GROWTH OF THE POPULATION IN KARNATAKA

A- THEORETICAL BACKGROUND

Introduction:

Growth of population is an important aspect of demographic study. The concept of growth of population is often used to connote the change in the number of inhabitants of a territory during a span of time, irrespective of the fact whether the change is negative or positive (Chandana R. C. 1994). Population growth in an area is an index of its economic development, social awaking, cultural background, historical events and political ideology (Navarathana prakash Geol, 1989).

The analysis of population of a region is a major issue to understand not only its problem but also for the future planning at the local and regional level, because the task of providing food, schooling, employment, health facilities, housing etc, for the increasing number is staggering with the increasing rate of population (Agrawal. S.N. 1987).

The physical environment and numerous factors of cultured, social and economic force are the most important determents of population growth. (S. N. Tripathi and B. N. Sing, 1989). The growth of population in any region whether it is positive or negative reflects the history of man's response to the environment possibilities present in the region. (Sharma.P.R. 1978). An estimated future population of any region greatly helps the respective government or other
institution in planning for future. Thus the study of population growth is very significant in any demographic analysis.

**REVIEW OF LITERATURE ON GROWTH OF POPULATION**

As pointed out earlier, the growth is an important aspect of a demographic study. It has hence caught the attention of a number of scholars who have studied this aspect and produced abundant literature.

**B.C. Vaidya (1995)** has examined the agricultural and taluk wise growth of population in semi-arid region in Ahmednagar district of Maharashtra. The study was based on secondary data and used the chlorapleth method and line graph to analyse the data. Northern and central part have shown higher growth of population because of introduction of sugarcane cultivation and sugar industry and also shows positive population growth in region where double cropped area is more.

**Helmut Kloos and Aynalen Adugna (1989)** have analysed the population growth in Ethiopia. Study was mainly based on secondary data. Rapid population growth is related with the economic development, environmental condition and migration pattern. Population growth is very high in the region of administrative, commercial and industrial centers of Ethiopia. In these regions there is migration and density is also high.

**Rabindranath Dubey (1992)** has analysed the growth of population in Rohilkhand region of U.P. The study was mainly based on secondary data, uses the statistical technique like correlation-co-efficient and chlorapleth method to analyse the data. Population growth is slow in the period of 1901-21 because of heavy toll of life taken by abnormal floods and the plague, influenza epidemics, which badly affected the human life and agriculture of the region. During the decade of 1921-51 population growth steadily increased. During this period
population growth was very high in northwestern part of the region due to the establishment of sugar factories, extension of railway, improvement in health service. Rapid growth of population was recorded in the period of 1951-1981 in entire part and Tarai belt of the region. In Tarai region, population growth was very high compared to the previous decade due to heavy immigration of Sikh community. In the districts where urbanization is rapid, population growth was high such as in Bijnor and Moradabad. Lower rate of population growth was recorded in agriculture and industrially backward district like Shohajahapur and Budaun. In the regions where net cropped area increased, there is also population growth was very high. In the districts of the central upland plain and south-eastern low land of the region, there was the positive correlation between population and per capita area under irrigation and area shown more than once.

In these taluks where development of agriculture activates is rapid population growth is very high. These taluks are located mostly in middle and Eastern Tarai belt, population is also high where industrial, urbanization and irrigation facilities are predominant. These taluks are situated in the middle part of the cannel upland plain and south-eastern lowland. In those taluks which are industrially, agriculturally backward and where irrigational facilities are low, population growth is also very low.

Chaudhuri and Tushar Kanti (1982) have examined the special feature of Assam’s population. This study was mainly based on secondary sources. Birth and death rate have played a very important role in the growth of population, but immigration has also played vital role in the population increase in the state.

Kamala Gupta (1985) has analyzed the decadal population growth and inter district variation in growth of population in Uttar Pradesh. The study was mainly based on secondary sources and used the choropleth method and line graph to analyse the data, during between 1902 and 1981. Growth of population was negative during the first two decades because of wide famines and
epidemics. In the period of 1941-51 growth rate is low due to the heavy Muslim population migrating to Pakistan from this state. After the decades of 1971 population steadily increased because of the improvement in all the sectors.

In the areas where migration is predominant in those regions population growth was very high. During the period of 1901-1921 such districts were located in mountains region like Dehairadoon. In the same period negative population growth was recorded in the area where there was influenza and flood, drought and other calamities occur. All these factors responsible for emigration from these region such region are western, central and southern part of U.P.

