CHAPTER - X
CONCLUSIONS AND SUGGESTIONS

The purpose of this chapter is to give, the summary and conclusion of the analysis done in all the chapter of the concerned study. At the same time, this chapter also includes the important findings and results emerging from the analysis. To start with, the chapter first deals with, the introduction of the origin of the research problem and its relevance. In the beginning the importance of the topic, the concept of economy and region have been clarified.

Economy is the basis for overall development in a region. The region under study has been passing through different stages of development. Since very ancient period the region is a transformed stage of development. The basic needs of man are food, shelter and cloths in day to day life. These basic needs of man are essential even today, but due to various socio-economic and geographical factors, disparities in the levels of development exist, not only in the care of Solapur district but also in various countries of the world. The regional imbalances deal to under utilization or even non utilization of economic resources, both natural and human and in this process, individuals are discriminated.

If, it is neglected and unchanged, that these disparities are capable of assuming serious problem of manifold dimension, and threatening very existence of the man. Therefore, disparities in the levels of economic development may be minimized by the efforts applied by the government and individual in order to bring peace, harmony, and prosperity and happiness in a region.

This section also deals with the concept of a region; the term region is stands for an areal unit, which has homogeneous characteristics in terms of physiography, climate, natural vegetation, and culture, than with
that of other region. Inspite of this a region is intimately related with the area or space., The homogenous characteristics which distinguish a particular region with other. A region may be of various types like, physiographic region, forest region, and agricultural region, and political region, industrial and cultural region. There are divided for the convenience in to Macro, Meso and micro region.

The scope and coverage of the present study has been delineated on the basis of different criteria of agriculture, industrial, population characteristics and infra-structural facilities, such as medical education transport etc. Thus, the region which are identified with lowest administrative unit, namely, tahsil in terms of their levels of economic development, but also based on the population characteristics like density, growth and composition of the region.

There are number of factors, responsible for the regional disparity such as historical, non-uniform distribution of natural resources and anthropogenetic factors. The justifications of the problem, the choice of the topic under study have also been explained. Hypotheses are the presuppositions which have not yet been verified. Without hypotheses, no orderly conclusion may be derived even without hypotheses no research plan can be formulated. Hence for the purpose, the number of hypotheses has been formulated. The main purpose of the research is to obtain the result by fulfilling the objectives. Objectives are the goals to be achieved by the research. Without objectives a study cannot be fulfilled and completed. Each and every research study is carried out authentically on the basis of certain objectives. Once, the objectives are clear, it may become easy to investigate and analyze the problem understudy. The present study has also formulated certain objectives to fulfill.

The data and information is the most vital requirement for a research, because these are the basis for analysis of any problem. The
type of data and its authenticity influence the result emerging from the analysis, if the data is not correct and authentic, than the results may not be derived correctly. Hence, the first hand information on give more authentic results than that of secondary data. Hence the data and information which are the basic tools of the research, has been collected from different sources such as published and unpublished work, such as gazetteer of the Solapur district, census of Maharashtra for Solapur district, socio-economic abstract of Solapur district and planning for the Solapur district. The data collected from different sources, has been processed and the proportions and percentages have been calculated, as per the requirement and tabulated in the various concerned tables. Finally, the data has been represented through various cartographic techniques like, choropleth, isopleths, graphs and figures are prepared and certain statistical techniques have also been applied to find out the relationship between different parameter like correlation matrix.

In order to understand various concepts and terminologies and certain new techniques to apply in the research work. It is, therefore, essential to take a review of the literature work done earlier of the concerned field. In view of this, a brief account of the work done earlier is taken into consideration in the first chapter as well.

The organization of the work has also been briefly included in the first section, in order to get an idea of the scheme of the work. There are in all ten chapters which furnish the different aspects of the analysis work associated with the disparities in the levels of economic development in Solapur district, a geographical analysis.

The **second chapter** is associated with different kinds of backgrounds of the region under study. These backgrounds have a great bearing upon each other and one influences the other to a greater extent. These backgrounds of the region such as physical, historical social,
economic and political influence the overall scenario of the region concerned. Man can charge and modify the physical landscape into a cultural landscape with his expertise as he desired for his comfort. Political factors play a very prominent role in the changing the face of a region. Man can implement various policies and programmes by establishing different projects for improvement of socio-economic conditions of the region. In this way, the physical landscape such as converting forest area into agricultural land, arresting the river water into the artificial reservoirs, hence, bringing a tremendous change in the region. In view of this, it is most essential to give an account of each back ground briefly, in order to make clear, overall picture of the region to interpret various aspects.

The district of Solapur is one of the most important district of Maharashtra state, in terms of area and population. The Solapur district constitutes 4.88 percent area and 4.51 percent population of the Maharashtra state. It ranks 4\textsuperscript{th} in terms of area and 7\textsuperscript{th} in terms of population among the districts of Maharashtra. It lies entirely in the Bhima, Sina and Man basins. The district of Solapur is located between 17\textdegree{}10 and 18\textdegree{}32 north latitudes and 74\textdegree{}42 and 76\textdegree{}15 east longitudes. The east west length of the district is about 200 kilometer and north south width is about 150 kilometer. The total geographical area of the Solapur district is about 14895 Sq.km. and a population of 3855383 according to2001.

On the basis of physical setup, the region is divided into three basic physiographic divisions: 1) The hilly region: Above 600 meters, 2) The plateau region: between 450-600 meters and the low land plain region: below 450 meter.
The hilly region occupies 3.34 percent of the area of the region; the plateau covers 16.66 percent and low land plain region occupies rest 80.00 percent area of the Solapur district.

As far as, the drainage pattern of the region is concerned, the river Bhima is most significant, originate from Bhimashankar plateau of Ambegaon tahsil in Pune district. Its main tributaries are Nira and Man of the right bank while, river Sina is left bank tributary and about 110 kilometer length is recorded within the district. The river Nira rises in the Bhor tahsil of the Pune district and out of its total length of 180 kilometer only 48 kilometer lies on the borders of the Pune and Solapur district. The river Man rises in Phaltan ranges of Mahadeo hills in Satara district. The total length of river Man is about 160 kilometer, out of which 80 kilometer lies within the Solapur district. The river Sina rises about 22 kilometer west of Torana in Ahmadnagar district. It has total length of 180 kilometer within district of Solapur and meets river Bhima near Kudal, about 25 kilometer south of Solapur city. Other small rivers are Bhogavati, Bhend and Bori flow within the district.

Since, the region under study is very small belongs to Deccan plateau of India. There are no evidences of folding and faulting. The trap basaltic lava flows, which are covered by thin mental of soil almost everywhere in the district. These lava flows, on account of differential weathering processes give rise to undulating relief.

