

Vol 3 Issue 5 Feb 2014

ISSN No : 2249-894X

*Monthly Multidisciplinary
Research Journal*

*Review Of
Research Journal*

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RNI MAHMUL/2011/38595

ISSN No.2249-894X

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POPULATION DISTRIBUTION IN SANGLI DISTRICT : A SPATIAL INTERPRETATION

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Abstract:

Population Geography is more concerned with 'Spatial Variation' in the nature of places and this is where it distinguishes itself from Demography - The Science of Population - viewed as a single topic. Distribution and density of population are the two fundamental problems of Population Geography. This is so because distribution and density are related to other features of population. The analysis of population distribution and density holds immense significance for population geographers, as its successful understanding holds the key to the analysis of entire demographic character of an area. The concept of density of population is the most rarely and is useful tool in the analysis of the diversity of man's distribution in space. The distribution of Population is more locational, while the density is more proportional. The geographer's task is to explain this diversity in terms of physical, social, demographic, economic, political and historical factors as an inter-related influence. A study of population distribution should, therefore, be supplemented by a discussion on the pattern of population density.

The present paper tries to interpret general distribution of population in Sangli district by using the Census data of 1991 and 2001. Climate, nature of terrain, quality of soils, mineral resources, accessibility, etc. are the geographical factors ; while types of economic activities, the type of technology employed, social policy, etc. are the economic factors and birth rate, death rate, migration, etc. are demographic factors which are influencing the population distribution in Sangli district.

KEY WORDS:

Spatial variation, population-space relationship,

INTRODUCTION

Population Geography is more concerned with 'Spatial Variation' in the nature of places and this is where it distinguishes itself from Demography - The Science of Population - viewed as a single topic. Distribution and density of population are the two fundamental problems of Population Geography. The concept of density of population is the most rarely and is useful tool in the analysis of the diversity of man's distribution in space (Clarke)¹. The distribution of Population is more locational, while the density is more proportional (Chandna)². The former refers to the spatial pattern in which the population finds its location such as linear, dispersed, nucleated, agglomerated, etc; and the later is concerned with the ratio between the size of population and the area. The geographer's task is to explain this diversity in terms of physical, social, demographic, economic, political and historical factors as an inter-related influence

Title: POPULATION DISTRIBUTION IN SANGLI DISTRICT : A SPATIAL INTERPRETATION , Source: Review of Research [2249-894X] DILIP D. GAIKWAD yr:2014 vol:3 iss:5

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(Clarke)3.

DEFINITION OF DISTRIBUTION OF POPULATION:

“The field of Population distribution may be defined as the study of nation's or community's population in terms of area, sub-divisions; such as regions, states, socio- economic areas, urban and rural residence and census tracts. This includes the study of population residing in the smaller areas, units, as well as the study of total number of inhabitants” (Bogue)4.

As population geographer's main task is to explain spatial variations in population distribution. The author has assembled the requisite population data from the 'Censuses' of Sangli district, 1991 and 2001 (A Census has been defined as *“the total process of collecting, compiling and publishing of demographic data pertaining at a particular time, to all persons in a defined territory”* (Shrivastava)5.

The spatial spread of population in the district is not ubiquitous. There are wide regional contrasts in the degree of concentration of population giving highly variable densities to different parts of the district. Although the human body can adopt itself to any natural environment, yet its spread, to a large extent, is governed or related to various influences or factors. These factors provide the necessary explanation for particular pattern of population distribution and are generally grouped into three categories: i)Geographic, ii)Social & Economic and iii) Demographic factors (United Nations)6. The grouping of factors is purely arbitrary unlike water-tight compartments. This is purely on account of interactions among the factors, which make it difficult to identify and recognize the role each one plays in the distribution of population.

THE STUDY AREA

The study area is a district, i.e. *“Sangli District”* in Maharashtra state of India. Its selection identifies and recognizes District as basis of the administrative system in India. A district is *defined as territory marked off for a special administrative purpose* (Oxford)7 and *District Administration defined by Khera (1972)8*, is the management of public affairs within a territory marked off such purpose. It is the most important of all the units in area administration.

