CHAPTER IX
CONCLUSIONS, PROBLEMS AND RECOMMENDATIONS

The main objective of this chapter is to sum up the important conclusions. Taking in to consideration the inferences of the investigation the researcher is aware of the problems related to the population structure of the study area. The important problems are also listed in the present chapter. It is difficult task to rectify the shortcomings or to solve the problems. However, some recommendations have been made, which will be helpful to have solution to these problems. At the end of the chapter the researcher has given some suggestions for further research in this field. Nature of these suggestions is interdisciplinary and multidisciplinary. The suggestions are based on the issues, which the researcher came across in the process of investigation.

The research work embodied in the thesis is an analysis of various aspects of the population structure of Pune administrative division of Maharashtra state. The researcher at the ultimate stage, through the research has arrived at the following conclusions.

9.1 CONCLUSIONS
1. Population geography in India commenced in real ernest in the early sixties. It has made commendable progress in the last fifty years or so and finds a place as a specialised course in the geography curriculum of several universities. The contents of population geography are largely concerned with growth, distribution and structure of population, the spatio-temporal changes in various aspects of population and their effects on the socio-cultural, economic, political and environmental issues. Population structure and distribution pattern, fertility, mortality and migration are the tubers of population studies. Study and consequences of changes in population and demographic characteristics is useful to understand the scheme of development and planning of the region. With this approach the present study focuses on the spatio-temporal changes in population in Pune Administrative Division.
Administratively, the state of Maharashtra is divided into six divisions *i.e.* Thane, Nashik, Pune, Aurangabad, Amaravati, and Nagpur. As far population is concerned, Maharashtra is the second largest state in India after Uttar Pradesh. Pune Division *i.e.* the study area, which has homogeneity in many geographical aspects. However, as regards the physiography and climate especially the rainfall and temperature conditions there is diversity in the region, which has reflected in the population structure, especially the distribution, density, occupational structure and urbanisation.

2. Pune Division is comprised of five districts *viz.* Pune, Satara, Sangli, Kolhapur and Solapur having 58 tahsils. Pune Division is situated between $15^0 45' N$ to $19^0 24' N$ latitudes and $73^0 19' E$ to $76^0 15' E$ longitudes and extended about 267 km from east to west and 357 km from north to south with having an area about 57,235sq km. The study region covers central and southern part of Maharashtra Deccan and western part is flanked by Sahyadris. In the west, average height is about 900 meters above sea level, in the central part it is 600 meters, while the eastern portion descends between 450 and 600 meters above sea level. The general slope of the region is eastward and south-eastward. The mountain and hill ranges in the west, river basins and undulating topography at the centre and highland plateaus with wider river basins in the east mark the physical landscape of the region.

Pune administrative division shares 18.60 per cent of the total area of Maharashtra state and 20.64 per cent of population. Out of the total 58 tahsils in the division 38 per cent *i.e.* 22 tahsils are located in the western hilly region, which have very rough terrain and experiences heavy rainfall. Another 31 per cent *i.e.* 18 tahsils are located in the drought prone areas with scanty rainfall and scarcity of water. Remaining 31 per cent *i.e.* 18 tahsils are located in the central north-south belt where there are favourable factors like fertile soils, moderate rainfall, river basins, developed agriculture due to irrigation facilities, good transportation network and well developed industrial centres. These factors are responsible for dense population and growth of cities. The study region horizontally can be divided into two river basins. Bhima basin in the
north with 62 per cent of the total *i.e.* 36 tahsils and upper Krishna basin in the south having 38 per cent *i.e.* 22 tahsils.

3. Geologically the study region is part of the *Deccan Trap* and it is observed that thickness of the traps at Mahabaleshwar is nearly 660 to 1000 meters, while at the southern and northern boundaries of the region in Kolhapur and Solapur districts the thickness is only 60 to 100 meters. Geomorphologically, the study region has Sahyadris in the west and its offshoots traverse the region from west to east and separate the river basins of Bhima in the north and Krishna-Panchganga in the south. Bauxite is a major mineral resource found in the study region. It is associated with laterites and is located in the western parts of Kolhapur and Satara districts. The vesicular cavities in the traps are filled with numerous secondary minerals.

