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## POPULATION DENSITY PATTERN IN DHULE DISTRICT, (MAHARASHTRA): A GEOGRAPHICAL ANALYSIS



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### **Abstract**

The distribution of population has its close relationship with the distribution of natural endowments which are unevenly distributed over the surface of the earth. Growth of population, density of population, man land ratio, sex ratio and literacy are the elements of population which are important in the social, cultural and economic development of region. People propel social progress, create social wealth and develop science and technology through their land work that continuously transform the human environment. The analysis of density of population is fundamental for understanding the population geography of any area. Density of population refers to the average number of inhabitants living within a specified unit of area. In other words, the density of population can be defined as a ratio between population and area. Thus, it indicates man-land ratio. Generally, it is expressed in terms of persons per square kilometer or persons per

square mile. Study of density of population helps in understanding the nature, characteristics and extent of population over a particular area.

**Keywords :** Population, Density of Population, Arithmetic density of population, Pattern.

## **Research Paper**

### **Introduction :**

The population of the study region is unevenly distributed. There are a number of physical, socio-economic and political factors which may affect the distribution of population of an area. The analysis of density of population is fundamental for understanding the population geography of any area. Density of population refers to the average number of inhabitants living within a specified unit of area. In other words, the density of population can be defined as a ratio between population and area. Thus, it indicates man-land ratio. Generally, it is expressed in terms of persons per square kilometer or persons per square mile. Study of density of population helps in understanding the nature, characteristics and extent of population over a particular area. Density of population refers to the average number of inhabitants living within a specified unit of area. In other words, the density of population can be defined as a ratio between population and area. Thus, it indicates man-land ratio. It is helpful for implementation of development schemes related to agriculture, health, education, trade and transport network, etc. If density of population is more than carrying capacity of the region; it is called as over population and such situation encourages migration.

Based on utility of density in various types of studies, scholars have introduced various types of densities such as arithmetic, physiological, agricultural, caloric and economic density. In the present study, arithmetic, physiological, agricultural and caloric densities of study area are computed and interpreted to provide a dependable base for analyzing the population pattern. If density of population is more than what the natural resources of the region can support, then such a situation encourages migration? This view in mind density of population studied in the Dhule district.

### **Study Area:**

Dhule is one of the oldest districts of the Maharashtra State, which is formed in 1819. It is located in the northern part of Maharashtra. The Dhule district was then bifurcated on 1<sup>st</sup> July 1998 into two separate districts now known as Dhule and Nandurbar, the latter comprising the tribal region. The district consists of four Talukas. The head quarter of the district is the Dhule

city itself. Geographically, Dhule district is located in north-west corner of Maharashtra state spread between Latitude 20°.38' to 21°.39' N and Longitude 73°.50' to 75°.13' E in Survey of India degree sheet Nos.46 G, G, K, L and O. Dhule district is situated on the northern fringe of Maharashtra State and extended over an area of 8,063 sq km.

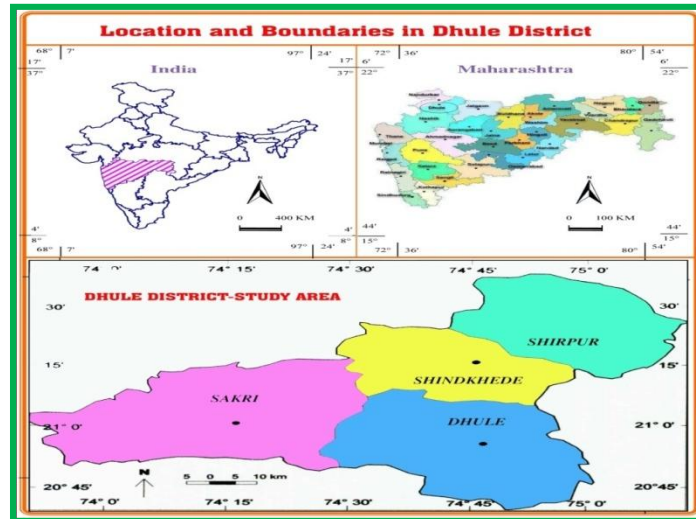


Fig. 1

**Objectives :**

- To Study the population Density of Dhule district comparatively from 1981 to 2001 census.
- To understand the arithmetic density of population in the district.
- To find out the decade variation of density pattern.

**Database and Methodology :**

The secondary data is collected through the unpublished record of the government and the various publications such as district census handbooks. The statistical techniques such as the measures are used for the analysis of quantitative data. Quantitative methods and techniques are used to convert the data. These methods are useful for the analysis.

