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Spatial Pattern of Population Dynamics of Ajmer District

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ABSTRACT: Human resources are one of the country's most valuable assets, and their development is critical for economic growth, social welfare, and improved quality of life. The study of human resources is a labour force that assists in the production process, allowing the entire population of a region to live in comfortable and healthy conditions. As a result, it is vital to understand the quantitative and qualitative evolution of the region's demographic structure and population dynamics.

As a structured and systematic subfield of geography, population geography lays a bigger emphasis on man. The study of population geography is primarily concerned with man. The aim of population geography is to comprehend the regional disparities in the individuals that populate the area. The present study aims to highlight the population dynamics of Ajmer district.

KEYWORDS: Human Resources, Spatial Distribution Pattern, Demographic Analysis, Spatial Changes.

I. INTRODUCTION

One of the most valuable resources in the region is its population, which has a significant impact on the region's economy. To commence, it's critical to define what we mean by population. The term "population" can be interpreted in a variety of ways. A biologist, for example, would use the term population to refer to a group of animals or plants, whereas a geographer might use the same term to refer to a group of people. Indeed, the phrase is widely used to describe a group of people whose exact number and makeup is constantly shifting. The population of a city, country, or any unit of territory, according to the dictionary of geography, is the total number of people who live there.

Population studies is an emerging social subject that has drawn the attention of geographers, social scientists, and demographers alike. It describes the size, structure, characteristics, dispersion, and demographic changes of a population through time. The study of spatial differences in population distribution, composition, migration, and growth is known as population geography, which is a subset of human geography. It is dealing with population from a geographical viewpoint. Demography is concerned with births, death, migration, and social mobility, all of which are intrinsic subjects of population analysis.

II. OBJECTIVES

1. To analyse the trend of population growth in the study area.
2. To analyse the density of population.
3. To analyse sex-ratio of the region.

III. METHODOLOGY

To analyse the population growth in Ajmer district, the data of population growth of the year 1981, 1991, 2001, 2011 was tabulated as the basis, in which the percentage change in rural and urban population in 10 years was analysed, after that, in all 9 tehsils of the study area, rural and urban population growth was mapped based on decadal growth of year 2001-2011. Similarly, density and sex-ratio of the district for 2011 was calculated, tabulated, and depicted on map. The data from census of India publications was used in the study.



IV. REVIEW OF LITERATURE

G.T. Trewartha published the first study on population analysis in the world in 1953, following which several geographers and economists contributed significantly, including Clark, Ward, J.I. Clark Garner, Kosnicke, Robin Prior, and others.

Ashish Bose, Chandrashekhar, S.N. Agrawala, R.C. Chandana, B.N. Ghosh, B.N. Puri, V.C. Misra, B.C. Mehta, Mansur Ahmed, S.J. Mehta, Suryakant, K.N. Dubey, Prem Sagar, Smita Sen Gupta, S.C. Julka, P.K. Sharma, K.C. Kayastha, Dhaneshwari, F.Z. Jamali, Ismail Haque, Indel Singh, Kamalkant Dubey, Mahendra Bahadur, Juzar Singh, Pushpa Pathak, Gopal Krishna, Abdul Razak, Nural Alam, A.S. Panwar, Dharmaraj Joshi, etc. are prominent Indian scholars who have contributed in the field of Population studies.

In recent years, substantial study is done in the population distribution by Bendi, S. K., and T. K. Pany. (2017), Bose, C. (2018), Chutia, L. J., and M.K. Sharma. (2016), Das, D., A. Kumar, and M. Sharma. (2020), Dash, M. (2016), Grobar, L. M. (2019), Huang, D., Lang, Y., & Liu, T. (2020), Ribeiro HV, Oehlers M, Moreno-Monroy AI, Kropp JP, Rybski D (2021), Yadav, S., Khan, Z. (2012), Zhang L, Lin X, Leng L, Zeng Y, (2021), Zhou Q, Xu Y, Zheng Y, Shao J, Lin Y, Wang H, (2020). Khan, Zuber & Yadav, Sandeep & Mangal, Nikita. (2021).

V. STUDY AREA

Ajmer district is situated in the center of Rajasthan and surrounded by Jaipur and Tonk district in the East and Pali in the West. Nagaur district touches its north boundary while Bhilwara district is in the South. The shape of the district is triangular. The district lies between 26°25' North to 26°29' North latitudes and 74°37' East to 74°42' East longitudes. Total area of Ajmer district is 8481.40 sq. Kms.