During the post independence period from 1951 to 1981, higher population growth was recorded in the districts which have large urban centers, industrial and class I cities, important market centers. These districts are located in western part of Utter Pradesh; very low growth of population was experienced in region characterized by un healthy condition, dense forest cover, etc. So large labour force migrated from here, such districts are Kheri, Lahhipur, Shahajahapur Rampur and Naitial, to near by district and other states for in search of job.

During the post independence period from 1951 to 1981 higher population growth was recorded in the districts where more area was brought under cultivation and irrigational facilities has been provided and new industries were started, the forests were cleared and anti malaria measures were taken. All these factors were responsible to spectacular growth of rural population in the district of the Tarai region. Low population growth was recorded in eastern and mountainous region of Uttar Pradesh because this region was agriculturally and industrially backward and level of urbanization was very low, out migration was predominant.

Thus agricultural, industrial, urbanization and infrastructural variables have positively affected the population growth and migration has played a very important role in the inter district variation in growth in Utter Pradesh.
S.N. Tripatti and B.N. Singh. (1989) have analysed the Demographic structure of Basti district of Utter Pradesh. The study was based on secondary sources, and uses the line graph to analyse the data.

The author found that, the growth rate of the population was not similar all the decades, it varies decade to decade. During 1911 to 1921 in Basti district population growth was declined by the influence of the natural calamities like plague, malaria, cholera and influenza. The decadal population growth rate was normally increased from 1921 to 1971, during the decade of 1971 to 81 population growth was very rapid because of modernized agriculture, urbanization, industrial development and better health facilities and increased employment opportunities.

The decadal growth of urban population was more than rural population growth because of the large scale migration from rural area to urban area in search of employment opportunities and educational facilities and also because of absence of other socio-economic facilities in rural areas.

B.N. Mishra (1989) has analysed the growth of population in Mirzapur district. The study was based on secondary data and used the line graph to analyze the data. The northern part of the Mirzapur district is thickly populated because this region is covered by fertile Ganga plain but southern part is sparcely populated because this area consists of highly dissected topography and forested hilly area. The trend of population growth of Mirzapur district varies from decade to decade because of the variation in the distribution of natural resources, agriculture activities, industrial towns and market centers in the district.

During two decade viz., 1921 to 41 the district has experienced accelerated increase in population I, e., and 23.02%. The factors responsible for the growth are effective checks of epidemics, use of antibiotics and life saving drugs, adequate medical facilities and good agricultural production. Between the decades of 1941 to 1971 populations was increased moderately. During the
period of 1971 to 81 population of the district was highly increased, the factors responsible for the high increase was the control of epidemics, availability of sufficient medical facilities, innovative agriculture, adequate supply of food, improvement in quality of life and the installation of heavy projects, which accelerated this pace of industrialization and urbanization in the district.

Sahab Deen Maurya (1989) has analyzed the growth and distribution of India population. The study was based on secondary data. During the period of 1911 to 1921 India’s population growth was decreased because in this period the incidents of epidemics like malaria, influenza, cholera and plague was very high so mortality rate was also high. In the later decade India’s population growth steadily increased because during this period the country was able to control the abnormal deaths caused by epidemics, famines through improving health and medical services, improving agriculture production and condition of food supply, through various development activities. All these factors were responsible for the fall in the mortality rate and increased life expectancy in turn the growth of population.

R.C. Chandana (1979) has analysed the growth of population in Haryana during 1961 to 71. The study was based on secondary data and used the choropleth technique to analyse the data. Acceleration in population growth was started with decline in death rate and the improvement in birth. Growth rate was also high in the areas where developmental activities are predominant because these places attract in migration. Growth rate varies between rural and urban population, the high growth rate of rural population, in rural areas was associated with large scale in migration of agricultural cultivators and labourers from neighboring states like Rajah Stan and Utter Pradesh.

Bheir Lal Verma (1979) has examined the demographic imbalance in the Bundelkhand region of U.P. The study was mainly based on secondary source and used the dot method and line graph to analyse the data. Physcio-economic
and socio-cultural factors cause imbalances in the demographic features. Geography location, the undulating topography, the harsh climatic condition and unabridged streams and floods and droughts are responsible for slow growth of population.

Population growth was low in period of 1911 to 21 in Bundelkhand region because in this period droughts and epidemics were very frequent. Population growth was high in the decade of 1951 to 61 because in this period large fallow land was converted into agriculture land, there was improvement in the transport and medical facilities, various irrigation projects were completed, there was growth of urbanization and industrialization which cause increase in population growth.

