UNDERSTANDING THE ROLE OF POPULATION DENSITY IN RURAL TRANSFORMATIONS

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Abstract

Population Density significant influence over socioeconomic characteristics and transforms of rural communities. Distribution and density are most important and fundamental factors in the study of population geography. Distribution means the spread of population into aerial unit of irregular administrative size. "Density means ratio between the size of population and the area in sq. km." It means man land ratio. Henry D. Harness first used the term, 'Density of population', in 1837 while preparing railway maps for Ireland. This is a ratio between population and area.

The distribution of population is more locational, while density is more proportional. The distribution of population on the earth surface is uneven. The studies related to distribution tell us how many people live in which area, which have concentration of population and which area have very few people. Density of population plays an important part in any scheme related to health, trade and socio-economic development. In short it indicates possibilities of development. Political, economic and social aspects of life are influenced by distribution of population.

We calculate the population density of various Villages of Shrigonda Tahsil. It is also interesting result and variation from one group to another group. The average density of Shrigonda tahsil was 59 persons per sq. km. according to 1951 census. And according to 2011 census the density of total tahsil was 194 persons per sq. km.

Keywords: Rural transformation, Population Composition, Density, Socio-economic, Area etc.

Introduction:

The study of any population is concerned not only with its size and characteristics but also with how it is distributed in various spatial division and the changes that occur in the patterns of population distribution over the year.

The multilingual demographic dictionary complied by the United Nations explains; "Each population lives in a given area or territory and a study of the geographical or spatial distribution deals with the way in which they are distributed over the territory". The term 'distribution' refers to the way the people are spaced over the earth's surface.

The population distribution affected many factors such as: geographical, social, economic and political factors. These factors make impact on uneven distribution of population in Shrigonda Tahsil. The distribution of population is uneven.

In the study of human resource, attention should be focused firstly on the analysis of patterns of population distribution. Distribution of population itself indicates the way in which the natural and economic opportunities for the prosperity of man are distributed over the region. Arithmetic density provides the most superficial representation of the pressure of population upon the resource base (Trewartha, 1953).

Study Area: Shrigonda tahsil is located in the southern drought prone zone of Ahmednagar district. The tahsil situated partly at Bhima,

Ghod and Kuakdi river and canal basin. Tahsil length is 60 Km. from East to West and 51 Km. from North to South. The height of tahsil is recorded 600 Mtrs. above the sea level. Generally slope of tahsil is North to South.
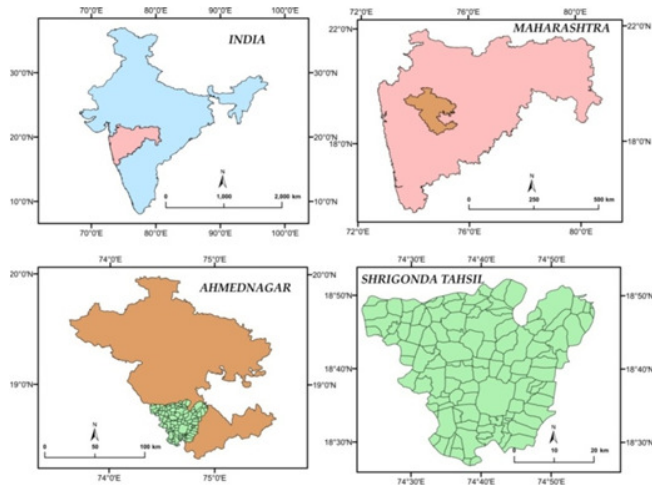
The latitudinal extend is 18^0 27' 18" to 18^0 51' 54" North and longitudinal extend is 74^0 23' 24" to 74^0 52' East. It is surrounded by Parner and Nagar tahsil to the northern part, Pune district to the west and south - east Karjat tahsil. It's an area of 1630 Sq. Km. is the third rank of tahsil in Ahmednagar district. It is historical and religious which is situated on the bank of river Saraswati.
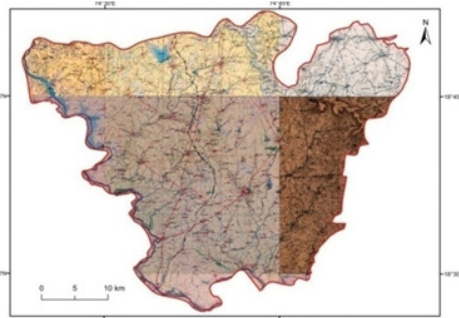
Objective:

Objective of the present paper is to understanding the analysis of population distribution and density in rural transformation of study area.
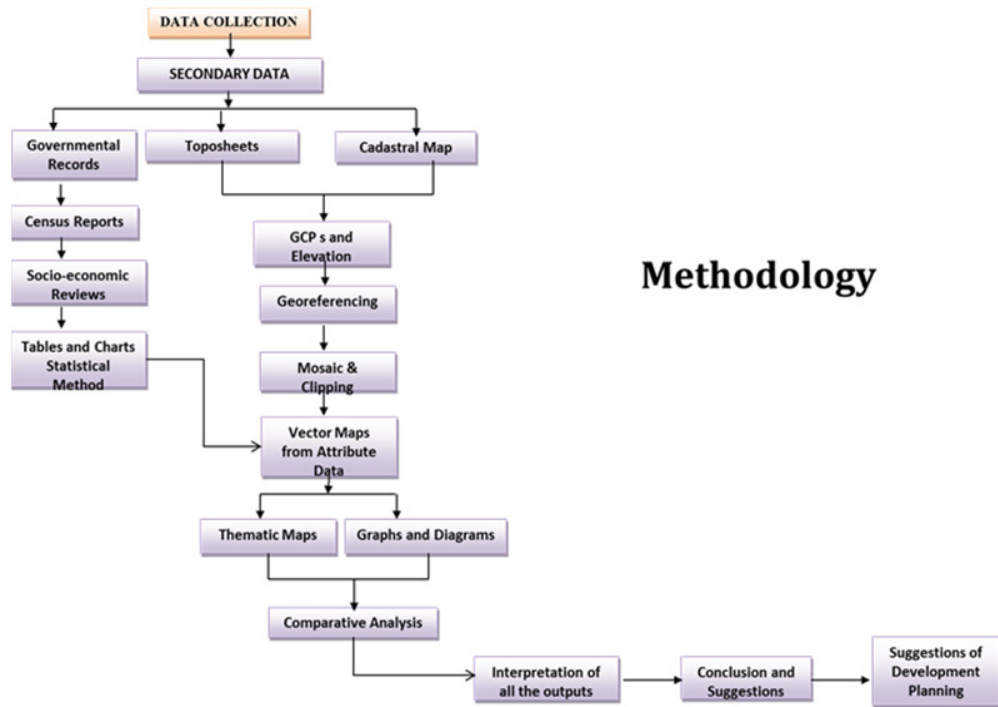
Database and Methodology:

The study is based on secondary data. Since the study area is large enough for detailed distribution of population and analysis it has not been possible to study on village level data. Primarily the study is based on block level **published** and **unpublished** data and detailed study of revenue villages has been made on the **sample survey** of villages. The population distribution and density study included in this paper is main important parameter of development in various villages as compare to another villages, as well as circles. Therefore the important part of micro-level study in rural area for development of study region.

Location Map of Shrigonda Tahsil

Toposheet Map of Shrigonda Tahsil.

Figure: Flow Chart of Methodology.

Result and Discussion:
Population Density:

One of the important indices of the concentration of population is the density of population. Distribution of population is expressed by population density. *"Population density means ratio between total population and total area of the region".* In other words, the total number of persons living per sq.km. area is called the density of population. The population density is calculated for using following formula-

$$Density\ of\ Population = \frac{Total\ Population}{Total\ Area\ in\ sq.km.}$$

The distribution of population is more locational, while density is more proportional. The distribution of population on the earth surface is uneven. The studies related to distribution tell us how many people live in which area, which have concentration of population and which area have very few people. Density of population plays an important part in any scheme related to health, trade and socio-economic development. In short it indicates possibilities of development. Political, economic and social aspects of life are influenced by distribution of population.