Broadly, the climate of the Solapur district is monsoonal in nature. The year can be divided into four seasons. The cold weather season - December to February, the hot weather season- March to May, the southwest monsoon season - June to August and post monsoon season - September to November. Some climatic conditions of temperature, rainfall, wind and humidity in the district are of dry tropical regions of Maharashtra. The average annual maximum temperature is 29°C-39°C.
and minimum temperature is of $14^0{}\text{C}$ to $18^0{}\text{C}$. The minimum temperature may occasionally drop down to $4^0{}\text{C}$ and the maximum temperature may sometimes go up to $44^0{}\text{C}$. An average annual rainfall of the district is about 584 mm. and of it about 75 percent rainfall occurs during the monsoon season and about 17 percent during post monsoon season or retreating monsoon. The rest eight percent rainfall is received during the pre-monsoon along with thunder storm. During the monsoon season from June to September, the humidity is recorded more than 75 percent while during the rest of the year, humidity is below 25 percent, but during summer season, the humidity is below 17 percent. Winds are light to moderate during the period May to August. In the south west monsoon season, winds blow form south west to north east while during October to January winds blow from north east to southwest direction.

Soil of the district can be broadly grouped into three types: i) shallow soil, ii) medium deep black soil, iii) Deep black soil.

The natural vegetation is consisting three fold divisions, namely, forest, grassland and scrubs. In the Solapur district, the forest cover is very poor. The forest of Solapur district occupies, about 357.9 square kilometer area, in which 345 square kilometer is under classified forest and 12.9 square kilometer is unclassified forest. In other words, 157 square kilometer is under revenue department 188 square kilometer is under forest department and 12.9 square kilometer is unclassified reserved and unclaimed forest. Surprisingly, these scattered poor forests constitute only 2.14 percent of the total area of the district.

The district of Solapur was formed in the year 1838 and consisted of eight sub divisions. The district was included in Bombay state and since, 1960; it formed a part of Maharashtra. In 1961 the district comprises eleven tahsils and ten towns. There have been certain changes to the number of villages during last decade. With the reorganization of
the states in 1956, the Solapur district was included in the larger bilingual state of Bombay. Since 1\textsuperscript{st} May 1960, it forms a part of Maharashtra of unilingual state. Till today, (April 2010) the district has eleven tahsils and eleven towns.

The social structure of the district is made up of various religious communities like Hindus, Muslims, Buddhists, Christians, Jains and others. Hindus shares 87.3 percent, Muslims 9.3 percent, Buddhists 2.01 percent, Jain 0.94 percent, Christians 0.35 percent and other 0.05 percent.

Among the various backgrounds of the region, the economic background occupies a significant position, since many other sectors are influenced by the level of economy. It is directly related to the per capita income and hence with the standard of living of the people. The total geographical area of the district is 14895 square kilometer which comes to 4.88 percent area of the Maharashtra state. The area under forest is only 2.14 percent of the total geographical area of Solapur district. In fact, land use pattern is an index to understand, the place of Solapur within Maharashtra and India. In India, forest cover of total geographical area is 20.2 percent, while 6.8 percent area is covered by good forest, 13.4 percent areas is covered by open disturbed forest. Ecologically required forest cover is 33 percent of the total geographical area. Net required forest cover is 12.8 percent. Land used for non agricultural purposes in the Solapur district is below one percent, land under fallow category is 4.3 percent, while pasture land 2.74 percent of the total geographical area of the district. The percentage of total cultivable land is quite impressive, which is about 89.07 percent of the total geographical area of the district.

Irrigation in Solapur district is poor, and at present wells, bandaras tanks and canals are the main sources of the irrigation. The total irrigated
area in the district is 1299.00 hectares which, comes to 11.58 percent of the total cultivated land of the district.

Transportation and communication is an index of social and economic development in a region, because all the activities are positively influenced by the network system available in that region. The total length of the railway line is 452.60 kilometer within the district, yet 126.90 kilometer is under construction from narrow gauge to broad gauge. The total length of the road ways is about 14108 kilometer, out of this 188 kilometer belongs to national highway, 173 kilometer major state highways, while 1332 kilometer state highways. The total district roads occupy 2238 kilometer and village roads comprise 7238 kilometer length within the district of Solapur.

The chapter third deals with the population characteristics and composition of population. The purpose of the topic is to examine dynamic of population, during the last few decades along with the broad implications. Such analyses have helped us in understanding of demographic situation and have provided clues about the likely trend in the years to come. This has also helped us in finding some measure of social and economic problems to solve them. The growth rate was calculated for the total rural and urban areas of Solapur district for the last ten decades. The decade 1911-1921 represented negative growth rate due to epidemic diseases. The growth rates were calculated for all the decades represented in the table 3.1. An understanding of the dynamics of population is not completed unless making a reference of the differentials in the growth rate of its two vital components that are rural and urban. The total population has experienced consistent acceleration in the growth rate since 1921. The increasing rural and urban population reveals differing trends, while during 1921-1951, population was increasing between 15 to 20 percent. While 1951-1961 the urban growth rate
slackened (10.56 percent) in sharp contrast of the rural growth rate which was 29.48 percent. During the next 1961-2001 decades, the rural and urban growth rate slightly declined with slight fluctuation perhaps due to increase in literacy rate and impact of family planning programme.

The spatial patterns of the growth of population for different tahsils are represented table in 3.2, which enormously vary from one tahsil to another; being highest for Barshi, while the lowest for the Pandharpur tahsil. The growth rate of population is categorized in high, medium and low population growth rate in Solapur district.

Birth-rate is one of the most important factors influencing growth of population in a particular region. Now days, both, birth rate as well as death rate have come down due to improvement in better medical facilities and secured food supply. If there is close region, then the birth-rate becomes the only factor influencing growth of population. The birth rate has declined from 22.64 in 1981 to 20.58 in the year 2001, for Solapur district as whole. This decline may be attributed to increase in literacy rate and impact of family planning programs. The age at marriage has been increased by Government authorities both for male and females during the recent period. Awareness created by Government, planners and local reformers have also influenced in lowering the birth rate. The births were also influenced by these factors for the various tahsils of Solapur district during the last decades.

The rural urban patterns of birth rate are different as the nature of living, occupational structure, literacy pattern, per capita incomes are also different within different areas. On the contrary with exception of the birth rate for urban area much higher than the rural areas for the region as whole. For the Solapur district as whole the birth rate has declined for the rural area from 16.82 in 1991 to 15.50 in the year 2001. The higher birth rates for urban areas, both for district as well as its various tahsils are
higher perhaps due to the proper recording or registration of the birth in various hospitals in urban areas. For lower birth rate in rural areas probably are not recorded or not registered properly due to lack of dispensaries and hospitals.