R. Gerard Ward (1959) has analysed the population of Fiji. The study was based on secondary data, and used the dot method and bar graph to analyse the data. The largest population concentration is found in coastal plain and forest hills belt because in this area cultivation of cash crop like sugarcane and crop is very high. The lower percentage of population is concentrated in interior villages because the agricultural potential of the interior is limited. Population has increased in those places where availability of employment opportunities are high. Population growth was low in those places of unfavorable location for general economic life and where employment opportunities are very less, shortage of land is prominent and absence of road links with near by areas.

Ralph S. Clem (1980) has analysed the regional patterns of population change in the Soviet during 1959 to 1979. The study was based on secondary sources and used the choropleth technique to analyse the data. Economics and ethnic diversity is the main cause for intra regional variation in population growth. The growth of population is very high in the region where favorable climatic conditions are there and heavy industrial region and mining region which attract migrants. In northwest region population was rapidly growing in
the post 1959 era because of the expansion of international trade and naval activities through the ice free parts.

Natural increase also varied from region to region because of fertility differentials and geographical variations. Fertility level largely depends upon a function of socio economic factors such as educational attainment, urban or rural residence, income, occupation and status of women. International migration flows mainly depends upon availability of jobs, wages differentials and amenities. Migration was very high in North West, Denestak, Denper and Volga region and Baltic republic. Reason is that higher standard of living was established in urbanized area. Out migration is very high from central chernozem south west and urals region because of low level of economic development and unfavorable environment. The places where natural increase and in migration was predominant those places record a highest population growth because of attraction of higher wages and better standard of living in cities.

Chan Ko Keng (1972) has analyzed the population growth and migration of Eurasion in Malacca. Migration played a more important role than natural increase in shaping the demographic pattern of Eurasion population of Malacca and economic conditions played a very important role in migration.

Kuppuswamy B. (1975) has analysed the growth of population in India during the period of 1901 to 71. The study was based on secondary data and the line graph was used to analyse the data. Before the period of 1921 population growth was very slow due to serve affect of epidemic that is influenza, but after the decades of 1921 up to 1951 population growth was much greater because there was no epidemic or famines. Population growth was very rapid since 1951, author found that the actual reason for rapid growth of population was improvement in health service and successive implementation of five year plans
that raised the standard of living of the people in the country, all these factors brought down the mortality rate.

**K. Narayana Nair (1961)** has attempted to find out the reasons for growth of population in Kerala. The study was based on secondary sources during the period of 1911-21 population growth rate fell due to widespread influenza, epidemics but after the decade 1921 population growth had rapidly increased. Because of disparity between the rate of fertility and mortality, the higher standard of medical and public health facilities caused decrease in the mortality rate in the state.

**Prashu R. Sharma (1978)** has analyzed the growth of population in Chattishgarh region. The study was based on secondary data and uses the line graph to analyze the data. The growth rate of population varied from decade to decade. During the decade of 1901 to 1911 growth rate of population was high because of birth rate was high compared to the death rate and also influenced by immigration, but after the decade of 1911 to 1921 population growth rate was declined due to failure of monsoon and effect of epidemic influence. After the decade of 1921 population growth steadily increased due to improvement in health services and control over epidemics there was excess birth over deaths, but during the decade of 1961 to 71 population growth rates rapidly increased. During this period, urban population had highly increased due to industrialization in the region and establishment of several industrial units in different parts of the region.

**Rajendra Prasad (1990)** has analysed the population growth of Rajasthan during the period of 1901 to 1981. The study was mainly based on secondary data and used the line graph and choropleth technique to analyze the data. The growth rate of population was not similar in all the decades in the state and also varied from region to region. The negative growth of population was recorded during the decades of 1901 to 21 because of failure of monsoon, the
famines and epidemic like cholera and influenza which caused the heavily tool of life in the study area. After the decade of 1921 population growth steadily increased but during the decade of 1941 to 51 overall population growth rate decreased due to large scale migration of Muslim from the state to Pakistan at the time of country’s partition. After the period of 1951, growth rate of population in the state rapidly increased due to immigration and high births. Over the period of 80 years, abnormal growth of population was recorded in the state mainly in those places where development activities are predominant, like construction activities of road and railway lines and irrigation facilities through canal and in those districts immigration was also high, such districts are Ganganagar, Bikaner, Bhilwara, Udaipur, dungarpur and Chittorgaarth.