Ajmer district is sub divided into 4 sub-division namely Ajmer, Beawar, Kekri and Kishangarh and comprises of 9 tehsils Ajmer, Nasirabad, Masuda, Beawar, Bhinay, Sarwar, Peesangan, Kekri and Kishangarh. The total population of Ajmer district is 2,583,052 in 2011. Rural and urban population of the district is 1,547,642 and 1,035,410 people.

VI. ANALYSIS OF POPULATION DYNAMICS

The table 1 shows the population growth of Ajmer district. The annual growth rate has fluctuated from 10.99 percent from 1981-91 to a declining trend in 2001-2011 to 1.84 percent. The decline is mainly due to governments family planning measures and increase in literacy rates making people aware of the ill effects of high population.

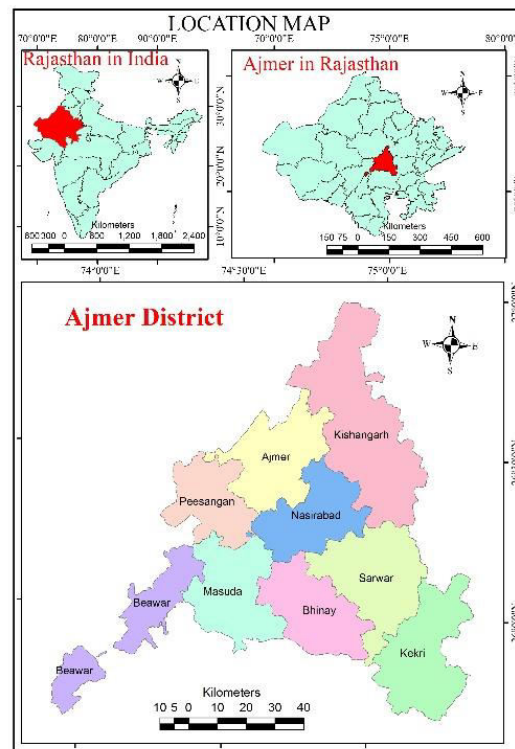




Table-1 Population Growth of Ajmer District (1981-2011)

Year	Total Population	Decadal change	Decadal change%	Annual Growth Rate
1981	823940	-	-	-
1991	1729207	905267	109.87	10.99
2001	2181670	452463	26.17	2.62
2011	2583052	401382	18.4	1.84

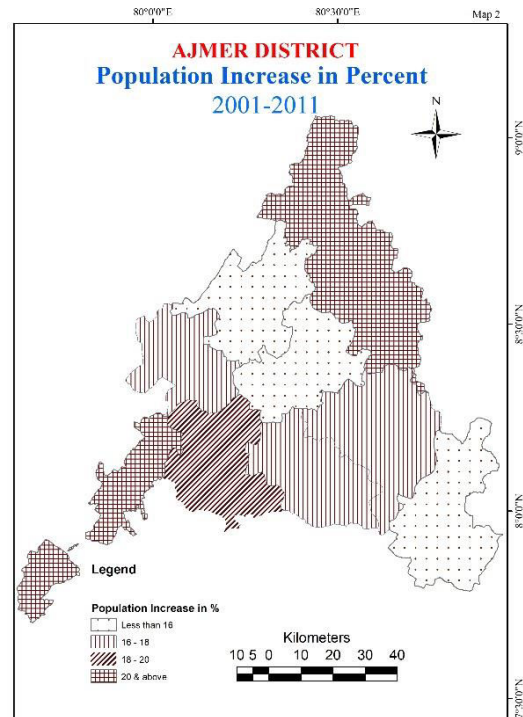
Source: Calculated by the authors

Table 2 shows tehsil wise population in Ajmer district. Peesangan and Nasirabad tehsils were part of Ajmer tehsil in 1981, while Masuda was part of Beawar tehsil and Bhinay was part of Kekri tehsil. In 1991 Nasirabad was carved out of Ajmer tehsil. In 2001 the number of tehsils increased to 9 with 2 new additions of Peesangan and Bhinay. The total population of Ajmer district increased by 11.42 lakhs from 1981 to 2011, while Kishangarh tehsil recorded the highest increase of 2.11lakhs during the same period and Beawar recorded the lowest increase of 0.38 lakhs because the populated areas of Beawar were given to Masuda tehsil.