The district of Sangli like Satara and Kolhapur is a Southern district of Maharashtra state. It lies between 16°40' and 17°33' North Latitude and 73°42' and 75°40' East longitude (Rammurthy)9 , and has an area of 8572 sq. km. and Population of 25, 83,524 spread over in 9 tahsils, 721 inhabited villages , 3 uninhabited villages and 8 urban centers (Census, 2001)10. Of the 35 districts in Maharashtra state, Sangli district occupies 21st rank in area and 15th rank in population. Hence, it is smaller in area and medium sized in population.

OBJECTIVES:

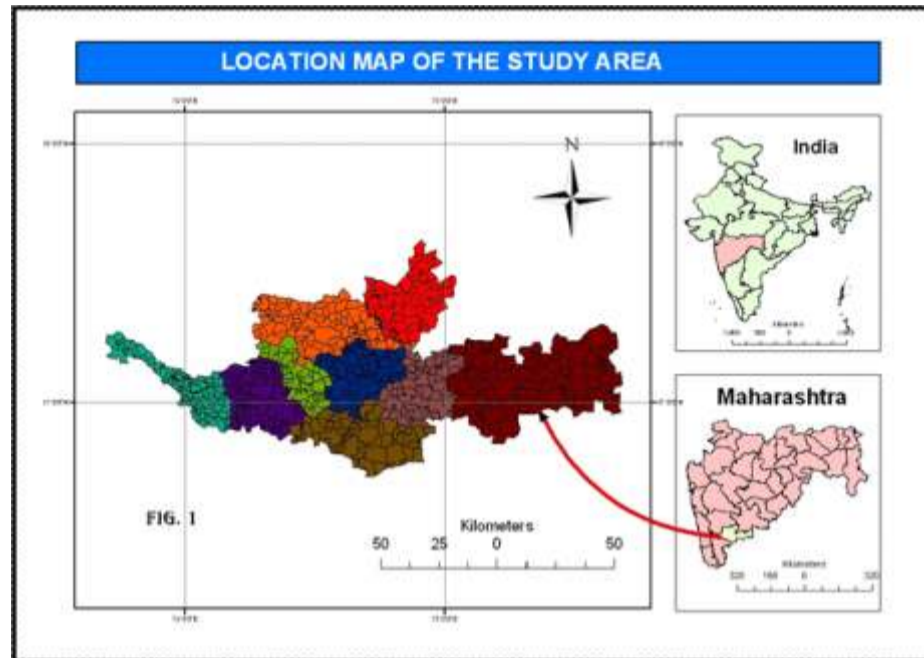
- 1.To study the physical and non-physical determinants which are affecting on population distribution.
- 2.To interpret the population distribution in Sangli district for 1991 and 2001.

DATABASE AND METHODOLOGY:

The present paper is entirely based on secondary data. The secondary data on Population distribution and density have been gathered from Directorate of Census Operations, Maharashtra, Mumbai (1901 & 2001). The formula used for the calculation of arithmetic density is as under :

$$\text{Arithmetic Density (Per sq. km.)} = \frac{\text{Total Population of the District}}{\text{Total Area of the District (in sq. km.)}}$$