Population growth rate also varied from decade to decade both in rural and urban areas. Rural population growth rate is not similar in all the parts of the state, in the period of 1911-21 growth rate was recorded negatively due to affect of epidemics, but after the decade of 1921 rural population growth increased, during the decade of 1921-41 highest rural population growth rate was recorded in northern part of the state because this part was highly irrigated belt of the state and immigration was predominant in this part not only from the state but also from surrounding states like Punjab and Haryana. In the period of the 1941 to 51 again rural population growth declined due to heavy Muslim migrate to Pakistan from rural areas and immigrated Hindus settled in urban areas. Further during the decades of 1951 to 61 rural population increased due to improvement in irrigation facilities, transport facilities and mining activities. During the decided between 1961 to 71 rural population growth declined little because of high urban population growth which caused the heavy rural urban migration due to influence of industrialization and urbanization. But during the decades of 1971 to 81 rural population growth slightly increased due to agriculture development through improved irrigation facilities.
During the decade of 1901 to 21 urban population growth recorded negatively because of epidemics like influenza which caused high mortality. After the decade of 1931 to 41 urban population growth rate suddenly increased due to rural-urban migration, in the decade of 1941 to 51 urban population growth rapidly increased because of growth of industries, which attracted the rural population to urban areas for employment and other facilities. But in the decade of 1951 to 61 urban population growth was very low compared to the previous decade due to declassification of 82 towns, but in the decade of 1961 to 71 urban population growth recorded higher due to 12 new towns and several new industrial centers established. During the decade 1971 to 81 urban population growth was much higher compared to the earlier decade due to 28 new towns and development of industrial sectors which caused rural-urban migration and immigration from different state to urban centers of Rajasthan. During this period very high growth of urban population recorded in Ganganagar and Kota district because of development of agro based industries which influenced in-migration from different parts of the state.

Ramachendrudu (1989) has explained the trend and variation in population growth in Andhra Pradesh. The study was based on secondary data and used statistical technique like co-efficient of variation and regression analysis to analyse the data. He explained the broad relationship between the economic development and population pressure, He found that more developed districts have low population pressure and also he attempted to understand whether the variation in demographic variable and in socio-economic variable are widening over the time. He used the regression analysis for the three components of population growth. This analysis is also useful to suggest an appropriate population policy. He found that the growth of population is mainly due to the sharp decline in the mortality level. He concluded that crude birth rate is the main determinant of the inter district variation in population growth rate.
Also net migration rate is equally important in determine the inter district variation in Andrapradesh.

Lee young Leng (1968) has analysed the population changes in Sabah. Growth of population varied between decade to decade, before 1951 growth of population was very low, main cases were the prevalence of the disease and the lack of adequate medical facilities and the destruction of Second World War. After 1951 population had increased in larger proportion mainly due to the return of peaceful and stable conditions.

Population growth rate varied from district to district due to the differences in stage of economic development and also due to presence or absence of immigrant’s people. The population is concentrated in the west coast plain and around the east coast port towns. Population increased in the entire coastal district, because in-migration was very high in these districts and also people moved to this district for agricultural land were available to them.

Champion A.G (1976) has analysed the pattern of population distribution in England and Walles. The study was based on secondary sources and used the choropleth technique to analyse the data. Natural changes and migration trend is very high in those regions where population is rapidly growing, net growth of population is very less in places where out migration is predominant and new development in metropolitan system generate the migratory flows.

Sing L. R. and R.N. Dubey (1990) has analysed the impact of population growth on agricultural land use in Rohilkhand region of Utter Pradesh. The study was based on secondary sources and used the choropleth techniques and line graph to analysis the data. Population growth rate had declined during the decade of 1901 to 21 due to the unfavorable agricultural conditions and epidemics of cholera and plague, after the decade of 1921 to 51 in some district of Rohilkhand like Moradabad, Bijnor and Budawn, population growth was very high because of immigration from the Pakistan after the partition. Rapid growth of population
was recorded during the period of 1951 to 81 in two Tarai district of Rampur, Pilibhit due to heavy immigration of Sikh community who developed forests land in to agricultural land with new techniques. This attracted the labourers from eastern U.P. and Bihar to work in agricultural fields.

High rate of population growth was rapid in urbanized region because poor people migrated to large urban center due to the backwardness of agriculture; very high growth rate of population was also found in the places reclamation of waste land and facilities to irrigate the marshy land and adaptation of anti malaria measures. The lowest- population growth is recorded in those places where out migration is predominant.

