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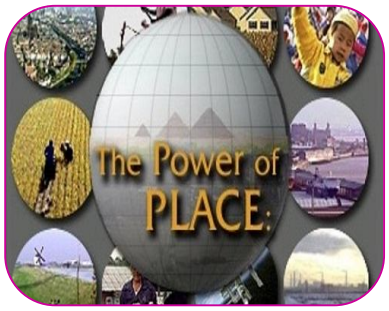
POPULATION DENSITY IN SATARA DISTRICT



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ABSTRACT

The concept of population density is related to the numbers of people to the space occupied by them. Population density is one of the basic and important characteristics of the population. The density of population plays an important role in the studies related to population geography. This is the outcome of the collective influence of several natural factors functioning in a region. This is used as an indicator to measure the concentration of population (Sawant, and Athavale, 1994).

Trewartha G. T (1969) in his case for population geography had suggested three types of density i.e. arithmetic, nutritional and agricultural densities. The rural population density is also calculated by the geographers. While calculating density, the total population is taken as numerator while total area is taken as the denominator. This ratio gives the density of the population of a region. The density of population is expressed in terms of persons per square kilometer.

KEY WORDS: *population geography, arithmetic, nutritional and agricultural densities.*

INTRODUCTION

Trends of Population Density

The study of decadal variations of population density is the most important tool for urban planning, and it is determined by the degree of favorableness of living conditions for human beings (Demko, 1970). There is uneven population distribution and density in the region or in the country as a whole. The factors which influence the density of population is divided into two broad categories physical and socio-economic factors. In physical factors includes the relief, climate, soil, water are important and socio-economic factors include industrialization, urbanization, transport and communication are important. All these mentioned factors exist in combination. The best example of such conditions of the high-density population in Ganga Plain in past recent years, it is caused by the combination of factors such as flat land, fertile soils, a favourable climate, industrialization and urbanization, and comparatively well-developed means of transport and communication. On the other hand, factors like rugged hilly terrain, unfavourable climate, and poor means of transport and communication together cause a low density of population in areas like Arunachal Pradesh.

As to the census of 2011, the population of India is 1,210,854,977 persons. Next, to China, India is the second largest populated country in the world. India supports 17.5 per cent of the world population and in surface area of nearly 32, 87,263 sq. km., which account for hardly 2.42 per cent surface area of the world. The state of Maharashtra is the second largest state of India in respect of population after Uttar Pradesh and also second in terms of area after Rajasthan. As per census of the 2011, the total population of Maharashtra stood at 112,374,333 which is 9.28 per cent of the total population rested on 3,07,762 sq. km area which is 9.6 per cent of the total area of India.

Table 1 shows the density of population in India, Maharashtra and Satara district with decadal variations between 1901 and 2011. If we consider the ratio between land area and density, India has a disproportionate share of the world's population in terms of the total area. Maharashtra and Satara district has a fairly balanced man-land ratio. In terms of density of population comparing decadal census figures for the last 110 years, it is readily apparent that Satara district had the highest density of population near about the century in comparison to Maharashtra.

Table 1

India, Maharashtra and Satara District-Density of Population from 1901 to 2001

Sr. No.	Census Year	India		Maharashtra		Satara District	
		P. D.	D. V.	P. D.	D. V.	P. D.	D. V.
1	1901	77	-	63	-	76	-
2	1911	82	5	69	6	79	3
3	1921	81	-1	67	-2	74	-5
4	1931	90	9	77	10	85	11
5	1941	103	13	87	10	96	11
6	1951	117	14	104	17	112	16
7	1961	142	25	128	24	136	24
8	1971	177	35	163	35	164	28
9	1981	216	39	204	41	194	30
10	1991	267	51	256	52	233	39
11	2001	324	57	314	58	267	34
12	2011	382	58	365	51	287	20

Note: *P.D. = Population Density, D. V. = Decadal Variation in population density*

Source: *Census of India of concern years of Satara districts.*

Table 1 exhibits that the density of the population in India and Satara district was almost more or less same, in 1901, the population density of Satara district was 76 persons per square kilometre and at country level it was 77 persons per square kilometre whereas the Maharastra had 63 persons per square kilometre in the same year. In 1941 the population density of India had increased to 103 persons per square kilometre relatively the Maharashtra State and Satara district showed slight increase in population density in the same year i.e. 87 persons per square kilometre and 96 respectively. In 1961 to 1981 there is significant increase noticed in population density in the country, state and district. In Satara, it was 136 persons per square kilometre in 1961; it was increased up to 194 in 1981. The period of 1991 to 2011, the population density was considerably high with rapid increase. In 1991, the population density of Satara district was 233 persons per square kilometre and it was increased 287 persons per square kilometre in 2011.