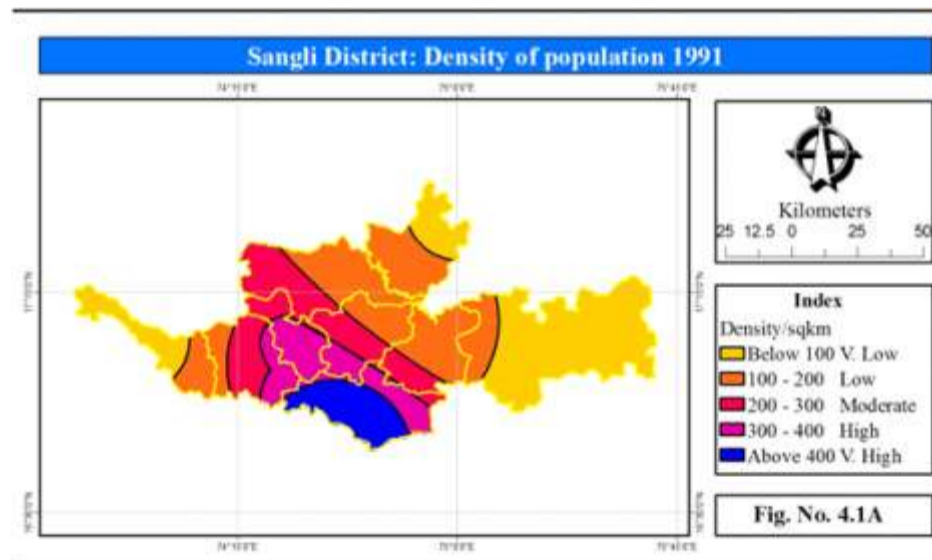
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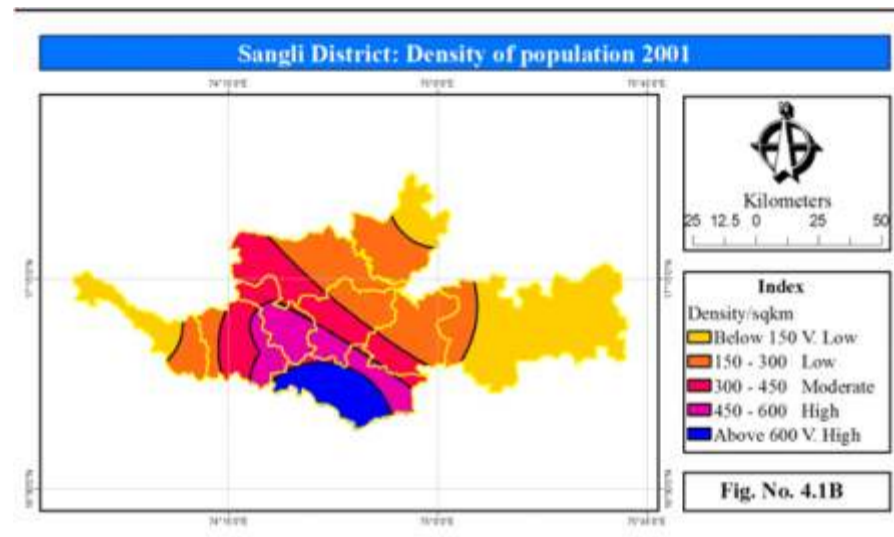
GENERAL DISTRIBUTION OF POPULATION (1991-2001)

The most common type of population density is arithmetic density. *Arithmetic density is a simple ratio between total population and the total land area.* It is the measure of population pressure on land, because it merely spells out a simple quantitative relationship between man and land, both of which may be widely varying quality (Chandna and Sidhu)11.

The average arithmetic density of Sangli district in 2001 is 301 persons per sq.km, which is slightly lower than that of the state average (315) and national average (324). Among the 35 districts of the state, Sangli holds the 10th place. In 1991, with an average density of 258 the district held the 7th rank. To simplify the complexities of area distribution, the author has employed iso-density lines of 100 (for 1991) and 150 (for 2001) persons per sq. km showing the pattern of distribution of population of Sangli district [Fig. 4.1 (A) & (B)]. The regional picture that now emerges is as below:



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A) Region of Very Low Density of Population

This area is delimited by the isodensity line of 100 persons (in 1991) and 150 persons (in 2001) per sq. km. It includes two geographically different areas, one lying in the extreme west of the district and the second in the extreme east. Most parts of Shirala tahsil lie in this region. Topographically it is a part of the main Sahyadrian (Western Ghat) rampart whose rugged topography, hilly slopes, very high rainfall (1250-6000mm), reddish laterite soils, dense mixed forests, small patches of agricultural land, low irrigation potential, very low development index and low agricultural efficiency contribute to very thin distribution of population. This region also includes a large part of Jat tahsil and northern part of Atpadi tahsil. Physically speaking it contains the core of Jat plateau whose undulating topography, shallow yellowish brown soils and scanty rainfall (500 mm), all these factors transform into a drought-prone area. It has low irrigation facilities, very low agricultural efficiency and overall low economic developments. Hence the density of population is very low.

However, the population in this region is mainly concentrated on the banks of rivers Warana, Man Bor and their tributaries.