Table 2: Ajmer Tehsil wise Population (1981-2011)

Tehsil	1981	1991	2001	2011
Kishangarh	207504	257747	334984	418231
Ajmer	642765	646039	689976	798454
Peesangan			108890	127803
Beawar	305435	374757	283882	342935
Masuda			187295	224181
Nasirabad		116478	162176	187486
Bhinay			108180	126466
Sarwar	89966	106952	131231	154738
Kekri	194696	227234	175056	202758
Total	1440366	1729207	2181670	2583052

Source: Calculated by the authors



Source: Calculated by the authors

Population increase was less than 16 percent in three tehsils of Ajmer, Nasirabad and Kekri tehsils. The increase was between 16 to 18 percent in another three tehsils of Peesangan, Bhinay and Sarwar. All of them were created after 1960s. Only one tehsil of Masuda recorded population increase of 18 to 20 percent (Map2). The tehsil is agriculturally sound with considerable industrial base.

Table 3: Urban and Rural Population Growth in Ajmer District

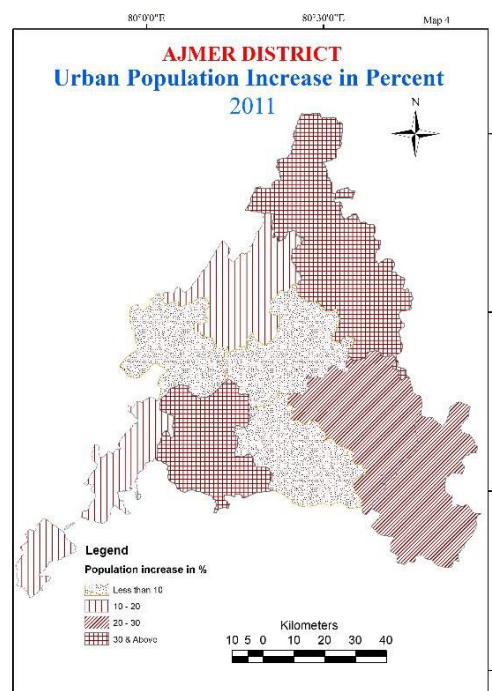
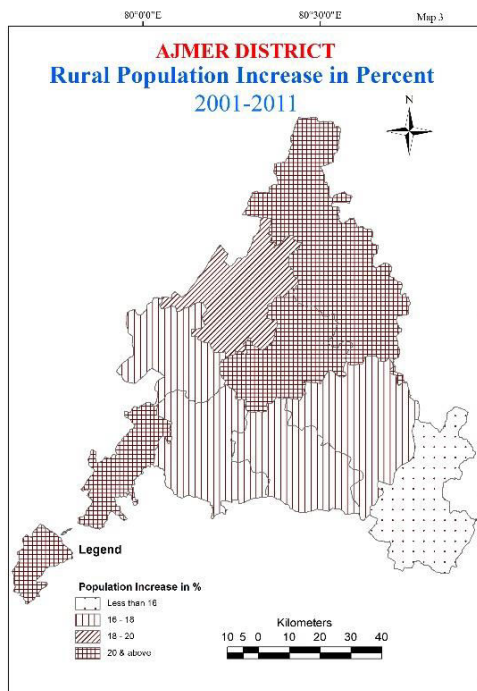
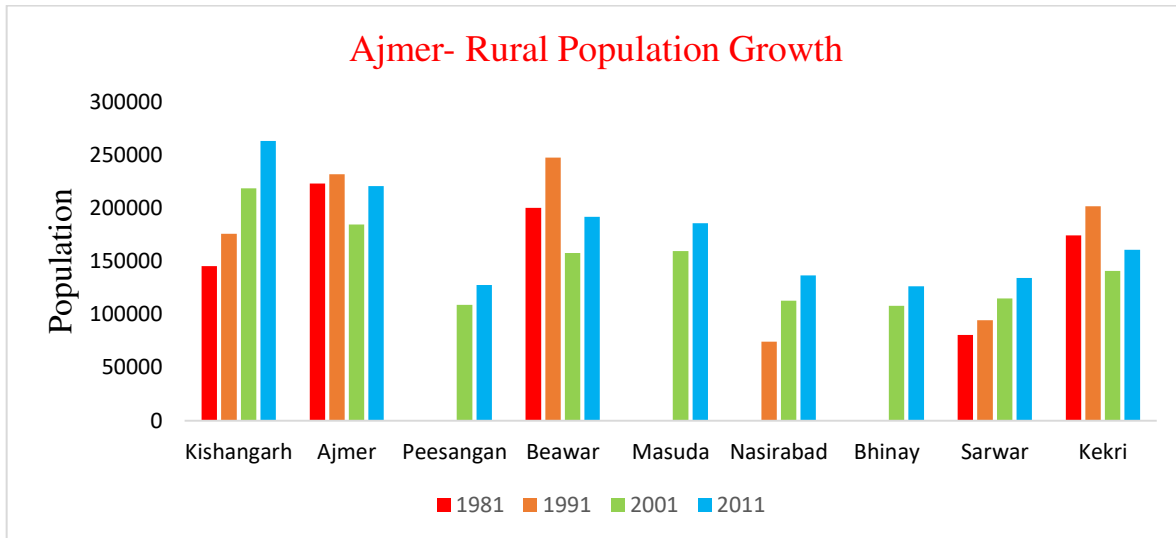
Year	Rural Population	Percent Decadal Change	Urban Population	Percent Decadal Change
1981	823960	-	616406	-
1991	1025632	24.48	703575	14.14
2001	1306994	27.43	874676	24.32
2011	1547642	18.41	1035410	18.32