Death rates have been calculated for the years 1981, 1991 and 2001. Death rate has also declined from 6.22 percent in 1981 to 5.35 in 2001. Similarly, the declining trends of death rate have also been observed in various tahsils of Solapur district. Rural-urban differential in death rates are also influenced by the various factors such as the availability of medical facilities, nature of occupation and literacy pattern. The average death rate for district as a whole has increased from 3.88 to 4.38 during 1991 to 2001 for rural areas of the district. The highest death rate was found in Akkalkot tahsil while lowest for Karmala in the year 2001. It also varies from one tahsil to another due to different socio-economic reasons. The death rate for urban areas has slightly declined from 8.06 in 1991 to 7.43 in the year 2001 in Solapur district. Due to improvement in better medical facilities and secured food supply has resulted declined of death rate in 2001. The highest urban death rate was recorded for Madha and lowest for Sangola tahsil in 2001. Within the tahsil of the district the death rate substantially vary from one tahsil to another.

Infant mortality rate may be considered as an index of the socially and economically developing society. In a country like India, still priorities are given to male child. Female children's are considered as burdens on the society, because India is still male dominated society. The infant mortality rate has declined for 0.81 in 1981 to 0.28 in the year 2001. Due to improvement in literacy and education and many other facilities for female, equal status in society, reservation of female quota in
many fields has resulted in the decline in infant mortality rate for the Solapur district as well as in its various tahsils.

Density and distribution of population are not identical, but are closely interrelated. The term density is represented in different ways to understand the population resource relationship. These ratios have been designed as arithmetic density, physiological density, nutrition density, agricultural density and economic density. Different types of density have been represented through choropleth maps for different tahsils for Solapur district. The arithmetic densities have been calculated for its district and tahsils for last four decades. For the region as a whole, it has increased from 150 in 1971 to 258 in 2001. The highest density was recorded for North Solapur tahsil from 662 in 1971 to 1287 in 2001. The lowest density was recorded for Mangalwedha tahsil 95 in 1971 to 150 in 2001.

The rural density was 112 in 1971 which increased to 180 in 2001 for the region as whole. For most of tahsils the rural density has increased during last four decades. More or less similar trend was observed for urban density of population. For Solapur district, the urban density increased from 1776 in 1971 to 3512 in 2001.

Physiological density, agricultural density, critical density and economic density have been interpreted for district and its various tahsils.

The distribution of population varies from one tahsil to another and these have been represented by dot method. One dot represents 2000 rural population while urban places have been representing through various size of circles.

The location quotients for the year 1981 and 2001 were calculated for district and various tahsils. Highest value of location quotients were calculated for North Solapur tahsil while lowest for the economically backward areas. It shows that there is high concentration of population in
North Solapur tahsil. The Karmala represented the lowest value of location quotients, shows the extent of low concentration of population. Higher value of location quotients means high degree of economic activities and lower the values of location quotients least concentration of economic activities.

The relation between the percentage of area and population and its cumulative percentage was represented through a Lorenz curve which indicates that in the district; the five percent area possesses about 25 percent population of the district. Besides, fifteen percent area consists, 36 percent population. And 25 percent areas of the district contain almost 50 percent of population and finally, 75 percent area almost 85 percent population. If graph would have been of 45 degree angle, than there would have been uniform distribution of population in relation to area.

The area per village, number of villages per 100 square kilometer and population per village in each tahsil of the Solapur district is also calculated as well as for its various tahsils. An average area per village is estimated 7.82 per square km. while due to existence of Solapur city in North Solapur tahsil, the lowest area of 5.62 square kilometer has been computed per village and 9.76 square kilometer for Akkalkot tahsil. It clearly indicates that larger the area of the village, lower is the concentration. The close proximity of the villages means, high concentration of population. Similarly the numbers of villages per 100 square kilometer area were also calculated. The highest number of villages was for the Akkalkot tahsil, while lowest for North Solapur tahsil. The average population for the village was 2306 for district as a whole. Surprisingly, Malshiras has highest population per village. On the other had Karmala has lower development population than the region as a whole. This attempt may be used for the planning of the socio-economic aspects in the region.
Age and sex composition have also been studied, since, it influences the growth rate of population age at marriage, migration and occupational structure. According to 2001, sex ratio was calculated 936 per 1000 males, which were 922 for the Maharashtra state; the table 3.14 gives an idea, about sex trends during the last ten decades.

Similarly, spatial variations in sex ratios are presented in table 3.15, for the last four decades and they have been represented through choropleth map.

Rural-urban differential in sex ratio were calculated for 2001. The urban sex ratio was higher than the rural. Rural-urban sex ratios were represented through bar diagrams for last 10 decades. Since the beginning of the 20th century till 1981, the rural sex was higher. While during 1991 and 2001 urban sex ratio exceeded than the rural sex ratio due to male migration to urban cities.

Age composition is one of the most important characteristics of population. To a certain extent, the age of a person decides, what he needs does and thinks. Age compositions influence many important aspects of community life, such as social, economic activity, mobility of people and political setup. Age composition is an important consideration in planning the educational, military, work and welfare program of a region.

The age wise population for the major age group like children below 14 years; matured and old people above 60 are represented through bar graphs for the year 1971, 1981, 1991 and 2001.

The dependency ratios have also been represented through a graph for rural urban and total population in the Solapur district.

Literacy and occupational structure play a very important role in the socio-economic development planning of a region. The workers have been divided into broad three categories of primary, secondary and
tertiary workers. Primary, secondary and tertiary workers have been calculated in percentage for the district and as well as for its various tahsil for the last four decades in Solapur district and values have been presented through choropleth map and interpreted accordingly. The worker in each category varies through space and time.

Literacy is considered, as a relevant index of the socio-economic planning and development of a region. The variations in literacy, many times indicate the place of a society is getting transform. A level of literacy influences to a significant extent, the socio-economic development of a region. Literacy also influences fertility, mortality and economic structure of the population in the region. Rural urban and total literacy, as well as for different tahsils, have also been studied and represented through bar graphs and choropleth maps. Similarly, male and female literacy have been studied in detail for the last four decades.

The chapter fourth is associated with the land use pattern and agricultural development in Solapur district. Land is the basic resource of human society for different types of socio-economic planning. Its utilization shows a reciprocal relationship between the prevailing ecological condition and main land is the surface utilization of all develop and vacant land on a specific point, at given time and space. This is because, land use changes to need the variable demands for the land by the society in it new ways and economic condition of life. The utilization is the use made of the land by man for different purposes like agriculture, pasture, mining, transportation, gardening, residential, recreation, industrial, commercial, uncultivable waste, barren and fallow land. Hence, land use and important aspects for regional geographical study particularly to solve socio-cultural, economic and agricultural problem for the socio-economic development and planning of area. Land utilization planning mainly deals with the problem related to the society,
rather than a private farmer. Landuse planning is related to optimum use of the land. Land utilization is also related to conservation of land from one type of use to another.

The main objectives of socio-economic development is to highlight the changes in land use because, with the rapid growing population and increasing demand for the food and raw materials, the extent and nature of land use have been changed in the recent past. The proportion of land under forest has declined from 2.16 percent in 1971 to 2.14 percent in 2001. Area not available for cultivation has increased from 4.36 percent in 1971 to 5.30 percent in the year 2001. Other uncultivable land has also increased substantially, during the same period. This trend has also been observed for the fallow land. While net area sown has declined from 74.31 in 1971 to 57.80 in the year 2001. Area sown more than once has also declined during the same period.

