DYNAMICS OF POPULATION GROWTH IN HASSAN DISTRICT

Ravisha G.M*., Nagaraj H.**

*Research Scholar, Dos in Geography, Manasagangothri,Geography, University of Mysore, Mysore.
**Professor, Dos in Geography, Manasagangothri,Geography, University of Mysore, Mysore.

Abstract.

The present paper aims to analyses the total and sex-wise causes of dynamic growth and distribution of population. Population growth is inevitable outcome of the demographic transition, primarily as result of high fertility on secondarily mortality declines and mobility in view of rapidly growing or population explosion, growth of population is the change in the number in a particular area between two given points of time. As described in the preceding paper, the population of our ancestors a few million years ago was confined to Africa and numbered only in Lakh. By the time our ancestors invented agriculture, the information started passing from generation to generation. The transmission of knowledge about hunting, gathering and preparation of food helped in expansion of agriculture and growth of population. The growth of population was, however not continuous after the agricultural Revolution. Civilization rose, flourished and disintegrated; periods of good and bad weather occurred; and famine and war took their toll. Despite fluctuations in the birth and death rate rates, agriculture permitted the existence not only of higher population densities and settled village life but also of large-scale cooperative ventures, specialization of labour, development of crafts and social stratification, the growth and development of irrigation and the emergence of towns and cities concentrated of economic power in the hands of numerically small elite.

Key words: Dynamic growth, fertility, mortality, mobility, agricultural evolution, irrigation.

Introduction

According to the 2011 census, Hassan district was fourteenths most popular district in the Karnataka state the district has shown an impressive fall in decadal growth rate by about 12 percent (points) The District from 15.67 percent in 1981-1991 to 3.18 percent in 2001-11. The growth in Hassan district remained well over 22 percent points. In five consecutive decades from 1961 to 2011 this step falls of about 12.50 percent within two decade from 1981-91 to 2001-11. The annual growth rate in the current census decade is 3.18 percent (15.67 percent for Karnataka) as against 9.68 percent in the previous census decade. This achievement of Hassan district despite its female literacy rate (68.30 percent) (2011) being lower than the male literacy rate (83.55 percent, 2011) is noteworthy. Perhaps no other demography of Hassan district's size has shown such a remarkable decline in population in a decade. So far Bangalore figured prominently in any discussion related to demo graphic achievements we must turn our attention now to Hassan District.

Study area

Hassan district is situated on old Deccan plateau and south western and interior central part of the Karnataka and in terms of latitudinal and longitudinal position of the district, extends entirely in the southern India area. Average altitude is 960 meters above MSL (mean sea

level) the district lies between $75^0 33^1$ E to $76^0 38^1$ E longitude and $12^0 13^1$ N to $13^0 33^1$ N latitude. The greatest length of the district, from north to south, is about 80 miles or 129 kilometers, and its greatest breadth, from east to west, is about 72 miles or 116 kilometers, total area of the district has 6826.15.Sq, Km's.
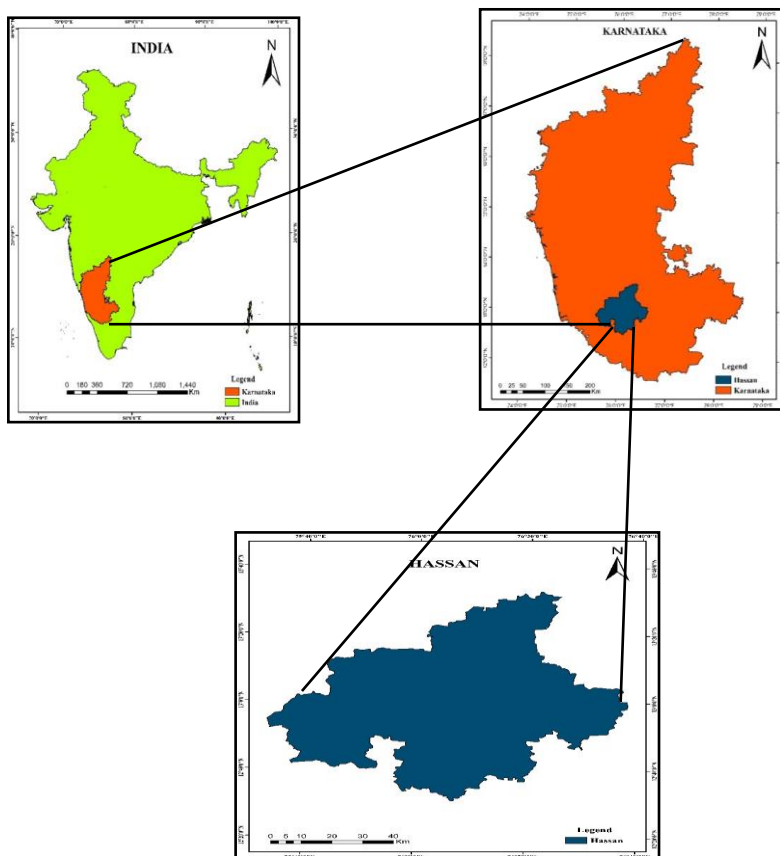