Two tehsils of Kishangarh and Beawar recorded a population increase of over 20 percent. Both these tehsils have high urbanisation and are industrialised.

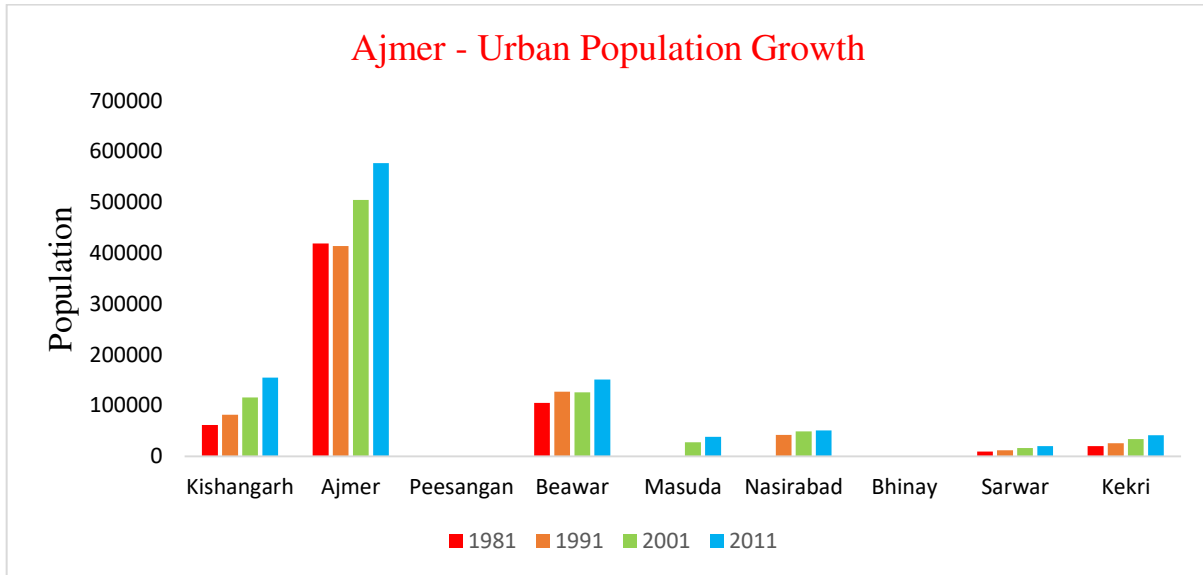
The rural scenario is different as shown in map 3. Only Kekri tehsil had rural population increase of less than 16 percent. Four tehsils of Peesangan, Masuda, Bhinay and Sarwar had a rural population growth of 16 to 18 percent. These tehsils saw migration of people to other tehsils for job opportunities. Ajmer tehsil saw increase of rural population between 18 to 20 percent. Three tehsils of Kishangarh, Nasirabad and Beawar saw over 20 percent rural



population growth. These tehsils saw good growth because the people of other tehsils found employment opportunities here as the area has marble, cement and other mineral based industries in rural areas.