B) Region of Low Density of Population

The region lies between the isodensity lines of 100 & 200 persons (in 1991) and 150 & 300 persons (in 2001) per sq. km is the largest in size. Its largest part lies on the northern and eastern part of the district, while there is a small ribbon located in Shirala tahsil. The major part include the large area of Khanapur plateau lying in the eastern part of Khanapur, southern part of Atpadi, eastern part of Tasgaon and northeastern part of Kavathe Mahankal tahsils. The region has a comparatively better physical setting and geographical attributes than the population density region 'A'.

C) Region of Moderate Density of Population

This population density region delimits the isodensity lines between 200 & 300 persons (in 1991) and 300 & 450 persons (in 2001) per sq. km. In it lie the border region of Shirala and Walwa tahsils, western part of Khanapur tahsil, northern part of Palus tahsil and southern part of Kavathe Mahankal tahsil. Topographically it is mixed type of region where Khanpur plateau merges into Yerala basin giving an assured water supply from the river, an undulating relief and black soils. Cash crops, viz. sugarcane and grapes dominate over food crops. It is mainly rural, Vita being the only urban place in it.

D) Region of High Density of Population

This region gets marked by 300 & 400 persons (in 1991) and 450 & 600 persons (in 2001) per sq. km iso-density lines and contains the river plains of Krishna, Warana and Yerala. Western part of Walwa, southern part of Tasgaon and Palus tahsils; and eastern part of Miraj tahsil lie in this region. It has moderate rainfall (625 mm) and medium to deep black cotton soils. Irrigation facilities are well developed. All these

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conditions make this region more important from agricultural view-point. The crops, viz. sugarcane, grapes, tobacco, turmeric, rice, jowar etc. are its major output. It is also distinguished by having three urban centers, namely, Ashta, Uran Islampur and Tasgaon. Hence, high densities of population prevail in this region.

E) Region of Very High Density of Population

This is the smallest population density region in size and demarcated by 500 persons (in 1991) and 600 persons (in 2001) per sq. km density lines. Its deep and fertile black soils, well developed irrigation facilities, moderate and favorable rainfall conditions, advanced people make the region agriculturally most developed. Sangli - the district headquarter, Sangli – Miraj – Kupwad Mmunicipal area, Budhgaon and Madhavnagar are the other urban centers lie in this region. All these urban centers are industrially well developed, educationally advanced and economically progressed. All these factors make it the most important and populous region of the district.

It may be, perhaps, useful to admit that:

- i) Interpretation of the influence of factors on the distribution of population is not an easy task;
- ii) The “ *Crowding* “ of population is seen in and around Sangli – Miraj- Kupwad Urban Agglomeration situated in the vicinity of Krishna – Warana Doab and thins out geometrically in all directions; and
- iii) These patterns of population density are never static. They keep on changing with time.

SUMMARY

The present study has aimed to explain the distribution patterns of population in Sangli district of Maharashtra state. This has been analyzed with the help of some physical and economic factors. Population is unevenly distributed throughout the region. In some parts, a dense concentration is found while in others it is found very sparse. This variation is mainly associated not only with the physical characteristics but also with the economic set up of the different parts of the study area. Three distinct physiographical divisions of the study area influenced the uneven distributional patterns of population. The Eastern plateau zone of drought prone conditions. The economics of irrigation and diffusion of agricultural innovations have brought significant change in the economic structure of the area. The impact of these changes on economic condition are well reflected not only in the distributional pattern but also the structure of population of the area.

The general population density of Sangli district is 258 and 301 persons per sq. km. in 1991 and 2001, which is higher in 1991 and lower in 2001 than the state average (257 & 315). There are spatial variations in distribution and density patterns of population within the study area. The central plain zone comprising eastern Shirala, Walwa, Palus and Miraj tahsils have high concentration of population due to black fertile soil, improved irrigation facilities, modern agricultural practices and industrial advancements. Whereas, undulating hilly topography, heavy rainfall and poor economic activities with sparse and tiny villages, cause low population concentration in the extreme western hilly area of Sirala tahsil. While the tahsils of eastern undulating plateau zone of Jat, Kavathe Mahankal, Atpadi and Khanpur have noted moderate to low population concentration. This drought prone zone of the district is lacking in irrigation, communication, trade, industries, with uncertain rainfall conditions. The spatial variability in the process of economic development, scarcity of water, lack of industrialization, transport and communication are some of the problems in the study area. This requires implementation of proper planning programmes.

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