Forgoing review of literature leads that there are number of studies dealing with physio-economic and socio-cultural factors. These factors have their impact on the population growth, many of these studies have brought out that large expansion of net cropped, doubled cropped area and channel irrigation facilities, development of commercial, industrial and administrative centers have played an important role in the growth of rapid population. As well as urbanization, transportation, good health facilities, better employment opportunities, favorable climatic conditions also are important factors for rapid population growth. Backwardness of agriculture, industries less employment opportunity and low level of urbanization is major cause for low growth of population. But severe deices, calamities i.e., flood, drought, undulating topography, harsh climatic condition also are important factors for less growth of population but role of migration is very important phenomenon in the making of demographic structure of any region of the world.
B. EMPIRICAL ANALYSIS

POPULATION GROWTH IN INDIA- AN OVERVIEW

India has experienced almost an increase in the growth rate of population from decade to since 1901. In the decade 1991 to 2001, country’s population growth rate was 21.53 percent. This growth rate is very high compared to the developed countries of the world and even compared to some of the less developed countries such as China. The main reasons for the growth rate of population in India is decline in mortality resulting in widening gap between the birth rate and death rates.

Table 4.1: POPULATION GROWTH IN INDIA.

<table>
<thead>
<tr>
<th>CENSUS YEAR</th>
<th>PERCENTAGE OF GROWTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>1901-1911</td>
<td>5.73</td>
</tr>
<tr>
<td>1911-1921</td>
<td>-0.30</td>
</tr>
<tr>
<td>1921-1931</td>
<td>11.00</td>
</tr>
<tr>
<td>1931-1941</td>
<td>14.23</td>
</tr>
<tr>
<td>1941-1951</td>
<td>13.31</td>
</tr>
<tr>
<td>1951-1961</td>
<td>21.51</td>
</tr>
<tr>
<td>1961-1971</td>
<td>24.80</td>
</tr>
<tr>
<td>1971-1981</td>
<td>24.66</td>
</tr>
<tr>
<td>1981-1991</td>
<td>23.50</td>
</tr>
<tr>
<td>1991-2001</td>
<td>21.35</td>
</tr>
</tbody>
</table>

Source: Census Report 1971, 2001

As it can be seen from the (table 4.1 and fig 4.1), one of the most important features is that decadal percentage of population growth rate has been continuously increasing since 1901, except during the period of 1911 to 1921. There was quite irregular and unreliable growth of population due to severe famines, bubonic plague, cholera, malaria, and influenza epidemic which took a very heavy toll of human life in India and kept the rate of growth very low.
(Sinha V.C. 1979). After the decade of 1921 population growth was more as there were no important natural calamities but there was little decline in the decade of 1941-1951 and after population growth rate was rapid up to the period of 1981. After this period country’s percentage of decade population growth rate started showing declining trend.

High population growth was recorded after the decade of 1921 in the country, reasons being increasing control over abnormal caused by epidemic, famines, etc, the distributional network was strengthened to meet the emergence calls of food shortage in different parts of the country. The economy was developed, particularly the agricultural sector, which improved the food situation. General condition of sanitation and medical facilities were improved significantly which brought down the mortality rates (Chandana R.C, 1986).

![Decadal growth of population in India and Karnataka over the period 1901-2001](image)

Decadal percentage of population growth rate also varies from one part of the country to another; population growth rate was very high in north India compared to south India. North western part of India is a belt of very high population growth rate. Extreme south of southern part and north of south
western part of India is a belt of very low population growth rate because of desert and Ghat region.

**POPULATION GROWTH IN KARNATAKA**

**Temporal Trends:** In terms of percentage, the growth rate of population of state is much lower compared to the national average with 17.25 percent according to 2001 census. But the temporal trend of the state is almost similar with that of the country. The growth population in the state has not been uniform over time; it varied from decade to decade. As in the case of the country, the growth rate of the state has been continuously increasing from 1901, but there was a slight fall in the growth during 1911-21, due to epidemics, plague and influenza and persistent local diseases such as malaria in the malnad areas, which increased the death rate (Portrait of population 1971 P.37).