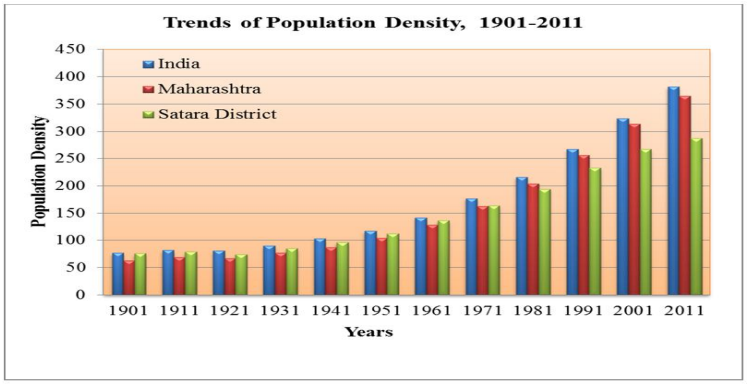

Fig-1

All the three hierarchical regions i.e. India, Maharashtra and Satara district recorded almost the same trends in the increase in population density i.e. four and half times in 100 years. It has been significantly noted that, the population density of India increased more than four times and of Maharashtra almost five times and of Satara District over four and half times. It should be noted that as compared to the high density of population during the decadal period under review, the growth rate of five decades of before the independence period was significantly lower than the five decades of the after independence period, which witnessed a quantum leap (Fig.1). After independence planning and development of agriculture and industries initiated by the Government of India, attracting considerable people from the adjoining regions, towards the growth centers. It's observed that the population density of these three regions, one can note a very slow and constant increase in population density up to 1941. Then from 1951 onwards, the density increased with considerable rate up to 2001 (Fig. 1). Actual increase or the decadal variation in population density clearly shows three stages of variations for all the three regions. The first stage, from 1901-11 to 1931-41 shows a steady actual increase due to the decadal variability in the period 1941-51 up to 1971-81 shows an alarming rate of increase, which is a second stage. In this period medical facilities are available in tahsil level; therefore, the death rate was reduced. Furthermore, the green revolution caused an increase food production.

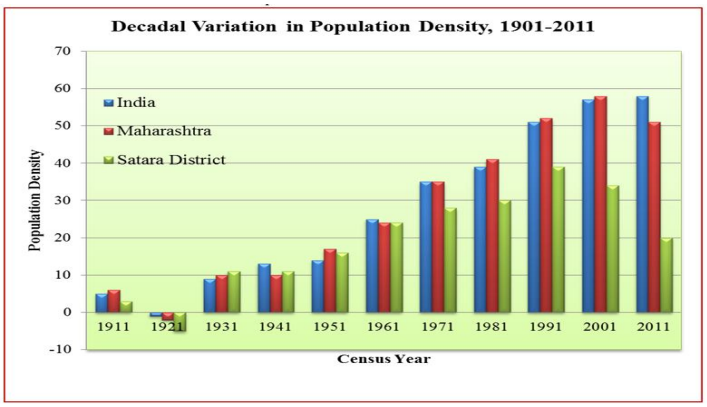

Fig-2

Spatial Distribution of Population Density in Satara District

The concept of population distribution and density is a very useful tool for the analysis of man's distribution in space (Clarke, 1972). Population concentration is an important indicator of population density. The analysis of population distribution and density holds immense significance for population geographers, as its successful understanding holds the key to the analysis of the entire demographic character of an area (Chandna, 2001).

