CHAPTER IX

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Bellary district located in semi arid belt of Karnataka, receives 575 mm annual rainfall in hardly 39 rainy days spread over a period of 6 months. The district is known for hot summers with more than 40°C temperature. With 27.67 percent irrigated land through Tungabhadra river canal water, the district has been able to reduce the effects of drought and famine in some taluks viz., Hospet, Bellary and Sandur. Apart from canal irrigation, tube well irrigation, well irrigation and tank irrigation spread over in all the taluks of district have been able to reduce the effects of drought to little extent. The soils in the western parts of the district are predominantly of sandy and red loamy, while in the eastern parts are mainly of deep black cotton type. During rainfed conditions these soils yield the crops of jowar, cotton and groundnut. when these soils are suitably irrigated would yield paddy and sugarcane. Iron ore and manganese are valuable minerals extensively found in the taluks of Hospet, Bellary and Sandur have given greater economic base in the district in addition to agriculture under rainfed and irrigated farming. The broad gauge railway line, national highway No. 13 and district’s roads have facilitated the trade and transport in Bellary district. Hospet city as a centre of tourists attraction due to historical famous, world heritage “Hampi” is able to grow rapidly in population and trade and commerce activities. Hampi’s location at the closer vicinity of Tungabhadra dam has become added advantage for the growth of tourism and urbanization. Bellary city as a district headquarter at a distance of nearly 50 kms, to east of Hospet is growing in its own style. The agro based industries at all the taluks headquarters and at all the rural central places are emerging to boost the economy and sustainable rural occupations to the growing population of Bellary district. The network of telecommunications and utility of computers in the trade, commerce, industries and services have very much boosted the economic growth of this region. The district has nearly 65 textile mills of various nature, 2 chemical industries 26 engineering industries, one iron and steel industry, 3 sugarcane industries and 183 other types of industries employing 18637 persons.

Since 1931 the Bellary district has shown positive growth of population with 1.33 percent annual growth rate. It reached to 3.26 percent during 1981 as the highest rate of growth and it has been declined to 2.69 percent annual growth during 1991 census. The projection of population as per arithmetic method for the entire district of Bellary would be 2398715 by the year 2001 and 4903048 for the year 2031. Thus the district will continue to show on an average of 2.69 percent annual population growth rate. As per the family planning measures the expected targets of population growth should not exceed more than 1.50 percent.
so as to fore-see a controlled growth of population in the district. The urban growth in Bellary district is able to share 29.86 percent of population during 1991, the rest being 70.14 percent rural population. During 1901 the total urban population in Bellary district was about 17.86 percent, which has not even reached double during 1991. This shows the dominance of rural population because of agrarian economy. Since urbanization is considered as one of the indicators of population development, therefore, it is necessary to bring urban development in all the 12 towns of the district. In other words to say the percentage growth of urban population and increased number of towns shall show population development, where some percentage of rural population is going to be transformed into urban population by their development in terms of social and economical change. However, it does not mean that there should be natural growth of urban population. The towns and cities should grow by converting the rural population surrounded in their fringe areas by way of transforming such population in terms of secondary and tertiary activities and converting such people in the form of literates and better qualified educated. So that this shall mean to Human Resource Development in the district. The occupations like industries, trade and commerce and services have to increase in many fold so as to transform the rural population, which otherwise is soly depending on primary activities. This is one way of looking at the problems of population. However, there is also scope to transform the rural population, in its present stage, by way of qualitative improvements in their literacy, health, behaviour and improvements in their existing primary occupations. Ofcourse, this is being attempted by several schemes and programmes that are envisaged in the plan documents of state and central governments.

