GEOGRAPHICAL ANALYSIS

RESEARCH ARTICLE

COMPREHENSIVE ACCOUNT OF THE POPULATION AND LAND RATIO IN HAVERI DISTRICT

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Introduction

The spatial distribution of absolute population presents some aspects of the picture not in the totality, whereas the land and population ratio (L/P) presents a comprehensive account of the population distribution of the study region and is used as a tool to gauge the degree of population concentration in different talukas of the study region.

The district is well-endowed with suitable water resources for human habitation, which is clear from the study of earlier settlers along the river basin of Varada and Tungabhadra. It is surprising to note that there is some kind of inherent weaknesses relying to the demographic characters of the population. This is mainly due to the rigid topography, scanty rainfall, hot climate and frequent draught conditions in the study region.

Population studies have for long been the subject of concern for social scientists including geographers. The varying content and methodologies of different disciplines studying population notwithstanding, each social science has made valuable contribution towards the understanding of spatio-temporal patterns of population (Woods, 1979, p.1) in geography, the study of population distribution has been the focus of traditional human geographers since long. Although traditionally geography has been classified into physical and human geography, yet the place of man in geography has been a matter of academic dispute (Clarke.1965, p .1) among the geographers themselves.

The year 1953, however, was a significant divide in the history of development of this subfield. It was in this year that Glenn T. Trewartha came out with one of the most explicit statements on the subject while delivering his presidential address before the Association of American Geographers. His case for Population Geography (1953) stimulated geographers to the study of man as area characterizing and area differentiating element. Consequently, both the quantum and the quality of work that could be described as population geography increased since 1953. No wonder, since then the number of courses on population geography being taught in the geography departments of the universities all over the world has increased commensurately. The most important question according to Demko (1970, p. 2), however, centres on the path that Population Geography has traversed and the methodologies that its practitioners have adopted in their attempt to gain a better understanding of the spatial dimension of population and its attributes. To explore this, lit us examine the concept of population geography as espoused by major contributors in the field.

Objectives

Population Geography is a division of human geography. It is the study of the ways in which spatial variations in the distribution, composition and growth of populations are related to the nature of places. Population geography involves demography in a geographical perspective. Main objectives are.

- Understand the physical factors which account for the geographic distribution of fertility, mortality and natural increase.
- Understand the Sex ratio.
- Know the population and land ratio.
- Understand the physical factors which account for the geographic distribution of fertility, mortality and natural increase.

All of the above are looked at over space and time. It also study of the relationship between man and environment, problem and prospect.

Methodology

This paper depends on secondary data collected through district census office Haveri and other references. It focuses on the characteristics of population distributions that change in a spatial context. A few types of maps that show the spatial layout of population maps.

Study Area, Location and Extent

The study area selected for the study is Haveri district, Karnataka state and covers seven talukas of the district i.e., Byadagi, Hanagal, Haveri, Hirekerur, Ranebennur, Savanur and Shiggoan talukas.

Haveri district is situated in the western part of the central Karnataka state. The district encompasses an area 485156 hectares laying between the latitudinal parallels of 14°19' North and 15°09' North and the longitudes of 75°01' East to 75°50' East. In its shape the district may be regarded as roughly resembling an inverted square shape asper Peter Hagget's method shape index. Its greatest length from north to south is about 111 kms and its great growth from east to west is about 87 km. The district is bounded on the North by the districts of Dharwad and Gadag; on the south by the district of Davanagere and Shimoga and the west by the district of North Kanara. All these districts which surround Haveri belong to Karnataka state itself. Varada river act as the central part of the district and it flows west to east direction about 128 kms on the north-east and south, the Tungabhadra river flows in between Haveri-Gadag, Shimoga, Davanagere and Bellary districts.