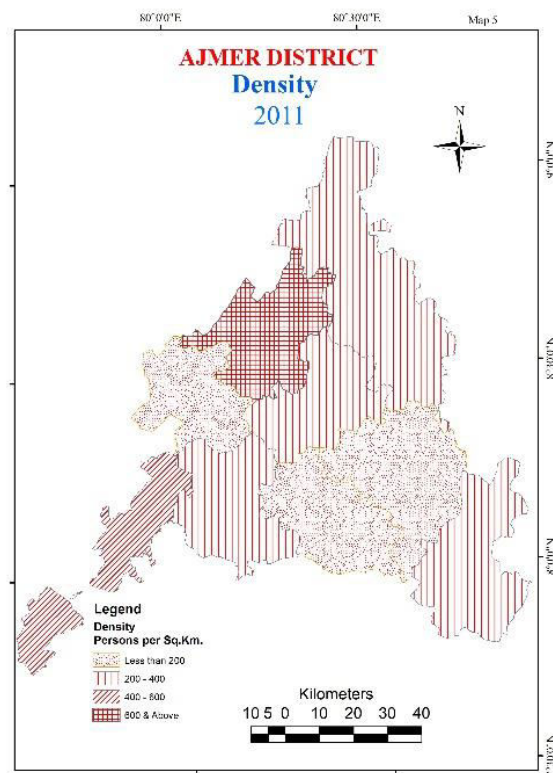
Map 4 shows urban population increase in percent in Ajmer district. Comparing both these maps we see only one similarity and that is Kishangarh tehsil has highest population growth both in rural and urban areas. Three tehsils of Peesangan, Bhinay and Nasirabad have the lowest urban population growth of less than 10 percent. Peesangan and Bhinay are devoid of urban centers thus no growth while Nasirabad tehsil has only Nasirabad as urban center which is a cantonment area thus people have many restrictions in purchasing land so the growth is minimum. Ajmer and Beawar also saw urban population growth between 10 to 20 percent. The major factor responsible for this is lack of drinking water as both these urban areas depend on water supply from Bisalpur dam. Kekri and Sarwar saw urban population growth of 20 to 30 percent. This is because of governments policy of increasing infrastructural network



in these tehsils as good network connectivity is important parameter of urban expansion. Sarwar has sizeable number of Muslim populations which has a comparative higher birth rates thus we saw natural increase in numbers. Kishangarh alone saw the urban population growth of over 30 percent. The rise and spread of marble industry, opening of airport are the two major reason for its increase.

Table 4: Ajmer Density

S.No.	Tehsil	Area (Sq.Kms.)	Population 2011	Density (Persons per sq.kms.)
1.	Kishangarh	1728.94	418231	242
2.	Ajmer	904.99	798454	882
3.	Peesangan	646.76	127803	198
4.	Beawar	680.29	342935	504
5.	Masuda	878.98	224181	255
6.	Nasirabad	736.32	187486	255
7.	Bhinay	819.31	126466	154
8.	Sarwar	1034.48	154738	150
9.	Kekri	993.38	202758	204
	Total	8423.45	2583052	307



Source: Calculated by the authors

Table 4 shows density of Population in Ajmer district which is also depicted on map 5. The total density of population in the district is 307 persons per sq.kms., while 7 tehsils have density less than that of district and 2 tehsils of Ajmer and Beawar have high density because these tehsils have higher population and at the same time their areas are less than other tehsils of the district. Three tehsils of Bhinay, Sarwar and Peesangan have density less than 200 because population over here is comparatively less and areas are more. Four tehsils of Kishangarh, Kekri, Nasirabad and Masuda have density between 200 and 400. While Beawar tehsil has a density of over 500 because it has



considerably high population and less area, Ajmer tehsil has nearly one-ninth of districts area with 30 percent population of the district.