The distribution of population in Bellary district is positively correlated with irrigated area and urbanization. Consequently the dot map shows more concentration of population in the taluks of Hospet and Bellary. If the irrigation is made available to a still better extent than what it is in the remaining six taluks and if urban centres are encouraged to have more occupations in secondary and tertiary sectors, shall bring uniform distribution of population in Bellary district, in a hypothetical observation. Considering the total rural population and total cropped area (net sown area) in the district we notice high nutritional density of population in Hospet and Sandur taluks. In order to bring better nutritional development for the rural population it is necessary to increase more land under agriculture / intensity of agriculture / intensity of irrigation, so that the uniformity in the distribution of population can be theoretically possible. The different types of population density like., rural density, agricultural density and nutritional density show the present status of population distribution in different taluks. However, the reduction in the natural growth of population at one percent level of annual growth shall bring better status of living conditions for the population in the entire district. The inequality gap between population and geographical area of different taluks in the district
is associated with variations in the development of economy like agriculture, industries and services. The gap can be minimized by socio-economic development in proportion to working population and the geographical size of the taluks. The centrographic analysis shows that the mean population centre is moving towards the north of geographic centre of Bellary district. This kind of drift of population centre can be brought down closer to the geographic centre if socio-economic developments are brought in the southern taluks. Therefore, the urban pull of the cities of Hospet and Bellary can be reduced only if socio-economic development is taken place in the southern taluks of the district. The population potential map based on the gravity potential model shows that both in 1981 and 1991 the equipotential lines have a greater values to the west of Hospet city, whereas if one moves towards west from Hospet city, the potential values go on declining. Which shows more potentiality of the movement of population in the closer vicinity of Hospet, towards the west, where these values range between 4200 to 2800 in 1981 and 6200 to 3600 during 1991. As one moves towards the east and north-east of Hospet city the population potential values decline from 4000 to 2600 during 1981 and 6000 to 3200 during 1991. This shows lesser interaction of population, which may be attributed to poor socio-economic development. The residuals of the population show the western half of northern taluks and eastern half of north-eastern parts as having higher capacity of population sustenance during 1991 and also in the future, whereas the central south, consisting of Sandur and Kudligi taluks have negative residuals which means that the population sustenance in these two taluks is very poor. Therefore, it is necessary to bring in more socio-economic development in these taluks. The figure 4.18 reveals that higher the rural density of population higher is the potentiality of rural population in respective taluks.