4. The soils in the study region are generally of trap origin. Therefore, five major types of soils are found in the study region. Lateritic soils are mostly found in the highlands of Western Ghat in the study region, while higher slopes of the Western Ghats are occupied by redish brown soil. Medium black soil covers large area of the study region, mostly the eastern part of Kolhapur, Sangli and Satara districts. This area is characterised by pedimont plains. The areas between the foot of the hill ranges and the valleys, the pedimont slopes and undulating areas the eastward projecting of-shoots of the Western Ghats are covered by shallow to medium deep gray coarse soil. The rich and fertile alluvial soils are found in the lower part of the river basins in the study region. The areas of river basins in the study region are suitable for agriculture, especially commercial. The cash crop like sugarcane is grown. The sugar cooperatives, the dairy cooperatives are responsible for the economic development of the areas. Thus, these factors again are responsible for dense population and development of urban centres. The forests are mainly concentrated on the eastern slopes of Sahyadri, particularly in the western parts of Kolhapur, Satara, Sangli and Pune districts.

5. The climate of the study region is essentially of tropical monsoon type. Ranges of Sahyadri are main determinants in climatic conditions of the
study region. Thus, the highlands of the Western Ghat get heavy rainfall, while
to the eastward of the Western Ghat rainfall decreases rapidly. Because of this,
a rainshadow region is formed in the eastern part of Satara and Sangli district
and major part of Solapur district, which receives vary meagre amount of
rainfall and is called as famine belt due to scarcity of water. It is the drought
prone region.

6. Most part of the study region is drained by major rivers such as
Bhima, Krishna and their tributaries. The river water is used for irrigation
through various irrigation schemes, K. T. weirs and lift irrigation. Thus the
production of cash crops, mainly sugarcane and other crops is comparatively
high in the region. All these reasons contribute the dense population in irrigated
river basins in the study region. These parts of the study region where the
percentage of net sown area is more are well suited for the agricultural
activities and for the agro-based industries also, especially the sugar factories
and milk processing units. As a result, these are the thickly populated areas. It
means that, the agricultural development is well correlated to the distribution
and changes in the population.

7. Solapur, Ichalkaranji, Sangli, Kolhapur, Pune, Pimpri-
Chinchwad are the industrially developed areas with textile, power-loom and
handloom, food processing, automobile, transport equipment, electronic goods
and Information Technology. These industrially developed areas attracted more
working force and population. Thus, these parts in the study area are more
populous than the industrially underdeveloped parts. During recent years Pune
and nearby urban areas are industrially rapidly growing regions. These urban
regions have attracted more working force and population.

8. It is found that population distribution in a study region is closely
related to its physical, economic and social setting. Since it is ever changing, its
causes and effects vary with time and space. It is found from the present study
that there is uneven pattern of population distribution through-out the study
region. Thus, population density has increased continuously throughout the
investigation period but the rate of increase or the decadal variations showed
some ups and downs in the region. Pune Division recorded a higher growth in actual population density with higher growth rate than those of the India and Maharashtra throughout the last century. Slow but steady growth in population density was seen in the pre-independence period and the post-independence period has witnessed a very fast growth in population density. This is largely due to the higher natural growth of population after independence. As far the rate of increase of population density is concerned, three stages are clearly seen. First stage is in between 1901 and 1941, which witnessed slow and steady growth of population density. On the other hand, second stage i.e. from 1941 up to 1971 showed an alarming increase in the growth rate of population density. While from 1971 to 2001 i.e. the third stage, recorded a comparatively slow rate of increase.