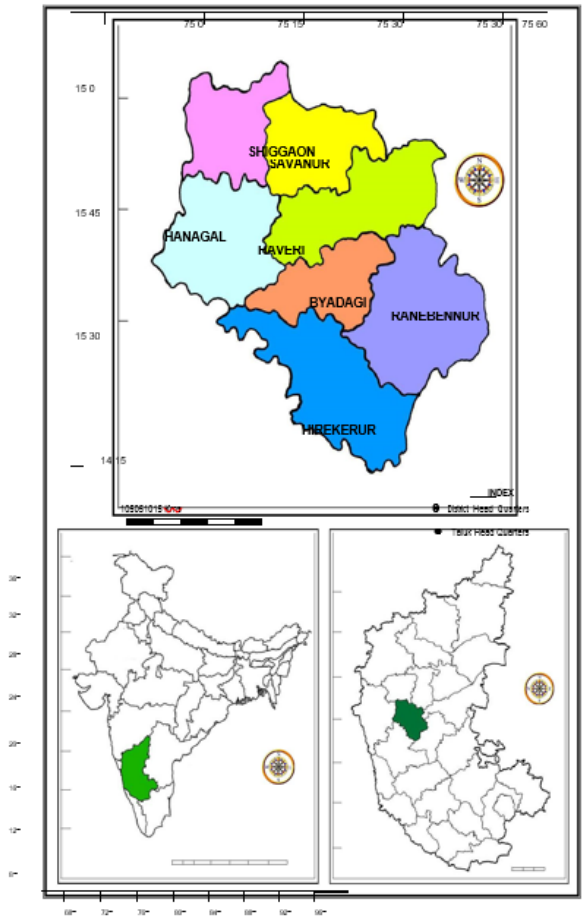

Fig. 1. Location map of Haveri district

Climatic Conditions of the District

Semi-malnad lies in the Western part of the district and covers Shiggoan, Hanagal, Hirekerur and Byadagi talukas. It covers half of the districts total area. It consists of a typical landscape having low ranges with monsoonal forest cover. The hill ranges of Dundshi and Hanagal are rounded and subdued in topography. The hill range of Masur and Marvalli spread towards the extreme south.

To the East of the semi-malnad belt lies the undulated plainregion called "Maidan Area". It is characterized by isolated hills liked evagirigudda, Nelogal Gudda, Siddapur Gudda and Malthihalli Gudda. The isolated hills are 609 mts. above the sea level. The whole ranges from 527 to 610 mts. above the sea level. The maidan region extends over the talukas of Haveri, Ranebennur, Savanur and Eastern part of Byadagi.

Demographic Aspects of Haveri District

The development of a nation depends upon human resources, i.e. it depends upon his skill, ability to understand and work. So manpower plays a vital role for the development of a nation. National development in general state and study area particularly depends upon the available natural and human resources. Development of a nation income also depends upon how the best natural resources are utilized by population. Population sometimes acts as capital but there is need for proper utilization and management of this capital. Human resources is the key to operate the treasury of natural resources. These are closely related to property of a nation. The development of a nation also depends upon the industrialization, this leads to industrial and economical growth. So it is necessary to know how the growth or population has helped for the development of the study area in particular, state and nation in general.

Population resource is a key for all developments as well as industrial development. But it depends upon his skill, ability and his technological advances which are closely related to prosperity of a nation. This is very interesting to note that the industrial regions having high concentrations of population and also these are showinghigh growth rate of population, this growth leads to industrial and economical growth of a region.

Decadal Growth

The total population of Haveri district in 1901 was only 473218. In 2011 it has reached 1598506, thus it shows nearly four times of the population increase over a period of 110 years. During 1911 and 1921 the study region had negative growth of population, which was due to great epidemics, natural calamities and world war. First, this situation of population growth were found in the whole country , where as in the year 1911 it was 439600 and in the year 1921 it was 414028.

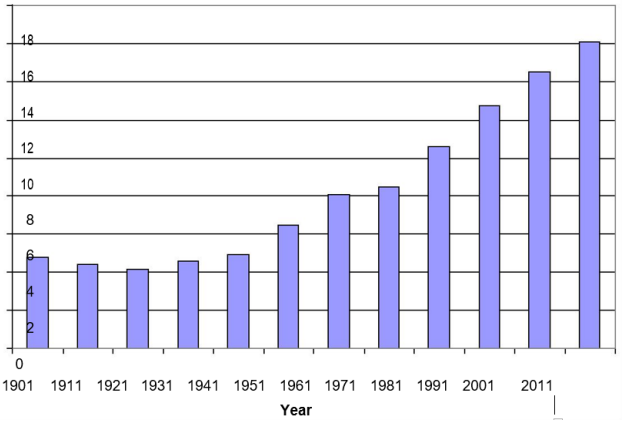

Fig. 2. Decadal Growth of Population in Haveri District 1901 to 2011

Table 1. Decadal Growth of Population in Haveri District 1901 to 2011

Sl. No	Year	Population	%
1	1901	473218	4.76
2	1911	439600	4.42
3	1921	414028	4.17
4	1931	457356	4.60
5	1941	491410	4.94
6	1951	644490	6.49
7	1961	804731	8.10
8	1971	844026	8.50
9	1981	1052989	10.60
10	1991	1269213	12.78
11	2001	1439116	14.49
12	2011	1598506	16.09
	Total	**9928683**	**100.00**

Source: District Statistical Office, Haveri

From the year 1931 onwards upto 2011 the district has shown continuous increased growth of population. The decadal growth of population shows 4.76 percent in the year 1901 followed by 4.60 percent increase in 1931, 4.94 percent in 1941, 6.49 percent in 1951, 8.10 percent in 1961, 8.50 percent in 1971, 10.60 percent in 1981, 12.78 percent in 1991, 14.49 percent in 2001 and lastly 16.09 percent in 2011 in the study region (Table and Fig. 1&2).