The sex-ratio in Bellary district from 1901 to 1991 reveals 954 females per 1000 male population during 1951, as the minimum, while 976 as the highest during 1911. Rural sex-ratio was 961 as the minimum during 1951, while 984 as the highest during 1981. The urban sex-ratio 925 as the minimum during 1931, while 974 as the highest during 1901. This shows that no where the females have out numbered the male population. Therefore, Bellary district is dominated by male population. However, the talukewise analysis of urban sex composition in Sirguppa taluka reveals 1007 females per 1000 males during 1961, while 1009 females during 1971. However, during 1991 Sirguppa taluka is dominated by male population as we notice 987 females per 1000 males. The study reveals that in Bellary district sex-ratio is determined by occurrence at birth, different mortality rates of the sexes and sex selective migrations. The sex-ratio at birth is decided by human genetics at the movement of fertilization. The differences in mortality are also prevalent in Bellary district, where we notice female infanticide, greater neglect of females at the earlier ages, pre-mature co-habitation and child bearing, coupled with unskilled midwifery, hardwork in the case of economically and socially
lower classes, general adverse conditions of climate, nutrition and house conditions. The age-wise structure of sex composition in Bellary district during 1991 shows 1071 females per 1000 males in the age group of 20 to 29, 1118 females per 1000 males in the age group of 60 and above, while 833 females in the age group of 40 to 49 as the minimum. It is interesting to note that in Bellary district the sex-ratio of females in the age group of above 60 years is more than that of male population in all the taluks i.e., 1098 in Sandur taluka as minimum and 1142 in Sirguppa taluka as maximum females. This indicates the higher survival of female population in the age group of 60 and above, which calls for further research in demographic aspects. In case of urban sex-ratio, females are dominant in the age group of 20 to 29, where district as a whole 1016 females are noticed, while 1051 as minimum in Sirguppa taluka. The urban population also shows higher female ratio in the age group of 60 and above, where district as a whole 1117 urban females are noticed. The rural sex-ratio during 1991 is also high in the age group of 20 to 29, where 1099 females are noticed in the district as a whole. The minimum sex-ratio in the rural areas of Bellary district, as an average is 818 in the age group of 15 to 19. In the working age group average sex-ratio in Bellary district is 950 females, while minimum females 938 are noticed in Bellary taluka. The juvenile age group i.e., 0 to 14 shows 996 females per 1000 males, as an average of district. The correlation-coefficient of four dependent variables viz., (1) sex-ratio of juvenile age group, (2) sex-ratio of working population, (3) sex-ratio of senile age group and, (4) general sex-ratio with 25 independent variables show positive correlation with 13 independent variables when compared to sex-ratio of juvenile age group, positive correlation of 16 independent variables with sex-ratio of working population, positive correlation of 13 independent variables with sex-ratio of senile age group and positive correlation of 15 independent variables with general sex-ratio. Therefore, if the independent variables are strengthened in Bellary district, then it is hypothesised that the qualitative improvement of female population may be possible. The age-wise structure of male-female population in the study area during 1991, as shown in the pyramid diagram reveals nearly 40 percent male population and another 40 percent female population in the age group of 0 to 14. This pyramid is based on juvenile age group, which otherwise is a burden to the households as it is a dependent population. In case of age structure of rural and urban male-female population there is no much difference and it is similar to the district’s total. However, in the upper age group beyond 60, females are little more in number than males. The dependency ratio shows that Bellary district is characterised by very high proportion of dependents, as a result of which district is under great strain of high dependency burden and the worst of it is that this strain seems to get heavier in the decades to come. Therefore, detail study of dependency ratios namely total, juvenile and senile are studied even
at taluka levels. Bellary district as a whole shows 87.06 percent total dependency ratio, 75.99 percent as a juvenile dependency ratio and 11.07 percent as senile dependency ratio. The talukawise analysis of dependency ratio is also similar to that of the average of the district. The Hagaribommanahalli taluka shows 93.61 percent as the highest dependency ratio during 1991. This taluka also bears highest juvenile dependency ratio and also highest senile dependency ratio i.e., 81.67 percent and 11.94 percent, respectively. The age structure which has been tested through correlation co-efficient method with 25 independent variables and 3 dependent variables (juvenile, working age group and senile age group) show positive and negative relationship. Here depending on the type of variables the dependent variables may be taken into account for the development of population. The spatio-temporal analysis of literacy shows 20.91 percent literacy during 1961 and 36.70 percent during 1991. The male literacy is increased from 32.16 percent to 47.25 percent, while female literacy grown from 9.19 percent to 25.77 percent. The rural literates during 1961 were 16.97 percent, while they are doubled during 1991. The rural male literacy in Bellary district has been grown from 28.08 percent (1961) to 41.79 percent (1991). The female literacy which was hardly 5.55 percent during 1961 has been grown to 19.35 percent during 1991. The urban literacy has been raised from 39.91 percent (1961) to 50.73 percent (1991). The urban female literacy is grown up from 22.09 percent (1961) to 41.04 percent (1991). The urban male literacy was quite high even during 1961 with 45.75 percent, which has been grown upto 59.91 percent. The talukawise trend of literacy is also in the similar direction. The cities like Bellary and Hospet show 56.14 percent and 48.76 percent literacy, respectively during 1991. The Sirguppa taluka shows low literacy of 25.59 percent amongst 8 taluks, while Bellary taluka appears highest with 40.96 percent during 1991. Thus on an average Bellary district is male dominant, where females are 965 per 1000 males. The trends of literacy development are on increase, however, female’s share in literacy is lesser than male’s, which needs more thrust for their literacy development.