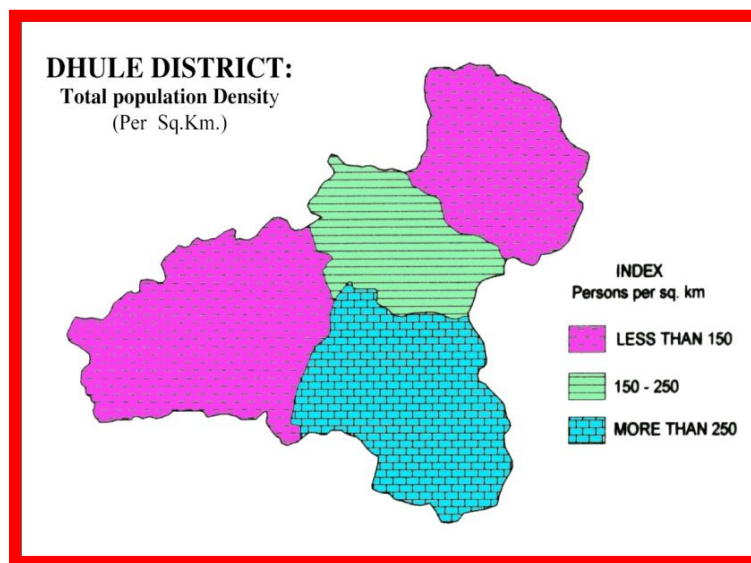
**Discussion and Result :**

A ratio between total population and total area of the region is called as arithmetic or general density of population. It is useful in understanding man-land relationship. The arithmetic density is calculated by using following formula:

$$\text{Arithmetic Density} = \frac{\text{Total population}}{\text{Total Geographical Area}} \times 100$$

Arithmetic densities in different thasils and Dhule district as whole for the census years 1981, 1991 and 2001 are computed and reported in the table 1 and depicted in the figure. 2 & 3.

It is essential to mention that for calculating population density, area of different tahsil as a whole, area given by state government/ survey of India department are considered. It is noteworthy to mention that there is great variation in total area of thasils particularly in Shirpur tahsil. According to State Government/ Survey of India department, total area of Shirpur tahsil is 2,364.53 sq km, while land record department reported only of 840.33 sq km area. It might happen due to exclusion of mountainous and forest areas. As a result, population densities of circles are too much high than the average density of Shirpur tahsil.



**Fig. 2**

Study reveals that in 1981, population density of Dhule district as whole was 149 persons per sq km ( $p/km^2$ ). In rural areas, density was 116 whereas in urban centers the average population density was 5,228 persons per sq km. by the year 2001, the population density of district increases up to 212.