The table 2 explains the talukawise distribution in Haveri district. In the study region Ranebennurtaluk has the highest concentration of population, this is because Ranebennur town, being a taluka headquarter besides being as an educational, industrial and more over due to different seeds companies are located in the town. Haveritaluk has the second highest concentration of population being a district headquarter, followed by Hanagal with 16.38 percent,Hirekerur with 14.45 percent, Shiggaon with 11.78 percent, Savanur with 10.07 percent and lastly the lowest concentration of population can be found in Byadagi with 8.82 percent, it is because it falls in an agricultural dominance and low productivity area i.e. undulating region makes it to have low concentration of population in the study region (Table and Fig. 2&3).

Density of Population

Geography is more concerned with spatial and temporal distribution of population and its density variations. The geographical area of the study region is 4848 sq.kms. The lans remains the same, whereas the density of population changes from one year to another (decade to decade) which is a natural phenomena in the study region or any other regions.

The talukawise density of population is calculated and observed from the year 1951 to 2011. The density of population is in increasing trend, due to better medical

Table 2. Talukawise Distribution of Population in Haveri District (2011)

Sl. No.	Taluk	Males	Females	Total	Percentage to Total
1	Haveri	143669	136421	280090	17.53
2	Byadgi	72109	68931	141040	8.82
3	Hanagal	133902	128018	261920	16.38
4	Hirekerur	118185	112820	231005	14.45
5	Ranebennur	171690	163394	335084	20.96
6	Savanur	82774	78192	160966	10.08
7	Shiggaon	96966	91435	188401	11.78
	Dist. Total	**819295**	**779211**	**1598506**	**99.98**

Source: District at a Glance of Haveri District, 2011-12.

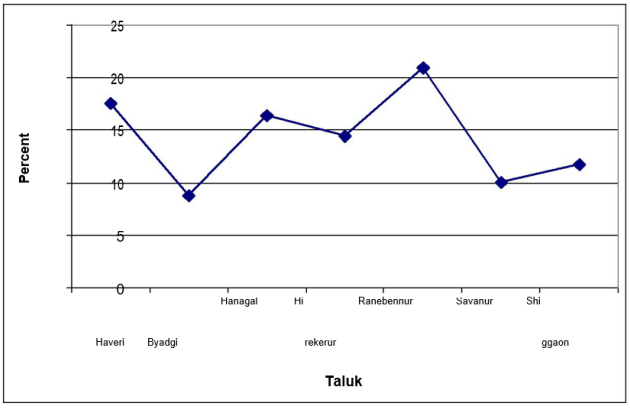

Fig. 3. Talukawise Distribution of Population in Haveri District (2011)

facilities, low mortality rates and due to education. The density of population in the study region is not uniform due to above said various reasons. Population concentration also varies from one taluk to another taluk, it is because of the degree of fertility of soil, water facilities and most of other environmental factors.

Talukawise density of population in the study region is shown in table 3.4. The highest density of population is found in Ranebennurtaluk with 337 and it is followed by Haveri with 316, Hangal with 301 due to availability of medical facilities and industrial growth, etc.. The low density of population is found in Hirekerur which is 263, followed by Savanur with 267, Shiggaon with 283 and Byadagi with 293, it is due to non-availability of infrastructural facilities and low development of industries.

Sex Ratio

The sex ratio is also one of the important factors to measure the growth and composition of population. According to

Table 3. Population Density – 1901 to 2011

Year	Population Density per sq.km.
1901	98
1911	91
1921	85
1931	94
1941	101
1951	133
1961	164
1971	174
1981	217
1991	262
2001	298
2011	310

Source: District Statistical Office, Haveri, 2011-12.