**Table 4.2. Population growth in Karnataka.**

<table>
<thead>
<tr>
<th>CENSUR YEAR</th>
<th>PERCENTAGE OF GROWTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>1901-1911</td>
<td>3.60</td>
</tr>
<tr>
<td>1911-1921</td>
<td>-1.09</td>
</tr>
<tr>
<td>1921-1931</td>
<td>9.38</td>
</tr>
<tr>
<td>1931-1941</td>
<td>11.09</td>
</tr>
<tr>
<td>1941-1951</td>
<td>19.36</td>
</tr>
<tr>
<td>1951-1961</td>
<td>21.57</td>
</tr>
<tr>
<td>1961-1971</td>
<td>24.22</td>
</tr>
<tr>
<td>1971-1981</td>
<td>26.75</td>
</tr>
<tr>
<td>1991-2001</td>
<td>17.25</td>
</tr>
</tbody>
</table>


But after the decades of 1921, the population growth increased more rapidly (Table. 4.2 Fig.4.1 ) due to the substantial improvement in communication and the control of diseases by effective public health measure undertaken by the government which brought down the death rate remarkably.
Table: 4.3 Distribution of Talukes in the States by Ranges of Population Growth.

<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>no of taluks</td>
<td>% of taluks</td>
<td>no of taluks</td>
<td>% of taluks</td>
<td>no of taluks</td>
<td>% of taluks</td>
<td>no of taluks</td>
<td>% of taluks</td>
</tr>
<tr>
<td>Negative population growth</td>
<td>1</td>
<td>0.6</td>
<td>1</td>
<td>0.6</td>
<td>7</td>
<td>4.0</td>
<td>1</td>
<td>0.6</td>
</tr>
<tr>
<td>0-5.0</td>
<td>1</td>
<td>0.6</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1.1</td>
<td>4</td>
<td>2.3</td>
</tr>
<tr>
<td>5.1-10.0</td>
<td>5</td>
<td>2.8</td>
<td>5</td>
<td>2.8</td>
<td>10</td>
<td>5.7</td>
<td>36</td>
<td>20.6</td>
</tr>
<tr>
<td>10.1-15.0</td>
<td>12</td>
<td>6.8</td>
<td>12</td>
<td>6.8</td>
<td>38</td>
<td>21.7</td>
<td>54</td>
<td>30.8</td>
</tr>
<tr>
<td>15.0-20.0</td>
<td>47</td>
<td>26.9</td>
<td>39</td>
<td>22.3</td>
<td>48</td>
<td>27.4</td>
<td>47</td>
<td>26.9</td>
</tr>
<tr>
<td>20.0-25.0</td>
<td>60</td>
<td>34.3</td>
<td>49</td>
<td>28.0</td>
<td>34</td>
<td>19.5</td>
<td>23</td>
<td>13.1</td>
</tr>
<tr>
<td>&gt;25</td>
<td>49</td>
<td>28.0</td>
<td>69</td>
<td>39.4</td>
<td>36</td>
<td>20.6</td>
<td>10</td>
<td>5.7</td>
</tr>
</tbody>
</table>

But after the decade of 1981, the rate of growth rate of population showed declining trend. During the past 100 years the state’s population has increased by 303.94 percent. However the growth especially between 1961-1981 had been very rapid and this trend holds good of many talukes in the state.

If one looks at the number of talukes in different population growth ranges over time it is clear that number of talukes in high population growth rate has declined from 1961 onwards in state while there has been a much increase in the number of talukes in lower ranges. (Table. 4.3 Fig. 4.2) The number of talukes in the range of negative population growth has also decreased.
Spatial Analysis of Temporal Trend / Growth

As in the case of the country, the decadal population growth rate in Karnataka also varies from one region to another, out of 175 talukes of the state 147 talukes have the population growth rate between 15.1-20.0, which is close to the state average of 17.25 in the decade of 1991-2001, ten taluks have the highest growth rate of more than 25.0 range (Table. 4.3) while four taluks have the lowest population growth rate between 0-5.0 range. Of the remaining taluks 36 are found in 5.1-10.0 range, 54 taluks in 10.1-15.0 range and 23 taluks are found in 20.1-25.0 range where as only one taluk is found in ranges of negative population growth. Thus there is wide variation from one part of the state to another.

The belt of very high population growth rate of more than 25.0 percent is found in south eastern part and in pocket consisting of a few taluks sparsely distributed through out the state. (Fig. 4.3) These taluks are found in north of coastal region, south eastern part, and north northern maidan of the state. The following reasons are generally attributed for very high population growth rate in these parts.
Decadal population growth rate is very high in south of north eastern part and very small pocket of north of north eastern part of the state, it is also known as Hyderabad-Karnataka region, this part is highly backward region of the state both socially, economically and industrially. Literacy rate is very low, annual rainfall is low but in this part large area is covered with irrigation facilities under the Tungabhadra projects. The demand for labour in this area increased rapidly and also in this region the proportion of scheduled caste population to total population is very high, generally scheduled castes are illiterates.