The study of land use is mainly related to variations in agricultural land use in a particular area. The cumulative effects of the farmers decisions, regarding choice of the crop is reflected in the agricultural land use. The area under food crops and non food crops, together make the total land under crops which is fluctuating 85.60 percent 1970-1970 and 84.80 percent in 2000-2001. This is the area under different food crops, which is fluctuating due to the fact of variable in amount of rainfall from one year to another. This may also be partly due to the grazing land and fallow land as vary from year to year. More than 80 percent areas of the land cultivation have been under the use of various food crops during the last three decades.

The area under different crops such as rice, wheat, jawar, sugarcane and for other food crops have increased substantially, while for bajara, pulses has declined during the 1971-2001 period. For non food
crops, the area under different crops slightly increased from 14.40 percent in 1971 to 15.20 in 2001.

There are number of factors influencing agricultural development in Solapur district. Very recently introduced technological factors include irrigation, modern implements machinery, adoption of improved seeds, use of chemical fertilizers and credit from various sources. The net irrigated area has increased from nine percent to 25.70 percent during 1971-2001 of the total agricultural area.

The measurement of productions and inputs require for the yield and output is known as agricultural productivity. Productivity of the major crops has increased in the Solapur district. The levels of productivity for Jawar have increased from 349 kilogram per hectar to 449 k.g. during 1981-2001. For other crops such as Bajara, Wheat, Tur, Gram and Groundnut has substantially increased during the same period.

The measurement of agriculture productivity has been calculated by two methods such as Kendal's method. The Kendal's ranking co-efficient methods has been applied for six major crops grown in the district. The crops have been ranked in order to their yield per unit area. Then the arithmetic mean of the ranks is obtained which Kendal's called as ranking co-efficient. Lower the co-efficient value, higher is the productivity level of agriculture. On the basis of co-efficient productivity have been identified in Solapur district, I) Area of high productivity, II) Areas of moderate productivity, III) Area of low productivity. Similarly, the measurement of agriculture productivity of Yield Index Method has also shown the areas of high, moderate and low productivity. Solapur, Barshi, Akluj, Pandharpur, Kurduwadi, Sangola, Akkalkot and Karmala are the important agricultural market centres in Solapur district.

Industrial development is the backbone of economy in a particular region. The various aspects of the industrial development make the
subject matter of chapter fifth. Primary, secondary and tertiary sectors of the economy are the indices of the levels of socio-economic development. Solapur district is relatively, better in industrial development than many other parts of the Maharashtra state. It has been estimated that, there are one hundred and ten large and medium scale industries in the Solapur district. Unfortunately, out of the total industrial units, about 20 percent are sick, because of the adverse effect of the shortage of the raw material, shortage of the enough capital, lack of skilled workers and mismanagement. Solapur district has several MIDC estates, which are located at Solapur, Tembhurni and Kurduwadi.

There are number of factors, influencing industrial development. The important factors are the availability of raw material, favourable climate, water resources, transportation system and availability of market facilities. The industrial efforts in Solapur district have objective to develop secondary sector in order to raise the per capita income of the people, which is reflected in the high standard of living. Therefore, industrialization is one of the powerful and effective tools for enhancing the level of social and economic development.

The classification of industries in Solapur district is based on the need of the product in day to day life. Various types of industries may be grouped in as many as products are there, because, every product has its own utility and value. However, in order to study various industries in Solapur district precisely, it is most suitable to categorize these industries in to two more groups, namely: i) large and medium scales industries, ii) small scale industries. Some important industries are taken for analyses such as sugar industries, spinning mills and edible oil industries.

In fact, there are nineteen registered sugar factories in Solapur district, out of these, only seventeen sugar factories are functioning efficiently at present. The table 5.1 is associated with the various features
of sugar factories of Solapur district, tahsil wise their location, year of establishment, production capacity, number of employees, number of villages attached and bio-products have been illustrated for all seventeen factories in details.

There are number of problems which are faced by sugar factories in Solapur district, such as production of sugarcane, production of sugar, problems of low prices of sugarcane, problems of bio-product, faulty Government policies and lack of skilled labour, environmental pollution and marketing problem to supply its products.

Spinning mills in Solapur district are locally known as 'Soot Girni'. The yarn which is manufactured from cotton by the spinning mills are finally used to prepare cotton clothes of different varieties. In the Solapur district, there are many other spinning mills likely to start, but after a long period due to various political, social and economic reasons, these have not yet started functioning. The table 5.2 provides detail information of some important spinning mill such as year of establishment, total investment in lack rupees, total number of spindles and total number of workers engaged.

Some of the important problems which are responsible for the low production of yarn are the lack of raw materials, lack of skilled workers irregular supply of electricity, lack of working capital and lack of technical knowledge. Apart from these low market prices and low demand in the market and changing pattern of cloth due to new innovations clothes is a very serious problem.

Refined, edible oils and fat industries in Solapur district are located in Chincholi MIDC area. Khetan solvent and refinery limited, Chincholi, Navcom industries Chincholi and Venkey Crude Oil Mills are facing the common problems of insufficient raw material, low marketing price for final product and irregular supply of electricity. In the table 5.3, the detail
information of refined edible oils industries like year of establishment, total investment, number of workers and major productions have been given.

Textile mills in Solapur district are located in the Solapur city. Due to various political, socio-economic reasons, numbers of textiles mills have been closed down. Volent textile mills Solapur, Niwas Spinning Mills, Zingade Spinning and Weaving Mills, Solapur are manufacturing clothes of various qualities of medium good standard.

Dairy industries in Solapur district are agro-based industries. There are seven important milk chilling plants in Solapur district. Table 5.5 furnishes the detail information of milk chilling plants such as location, investment in lack rupees, production capacity in liter per day, collection of milk in liter per day and number of workers engaged in each plant. There are number of problems faced by the dairy plants like, shortage of fodder to milking livestock's, irregular supply of electricity for the refrigeration, lack of skilled workers and lack of co-ordination, and problems of quick transportation.

At present, there are 80 engineering units in Solapur district. Among these, there are six important units. The details information related with the location, year of establishment, total investment in crores rupees, number of workers engaged and major products are provided in table 5.8. The important problem faced by these industries are, lack of skilled labour shortage of raw material, low capital investment, unfavorable Government policies and high transportation cost.