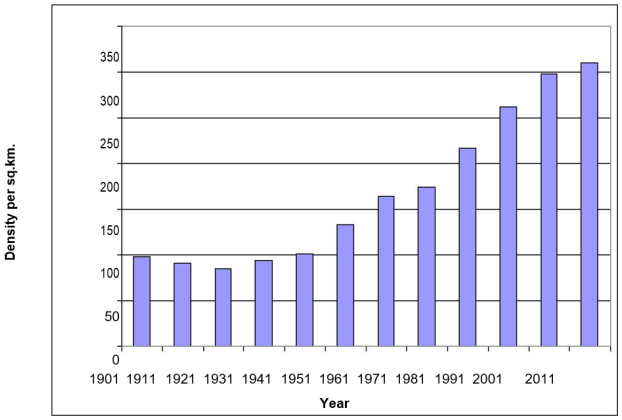

Fig. 4. Population Density – 1901 to 2011

Table 4. Talukawise Density of Population of Haveri District (2011)

Sl. No.	Name of the Taluk	Area (km^2)	Population	Density
1	Haveri	799	280090	316
2	Byadgi	436	141040	293
3	Hanagal	773	261920	301
4	Hirekerur	806	231005	263
5	Ranebennur	907	335084	337
6	Savanur	539	160966	267
7	Shiggaon	588	188401	283
	Dist. Total	**4848**	**1598506**	**298**

Source: District Statistical Office, Haveri, 2011-12.

2011 census the female ratio is 956 per 1000 males. The highest sex ratio can be found in Hanagaltaluk and lowest in Shiggaontaluk, this is due to natural birth rate and migration from one taluk to another as well as one district to another.

Table 5. Sex Composition of Haveri District (2011) (Females/1000 Males)

Sl.No.	Name of the Taluk	Rural	Urban	Total
1	Haveri	938	985	961
2	Byadgi	948	983	962
3	Hanagal	953	974	963
4	Hirekerur	953	968	960
5	Ranebennur	942	968	955
6	Savanur	940	955	947
7	Shiggaon	940	949	944
	Dist. Total	**945**	**969**	**956**

Source: District Statistical Office, Haveri, 2011-12.

The composition of sex ratio in the study region is shown in table 3.5. The highest female population is found in Hanagaltaluk, which amounts for 963 females per 1000 males followed by Byadagi, Haveri, Ranebennur and Shiggaontalukas, this is because of more movement of male population in search of jobs and high death rate of females.

Land and Population Ratio (L/P Ratio)

The spatial distribution of absolute population presents some aspects of the picture not in the totality, whereas the land and population ratio (L/P) presents a comprehensive account of the population distribution of the study region and is used as a tool to gauge the degree of population concentration in different talukas of the study region. In this technique both area and population figures are represented in percentage, in order to get the common denominator. Theoretically it is conceived that 1 percent land should accommodate 1 percent of population considering the ideal ratio ofL/P is 1:1, when ration is disturbed, the population concentration will be either high or low.

Table 6. Land and Population Ratio in Haveri District (2011)

Sl. No	Name of the Taluk	Area in % of Total	Population % of Total	L:P Ratio
1	Haveri	16.48	17.52	1:1.0631
2	Byadgi	9.00	8.82	1:0.9800
3	Hanagal	15.97	16.38	1:1.0256
4	Hirekeru	16.63	14.45	1:0.8689
5	Ranebennur	18.65	20.96	1:1.1238
6	Savanur	11.11	10.07	1:0.9063
7	Shiggaon	12.14	11.78	1:0.9703
	Dist. Total	**99.98**	**99.98**	**1:1.0000**

Source: Computed by Researcher

The above table 3.8 represents the percentage of area and population in the study region as per 2011 census. It is evident from this table that L/P ratio is highest in Ranebennurtaluk where it is 1:1.1238 in other words Ranebennurtaluk accommodated about 1.12 times more population as compared to its total area which is due to large number of industries and employment opportunities. It is followed by Haveritaluk with 1:1.0631 as one of the district headquarter, followed by Hanagaltaluk with 1:1.0256 accommodating more population than their areas because of commercial centres. Whereas minimum L/P ratio is found in Hirekerurtaluk with 1:0,8689, Savanurtaluk with 1:0.9063, Shiggaontaluk with 1:0.9800 and Byadagitaluk with 1:0.9800 accommodating less population thantheir area. They have less industries and high percent of undulating terrain.

Concentration Index

The concentration index is one of the tools used to know the population movement in different talukas and uneven distribution of population in the study region. This indicates an amount of concentration at a particular point of time. The concentration index is calculated by the following equation.

$$C\frac{W(A\ P)}{2}$$

Where,

C = Concentration Index

A = Area of a taluka in percentage

P = Population of that taluka in percentage to the district total By using this formula concentration index for the study area has been prepared as per 2011 census (Table 6 and Figure 5).