Extreme south of coastal region is one of the pocket of very high growth which is due to influence of urbanization and improvement in rural industries and harbor projects. Small pocket of south eastern part is another important belt of very higher growth rate, the reasons for this are that this is highly urbanized, and
in this part state’s capital is located it is administratively, industrially highly
developed region and also economically and commercially developed region and
in this part in migration is very high.

Very low population growth of between 0-5.0 percentage is in 4 taluks
found mainly in the region west of Bangalore and one taluk is found in north of
malnad region. The reasons for very low population growth in west of Bangalore
are that most of these talukes have very low rainfall and also agriculturally
backward and in this part out migration is predominant to the neighboring areas
which are industrialized. One taluk is found in north of malnad region which is
covered by dense forest and it is agriculturally and industrially under developed
part of the state. Very small pocket of negative population growth is found in one
taluk in east of south coastal because this part is dominated by out migration to
neighboring plantation area and urban areas.

In north eastern part, north western part, northern maiden, south eastern
part, south of southern median and central part of the state, are found many
taluks which experienced population growth between 10.1 – 20.0.

Relatively high population growth of more than 20.1 is found mainly in,
north eastern part, pocket of extreme north of northern maiden and a small
pocket of south eastern part of the state. The reasons for relatively high
population growth in Northeastern parts are that this part is socially,
economically backward region of the state though irrigation facilities are well
spread through various projects. Another belt of relatively high population
growth is found in the extreme west of north western part and extreme east of
malnad region. This part is one of the urbanized parts of the state and industries
are well spread commercial activities are developed and district head quarters is
situated in this part, all this factors are responsible for the relatively high
population growth.
Pocket of relatively high population growth is found around the Bangalore. These parts have mini industrial, urban centers and commercially developing part of the state and also influence administrative expansion.

When the spatial of population growth of 1991 to 2001 and 1961 to 1971 are compared, the following points could be noticed.

In the decade of 1961 to 1971 decadal population growth rate was very high in the Hydra bad – Karnataka region, and south eastern part of the state, But an interesting point to note here is that in Hyderabad-Karnataka region population growth was much higher in the decade of 1961 to 1971, compared to 1991 to 2001, which brings as important point to light that is there is little improvement in this region both socially and economically.

An important and a major change that has taken place in the population growth between 1961 to 1971 and 1991 to 2001 is that the entire malnad region and south of southern maidan which had very high growth of population in the decade of 1961 to 1971 (Fig. 4.3.) shows low growth of population in the decade of 1991 to 2001.


It is also pertinent here to analyse the spatial pattern of population growth in the state during the entire 40 years from 1961 to 2001. Over the period of 40 years population growth in Karnataka was varied from one region to another, out of 175 talukes of the states, 50 talukes have the growth rate of between 100.01 and 125.00 %., five talukes have the lowest growth rate of below 50.0%, while 23 talukes have the highest growth rate of more than 150.0%. Of the remaining talukes 25 are found in 50.01-75.0%, 57 talukes in 75.01 to 100.0%, where 15
Taluks are found between 125.01-150% range. Thus there is wider variation from one part of the state to another to another.

Table. 4.4 Distribution of Taluks in various ranges of population growth.

<table>
<thead>
<tr>
<th>Ranges of Population growth</th>
<th>1961-2001 No of Taluks</th>
<th>% of taluks</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;50.0</td>
<td>5</td>
<td>2.9</td>
</tr>
<tr>
<td>50.01-75</td>
<td>25</td>
<td>14.3</td>
</tr>
<tr>
<td>75.01-100</td>
<td>57</td>
<td>32.6</td>
</tr>
<tr>
<td>100.01-125</td>
<td>50</td>
<td>28.6</td>
</tr>
<tr>
<td>125.01-150</td>
<td>15</td>
<td>8.5</td>
</tr>
<tr>
<td>&gt;150</td>
<td>23</td>
<td>13.1</td>
</tr>
</tbody>
</table>

The belt of highest population growth rate of more than 150.0 percent is mainly in the Northeastern part of the state and a small pocket in south of southern maidan, south eastern part, another packet of highest population growth is found in central part of the state and east of malnad region (Fig.4.4) and very small pocket of middle of coastal and far of north western and south of northern maidan.