We calculate the population density of various groups of Shrigonda Tahsil. It is also interesting result and variation from one group to another group. The average density of Shrigonda tahsil was 58 persons per sq. km. According to 1951 census. And according to 2011 census the density of total tahsil was 208 persons per sq. km.

Considering the all six groups of Shrigonda tashil, according to 1951 census Adhalgaon group records lowest density of population; which was 121 persons per sq. km. Where Belwandi Bk. group records Maximum population density which was 184 persons per sq. km. In this year total town or city (107 persons per sq. km.) density was greater than the total villages and total tahsil population density (56 and 58 persons per sq. km. respectively). Groups population density was increased than the total villages town and tahsil, which was Limpangaon (167 person per sq. km.), Yelpane (144 person per sq. km.), Kolgaon and Mandavgan (161 and 132 persons per sq. km. respectively).

Population Density of Shrigonda Tahsil 1951-2011

Name of the Village	1951	1961	1971	1981	1991	2001	2011	Change in Percent 1951-2011
Limpangaon	167	217	330	207	268	289	344	105.98
Belwandi Bk.	184	219	292	153	181	231	245	33.15
Yelpane	144	176	198	95	123	178	215	49.30
Kolgaon	161	198	220	110	131	152	175	8.69
Mandavgan	132	173	205	89	106	115	132	0
Adhalgaon	121	154	191	96	122	154	166	37.19
Total Villages	56	70	86	105	138	167	193	244.64
Total Town	107	128	156	191	259	315	372	247.66
Total Tahsil	58	73	90	109	144	175	208	258.62

(Source: - District census handbook, Ahmednagar.)

According to 1961 census condition remains same from 1951 census density data. Adhalgaon group records lowest density of population; which was 154 persons per sq. km. Where Belwandi Bk. group records Maximum population density which was 219 persons per sq. km. In this year total town or city (128 persons per sq. km.) density was greater than the total villages and total tahsil population density (70 and 73 persons per sq. km. respectively). All over the village groups population density was increased than the total villages town and tahsil, which was Limpangaon (217 person per sq. km.), Yelpane (176 person per sq. km.), Kolgaon and Mandavgan (198 and 173 persons per sq. km. respectively).

According to 1971 census Adhalgaon group records lowest density of population; which was 191 persons per sq. km. Where Limpangaon group records Maximum population density which was 330 persons per sq. km. In this year total town or city (156 persons per sq. km.) density was greater than the total villages and total tahsil population density (86 and 90 persons per sq. km. respectively). All over the village groups population density was increased than the total villages town and tahsil, which was Belwandi Bk. (292 person per sq. km.), Yelpane (198 person per sq. km.), Kolgaon and Mandavgan (220 and 205 persons per sq. km. respectively).

According to 1981 census, all over the 50 years the all groups' density has been decreasing than the other decades. Mandavgan group records lowest density of population; which was 89 persons per sq. km. Where Limpangaon group records Maximum population density which was 207 persons per sq. km. In this year total town or city (191 persons per sq. km.) density was greater than the total villages and total tahsil population density (105 and 109 persons per sq. km. respectively). All over the village groups population density was increased than the total villages town and tahsil, which was Belwandi Bk. (153 person per sq. km.), Yelpane (95 person per sq. km.), Kolgaon and Adhalgaon (110 and 96 persons per sq. km. respectively).

According to 1991 census Mandavgan group records lowest density of population; which was 106 persons per sq. km. Where Limpangaon group records Maximum population density which was 268 persons per sq. km. In this year total town or city (259 persons per sq. km.) density was greater than the total villages and total tahsil population density (138 and 144 persons per sq. km. respectively). All over the village groups population density was increased than the total villages town and tahsil, which was Belwandi Bk. (181 person per sq. km.), Yelpane (123 person per sq. km.), Kolgaon and Adhalgaon (131 and 122 persons per sq. km. respectively).