Table 5: Ajmer District Tehsil Wise Sex-Ratio

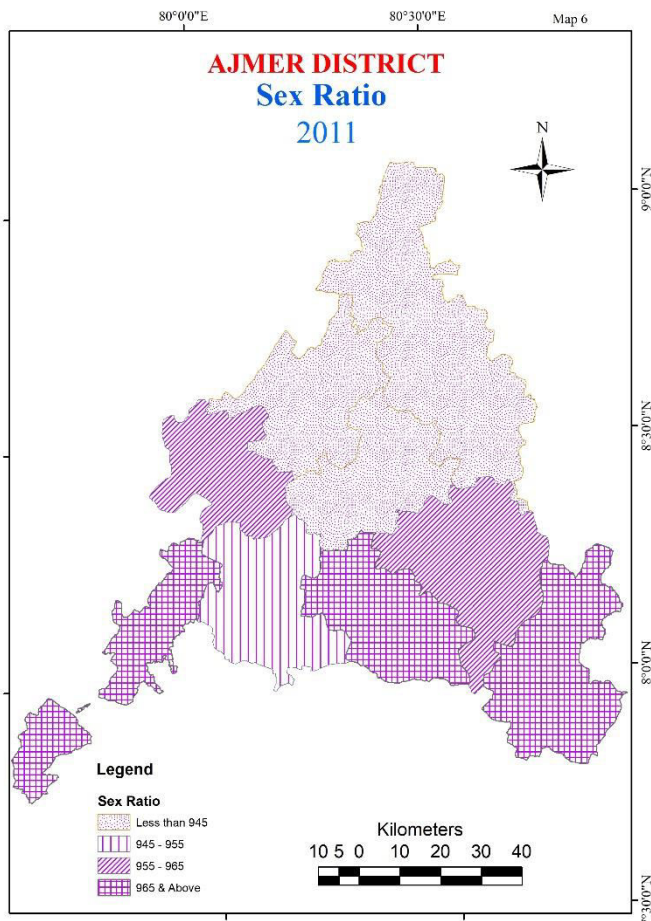
S.No.	Tehsil	Total	Rural	Urban
1	Kishangarh	944	949	935
2	Ajmer	944	941	935
3	Peesangan	964	964	0
4	Beawar	970	988	947
5	Masuda	953	951	964
6	Nasirabad	904	956	778
7	Bhinay	971	971	0
8	Sarwar	965	968	946
9	Kekri	970	972	963
	Ajmer district	951	961	936

Source: Calculated by the authors

The table 5 shows the sex-ratio scenario in Ajmer District. The total sex-ratio for the district is 951 which is much better than the state sex-ratio (928). Only Nasirabad tehsil is backward in terms of sex-ratio both in Rajasthan as well as in Ajmer district. This is mainly because of Nasirabad town which has a sizeable chunk of Gujar community

which indulges in dairy and transportation business favours males over females. Peesangan, Beawar, Masuda, Bhinay, Sarwar and Kekri have sex-ratio figures above the district figures. The reason being two tehsils Peesangan and Bhinay are totally rural areas thus lacking the facilities of pre-natal tests and other tehsils though having this facility have fairly good employment opportunities. The males are engaged in the industrial works while the females also work in til-patti making, oil-spilling, bidi-making and other small-scale industries. The picture is gloomy in Kishangarh, Ajmer and Nasirabad tehsils.

The picture in rural areas is comparatively better except in Masuda tehsils where the figure of urban areas surpasses the rural figure. The urban figures tell us an entirely different picture, only three tehsils have urban sex-ratio less than that of district while four tehsils have urban sex-ratio greater than that of Ajmer district.



VII. CONCLUSIONS

It can be said that the growth of rural population in Ajmer was 24.48 percent in the year 1991, which increased to 27.43 percent in the year 2001, but the growth rate of rural population also decreased sharply from 2001 to 2011, growth in 2011 was only 18.41 percent, mainly due to migration of people from rural areas to urban areas in search of employment mainly in marble, cement and other

mineral based industries.



On analysing the urban population growth, the population growth was 14.14 percent in 1981-91, which increased to 24.32 percent in 1991-2001. This growth rate further declined to 18.32 percent in 2001-2011. The main reason for the variation found in urban population growth rate is the variation found in the migration of population from rural areas to urban areas. It is often seen that people migrate to the cities in less numbers in the years in which rainfall is more and agricultural crops have been produced well, but in the years in which the rainfall is less and agriculture is not good, in those years, more and more people from rural areas come to the cities because of the fear of famine. This is the reason that there is a lot of fluctuation in the growth of urban population. Apart from this rise in literacy rates of urban areas led to natural decline in fertility rates thus reducing the growth rate.

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