The large scale industries are those which are relatively large in, number of workers engaged in the production of goods and commodities. On the contrary, the small scale industries are relatively smaller in size and hence, have less number of workers. The important small scale industries within the district are included such as Dal, Oil, Textiles;
Forest based industries, Leather, Rubber, Chemical, Engineering, Electric and Electronic unit as well as many other miscellaneous industries. The growth and development of industries in the number of units and its percentage increase, during last, three decades shows that, there were 2110 small scale industrial unit in 1980-81 and became 9084 in the 2001. This may be due to impact of new innovation and demands of new items in market. The assessment of the growth of small scale industries, which was 108.35 percentage in the year 1981 and became 430.52 percentage in the year 2001. The investment in lacs rupees was 3798 in the year 1981 and became as high as 17308 lacs rupees in the year 2001. Similarly, the percentage growth in investment was recorded 119.82 lacs rupees and substantially increased 455.21 percent during the year 2001. If, we consider 100 percent labor in 1981 than it increase to 322.74 in 1991 and further increased to 993.40 percent in year 2001. It shows that more than ten times labour force has increased in the small scale industries in Solapur district.

Tahsilwise distribution of small scale industries have been represented both in number for the year 1981 and 2001 and change in percentage during the same period for each particular industry in Solapur district. The number of industries per 100 squares K.M of area and per 1000 population has also been calculated for the region as whole, as well as for its various tahsils. The number of small scale industries per 100 square kilometer of area is in fact, an index of the relationship for social-economic development because; it is useful for the identification of potential development for a particular industry required by that region. In the year 1981, the numbers of small scale industrial units per 100 square kilometer of area were calculated to 14.21 for the region under study as whole. This represents the actual concentration of small scale industries in different regions. In the year 1981, the highest number of small scale
unit was for North Solapur tahsil and lowest was for Madha and Karamla tahsil. The similar trend was also observed for the year 2000-2001. Industrial combination regions, that three combination regions are in the year 1991 and became only two industrial combinations regions in 2001. The low number of combination regions, means better development of industrial sectors. This has been shown by different values calculated for different tahsils of Solapur district for the 1981 and 2001.

The concentration and diversification of industries have also been studied for small scale industries units particularly for Dal, Oil food product and textile mills. Similarly, the diversification which is opposite to a specialization of a specific industries in a particular area, also been taken into consideration with help of technique computed by Bhatia's method for the year 1981 and 2001. It may be stated that, higher the value of index, lower is the diversification of industrial unit. The regional pattern of Solapur district is grouped in three categories as given under:

i. Areas of high diversification (Below 15 percent)

ii. Areas of Moderate diversification (15-20 percent)

iii. Areas of low diversification (above 20 percent)

Chapter sixth is associated with socio-economic facilities and development in Solapur district. The levels of socio-economic development reflect the economic as well as socio-cultural setup of a region and spatial organization of society. As a matter of fact, there exist close relationship between the spatial distribution of facilities and level of well beings. Uneven distribution of socio-economic facilities creates the functional gap between different regions under study. In order to understand the availability, demand and deficit, health services, transportation, communication, and banking services in the various tahsils of district have been taken into account to understand the magnitude of the problems related with these services.
Health services are available in the area through medical institutions, both by the Government and private bodies. Municipal hospital, primary health centers, family planning centres, tuberculosis (T.B.) clinics and through private hospital and clinics. In Solapur district in the near 1961, there were three hospitals which went on increasing in number, consistently, for each successive decade and became as high as twenty hospitals in the district as a whole. Barshi, Pandhapur and Malshiras have two hospitals each; in the year 2001, and rest other tahsils have each one hospital.

There were 35 dispensaries in the Solapur district in the year 1961, and consistently, went on increasing in number for the next four decades and became as high as 104 dispensaries in the year 2001, for entire district. The number of dispensaries varies enormously through space and time in the tahsils of Solapur district.

The number of primary health centres in Solapur district for the last five decades also went on increasing in number from 51 in 1961 to 71 in the year 2001. The numbers of primary health centre also vary within various tahsils during the last five decades.

The numbers of sub-primary health centres were 321 in 1991 and became 341 in 2001. Probably, these sub-primary health centres were bifurcated during eighties in order to facilitate people in rural areas of each tahsil.

Another aspect of medical facilities may be considered in the form of doctors available in each tahsil in Solapur district. In the year 1961, there were 64 doctors which continuously went on increasing for each next decade and became as high as 491 in the year 2001. Similarly, for all tahsil of the Solapur district, the number of doctor's has also increased for the last five decades.
Number of nurses has also been found out, for the district as whole and for its different tahsils for the last five decades. In the year 1961, there were 89 nurses' serving in the region under study and became as high as in 2001.

To assess the levels of medical facilities in the Solapur district, the number of beds in the hospitals was taken as an indicator. In the year 1961 in total, 687 beds were available which increased to 2553 in 2001.

Percentages of villages served by medical facilities were also computed for the district as a whole and for its various tahsils in 2001. The percentage of villages having medical facilities in Solapur district was 52.20 percent. The percentage of villages having medical facilities varies from tahsil to tahsil being highest for Mohol and lowest for Madha.

Besides, percentage of rural population served by medical facilities was calculated to 17.41 percent and highest for Mohol and lowest again for Madha tahsil.

Educational facilities play a very important role in the socio-economic development of a region in Solapur district; there have been considerable progress in the educational facilities. According to 2001, there were in all 3679 number of educational institutions in the Solapur district as a whole. As expected, the primary schools were highest in number, having 2837 in the various places in the district. This is because the Government encourages the primary education in order to eradicate illiteracy from the country. It has also been observed that as level of education increases, the number of educational institutions declines. It is clear from the fact, that there were only 630 secondary schools in the Solapur district, which are seven times less in number than the primary school. Similarly, junior colleges were 114 in the district and are about six times less in the number than secondary school. Senior college are almost half in number than the junior colleges. Some professional college
like D.Ed., B.Ed. College, ITI, Polytechnic, Law College, Medical College and Engineering College are much lesser in number in Solapur district. It is clear from the table 6.9, that there had been 17, D.Ed., 12, B.Ed. and 11, ITI colleges in entire district. It may be stated, that the technical and professional colleges are quite less in number in relation to total population of the district. It is therefore, suggested that, number of technical and professional institution should be brought into existence in different part of the district in order to fulfill the demand of the increasing population.

Tahsilwise, number of primary and secondary schools as well as junior and senior colleges along with the technical and professional institutions have been represented in table 6.9. In the year 1991, there were 2603 primary schools in Solapur district which increased to 2837 in 2001. For different tahsils of Solapur district, the number of primary schools has also increased substantially. Similarly, the number of secondary schools has also increased from 609 in 1991 to 630 in 2001.

The number of primary school for per 10,000 populations was 8.78, in 2001. The highest number of primary schools was for Sangola tahsil of 14.59, while the lowest for North Solapur tahsil of 4.79. The number of secondary school per 10000 populations was 1.95 for region as whole, the highest being for Barshi, while lowest for Malshiras tahsil.

Transportation and communication facilities along with market and Banking facilities have been analysis in chapter seventh. The transportation facilities are considered as the life line of the economy in a particular region. The transportation facilities play role like of venes in human body. In the year 2001, the percentage of villages having approach by pucca road and percentage of rural population by pucca road have been calculated for the district as well as for its various tahsils. For the region as a whole, 40.21 percent of villages having approach by pucca
road was observed in 2001, the highest percent was recorded for North Solapur tahsil, while, lowest for Mangalwedha. Similarly, percentage of rural population served by pucca road was calculated to 55.46 percent for region as whole in the year 2001. Again, North Solapur tahsil represented the highest percentage of rural population served by pucca road and lowest for Mangalwedha tahsil.