9. It is observed from a district level analysis of population density and distribution that all the five districts showed a steady and slow growth of population density in the pre-independence period. While, in the post-independence period population density increased with faster rate. As far, the growth rate of population density is concerned, it was steady and slow up to 1931-41, it was in increasing stage up to 1961-71 and from 1971-81 it showed slow trends in the increase. Kolhapur district was densely populated district thought-out the investigation period. Fertile soil well developed irrigation facilities, suitable climatic conditions, development of industrial sector like agro-based, textile and other industries are the reasons for highly dense population in Kolhapur district. Rainshadow region of Satara and Sangli districts as well as the drought prone region of Solapur district has low density of population, except for the urban centres. It is observed from the spatio-temporal analysis of the population densities that the higher densities are found in the central part in the form of North-south extending belt, while lower densities are in the eastern and western areas of the study region. Diversity in the physiography and the climatic conditions (temperature and rainfall), along with the soils in the river basins and plateau region diversified irrigation facilities, uneven agricultural and industrial development, and urbanization are
the Major determinants of uneven distribution of population density. The main findings are, the study region did not exhibit many variations in temporal perspective but the contrast is highly visible from the spatial point of view.

10. To analyse the uneven pattern of population distribution in Pune Division, Population Concentration Index (PCI) was calculated. According to PCI, tahsils, which are included in the rainshadow region and drought prone region, suffered from some physical handicaps of uneven topography, meagre cultivable land, paucity of water, poor local resources, resulted in limited socio-economic development and those indicated low indices of population concentration. While those tahsils, which enjoyed suitable climatic conditions, more of cultivated land, ample water resources, agricultural and industrial development, intense transport network and rapid urbanization exhibited higher degree of population concentration. Pune Division presented a very well graded Tri-Model Pattern of density of population with highly industrial areas of Pune and Solapur in the north and east respectively has very high population densities. The agriculturally developed areas with sugar industry centres including Karad, Sangli and Kolhapur in the south constituted the nodes of high density of population. The undulating zone in the west having its location in Sahyadrian ranges and the water deficit, drought prone area in the eastern part of the study region comprises of low densities. The areas of moderate density lay in between high and low density areas.

11. Considering the population growth in India, Maharashtra and Pune Division, pre independence period showed more fluctuations in the population growth, whereas the early post independence period recorded the highest growth in the population. Besides, the post independence period experienced declined trend in the population growth. District-wise analysis of population growth showed that Pune district had more fluctuations in the population growth, mostly because of the higher immigration from surrounding areas and other parts of the state in search of employment opportunities due to industrial development, likewise, death rate was also under control at the end of the 20th Century, due to improvement in the medical facilities and health.
awareness. In the pre independence period, districts included in Pune Division recorded very slow growth in the population over decades but in the early and post independence period population growth of these districts reached at its zenith. At the end of current century, due to various policies of the government and the awareness campaigns, Family Planning Programmes, etc. population growth rate started to decline gradually. In addition to that, due to education and general awareness, people voluntarily started to restrict their family size.

It is observed from the tahsil-wise analysis of population growth that, during the last thirty years, the population of the study region grew in absolute numbers but the growth rate exhibited declining trend. There were various factors affected the growth rate during these thirty years. This period actually fell in the late post independence era, therefore, in this period the effective implementation of Five Years Plans by the central government, adequate medical facilities to control diseases, mostly the epidemics, successful implementation of the Family Planning Programmes for birth control, development of agriculture, facilities of irrigation, development of human resources and enhancement in economic activities took place. Due to the influence of all these factors, population growth rate started declining.

It is observed from the spatial distribution of population growth that, the tahsils with urban centres have shown high growth in the population due to controlled death rate and higher immigration from rural areas over decades. Very slight growth in the population was found in the western part of the study region mostly because of the unfavourable physical factors, absence of transportation and communication facilities, traditional agriculture and lack of job opportunities. The said situation resulted into out-migration for employment in other comparatively developed parts of the region and the state.