Figure 1. Study area.

Main objectives and Materials Used

The objective of this paper is to provide an account of demographic characteristic of the Hassan district, analysis the trends of rural and urban population in district, study the impact of migration on environment and infrastructure and variations Fertility (Birth) and Morality (Death of Rate) trends while discussing regional trend of the district has been divided 3 regions or 8 taluks

Methodology and data source

The methodology adopted here has addressed the issues related to demographical and population geographical aspects related to dynamics of population in the Hassan district, density, distribution, growth rate, literacy rate, and regional growth trends, aspects related to Morphological and dynamic has been made to establish causal relationship among

apparently independent factors. In order to accomplish the task, data both from primary and secondary sources have been collected. Geographic Information System (GIS), Arc Info and ILWIS software's had been applied for data analysis and synthesis. The data used for the analysis has been drawn from a wide variety of sources like the Census of India 1901-2011, office of the Registrar General of India. This paper uses the quantitative and qualitative methods-based on the Marxian theory and Malthusian theory, population explosion, demographic transition, life expectancy, population characteristics etc. have been studied. Total fertility rate and mortality rate, growth concept of the population data.

Statistical technique

In present study several statistical methods and techniques are used. They have classified in to two types are Descriptive and inference such as growth, percent, average, numbers, median, totals population in numbers and person correlation and co-efficiency growth of variation parts of the district and aggregation score method respectively. Growth of population (gender wise, age structure, literacy charts, and patterns of population distribution of the Hassan district) general population distribution, growth of population compared to index Karnataka state and India. Percent of the district child population, median age, age structure, percent of adult and elderly (>6 years) people of district, different types of dependency ratio, literacy rates statues of sub divisions of the district, sex ratio, births and deaths, migrations, religions and growth rate and distribution of population chats and diagrams, different types marital status and percent of background criteria of responds like place of residence, urban and rural areas, density, distribution of population gender (sex ratio) urban and rural wise, different age structure, types of occupational structure primary to quaternary sector, migration types, rural and urban migration, causes and effects of migration to changing effects total population and density distributions of population, several dimensions have been worked out with help of descriptive, simple statistical methods like growth, distribution, percent, median, numbers, points, average.

Demographic profile of the Hassan District

Hassan District is the fourteenth largest district in Karnataka state 2011 census the district is divided into 8 taluks and 3 regions. The district has an area of 6826.15 km's its population density was 261 persons per Sq. Km in 2011 which was lower than that of Karnataka (319) India (340). The population density increased from 31 person's in (1901) to 230 persons in (1991) 253 persons in (2001) and 261 persons in (2011) Among the Hassan taluk 397900 persons in (2011) Hassan (Urban Agglomeration) 173,134 out of the total Hassan population for 2011 census 21.21 percent lives in urban regions of district in total 376,763 people lives in Urban areas of which males are 188,084 and females are 188,679 the child population (0-6) in urban region was 37,600 of which males and females were 19309 and 18,391 this child population figure of Hassan district is 10.21 percent of total Urban population as per 2011 census. 78.79 percent population of Hassan districts lives in rural areas of villages' total population living in rural areas is 1399,658 of which males and females are 695,583 and 704,075 respectively. The child population in the age 0-6 is 128037 in rural areas of which males were 64762 and females were 63275 it comprises 9.31 percent total average literacy rate in the district has continuously increased. It was 76.07 percent in 2011 census. It has again 68.53 percent in 2001 census Hassan ranked 12th among all district in the matter or both in terms of area and literacy.