The transport and communication facilities are the most important, joining different settlements and population to one another for different purposes. In the 2001, the percentage of settlements having post facilities was calculated to 45.77 for region as a whole. Highest is the North Solapur tahsil and lowest for Akkalkot tahsil was observed. Similarly, percentage of population served by post facilities was 68.57 for Solapur district and Sangola tahsil represented the highest percentage served by post facilities while, adjoining tahsil of Mangalwedha represented lowest percentage of population served by post facilities.

Distribution of weekly market helps in supplying goods and services to surrounding areas. At the same time, these market centres provide surplus food grains from the surrounding villages. Various things which are required in day to day life are easily available in such centres. The larger urban centres are the daily market centres, which supply the necessary things to the people daily. On the other hand, weekly market centres are distributed in different part of the district, particularly at tahsils headquarters. In the district in all there are 172 weekly market centres, which are widely distributed in different tahsils. The areas which are not under the influences of larger urban centers have the maximum number of weekly market centers, such as Mangalwedha and Madha. The North Solapur and south Solapur tahsil as well as Mohol tahsils have low weekly market centres.
The average percentage of the villages served by weekly market centres for the district was 29.52 percent. Economically and socially backward tahsils have higher percentage of villages served by weekly market centres, such as Mangalwedha, Sangola and Madha tahsils.

Distribution of market yards in Solapur district varies uniformly, since all tahsil head quarters have one market yard, except South Solapur tahsil. However, sub market yards are much in number and accounted to 38 in the district. Highest number of sub-market yard is for North Solapur, while the lowest for the Barshi.

For overall development of the region, the capital plays very significant role. The financial aids by the Government and people are made transfer through the cheques, demand draft and transfer order through banks. Hence, bank facilities are of prime importance for the transaction of money. There were 194 settlement having bank facilities in the district as a whole. The North Solapur tahsil has highest number of co-operative banks and city alone has 118 banks. In the year 2001, there have been 263 scheduled bank in the entire district and alone 66 were located in North Solapur tahsil, which comes to 25 percent banks of the district. In order of number and percentage, Barshi, Malshiras and Pandharpur occupied second, third and fourth rank.

The number of co-operative banks was 298 for entire region out of these, 52 were located in North Solapur tahsil, which is more than 17 percent of the district total. Because of political influence, Malshiras represented the second highest number of 42, which is more than 14 percent of the district. Out of the total, more than 21 percent total banks were found only in North Solapur tahsil. Malshiras has 12 percent banks of the district. It was also observed that 16.95 percent settlements of the district have banking facilities. The percentage differs from one tahsil to another within the district of Solapur.
The chapter eight is concerned with the disparities in the levels of economic development for Solapur district. The disparities in natural conditions, in terms of terrain, climate, such as temperature, rainfall, soil type's drainage, forest cover, minerals, transport and communication network lead to imbalance in socio-economic development. The purpose of this study is to remove the disparities and inequalities between the developed and backward regions. The regional planners and policy makers take into consideration, the diagnostic plan on priority basis to eliminate regional imbalances and disparities to make the region socially and economically balanced. There are number of socio-economic facilities, such as levels of agricultural development, various industries, such as large, medium and small scale, levels of industrial development, levels of development for socio-economic facilities and population characteristics, such as growth, distribution and composition have been considered for the working out levels of development.

The development levels by rate of change and computation of index for the development, both the methods have been employed in explaining the levels of development in Solapur district. On the basis of these indices, the diagnostic process is selected for the implementation of certain of the policies by the planner. All the chapters of the present study make the subject matter of socio and economic aspects in Solapur district. As a matter of fact, every aspect needs to identify the degree of vulnerability, in order to boost that particular aspect for the socio-economic development. There are many techniques and approaches through which region may be identified for the social and economic development.

Levels of agricultural productivity indices for Wheat, Jawar, Bajara, Pulses, Tur and Sugarcane are selected for the last three decades. The yield per hectors in kilogram and production in 100 tones has been
computed for district as whole. At the same time, change in yield during 1981-2001 in percentage also been calculated for major crops. The measurement of levels of productivity by Kendal's ranking co-efficient method has been applied and three areas of levels of agricultural productivity had been identified such as: i) Areas of high productivity, ii) Areas of moderate productivity and iii) Areas of low productivity.

Similarly, measurements of levels of agricultural productivity have also been applied by yield index method and three areas of high, moderate and low levels of productivity have been identified. The area of low agricultural productivity may be given some priority in terms of fertilizer, high yield variety seeds and increase in irrigation facilities. The implementation of mechanization in agricultural field should be stimulated by the Government.

The planning for the industrial development in Solapur district is the need of the region. Four industrial estates are found in Solapur district. The industries have been divided large and medium scale industries on the one hand and small scale industries on the other. The problems faced by each industry should be tackled along with the other sugar factories collectively. The most crucial and genuine problems for the planner are taken in to consideration as given below.

There are number of problems related with production of sugarcanes, problems of low prices of sugarcanes, problems of bio-products, faulty government policies, environment pollution and unskilled labour supply, as well as marketing problem to supply the product, should be tackled intelligently and honestly. The government should decide the reasonable rate both for raw material as well as for product for the maximum benefit of farmers and people.

Spinning mill locally known as 'Soot Girni' and there are ten co-operative and eleven private soot mills in Solapur district. There are
number of sick spinning mills, therefore, there is an urgent need to improve their various kinds of problems faced by spinning mills. Lack of cotton for local area, lack of skilled workers, irregular supply of electricity, high rate of electricity per unit, shortage of working capital, lack of technical knowledge, low market prices and lack of market demands of production, poor development of transport network and changing pattern of clothes due to new innovation. There are important problems and these should be tackled in such a ways that the spinning mill should be improved and well planned, and productions are raised by proper planning.

Development planning for edible oil and fat industries as well as planning for dairy industries and planning for engineering industries have more or less common problems and should be tackled seriously in order to enhance the production in these industries. Similarly, developmental planning for small scale industries should be encouraged by the government and loan providers. An understanding of population characteristics, such as growth, density age and sex structure, literacy and occupational structure play a very important role in planning of socio-economic development of a region. Hence, the spatiotemporal studies have been carried out for the implementation of certain policies and family planning programs in region under study.