Population growth showed some increasing trends towards the central part due to fertile land, commercial agricultural practices, high degree of urbanisation with industrial development particularly the agro-based, manufacturing, development of agro-based industries in co-operative sector and improvement in medical facilities. It further declined from the central to
the eastern part. Most of the eastern part of the study region is in the rainshadow region; subsequently droughts occurred very frequently in this region due to low rainfall. Scarcity of water both drinking and for irrigation is a common problem.

Regarding the temporal changes in the growth rate of the population, during intercensal decade 1971-81, there were 21 tahsils from the entire study region, which experienced more than 20 per cent of the growth rate, the number increased to 32 tahsils in 1981-91. Again, the number of tahsils, which experienced above 20 per cent growth rate, was reduced in the 1991-2001. In the last decade, only 17 tahsils were in this category. During the decades 1971-81 and 1981-91, there were four and eight tahsils respectively, which recoded low growth rate i.e. below 10 per cent, while during 1991-2001, there were 11 tahsils, which recorded blow 10 per cent of the population growth. It is clearly seen that during the decade of 1991-2001 the population growth rate started to decline mainly because of the awareness among the people about the family size.

12. The study region entered in the third stage of demographic transition from the decade 1991-2001. Hence, zones of population growth during the decade are formulated into three different categories i.e. high, medium and low population growth rate zones. It is observed that, most of the urban areas in the study region have high population growth. Whereas the western tahsils of the study region experienced low growth rate due to unfavourable physiographic and climatic condition, besides, eastern tahsils, which mainly fell into the drought prone region, were in the zone of low population growth. The tahsils situated in the central part of the study area continuously remained in the zone of medium growth of the population due to many reasons like urbanisation, industrialisation, technological development in the agriculture and improvement in irrigation facilities, increase in the employment opportunities and immigration.

13. In comparison with the general population of India and Maharashtra, the population in Pune Division is characterised by a relatively
high sex ratio. This high sex ratio for the study region is a result of high sex ratio of rural and less urbanised regions. It is because the proportion of male migration from rural and less urbanised areas to highly urbanised areas, and also because of prejudices towards the migration of females for the purpose of earning the living. The sex ratio since 1901 was observed as the highest for Maharashtra as compared to those of India and Pune Division. It means that like India and Maharashtra the study region also showed decline in the sex ratio by almost above 40. The declining sex ratio is a major problem.

Satara district showed most surprising changes in the sex ratio. Satara had the highest sex ratio than any other districts in the study region. On the other hand, Solapur district remained on the last position with the lowest sex ratio for most of the time. The sex ratio of Pune district declined since 1901 to 2001, followed by Solapur district. During the century, Satara districts lost 36 females per thousand males, whereas in Sangli and Kolhapur districts, sex ratio decreased by 27 and 26. It is concluded that, as a result of negligence the situation of the females in the male dominated society is very poor, and it is becoming worse day by day and decade by decade. This situation has created blockages for further development of our society.

As far the spatial pattern of the sex ratio is concerned, it has varied from tahsils to tahsil. It was the lowest as 868 in Pune City tahsil in 1971, whereas it was the highest as 1279 in Bhudargad tahsil of Kolhapur district in 1981. It clearly indicates that, the areas like Pune City tahsil exhibiting augmentation in the employment opportunities are attracting mostly male migrants, hence, it is characterised by low sex ratio. On the contrary, the areas such as Bhudargad tahsil with economic backwardness and unfavourable climatic and physiographic conditions push the male population out of the areas in search of employment, resulting into high sex ratio. Thus, it cannot be called as the characteristic of healthy society but it is infact a characteristic of poor society and underdeveloped area.