The female literacy is 68.60 percent as against 68.15 percent in Karnataka district average urban literacy rate per census 2011-15 88.36 percent of which males and females are 91.94

percent and 84.81 percent literates respectively. Literacy rate in rural areas of Hassan district is 72.79 percent as per census data 2011. Gender wise, male and female literacy stood at 81.41 and 64.29 percent respectively. In the year of 2011, the sex ratio in the district was 1005 which was higher than that of Karnataka 968. The percentage of population was 2.91 percent proportion to Karnataka population. The child proportion (0-6age) 9.32 percent in district. It against in 11.60 percent in 2001 census (children under 0-6 formed 9.82 percentages) it boys proportion 0-6 age 9.50 percent and girls proportion (0-6age) 9.15 percent in 2011 census

Growth trends and regional disparities

The population of Hassan was 17.76 lakh as per 2011 census it was only 5.68 lakh in 1901 there was about more than threefold increase in the size of population from 1901 to 2011. An increase of 12.08 lakh in 100 years mainly due to the sharp decline in mortality rates across all the regions of the district's .35 percent of fall in total proportion in population of the district from 2001 to 2011. The population growth rate has been continuously increasing in Hassan district from 1901 to 1961 except in the 1911 to 21 decade the district reduced consistently lower rate of population growth than Karnataka during the ten decades from 1901-11 to 2001-11 during the ten decade 1911-21 and 1951-61 the district had shown slightly higher growth rate, 68 and 25.27 respectively than that Karnataka figure-1.09 and 21.57 respectively. The growth rate in the district showed regional variations "Hassan Taluk" had higher than all seven taluk it has 14.00 percent in 2001 census. It was in 18.58 percent in 1991 census Sakaleshpurtaluk had registered decline in the growth rate. It had 7.14 percent in 1991-2001. The Hassan Taluk growth rate as compared to all other taluks it had much higher as compared to 8.91 percent in Alur taluk and 9.09 percent in Arakalagudu 6.55 percent in Arsikere. 7.49 percent in Belur, 9.40 percent in Channarayapatna taluk, 10.37 percent in Holenarasipura and 7.14 percent in Sakaleshpur The district recorded lower rate of population growth in 2011 census it figured 3.18 percent. The literacy rate of the district is however still lower than the neighboring districts the average literacy of Karnataka in 2011 was 75.61 percent and Indian literacy 2011 was 74.04 percent where as in Dakshina Kannada it was 88.62 percent Kodagu 82.52 percent Mysore 72.56 percent Mandya 70.14 percent Chikkamagaluru 79.24 percent and Hassan 76.07 percent thus it is evident that it is lower than Dakshina Kannada, Coorg and Chikkamagaluru Districts in the year 2011 the sex ratio in the district was 1005 which was higher than that of Karnataka 968 and India 940 in 2011 census. The percentage of population was 2.91 percent in 2011 census it as against (Karnataka) 3.26 percent in 2001 census. The density of population varies considerably amongst the taluks with a density of 385 persons per Sq. Km Hassan taluk tops the list and this is followed by Arakalgudu 295, Holenarasipura 290, Channarayapatna 266, Arsikere 238, Belur 217, Alur 199, and the lowest density of 129 per Sq. Km is noticeable in the case of Sakaleshpur accordingly to 2001 census the density of population per Sq. are Kilometer for the district is 251.