Planning for the socio-economic facilities and development of such facilities reflects the economic as well as socio-cultural set up and a spatial organization of society. The health and medical services have been assessed spatially and temporally for district of Solapur. Similarly, planning for educational facilities, planning for transport facilities post office facilities, weekly market, market yards and banking facilities have been studied in depth for different tahsils of Solapur district, in order to solve the existing problems faced by these sectors.
In the chapter ninth an attempt has been made to establish relationship between per capita income on the one hand, and different variables on the other. The per capita income is selected as an indicator to represent the levels of economic development in Solapur district. The per capita income is such an indicator which represents the standard of living of the people. In order to understand relationship of various factors influencing the per capita income has been interpreted on the basis of the values of coefficient of correlation.

The value of 'r' is to be found quite insignificant and negative with percentage of area under forest and per capita income. This shows that with increasing per capita income, the percentage of area under forest declines. It should be remembered that forest activity come under the primary economic activity, which gives low production resulting in low income as compared to secondary and tertiary economic activities. Therefore, there is an inverse relationship between per capita income and the percentage of area under forest.

The relationship between per capita income and percentage of area under cultivation is also found negative but, to certain extent significant. With increasing percentage of area under cultivation, the per capita income declines. It is commonly observed that the cultivation relatively gives low per capita income, not only in case of Solapur district but also for Maharashtra and India. This is partly, because, cultivation have half working days in the year, which secondary and tertiary workers have wages throughout the year, resulting in the low per capita income, in primary sector. Hence the value of 'r' is negative with area under cultivation.

The percentage of irrigated land is reflected in the agricultural activity. The percentage of irrigated land though enhance the yield per acre of land, yet large size of household divide the total production in low
per capita income. Therefore, with increase in irrigation area as compared to other economic activity agriculture gives low production per person.

The relationship between per capita income and percentage of urban population is highly significant and positive (0.93). The degree of industrialization leads to the process of urbanization. The urban areas are the places of the concentration of secondary and tertiary economic activities. At the same time, the urban areas have high literacy rate than that of rural areas. Apart from this, the urban people are socially much aware than the rural people. The norm of the family size is also smaller in urban areas. Commonly urban people are engaged both in the manufacturing, transport, trade, commerce, construction and in various kinds of services. Most of the professional practitioner such as Doctors, Engineers, Lawyers and Chartered Accountants generally confined to urban areas. From all these points, it is concluded that with the higher proportion of urban population, the per capita income is enhanced.

The per capita income shows a positive co-relationship (0.92) with density of population in case of Solapur district. The high densities of population are generally confined with the areas have concentration of various secondary and tertiary economic activities. The better employment opportunities are also available in density populated urban areas. Therefore the per capita income increases with rapid growing urbanization.

The per capita income and literacy rate influence the socio-economic and cultural development of the region. The positive (0.75) and significant value of correlation coefficient indicates high per capita income, because these literate people are generally absorbed in the secondary and tertiary sector of the economy. Most of the literate people are engaged in the white color jobs having better salaries in comparison to illiterate people. Relationship, therefore, between per capita income
and literacy is quite high and significant which is proved by the value of 'r' between these two variables.

The per capita income and percentage of workers in manufacturing has show the value of coefficient of correlation positive and highly significant. This shows that the percentage of workers in manufacturing gives maximum per capita income. The concentration of manufacturing activities is generally, confined in the urban areas, resulting in the concentration of skilled, literate and technologically advanced peoples, who paid high salaries are. Therefore, the positive and significant relationship between per capita income and percentages of workers in manufacturing is found positive and significant.

Per capita income and road length per 100 square kilometer shows an inverse relationship because a sizable area in the construction of roads as well as the broadening of the road particularly National Highways, State Highways, District roads and rural road network occupy a large area otherwise, it should have been under cultivation. Thus, a loss of sizable cultivable area for the road has inversely affected. The production of agriculture in the region understudy is reduced with greater extent with the road construction.

Per capita income and percentage of rural population has a very significant but negative relationship. It is commonly well known fact that rural dominated societies have low income because of their partial employment in the year. Therefore, negative relationship of rural population with the per capita income is opposite of percentage of urban population. Rural and urban areas are the centers for primary and secondary tertiary sector respectively. The infrastructural facilities are lacking in rural sector which influence the standard of living to a greater extent. It is also true that no better employment opportunities are found in rural areas. Hence, resulting in the low per capita income, the correlation
between per capita income and percentage of agriculture labor has an inverse relationship. The agricultural labors often live a life of hand to mouth because of their temporally work in agriculture. Even today, the daily wages are quite low for agriculture laborers not only in Solapur district but also for the state of Maharashtra and India. These landless agricultural labors are the people generally known as the people of poor economic strata. Therefore, it may be concluded that with increasing agriculture labors naturally, the per capita income is lowered.

The per capita income and rainfall has show positive relationship. The prosperity of a nation generally depends upon the rainfall. Not only this agriculture but also industrial development needs enough water. The artificial supply of water from the reservoir or lake is also depending upon the amount of rainfall, which is used throughout the year for different purposes. As a matter of fact, water is the lifeline of the living things hence, life began from the water. Most of the communities have settled down along the sources of water, particularly along the river valleys, where fertile soil for agriculture and water for drinking purpose was available. The desert regions are sparsely populated. The economic activities are carried in areas where enough rainfall occurs in Solapur district with the increase of rainfall the agricultural productivity is positively affected. Hence, the positive value of coefficient of correlation clearly indicates that with increasing annual rainfall is resulted in higher per capita income.

The scheduled caste population is socially and economically backward sector in India. This sector has deprived off various benefits by the upper class people. Scheduled caste population in case of Solapur district is very large than many parts of the state of Maharashtra. Hence, the relationship between per capita income and scheduled caste population represent inverse and significant relationship. The percentage
of literacy among the scheduled caste population is also low. Inspite of efforts, being made for the upliftment of this class by the government, this group even today could not get the momentum as expected. Though, there is a provision of reservation, on the educational, services as well as in the political realm, yet scheduled cast population has not reached up to the mark in social and economic development. Even today, large percentage of scheduled caste population engaged in the serving of higher class, at the very low wages, resulting in low per capita income.

The scheduled tribe population in Solapur district is quite negligible. They are associated with the forest and mountainous region in India socially, economically, culturally, educationally and politically these tribes are very backward. Generally they depend upon the primary activity based on forest, grazing and lumbering for their survival. In case of Solapur district their proportion is quite low. Hence, the relationship between per capita income and the percentage of scheduled caste population is not much significant. Therefore, with high percentage of schedule tribe population the per capita income decline.

Per capita income and percentage of area under grazing has very significant relationship as the value of correlation (0.85) signifies that in a region like Solapur the percentage of area under grazing boost up rearing of animals like cattle, sheep and goats for the masses in Solapur district, these animals are the sources of milk, meat, skin, bones and many other by products. It has resulted in the enhancement of income of the people on a large scale in Solapur district.