The land and people constitute the two significant elements of an area, and therefore the ratio between these two is of fundamental interest to all scholars concerned with population analysis (Demko, 1970). A comprehensive understanding of changes in various significant attributes of population demands the study of prevailing patterns of its distribution. It reveals as to how man has attributed himself, at a particular point of time in the context of his physical environment, type of economy, cultural patterns and history. The distributional patterns of the population are an eloquent expression of the analysis of all geographic phenomena operating in an area. Geographer's goal is to understand the regional differences of people on the earth's surface, which varies from one locality to another and from region to region.

Thus, it has been considered as a simple but extremely useful measure of a population-resource relationship. However, it cannot be treated as a measure of population pressure on land because it merely spells out a simple quality (Chandna, and Sidhu, 1980). It is necessary not only to describe how population distributed spatially in terms of density, composition and dynamics but also to seek reasons for the patterns

of this distribution and for spatial changes in these patterns. Population concentration is one of the important indices of the density of population.

The spatial distribution of Satara district population is not uniform during the period of investigation. According to 1961 population data published by the census of India, the average density of Satara district was 136 persons per sq. km. It is constantly increased during the period up to 2011 and reached to 287 persons per sq. km. The density of population per sq. km. is constantly increased during the period from 1961 to 2011 of the Satara district. The single most outstanding fact about the Satara district population is not uniformly distributed during the period from 1961 to 2011. Moreover, the population distribution of Satara district has continuously changed in space and time with human mobility and gap between the birth rate and death rates. Within the district, great variations are observed in the tahsil-wise density of population in Satara district. The density of population is low in the hilly tracts of western zones and also in the scarcity of water affected areas in the eastern zone. The density is 602 persons per sq. km. in Karad tahsil which is the most thickly populated tahsil, while it is 155 persons per sq. km. in Man tahsil as per 2011 census. The central zone consists of rich soil and has a high proportion of net sown area to geographical area and as such it has the highest density of population. Therefore, the attempts are made to analyze the spatial distribution of population with the help of density in Satara district for the period of 1961 and 2011. Table 5.6 shows the tahsil-wise distribution of population density during the period from 1961 to 2001 in Satara district and also in Maharashtra state.

Spatial Distribution of Population Density in Satara District, 1961

The table 5.6 reveals that the district as a whole has 136 persons per sq. km. lives in the Satara district in 1961. But tahsil level density of population varies ranging from 69 persons in Man tahsil to 235 persons per sq. km. in Karad tahsil. All eleven tahsils of the district are divided into three categories on the basis of statistical techniques such as mean and standard deviation (Fig. 3).

High Population Density

The tahsils which have population density above mean plus one standard deviation (Above 186 persons per sq. km.) are included in this category during 1961. The table 2 reveals that the high population density was recorded in the tahsils of Karad and Satara, due to fertile and rich soil, well-developed irrigation, the high number of educational institutes, high urbanization, good development of transportation and communication facilities.

Moderate Population Density

The tahsils which have population density in between mean minus one standard deviation to mean plus one standard deviation (90 to 186 persons per sq. km.) are included in this category. The moderate population density was recorded in the tahsils of Wai, Khandala, Patan, Koregaon, Phaltan, Mahabaleshwar and Khatav.

Table 2

Satara District: Density of Population from 1961 to 2011

Sr. No.	Tahsil	1961	1971	1981	1991	2001	2011	Changes between 1961-2011
1	Mahabaleshwar	107	133	161	200	241	327	220
2	Wai	176	210	241	271	319	324	148
3	Khandala	118	136	157	193	227	262	144
4	Phaltan	118	158	190	228	265	286	168
5	Man	69	83	101	127	138	155	86
6	Khatav	118	134	152	207	197	244	126

7	Koregaon	147	174	202	244	268	279	132
8	Satara	209	262	320	421	493	573	364
9	Jaoli	89	102	118	136	139	125	36
10	Patan	135	156	175	208	224	227	92
11	Karad	235	290	328	475	508	602	367
Satara District		**136**	**164**	**194**	**234**	**267**	**287**	**151**
Mean		**138**	**167**	**195**	**246**	**274**	**309**	**171**
S. D.		**48**	**61**	**71**	**104**	**118**	**144**	**102**

Source: Census Handbook of Satara District, 1961-2011.

