagchi, S. and Kundu, D. (1999): "Regional Distribution of Infrastructure and Basic Amenities in
     Urban India – Issues Concerning Empowerment of Local Bodies", Economic and Political Weekly, 34(28), July 10

[05] Nayak, P. R. (1962): "The Challenge of Urban Growth to Indian Local Government" in Turner (ed.) India's Urban Future, University of California Press, Berkley

[06] Kundu, A. and Gupta, S. (2000): Declining population mobility, Liberalization and growing Regional Imbalances -- The Indian Case in Kundu, A. (ed), Inequality, Mobility and urbanization, Indian Council of social Science Research, Manak Publications, New Delhi

[07] Premi, M. K. (1991): "India's Urban Scene and Its Future Implications", Demography India,20(1)

[08] Kundu, Lalitha and Arora (2001): Growth Dynamics of Informal Manufacturing Sector in Urban India: An Analysis of Interdependence, in Kundu, A. and Sharma, A. N.(eds), Informal Sector in India, Institute of Human Development, New Delhi

[09] Davis Kingsley (1962): "Urbanization in India – Past and Future", in Turner, R. (ed.) India's Urban Future, University of California Press, Berkley