Population growth rate is very high in the south of southern maidan because these areas have conducive factors to high growth and this part is industrially and partly agriculturally developed area. Small pocket in the south eastern part is another important belt of high population growth because this is economically forward region and in this part larger proportion of population reside in urban area and industrially, administratively and also commercially developed region of state and in this part in migration is predominant. On the other hand, another important belt of very high population growth rate is found in north eastern part because of different reason this belt is educationally backward region of the state and this belt has the largest proportion of cultivable area in the state, where fertility is high but it can be associated also with the greater benefits of irrigation and also one of the important area with intensive crop like paddy.
being grown. The demand for labour in these areas has increased rapidly, because of this.

Fig 4.4 Spatial pattern of population growth during 1961-2001.

East of malnad is another high population growth belt due to the location of urban centers and industries such, as forest and mineral based industries and it is also agriculturally rich area with garden crop like arecanut and paddy cultivation, this part is also important area of cotton industries and engineering
works. Small pocket of south of northern maidan is another important part of very high percentage of population growth because this is one of the urbanized part of the state, economically commercially forward region and also influence of administrative expansion. Far of north eastern part is another pocket of high population due to the location of urban and mini industrial centre and irrigation facilities and influence of administrative head quarters.

One taluk of very high percentage of population growth is found each in north western part, middle of coastal and north of malnad region. The cotton industry and irrigational facilities induced the high population growth in north western part. The fishing activities especially deep sea fishing and other industries are located in middle of coastal belt which have influenced the high population growth. North of malnad is a transitional zone between maidan and malnad region and in this part forest based industries are located resulting in the high population growth.

The lowest population growth rate is found in five taluks, mainly along the malnad belt, only one taluk is found in west Bangalore. In malnad belt large area is covered with forest and plantation is the main agricultural activity and they have no such industries and urban centers which are developed. West of Bangalore is another belt of lowest population growth, reason for it is that most of these areas are dry with no irrigation facilities and no major industries.

In northern maidan north western part, central part, south eastern part north of southern maidan and some part of malnad coastal region of the state, (Fig 4.4) the population growth is found to between 75.01 to 125.0 ranges.

Relatively high population growth rate of more than 125.0% is found mainly in two parts of the state. One is the north eastern part, this area is relatively back ward and literary rate is very low, large area with irrigational facilities. This would result in an enhanced population growth. North-western part is another belt of relatively high population growth rates in which agro-
based industries, administrative centers and agricultural development have influenced the growth rate. Two taluks of southern maidan is a pocket of reactively high population growth in this area some part is irrigated and is one of the important tobacco growing areas, which has experienced this high population growth. Relatively high population growth is found only in one taluk in far off north eastern part because this area is close to administrative centre and is irrigated.

The foregoing analysis of regional pattern of population growth in Karnataka reveals the following points.

Karnataka has always maintained a lower population growth compared to the national average since 1901, but negative population growth was recorded in the decade of 1911 to 1921. In fact the gap between national and state’s growth rate has increased after the decade of 1981 to 1991.

- As in the case of India, there are wide variations in Karnataka from one part to another part in population growth.
- Over the period of 40 years the high population growth is recorded in north eastern part, north western part, far off northern maidan, central Karnataka and south of southern maidan.
- During the decade of 1991-2001 high population growth is in north eastern part, south of coastal and south eastern part.
- Regional pattern of the population growth in the state is associated with the different characteristics of regions in the state. The regions which have recorded high population growth rate are either industrially or agriculturally prosperous, the latter with irrigation, generally large urban centers exist in these areas.
- Over the period of 40 years the lower population growth is recorded in the belt of malnad and west of Bangalore. The lower population
growth is mainly attributed to mainly geographical and economic conditions of that region. Malnad region is hilly terrain and large area is covered by dense forest, west of Bangalore region is mainly dry area with no irrigational facilities and no major industries.

- Number of taluk in the range of negative population growth has decreased from decade to decade but it was high during the decade of 1981-91. These taluks are mainly found in drier and hilly part of the state. In these taluks migration is predominant.

- There has been a gradual decrease in the population growth rate in southern maidan, malnad and coastal region since the decade 1961-71.

- North-eastern part maintain a very high population growth rate since the decade of 1961-71, north western part of northern maidan also maintained a relatively high population growth since the decade 1961-71.