Low Population Density

The tahsils which have population density below the mean minus one standard deviation (Below 90 persons per sq. km.) are included in this category. The low population density was recorded in the Jaoli and Man tahsils. Because of Jaoli tahsil is located in the hilly areas, resulted into low development of transportation, agriculture, industrialization, urbanization and education. While Man tahsil is situated in the drought-prone area, therefore there is lack of irrigation, shallow and unfertile soil, lack of educational facilities; more people are migrated towards the urban areas such as Thane and Mumbai for the purpose of employment.

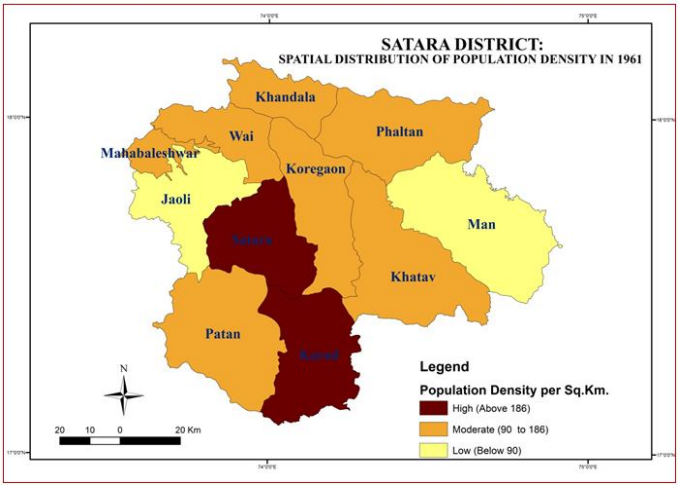

Fig-3

Spatial Distribution of Population in Satara District, 2011

The table 5.6 indicates that the district as a whole has 287 persons per sq. km. found in the Satara district. But tahsil level density of population is various from 155 persons in Man tahsil to 602 persons per sq. km. in Karad tahsil. All tahsils of the district are divided into three categories on the basis of statistical techniques such as mean and standard deviation (Fig. 4).

High Population Density

The tahsils which have population density above mean plus one standard deviation (Above 454 persons per sq. km.) are included in this category during 2011. The high population density was recorded again in the tahsils of Karad and Satara, due to fertile and rich soil, high net sown area to total geographical area, well-developed irrigation facilities, the high number of educational institutes, highly urbanization, good development of transportation and communication facilities.

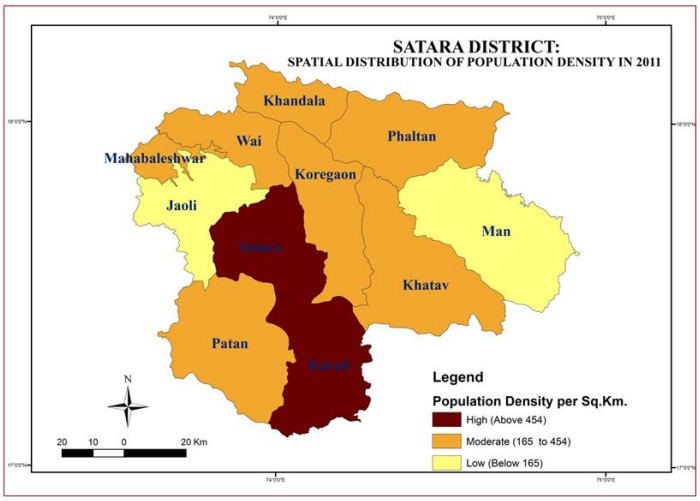

Fig-4

Moderate Population Density

The tahsils which have population density between mean plus one standard deviation to mean minus one standard deviation (165 to 454 persons per sq. km.) are included in this category. The moderate population density is recorded in Wai, Khandala, Phaltan, Mahabaleshwar, Khatav, Koregaon and Patan tahsils during the period of 2011.

Low Population Density

The tahsils which have population density below the mean minus one standard deviation (Below 165 persons per sq. km.) are included in this category. The low population density is found in Jaoli and Man tahsil. Because of Jaoli tahsil is located in the hilly areas resulted into the low development of irrigation, agriculture, industrialization, urbanization and education. While Man tahsil is located in the drought-prone areas.