Table 7. Concentration Index of Haveri District

Sl. No.	Name of the Taluk	Area in %	Population in %	W (A–P)
1	Haveri	16.48	17.52	1.04
2	Byadgi	9.00	8.82	0.18
3	Hanagal	15.97	16.38	0.34
4	Hirekerur	16.63	14.45	2.18
5	Ranebennur	18.65	20.96	2.31
6	Savanur	11.11	10.07	1.04
7	Shiggaon	12.14	11.78	0.36
	Dist. Total	99.98	99.98	7.45

Source:Computed by Researcher

Thus to achieve leading towards uniformity in the distribution of population in all talukas of Haveri district 3.72 percent will be involved in an inter-taluk movement, which is quite uneven to approach the optimum distribution. This concentration index helps in understanding the regional disparity in population distribution.

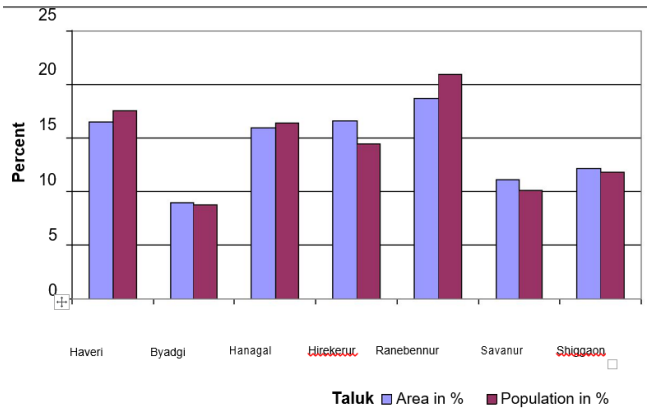

Fig. 5. Concentration Index of Haveri District

Population Projection

The future population of Haveri district for 2021 AD is designed to find out the aggregate population and the pattern of distribution by the district census department of Haveri district. It is estimated that the total population of the study region is likely to reach little over 1778027 i.e. 17.78 lakhs in 2012.

Conclusion

The district is well endowed with suitable water resources for human habitation, which is clear from the study of earlier settlers along the river basin of Varada and Tungabhadra. It is surprising to note that there is some kind of inherent weaknesses relying to the demographic characters of the population. This is mainly due to the rigid topography, scanty rainfall, hot climate and frequent draught conditions in the study region.

The four talukas namely Ranebennur, Haveri, Byadagi and Shiggaon are at advantageous locations and hence tend to spread developmental activities from one taluk to another taluk. The talukas such as Savanur, Hirekerur and Hanagal are at disadvantageous locations and far away from district headquarter. This is the main problem for the study region administration and people of these above mentioned talukas.

Ranebennur taluk is known for its irrigation. Tungabhadra canal as well as Haveri taluk is also well developed by Varadariverpumpset lift irrigation and three talukas such as Byadagi, Hanagal and Hirekerur talukas are practicing tank and borewell irrigation, but two talukasSavanur and Shiggaon suffer from drought conditions. The underground water is available at deeper levels in many parts of these two talukas. However, sincere attempts are being made for utilization of both surface and underground water in two talukas. Further, a lot of areas in these areas have remained uncultivated, thereby representing the highest area of fallow, pasture and uncultivated lands. Although these talukas are suitable for animal husbandry, dairy farming and poultry farming, no sincere attempts have been made in this direction. Thus major part of the districts covered by agriculture is in hands of the gambling of monsoons.

Although the hilly tracks of Hanagal, Hirekerur, Ranebennur and parts of Haveri talukas are dominated by deciduous and dry deciduous forests or trees, but they are the only source for local and domestic consumption. Due to economically poor background farmers do not use scientific equipments and use wood to make their agricultural equipments for tilling their land. It is important to note that elevated parts of the study regions are known for economically important trees. There is large scope for extension of forest in the elevated slopes, hilltops and mountain slopes afforestation schemes.

In the study region Ranebennur taluk has the highest concentration of population, this is because Ranebennur town, being a taluka headquarter besides being as an educational, industrial and more over due to different seeds companies are located in the town. Haveri taluk has the second highest concentration of population being a district headquarter, followed by Hanagal with 16.38 percent, Hirekerur with 14.45 percent, Shiggaon with 11.78 percent, Savanur with 10.07 percent and lastly the lowest concentration of population can be found in Byadagi with 8.82 percent, it is because it falls in an agricultural dominance and low productivity area i.e. undulating region makes it to have low concentration of population

Suggestions

The following plans are suggested for promoting to development of Haveri District.

- Develop the Agriculture and allied sectors.
- Sincere attempts are being made for utilization of both surface and underground water for agriculture as well as drinking water
- And development of water sources.
- Develop Industries – especially traditional, small industries including food processing.
- Develop Infrastructure including power.
- Provide Drinking water and sanitation.
- Provide and upgrade the Health and medical facilities.
- Make Poverty reduction and improve basic needs.

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