Change in the size of a population, whether positive or negative is called "growth". Growth of population comes from only three source-births, deaths and migrations (George W. Barday, 1958) which are considered as the components of population change rapid growth of population in recent times has been posing a threat for already low standards of living in most of non-industrialized nations. The problem of these nations is that the mortality level has been quickly decreasing while the fertility level has been either remaining high or decreasing slowly. The resulting high growth rates impose further burdens on the already overburdened economics, rendering it necessary to achieve higher rates of economic growth

only to keep pace up with rapid population growth. Little is known about the size of population in early modern period. Of course, dynamic scholars have provided some estimates on the basis of armed forces and the land under cultivation. Mr. Kingsley Davis India's population at 125 million around 1600 AD and according to him it remained at the same level till about 1750 AD. It is estimated to be around 175 million in 1855 AD and about 194 million 1867 AD. The systematic decennial censuses were conducted after 1871, in this manner leading to correct estimation of the population. Our knowledge of population trends in India comes mainly from the Indian census reports. The census data available for the last 100 Years and which provide fairly reliable estimates of the population the growth rate. Today India is having a 2.4 percent of the total land area of world but 16 percent of the world's population. The world's present population is 67 billion and India population constitutes about 1/6 of the world's population. According 1991-2001 the population of India is about 1.2 billion. In India's population is larger than any other country except only china in the world. The first census in the old Mysore state was held on the 14th November 1871. Thereafter, censuses were taken in 1881, 1891, 1901, 1911, 1921, 1931, 1941, 1951, 1961, and 1971. In earlier period when enumeration took place in 1881, 1891, 1901 and 1911 the State's venture synchronized with the censuses taken in British India. The first census held in 1871 disclosed a total population of 5, 18,987 numbers for the district. In 1881, when the second census was taken, the population had fallen to 4, 28,349 numbers owing to a severe famine, which affected also several other districts of the state. In 1891, it was 5, 11,978 numbers. The following indicates the variation in the population from 1871 to 1961. In a period of time 90 years, the population of the district had risen by 3, 76,860 more persons. The percentage variation of population has some interesting facts to reveal. Between 1901 and 1961, there was an increase of 57.46 percent in the population of the district. The increase in urban population was greater than in rural population. The rise in rural population was 50.72 percent, whereas, there was a very considerable increase in urban population which was 134.28 percent. The growth of population between 1901 and 1931 was only about 4.92 percent, but later, between years from 1931 to 1961, the growth was rapid being 50.07 percent. In the rural areas, the growth was 44.81 percent between 1931 and 1961. During the same period, the percentage increase in urban population was 104.57. As per the 2001 census, the total population of the districts is 17, 21,669, out of which 14, 16,996 is the rural population and 3, 04,673 is urban population. The percentage of rural and urban population to the total population of the district has 82.31 percent 17.69 percent was respectively   The percent of rural and urban population changes to the total according to 1981 census was 85.37 percent and 14.62 percent respectively between 1981 to 1991 there is an increase of 2.76 percent in urban population, the decadal growth rate works out to 15,677 numbers are increased of 1981-91. The decadal growth rate was highest between years from 1951-61 and it was 25.57 percent. It reduced to 23.05 percent during 1961-71 some numbers of points increased to 23.10 percent during 1971-81 and reduced to 15.67 percent during 1981-91 census there is a decrease in 7.43 percent of grow the in population between (1981-91) the district has balanced make female ratio 996 as per 1000 males in 2001 census it was 17.76 lakhs as per 2011 census of the district population it was only 5.68 lakhs in 1901 census there was about more than threefold increase in the size of population from 1901 to 2011 an increase of 12.08 lakhs in 100 years mainly due to the sharp decline in mortality rates across all the regions of the district 0.35 percent of fall in total proportion in population of the district from 2001 to 2011 the population growth rate has been continuously increasing in Hassan district frame 1901 to 1961 except in the 1911 to 1921 decade the district recorded consistently lower rate of population growth than Karnataka during the trend cads from 1901-11 to 2001-11. During the decade's 1911-21 and 1951-61 the district had