The tahsils situated in the western part of the study region showed better figures of female percentage. These tahsils mainly suffered from undulating
terrain, heavy rainfall, unfavourable climatic conditions, low agricultural productivity, very low level of urbanisation and absence of industrialisation; as a result out-migration rate of the male population was high for the economic survival of the people, which affected the sex ratio. Most commonly, all the tahsils from Solapur district showed low sex ratio, due to scarcity of rainfall, dry land for agriculture, frequent situation of droughts increased the mortality rate mostly the female population. Life is hard for the fair sex in the drought prone regions. As per the zones of sex ratio, highly urbanised and industrialised tahsils from the study region were placed in this zone of low sex ratio; immigration was the one of the reasons for this. On the other hand, tahsils located in the Western Ghat or Sahyadrian ranges were in the zone of high sex ratio. Rest of the areas have moderate sex ratio.

14. In the case of literacy, the study region was always behind the state and the nation during the pre-independence period. Whereas, Maharashtra had better condition in literacy as compared to those of the nation and the study region during pre-independence period. In the pre-independence period, there were many problems, such as very low degree of urbanisation, absence of industrial growth and development, balutedari oriented occupational structure, traditionally agro-based economy, dearth of proper transportation and communication means, poor educational facilities, scarcity of employment opportunities, etc. All these problems were responsible for the low literacy.

Literacy of Maharashtra and Pune division disclosed almost the same trends in the entire investigation period. Literacy level of India was also at the same level up to the pre-independence period, but after independence India was left behind in the case of average literacy rate by Maharashtra and Pune division. It was because of some of the backward states of India having low literacy level, and another reason was that the remarkable work of GOs and NGOs in the field of education in the state and the study region.

District level trends in literacy showed some positivity during the investigated period. In the pre-independence period, literacy was low, and it displayed almost similar trends in all the districts. In the middle of the century,
pace of increase in the literacy increased, and during last few decades of the investigated century, it went up to much better position. Pune district showed the highest literacy than any other districts in the study region throughout the investigated period. During the same time, Solapur district experienced high literacy. Interestingly, in the pre-independence period literacy level of Solapur district was ahead of Satara, Sangli and sometimes Kolhapur district also, but during post-independence period it went down. It means that, the authorities failed in implementing illiteracy eradication programmes in Solapur district. However, in the census of 1991, decadal variation in the literary showed upwards trend, because of the launch of the National Literacy Mission. As per spatio-temporal analysis, literacy among the centrally located tahsils in the study region was higher than that in the tahsils situated in hilly area and the eastern drought prone part of the study region. It is observed that, up to 1991, Solapur district had a problem of high illiteracy.

However, planned efforts from GOs and NGOs are essential. Recently a survey was completed about the Economic Development of Maharashtra, 2009-10. According to the report China with gigantic population has 93.03 per cent literate population and Shrilanka has 90.8 literacy. Literacy in India has only 66 per cent. The literacy percentage in Maharashtra was found as 76.88 per cent. Maharashtra ranked fifth after Kerala (90.86), Mizoram (88.80), Goa (82.01) and Delhi (81.67). In the study area, literacy of various districts was Pune 80.5, Satara 78.2, Kolhapur 76.9, Sangli 76.6 and Solapur 71.2. Nearest Sindhudurg district had 80.30 per cent literates. The children in the slum areas, child-labourers and children of the workers working in sugarcane fields are deprived of education. The programmes like Adult Education, Total Literacy Campaign and Sugar Schools (Sakhar Shala) are unsuccessful according to the report. The problem is serious and needs immediate attention.

The central belt of the study region has increasing urbanisation and industrialisation, corporate sector has opened up doors for qualified, skilled and experienced workers and thus is attracting the workers. Growth of secondary and tertiary sectors has produced considerable job opportunities. Facilities of
higher and technical education are at the highest level. Educated people and wealthy people are aware about the importance of specialised education. These reasons together are responsible for the high percentage of literacy. However, in the economically backward areas like western hilly area and the eastern drought prone area the task is yet not completed. Though the literacy percentage is increasing its rate is very slow. Again what is needed is the functional literacy. It is necessary to raise the functional literacy and to improve the quality of population in these areas. The task should be taken up by GOs and NGOs along with the local authorities.