According to 2001 conditions remains the same in 1981 and 1991 decade in density. Mandavgan group records lowest density of population; which was 115 persons per sq. km. Where Limpangaon group records Maximum population density which was 289 persons per sq. km. In this year total town or city (315 persons per sq. km.) density was greater than the total villages and total tahsil population density (167 and 175 persons per sq. km. respectively). All over the village groups population density was increased than the total villages town and tahsil, which was Belwandi Bk. (231 person per sq. km.), Yelpane (178 person per sq. km.), Kolgaon and Adhalgaon (152 and 154 persons per sq. km. respectively).

According to 2011 census Mandavgan group recorded lowest density of population which was 132 persons per sq. km. where Limpangaon group records maximum population density which was 344 person per sq. km. In this year total town (372 person per sq. km.) density was greater than the total villages (193) and total tahsil (208). All over the groups population density was increased than the total villages town and tahsil which was Belwandi Bk. (245) and Yelpane (215).

The table no. 4.6 shows the change of population density in percent compare to 1951 to 2011 census. Mandavgan group recorded lower (0 percent) growth of population where as Limpangaon group records maximum (105.98 percent) growth of population density. Village groups recorded 244.64 percent density, total tahsil has been 258.62 percent and total town was 247.66 percent population density. Natural, cultural and social factors affect increase or decrease in the density of population.
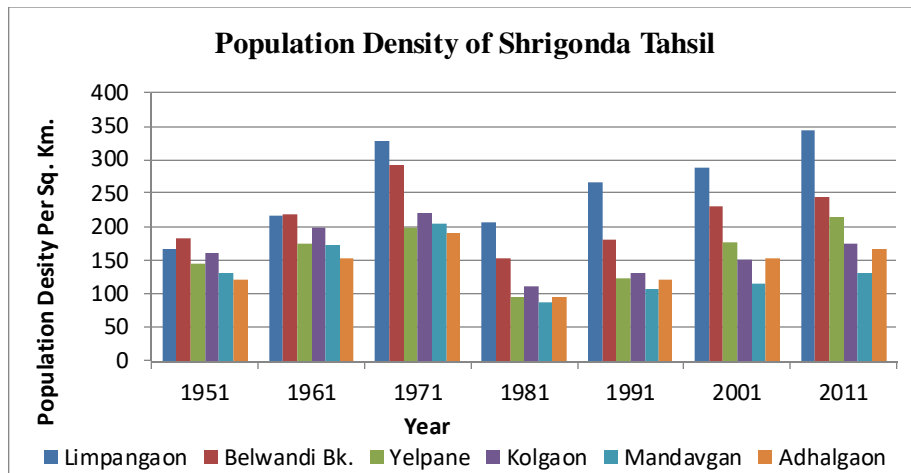

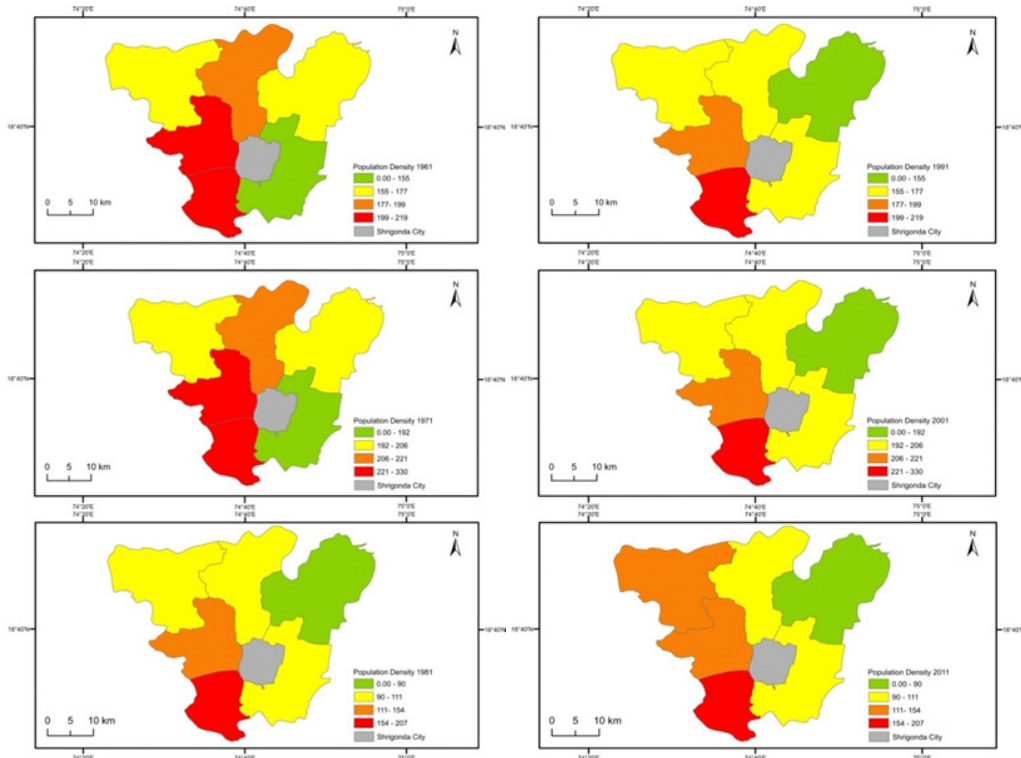**Figure:** Population Density of Shrigonda Tahsil.