shown slightly higher growth rate 0.68 and 25; 27 respectively then that Karnataka figure - 1.09 and 21.57 respectively. The growth rate in the district showed regional variations "Hassan taluk" had higher than all seven taluk it has 14,00 percent in 2001 census it was in 18.58 percent in 1991 census Sakleshpur taluk had registered Declan in the growth rate I had 17.14 percent in 1991-2001 the Hassan taluk growth rate as compared to all other taluks it has much higher as compared to 8.91 percent in Alur taluk and 9.09 percent in Arkalagud 6.55 percent in Arasikere 7.49 percent in Belur 9.40 percent in Channarayapatna taluk 10.37 percent in Holenarsipura and 7.14 percent in Sakaleshpur the district recorded lower rate of population growth in 2011 census it figured 3.18 percent. Population growth and trends in the district growth of population: trends and patterns. Population growth in the district to a large extent corresponds with the trend of population growth of the state and country. The following table and diagram indicate growth of population in the District since 1901 to 2011

Population Growth

The size of population is highly dynamic and keeps on changing with the passage of time. Positive change in population size over time is termed as population growth. In some areas like Hassan district, population is exploding while in others like several districts in Karnataka state it is imploding. For the purpose of measurement, change in population size can be quantified as the change in number of individuals in a population per unit and time. The term population growth is expressed with the help of population growth rate. It may refer to the growth of world population or of a country like India or of specific region like Hassan district. In demographic usage, population growth rate (PGR) means the fractional rate at which the individuals in a population are added. Normally PGR refers to the rate of change in a population over a specific period of time, often expressed as a percentage of the number of individuals in the population at the beginning of period. This can be expressed as;

$$PGR= \frac{\text{Population at the end of period} - \text{Population at the beginning of period}}{\text{Population at the beginning of the period}}$$

Or

$$PGR=\frac{Pt2-Pt1}{Pt1} \times 100$$

For example population growth rate of India during the year 2008-09 was;

$$PGR= (India) =\frac{1,171.0-1,149}{1,149.3} \times 100$$
$$=1.9$$

The above formula can be expanded to;

Growth rate= crude birth rate – crude death rate + net migration rate

Or

$$\triangle P/P= (B/P)-(D/P) + (E/P)$$

Where P is the total population, B is the number of births, D is the number of deaths, I is the number of immigrants, and E is the number of emigrants.

This formula allows for the identification of the source of population growth, whether due to the natural increase or an increase in the net migration rate. Natural increase is an increase in the native born population, stemming from either a higher birth rate and a lower death rate, or a combination of the two. Net migration rate is the difference between the number of immigrants and the number of emigrants.

The most common way to express population growth is as a ratio, not as a rate. The change in population over a unit time period is expressed as a percentage of the population at the beginning of the time period. This is;

Growth ratio = Growth rate x 100%

A positive growth ratio indicates population increment, while a negative ratio indicates population decline. A growth ratio of zero indicates the same number of people at the two times where net difference between births, deaths and migration is zero. However, a growth rate may be zero even when there are significant changes in the birth rates, death rates, immigration rates, and age distribution between the two times.

Hassan district is inhabited by a very complex and many faceted groups of people that have been subjected to continuous changes more due to vital rates and less due to migration. Although the rate which population of the region is growing has been steadily declining since peaking 1960s at over 8.95 (lakhs of population of the district), 25.27 percent per decadal growth, the population has grown rapidly. Since the beginning of the second half of 20th century, sustained high fertility resulted high fertility resulted in momentous growth and rise in the size of its population. In terms of population number, the province is manifested with a large size even larger than most districts of the Karnataka as well as of the India.

Age and sex structure of Hassan district

The age structure of a given district of taluks may groups analyzed on the basic age-groups on basis of physiological, economic activities and age the population is generally classified in to three groups (1) younger (ii) the adults and (iii) the old; children in the age of (0.6) 1,65,637 numbers of child population in Hassan district 83,971 male children and 81666 numbers of female children population in the district as per 2011 census it against 1,99,665 total numbers of children population in Hassan district as per 2001 census. The district has a whole about 9.32 percent of children below age of six years in 2011, as against to 11.60 percent in 2001 census. But 16, 10,784 numbers people are adults and old age groups of 2011 census. 90.67 percent but it 15, 22,004 peoples adult and old age groups, it against to 88.40 percent in 2001 census. In total population of the district, 1776421 numbers there are different age groups. Age wise population in Hassan is provided in detail the table. The total population of ages in the Hassan district is estimated at 1776421 numbers out of which 883667 numbers is the male population and 892754 numbers is the female population of all age groups in Hassan. The rural population of all age groups in the district is estimated at 1399658 numbers out of which 695583 numbers is the male population and 704075 numbers is the female population of all age groups in rural areas of the district. The urban population of all age groups in the district is estimated at 376763 numbers out which 188084 numbers is the male population and 188679 is the female population of all age groups in urban areas of Hassan district.