15. In the late post-independence period the urbanisation increased in comparison to the pre-independence period. It was due to technical development in agriculture, industrialisation, growing facilities of education; mostly in higher education, increase in the transportation and communication facilities, increase in the civic amenities in the cities and increasing migration considerably augmented the growth speed of urbanisation. However, the urban population and the growth rate of urban population showed some increasing and uneven trends for India, Maharashtra and Pune Division.

Due to nearness to the metropolitan centre of Mumbai, multifunctional growth, rapid development agriculture and industry, up growing transportation and communication facilities Pune district had much higher decadal growth of urbanisation than any other district in the study region. Followed by Kolhapur district at second rank, development of agro-based industries in co-operative sector, in this region is one of the most significant reasons behind it. Solapur city, despite the adverse climatic and geographical conditions only because of expansion in textile industry got the third position in urbanisation. Sangli and Satara districts were at the fourth and fifth places respectively.

The western part of the study region as well as the eastern drought prone part except Solapur and Pandharpur has very low urban population. Pune City is the hundred percent urbanised tahsil in the study region. Now a days, the study region with its urban centres like Pune, Pimpri Chinchwad, Solapur,
Sangli-Miraj-Kupwad, Kolhapur, Ichalkaranji and Satara identifies itself as one of the important urbanised regions in Maharashtra.

The facts about the urbanisation in the study area are not indicating towards the bright future. There are no reasons to conclude that the growth of urbanisation in the future will be rapid. The facts are

(i) Only five out of 58 tahsils in the study area *i.e.* less than nine percent of the tahsils had high urbanisation,

(ii) Another five tahsils were having moderate urbanisation,

(iii) Total 33 tahsils *i.e.* some 60 per cent of the tahsils had very low urbanisation,

(iv) Another 15 tahsils *i.e.* more than 25 per cent of the tahsils were entirely rural without any urbanisation,

(v) In 2001, only ten tahsils were having considerable urban population. The number of Class I cities was only nine out of which five were the district headquarters.

Growth of many cities and towns is hampered due to some geographical reasons also. The cities which are surrounded or bordered by rivers or hill ranges have no geographical space for expansion. River Panchganga has set limits to the growth of Kolhapur city. Satara city is surrounded by many hill ranges, which have created hurdles in its growth. There are many such examples not only in the study area but also in the state. This can be a separate topic for further research.

The reasons behind the slow rate of urbanisation have been discussed in the chapter. However, one more important reason is that, the urban limits of many cities and towns have been not extended in last three decades, due to the opposition from the people in the nearby villages. These people are sharing the benefits of urbanisation but not ready to pay the taxes. The important facet to the problem is from the opposition from political sector. One example can be given of Akluj, which is a very big village having more than 70,000 population in seven Village Panchayats. However, for political reasons it has not been given the urban status. People want to have Village Panchayat. Only a political
will power and positive approach from the people can solve the problem. It will be interesting to study the geographical and socio-political hurdles in the growth of the cities and towns.

16. It is found that, India has basically an agrarian economy, thus, most people are engaged in the agricultural activities. The same thing is applicable for the study region also. Pertaining to that, most of the tahsils dominated by agricultural activities in the study region have high percentage of working population in the primary sector. On the other hand those tahsils, which are highly urbanised attract more work force, which are engaged in the secondary and tertiary activities, but their proportion is low as compared to the work force engaged in the agricultural activities. Therefore, these tahsils recorded low percentage of working population. Another reason is that, when the workers migrated towards these urban sectors, with their families. In urban and industrial centres majority of the workers are males and most of the females remain jobless.

All the districts in the study region showed increasing trends in the total working population and all the districts almost followed the average working population of the study region with some exceptions. Generally, the tahsils in the western hilly zone have subsistence farming as major activity, which requires many persons both males and females. Therefore, these tahsils recorded high percentage of working population. Most of the members of the family in working age group are engaged in agriculture and other primary activities as they do not require special training or skills.