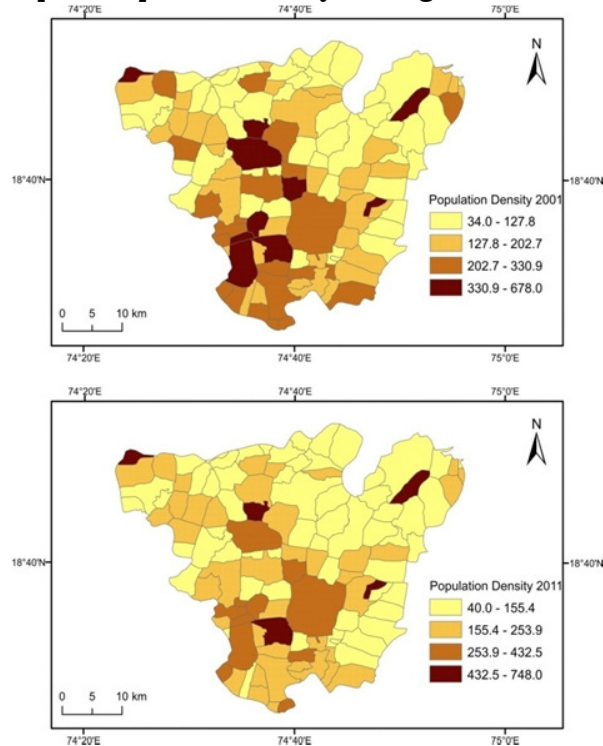**Fig. : Groupwise Population Density of Shrigonda Tahsil 1991-2011**

Fig.: Overall Population Density of Shrigonda Tahsil 2001-11

Rural village density as compare to town density is lower than the 1951 to 2011 but change is higher than the village density (244.84 per cent). Town density is increasing because of various amenities are available to town e.g. education, medical, employment, social and cultural etc. so the people attract to the city area. Increase or decrease of density depends on physical and social factors.

Conclusion:

Distribution and density are most important and fundamental factors in the study of population geography. The distribution of population related socio-economic development of the tahsil as well as district. The density of population in Shrigonda tahsil and Ahmednagar district from 1901 to 2011. The course of population density up to 1921 was undulating in that year the density of district was 42 person per sq. km. and 29 person per sq. km. in tahsil. The decadal population density has increased from 1921 to 2011. In 2011 census population density of Ahmednagar district was 260 person per sq. km. and Shrigonda tahsil was 194 person per sq. km. the density of population rapidly increases in district and tahsil. The density of population in Shrigonda tahsil is lower than Ahmednagar district population density. The highest density of population is found in agricultural area, while it is the lowest in mountainous area. Thus, population is not distributed equally in all parts of the study area. Population density is higher in irrigated and service centre area.

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