Changes of Population Distribution in Satara District, 1961 and 2011.

Table 2 indicates that Satara district has 151 persons per sq. km. growth rate of population density 1961-2011. But tahsil level changes of population density is varied within the district, they are divided into three categories (Fig. 4).

High Change in Population Density

The highest change of population density is recorded in Karad with 367 persons per square kilometer followed by Satara tahsil is 364 persons per square kilometer during the period of 1961 to 2011, because of fertile and rich soil, high net sown area to total geographical area, well developed irrigation facilities, high number of educational institutes, high urbanization, well connectivity of transportation and communication facilities, resulted into immigration.

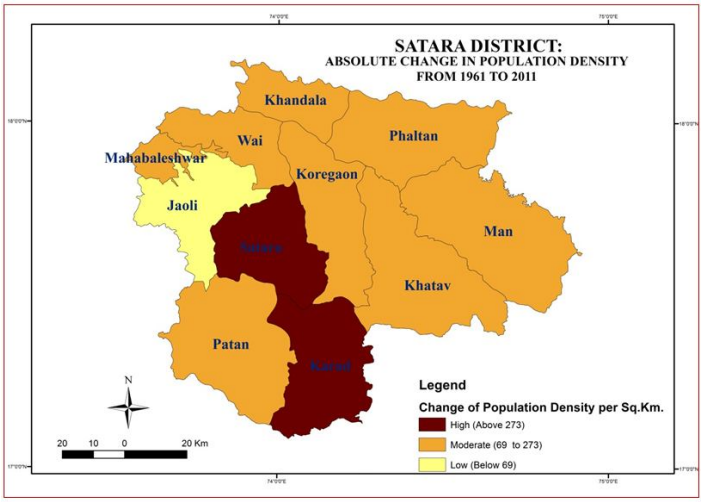

Fig-5

Moderate Change in Population Density

The moderate change in density of population is recorded in the tahsils of Khandala, Koregaon, Mahabaleshwar, Phaltan, Patan, Khatav, Man and Wai tahsils of the study region.

Low Change in Population Density

The low change in the density of population i.e. below 69 persons per square kilometer are found only in Jaoli tahsil i.e. 36 persons per square kilometer, because Jaoli tahsil is located in the hilly areas, resulted in the low development of transportation, agriculture, industrialization, urbanization and education. Furthermore, tahsil has shallow and unfertile soil, so more people are migrated towards the urban areas for the purpose of employment.

CONCLUSION

In terms of density of population comparing decadal census figures for the last 110 years, it is readily apparent that Satara district had the highest density of population near about the century in comparison to Maharashtra.

Note: P.D. = Population Density, D. V. = Decadal Variation in population density Table 1 exhibits that the density of the population in India and Satara district was almost more or less same, in 1901, the population density of Satara district was 76 persons per square kilometre and at country level it was 77 persons per square kilometre whereas the Maharastra had 63 persons per square kilometre in the same year.

In 1941 the population density of India had increased to 103 persons per square kilometre relatively the Maharashtra State and Satara district showed slight increase in population density in the same year i.e. 87 persons per square kilometre and 96 respectively.

Its observed that the population density of these three regions, one can note a very slow and constant increase in population density up to 1941.

REFERENCES

1. Ramchandrudu, G. and Prasada Rao, M. (2004): Census 2001 and Human Development in India, Serials Publications, New Delhi, Pp. 2.
2. Salunkhe, R. R. (2003): *"Regional Distribution of Population in Maharashtra",* Unpublished Ph. D. Thesis, submitted to Shivaji University, Kolhapur.

3. Sawant, S. B. and Athavale, A. S. (1994): Population Geography, Mehta Publishing House, Pune, Pp. 99.
4. Sharma, P. R. (1978): "Spatio-Temporal Patterns of Population Growth and Distribution – A Regional Analysis", The Deccan Geographer, Vol. XVI, NO.1, Pp. 373.
5. Singh, R. N. and Chaturvedi, R. B. (1983): "Dynamics of Population in Bundelkhand Region: A Case Study", Journal of Association of Population Geographers, India. Pp. 2.