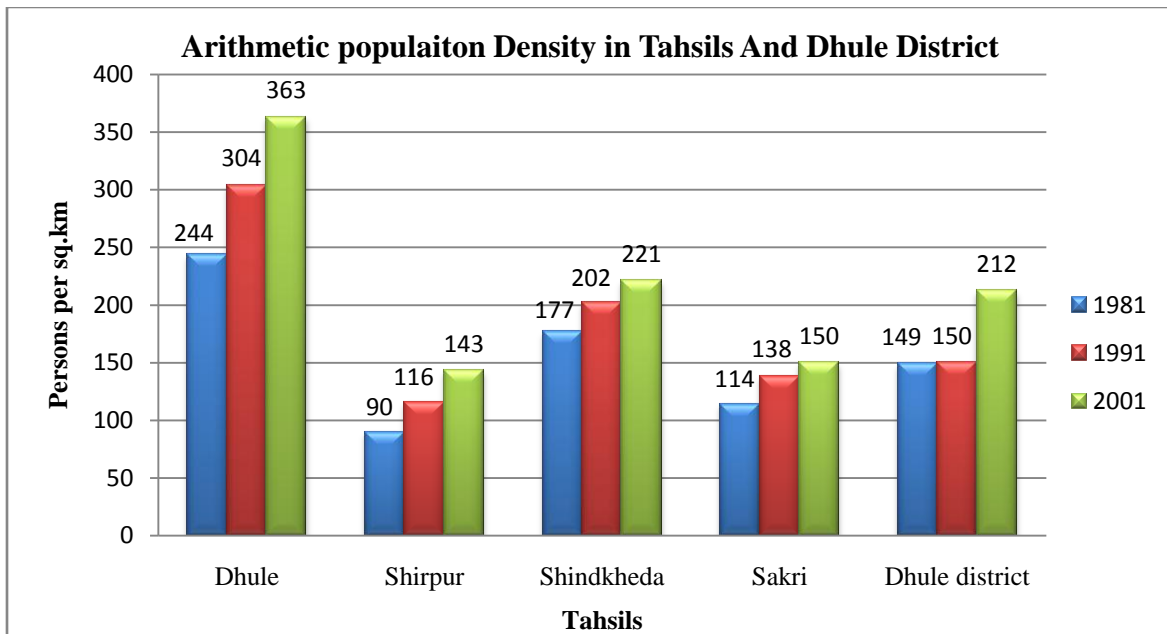
**Table No.1**

**Arithmetic population density (persons/sq km) in 1981, 1991 and 2001**

Tahsil	Population			Area (Sq.km)	Population Density		
	1981	1991	2001		1981	1991	2001
Tahsil Rural	272942	325158	378030	1935.48	141	168	195
Tahsil Urban	210758	278317	341755	46.46	4536	5990	7356

<b>Dhule</b>	<b>4,83,700</b>	<b>60,34,75</b>	<b>7,19,785</b>	<b>1981.94</b>	<b>244</b>	<b>304</b>	<b>363</b>
Tahsil Rural	178540	230412	275859	2361.58	76	98	117
Tahsil Urban	34013	44246	61694	2.95	11530	14999	20913
<b>Shirpur</b>	<b>2,12,553</b>	<b>2,74,658</b>	<b>3,37,553</b>	<b>2364.53</b>	<b>90</b>	<b>116</b>	<b>143</b>
Tahsil Rural	204086	228870	245081	1298.17	157	176	189
Tahsil Urban	25890	33641	42436	2.36	10970	14255	17981
<b>Shindkheda</b>	<b>2,29,976</b>	<b>2,62,511</b>	<b>2,87,517</b>	<b>1300.53</b>	<b>177</b>	<b>202</b>	<b>221</b>
Tahsil Rural	2,76,054	3,32,526	3,63,092	2416.11	114	138	150
<b>Sakri</b>	<b>2,76,054</b>	<b>3,32,526</b>	<b>3,63,092</b>	<b>2416.11</b>	<b>114</b>	<b>138</b>	<b>150</b>
<i>District Rural</i>	<i>931622</i>	<i>1116968</i>	<i>1262062</i>	<i>8011.34</i>	<i>116</i>	<i>139</i>	<i>158</i>
<i>District Urban</i>	<i>270662</i>	<i>356204</i>	<i>445885</i>	<i>51.77</i>	<i>5228</i>	<i>6881</i>	<i>8613</i>
<i>District Total</i>	<i>1202284</i>	<i>1473172</i>	<i>1707947</i>	<i>8063.11</i>	<i>149</i>	<i>183</i>	<i>212</i>

Source: Density computed by Researcher. (Area of Tahsil as per State Govt. Record)



**Fig. 3**

In case of Dhule tahsil, population density increased from 244 in 1981 to 363 persons per sq km in 2001. In this tahsil, rural population density was 141 in 1981. By the year, 2001 rural population density of Dhule tahsil increased up to 195 persons per sq km. as mentioned earlier, there is great variation in the average population density of Shirpur tahsil due to variation in the area. Average population density of Shirpur tahsil as a whole was 90 persons per sq km in 1981.

It increased up to 143 in the year 2001. During the year 1981, average rural population density of Shirpur tahsil was only 76 persons per sq km. In the year 2001, average rural population density of Shirpur tahsil was 117 persons per sq km. In Shindkheda tahsil a whole, population density was 177 persons per sq km during the year 1981. By the year 2001, it increased up to 221. During the year 1981, average rural population density of Shindkheda tahsil was 157 persons per sq km. Average population density in sakri tahsil as a whole was 114 persons per sq km in the year 1981. By the year 2001, population density of Sakri tahsil increased up to 150 persons per sq km.

### **Conclusions :**

Study reveals that in 1981 population density of Dhule district as whole was 149 persons per sq km (p/km<sup>2</sup>). In rural areas, density was 116 whereas in urban centers the average population density was 5,228 persons per sq km. By the year 2001, the population density of district increases up to 212. Population statistics of Dhule District from 1981 to 2001 shows that population has tremendously been increased. According to 2001, population density is highest in Dhule tahsil i.e. 363. It is observed in most of the tahsils population density is continuously increasing since 1981. In case of tribal tahsils like Shirpur and Sakri density is slowly increasing but remaining tahsils density is rapidly increasing.

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