During 1971 out of total population (1122686) 37.98 percent were total workers (426462 workers). During 1991 the total workers are increased to 42.85 percent (809989 workers). During 1971 out of 817914 rural population 40.26 percent (329311) were rural workers in Bellary district. During 1991 they increased to 46.90 percent (621800 rural workers). During 1971 Bellary district had 304772 urban population of which 31.87 percent (79151 urban workers) were urban workers. Their share during 1991 is increased to 33.34 percent (188189 urban workers). Here one can notice a continuous increase of working population with reference to respective natural growth of population. At taluka level the similar increasing trend of working population is observed. Looking at the male-female composition of working population it is revealed that during 1971 district had 318542 total male workers.
being 55.80 percent of the total male population. This has been reduced to 53.17 percent during 1991, which shows that total male workers are declining in number compared to total male population, which is not a good sign of Human Resource Development. This trend of decline is noticed in urban working population as well as rural working population. In case of participation of female workers to female population during 1971 was 19.55 percent (107920 female workers), while in 1991 it is increased to 32.15 percent (298439 female workers). It is also increasing in case of rural female workers from 1971 to 1991. In case of urban female workers to urban female population, we notice 12.11 percent (17814 urban female workers) during 1971, where as during 1991 they are increased to 16.65 percent (45744 urban female workers). This shows an increasing trend of female workers and self reliance of women population due to changing socio-economic conditions in Bellary district. The primary sector of occupation shares 76.50 percent (326262 primary workers) workers during 1971, while they are increased to 77.58 percent during 1991. There is also slight increase of urban primary workers i.e., 37.77 percent during 1971 to 38.04 percent during 1991. Thus the entire Bellary district shows increasing trend of primary workers. Although it is a sign of development of population but qualitatively the development of population should increase in secondary and tertiary sectors, where by per capita income of population can be increased and further it will lead to qualitative improvement (health, nutrition and literacy) of population. In terms of industrial development the district is not marching at a faster rate. This is witnessed with 8.68 percent total secondary workers during 1971 and 7.23 percent during 1991, being proportional to total working population. Therefore, this is necessary to examine various factors that are responsible for declining trend of secondary activities in Bellary district even though the region is endowed with mineral resources, irrigation from Tungabhadra river water, broad-gauge railway line and well developed road transport system. Karnataka state as a whole is still in scarcity of hydro-electricity, which might be a hindering factor to invest for the industrial units by private and public entrepreneurs. In the entire district of Bellary, tertiary workers to total workers have been increased from 14.83 percent (1971) to 15.17 percent (1991). This sector also shows insignificant growth. A correlation-coefficient study of three dependent variables (primary, secondary and tertiary occupations) with 25 independent variables insists us to glance at positively correlated variables so as to strengthen them and bring better growth and development in occupational structure of all the taluks of the district.

At Bellary district level, available data of human resources is interpreted in 7.24 sub chapter, while specific themes like the levels of regional development in Bellary district are analysed to identify social development, economic development and demographic development. The chapter (VII) shows a special study on socio-economic status of women in Bellary district. In order to know the current situation of relationship of food production visa-vi, availability of
agricultural land at taluka level, a study of spatial pattern of carrying capacity of land of Bellary district is analysed. Compared to national average of death and birth, the district of Bellary has shown a tremendous improvement in reducing the population births and deaths rate. Where during 1997-98 Bellary district has shown 19.68 birth rate per 1000 population, while 6.91 death rate per 1000 population, both being less than the national average. The Bellary district has not shown significant change in the composition of working population i.e., during 1971 out of total workers 76.56 percent were primary workers, 8.68 percent were secondary workers and 14.83 percent were tertiary workers, while during 1991 primary workers were 77.58 percent, secondary workers were 7.23 percent and tertiary workers were 15.71 percent. Thus Bellary district continues to remain predominantly as an agrarian economy. However, there is a significant scope to bring mineral based industrial development if efforts are made by public and private sectors. In the indicators of social development Hadagalli taluka and Kudligi taluka show high development, while in economic development and demographic development these taluks are low. In economic development Hospet taluka and Bellary taluka show high development and even for demographic development these two taluks show high range of development. However, in social development these two taluks appear low development mainly because of high concentration and high range of population that make the ratio of social indicators lesser in proportion to population of the taluks of Hospet and Bellary. The women status in Bellary district is high in Hospet and Bellary taluks during 1981 as well as 1991. These two taluks being more urbanized and being under fast population growth have marked influence on improvement of quality/status of women. This statement also holds good in case of status of women of SC population during 1981 and 1991, while in case of ST it is true only during 1981, whereas during 1991 Hadagalli taluka shows high development of women status, where Hospet and Bellary taluks have shown medium status, making a retarded development. This kind of variation has occurred due to non-growth of five select indicators in proportion to the population of Hospet and Bellary taluks. **The carrying capacity of land** if it is high in a particular taluka it leads to Human Resource Development. Therefore, during 1997-98 Hospet taluka and Sandur taluka show high range of carrying capacity of land because of more land under agriculture coupled with higher percentage of irrigation. The ratio between food crop density and total population during 1997-98 shows high in Hospet taluka mainly because of high density of population and less land under food crops, leading to higher intensity of cropping pattern. **The study of balance between population and food production of Bellary district reveals negative balance i.e., shortage of food production/caloric values in all the taluks of the Bellary district.** Figure 7.15 in this regard shows high deficiency in Bellary and Hospet taluks. Bellary district appears to be in the second stage of demographic cycle. The district reveals less
literacy, leading to low quality of Human Resource Development. The less development of secondary and tertiary sectors have influenced the population to rely upon agriculture sectors making Bellary district an agrarian economic region, where not less than 70 percent rural population is living still with subsistence type of farming. The Human Resource Development needs qualitative improvement of rural population as well as socio economically poor class population of urban components. Therefore, slums of the cities and villages of Bellary district are showing similar backward symptoms of population development.