Conclusion

The Study highlights that regional disparities in the population growth rate of Hassan district are coming down and the positive aspect is that all the regions are experiencing decline in the population growth rate in recent years. There was change of 3.18 percent in 2011. It against compared to population growth rate previous census 2001 (9.68) percent taking cognizance of the changing pattern of development, government of Karnataka released the importance of developing. Hassan urban area was a regional center rather than individual entity. The impact of Hassan district and taluks headquarters surrounding villages and towns in terms of population growth started gaining momentum after 1961 census rapid growth of

population in urban and villages on attics fringe area and periphery caused construction activities to take place on a large scale.

The high birth rates in India as is well known are also accompanied by high death rates. The view held is that these rates are not independent variables and the high death rate is a cause of and even consequence of high birth rate. India provides striking and impressive examples of the high birth and death rates usually observed in under developed countries. By 1951-61, it had already attained a birth rate of 41.7 per thousand. However, it declined substantially in 1981 along with death rates, but gap between the birth and death rate is still wide (Shakeel Ahamed, 1989.). Child population in the age from 0-6 years has special significant in our demographic sense because this segment of population determines the future course of trends in population growth when it reaches the reproductive age. According to 2011 census figures, the total number of children in the age-group 0-6 years in 158.8 million which is about 5 million less than the number recorded in 2001. Reduction in child population in the age group of 0-6 years is an indication of a fall in fertility rate which is a positive sign. However, the total number of children in India is a little more than the total population of the Nigeria-the eighth largest country of the world with respect to population. It is important to note that out of the absolute increase of 181 million in India's child population during the decade 2001-2011, 88 percent has been contributed by the Child population. Five states namely Uttar Pradesh (29.7 million), Madhya Pradesh, Uttar Pradesh (29.7 million), Bihar (18.6million), Maharashtra (12.8 million), Madhya Pradesh (10.5 million) and Rajasthan (10.5 million) have the largest number of children constituting 52 percent of India's child population. On the other hand, Lakshadweep, Daman & Diu, Andaman and Nicobar Island, Dadra and Nagar Haveli and Sikkim have least number of children. A comparison of figures of census 2011 with those of census 2001 reveals that the maximum decline in absolute numbers of children has been Utter Pradesh. This is followed by Andhra Pradesh, West Bengal, Maharashtra, and Kerala. On the other extreme are the states of Bihar, Jammu and Kashmir, Jharkhand, Meghalaya and Chhattisgarh, where maximum increase in the children population has been recorded between 2001 and 2011, as per gender composition of child population, it has been much more as compared to decline in females (29, 91,976 numbers) has been much more as compared to decline in males (20, 56,132 numbers) during the decade 2001-2011. 20 states and union territories have over one million children in the age group 0-6 years. On the other hand there are five states and union territories that are yet to cross one lakh mark.

References

Agarwal S.N., 1977., India's Population Problems Tata McGraw Hill New Delhi.

Bose A., 1988., From Population to People vol. 1 B.R. Publishing Corporation New Delhi.

Barrie W.D., 1970., "The Growth and control of world Population", Widen field and Nicolson London.

Bettie W.D., 1970., "The Growth and control of world Population", Eden field and Nicolson London.

Bose Ashish., 2010., India's Quest for population Stabilization National Book Trust N. Delhi Bennett.

Gordon D., 1984., World Population Problems, Campaign 3 Park Press. Bonar Jams (1885) 1924, Malthus and his Work, 2nd Ed. London Allen and Unwin Car-(Surrender), A, B.1936, World population: Past Growth and Present Trends New Year, Oxford University Press.