The per capita and number of cattle is quite insignificant and negative. India stand first rank in the world as far as the number of cattle and other domestic animals are concerned. This clearly reveals that inspite of their usefulness in day to day life by the sizable proportion of the people their income is not much than that of the people of service
sector. In Solapur district the number of cattle has influenced the per capita income in other way round. With decreasing the number of cattle in Solapur district the secondary and tertiary sector is adversely affected resulting in low per capita income. Secondly, the degree of mechanization in agricultural sector is now being practiced by number of cultivators, getting maximum return from the agriculture. On the contrary the poor farmers are still practicing agriculture with the help of cattle in low fashion and hence, getting low per capita income.

The numbers of villages represent the predominance of rural economy in any region. Though, highly insignificant value of co efficiency of correlation, which means that with large number of villages in any region the per capita income declines, the degree of industrialization and consequently urbanization is poor in rural dominated areas, perhaps due to poor infrastructural facilities, lack of skills labor, poor road network system are the chief caused for poor economy as compared to urban areas. As a result of this the per capita income in rural areas of Solapur district is low.

The poor capita income and the number of sheep and goat has also shown negative and quite insignificant relationship. The number of sheep and goat also represent rural economy. A large number of people from rural areas, who are engaged in the rearing of sheeps and goats of different kinds, are generally, illiterate and poor people. No doubt, for the people who have such animals, the grazing activity, sometimes, became highly profitable to them, but it is stated earlier under the head of the area under grazing and per capita income, this fact, is not correct, because with increase in the number of sheep and goat, the per capita income decline in Solapur district. If, we compare the income generated by the sheep and goat with income generated by secondary and tertiary sector than it is found much higher than the former income, that is why, the
relationship with the per capita income and number of sheep and goat is negative and insignificant for Solapur district.

The number of saw mills which shows a positive though insignificant relationship with the per capita income in the Solapur district. The exploitation of forest resources for the construction of houses and industries is generally based on the wood. Saw mills are the chief sources of manufacturing of raw wood into finished products. The furniture and the other various product of lowering are used particularly in the construction purposes in rural areas of the Solapur district. The proportions of land under forest have negative relationship with per capita income because a sizable area is not used for the purpose of agriculture, and hence, it result in low per capita income in rural areas of the Solapur district. On the contrary the number of saw mills increases than the per capita income also increases. The raw wood from the forest direct not have that much economic value as the manufacturing of the furniture and construction material of wood gives manifold times economic value for the same goods. This is the reason for the positive coefficient of correlation between per capita incomes and saw mills in Solapur district.

The per capita income and average height from the sea level represent a positive relationship which is significant to a certain extent. The plain, plateau and mountain are categorized according to their average height from mean sea level. For the suitable human settlement the plains are best location then mountainous region. Plains have more economic activities due to favourable geographical conditions and hence the plains support high population. On the other hand the high mountain regions are not suitable for human habitation, because of poor accessibility and unfavorable climatic condition and physical constraint. The value of coefficient of correlation between per capita income and average height from means sea level depict, the contrary picture as the
average height from mean sea level increases in Solapur district, the per capita income also increase accordingly. Most probably, the high areas from the mean sea level to a certain extent are suitable for, primary, secondary and tertiary activities resulting in high per capita income. Secondly, the high areas like plateau and mountain have mineral resources and mining activities are carried out in such region giving high per capita income.

In short the overall findings and suggestions are as under:

**RESULTS AND FINDINGS:**

1. The growth of population is rapidly increasing in the study region.
2. The resources particularly land resources are limited and fixed and cannot be further enhanced. If, it is so that will be at the cost of deforestation, which is not desirable at all which may dislocate the state of equilibrium.
3. The birth rate and death rate both are at higher level in Solapur District.
4. Due to improvement in medical facilities the death rate is declining rapidly resulting in high growth of population.
5. The region under study is in the second stage of demographic transition.
6. The age which is the index of power among working force also influences the structure of age and sex phenomena. Pyramids high and broad based and low apex which is increasing indicates low expectancy of life. Though, death rate is low but it is not much lower than many areas of Maharashtra.
7. The present pattern of education has also bearing upon the per capita income.
8. Land use pattern is changing rapidly from food crops to cash crops
in the region. The agricultural productivity is much lower per acre of land.

9. The proportion of land under irrigation is lower than many other parts of Maharashtra state.

10. Sugar factories have number of problems which may be rectified immediately.

11. The biproducts of sugar industries should be properly handled and reasonable rate has to be given to the farmers.

12. The dal mills, textile mills, engineering units and many other should be developed properly which have many problems of linkages of market sectors.

13. Health services are deficit in relation to existing population.

14. Education facilities are also insufficient in relation to population especially in rural areas.

15. The road networks and railway networks also need to improve by connecting all the different places within the region.

16. Post office facilities should be enhanced in Solapur district.

17. Market and banking facilities are very less in number in remote villages of the study area.

18. The levels of disparities have been largely found in comparison with its average in Solapur district.

**SUGGESTIONS:**

1. The growth of population which is rapidly increasing must be checked by implementing different government policies to minimize.

2. The land resources are limited and cannot be enhanced; therefore burden on available land should be minimized by adopting different methods of utilization and conservation of land resources.
3. The birth rate which is higher in Solapur district should be controlled by different government policies.

4. The region under study is in the secondary stage of demographic transition. Hence, there is a need to check the population growth and minimize the inequalities within the region.

5. The age and sex composition structure should be maintained properly and there is need to provide the necessary employment opportunities for the young generations.

6. In the study area, the agricultural productivity is much lower per acre of land which causes serious problem to the growing population. Hence, the different methods should be adopted to enhance the agricultural productivity in order to meet the demands of people and to reduce inflation.

7. The present pattern of education should be changed into the advance applied technology and provide the maximum employment opportunities for the future generations.

8. The proportion of land under irrigation is lower, compared to other parts of Maharashtra. Hence, it is necessary to develop different type of irrigation systems so that agricultural, industrial and domestic demands of water should be fulfilled satisfactorily as water is basic needs of these sectors.

9. The problems of sugar factories are very large in numbers. Hence, it is necessary to solve the problems with the utmost so that farmers and labors should get proper return for their products.

10. The biproducts of sugar industries should be handled properly and different markets should be developed in different parts of the district in order to get reasonable rate.

11. The large and medium scale industries as well as the small scale units should be developed in different parts of the district to
provide employment opportunities for the people of different areas to minimize the regional social and economic disparities and proper utilization of available natural resources within study region.

12. The dal mills, textile mills, engineering units should be properly linked to market sectors so that demands of the products should be satisfied and profit may be accelerated.

13. The health services should be improved either by private sector as well as public sectors so that the people of Solapur district should retain sound health which in turn will be reflected in prosperity.

14. The education facilities are insufficient in relation to existing population. These should be improved both by private sector as well as public sectors so that the literacy rate especially in rural areas may be increased.

15. The roads and railway networks also need to be improved for the proper transportation of people and goods at a faster and reasonable rate.

16. The communication facilities like post offices should be enhanced.

17. Market and banking facilities in remote areas to be made available so that economy of the all parts of the district should be improved which may reduce regional imbalances.

18. The levels of disparities should be minimized by percentage aspect as compared to average.