The base of pyramid of all the ten sample villages is composed by child population i.e., below the age of 14. This percentage of child population varies from 30 to 40 percent, where female children are little lesser than male children. In case of Kurgodu village the pyramid diagram is composed equally with male and female working population in the age group of 15 to 30 of SC population and ST population, where child population is also of the same percentage i.e., 20 percent male and 20 percent female. This indicates that the working population is increasing in these backward class population, denoting developmental process of Human Resources. The villages located near by urban centres like “Rajapur” has not shown any significant change in the composition and the structure of the population. The villagers located near by urban centres are not changing their way of life and behavior as their economy is inherited in the agriculture system. Therefore, the villages of Bellary district need social development so that awareness in minds of population may automatically lead them to improve their family economic status and qualitative improvements of members of the family. The lesser percentage of people in the senile age group shows that average living age of people in the villages is not more than 50 years. Therefore this point of observation needs utmost care for the development of health of the people and nutrition requirements. The sample household study in the selected houses of the Hospet city shows no much difference in the demographic aspects of the slum dwellers and villagers. However, people living in posh area of Hospet city show with higher income level and pyramid being based with 10 percent male and 10 percent female children, while working population in the age group of 15 to 60 is composed by not less than 60 percent population. In case of middle class, child population as well as working population is considerably high. In case of slum dwellers the pyramid is based by child population and less people in working age group. In the slum area, female percentage is 48, while literacy level is 56 percent. In case of posh area population, female population is 46 percent, while literacy level is 86 percent. The less female percentage of population in the posh area is mainly because of family planning measures and not because of looking down upon the females. In case of population of middle economic class in Hospet city, female percentage is 47.06 percent, while literacy is 78.43 percent.

This study of Bellary district is able to show us the patterns of population distribution
in a spatio-temporal manner. Similarly the growth, composition and structure of population, with reference to components of male-female, agewise and occupation wise show us the trends and patterns of over a period of 40 years. Therefore, the trends show that Bellary district is in the second stage of demographic cycle. The case studies of villages and selected houses of Hospet city not only show varying nature of structure and composition of population but they show also the behavioural pattern of the population with reference to male-female, occupation, age, migration and level of literacy.

The field observation made by this researcher give him a first hand impression of physical resources and physical land scape of the district. He is able to see the varying degree of irrigation, intensity of cropping, demand for more water to bring intensity of cropping, status of fertility of soil, nature of waste lands as a physical components of the region. He observes that there is lot of imbalance within the district in physical resources and in augmenting them. At another side of the field work he is able to see the villages which are having dilapidated, corrugated and thatched houses, where living has become very much hopeless due to congestion and crowding in each family. The economy being agriculture is not drastically improved in its operation in all the parts of the district. Only the irrigated villages are able to show some kind of modernity that too in a little extent and also development in people's way of life. The rainfed agriculture being extensive is very much uncertain in its out-put due to uncertainty of the south-west mansoons. The secondary and tertiary sectors have made little contribution in providing employment to the people of Bellary district. The healthcare facilities have reached to the rural population but have not successfully changed the minds of the ruralities to adopt family planning measures intensively. Therefore, we notice population growth on increase though it is being checked. The growth and development of infrastructure in the district is not uniformly and adequately developed. When this infrastructure develops the population in the district may be able to change their way of life and consequently we may fore-see control of population growth and consequently growth of Human Resource Development could be achieved.

It is hoped that this piece of research thesis will be able add to our knowledge of population geography, at the district level and grass-root level, representing from the down south of peninsular India.