The tahsils, which have recently started urbanisation and industrialisation processes have limited expanse of secondary and tertiary sector, and much population is not required in these sectors, as these activities require skilled labour force on the large scale. Consequently, these tahsils recorded low per cent of working population. Another factor is that, people migrated towards these urban and industrial centres for the employment in the secondary and tertiary sector with their families. However, other members of the families are jobless, due to that; there is increase in the dependency ratio.
All these things influenced on the structure of working population in the study region.

9.2 PROBLEMS

Taking into consideration the inferences of the investigation the researcher came across many problems related to the population structure of the study area i.e. Pune administrative division. Important problems are discussed below.

1. The distribution of population in the study region is uneven. Most important point to be noted is that, there is an influence of geographical factors like physiography and climatic conditions on the distribution of population to a greater extent. Highly urbanised and industrialised centres like Pune, Pimpri-Chinchwad and Solapur along with the developed areas with the centres of sugar industry like Satara, Karad, Sangli, Kolhapur and Ichalkaranji are more populous. They are densely populated and have high Population Concentration Indices. However, due to rough terrain and unfavourable physical conditions the western hilly belt and owing to scarcity of water the eastern drought-prone area both are sparsely populated. Even after five decades of formation of the state the authorities were not able to reduce the gap between the sparsely populated areas and the densely populated areas with high population pressure in the study area.

2. The same kind of problem has been observed in the case of population growth. Some 40 per cent of the tahsils in the central north-south belt with favourable natural as well as economic conditions showed high growth rate of population. In contrast the tahsils from the western hilly belt and the eastern drought-prone area, which together forms 40 of the total number of tahsils showed slow growth of population. This cannot be attributed to the success of population control programmes, but it is mainly due to the unfavourable living conditions as a result of rough terrain or scarcity of water and lack of opportunities in these areas. This has resulted into out-migration of
working population due to which there is lack of human resource to utilise and develop the local resources.

3. Declining sex ratio is another serious problem in the study region. Sex ratio is very low and showed a declining trend in the highly urbanised and industrialised centres especially in the central belt. In contrast to this the western hilly belt and the eastern drought prone area had high sex ratio. Again the reason is out-migration. Unfavourable physical conditions and economic backwardness pushed the male population in the working age group, out of the areas in search of employment. This type of growth in the sex ratio cannot be called as the characteristic of healthy society, but in fact it points towards the poor economic conditions of the underdeveloped areas. Rapid decline in the proportion of females in the central economically prosperous belt is also a major problem, which needs careful attention.

The media have been focusing light on the events of unlawful termination of pregnancies in case of baby girl. Save the Baby Girl Campaign in Kolhapur district is a step ahead towards improving the sex ratio. However, more drastic steps are needed.

4. In case of literacy percentage, Pune division always remained behind the state and the nation during the pre-independence period. However, during the post-independence period the study area showed positive trends. Areas of high literacy are confined to the central prosperity belt. Some 16 tahsils having very low literacy rate are from western hilly belt and eastern drought-prone area. This kind of disparity in the field of literacy is a serious problem in the region, which needs immediate attention and a long term action plan.

5. Urbanisation is an important indicator of the economic development of any region and it also indicates the growth of secondary and tertiary sector. As far the economic activities are concerned in the present study area, rapid urbanisation is restricted to the central belt including Pune city, Haveli, Pimpari-Chinchwad, Satara city, Sangli-Miraj-Kupwad, Jaysingpur, Ichalkaranji and Kolhapur. In the eastern part the important urban areas are
Solapur and Pandharapur. All these areas have more than 60 per cent urban population.

However, 13 tahsils from the western hilly belt and the eastern drought-prone area have less than 15 per cent urban population indicating economically underdeveloped stage, which is a serious problem. There are very rare possibilities of growth of urbanisation in these parts of the study area in the near future. The planners should give attention towards this issue.

6. Low proportion of working population is an obstacle in the economic development of the region. Surprisingly the study has revealed that some seven tahsils from the central developed belt of the study region had very low level of working population. In contrast to this the tahsils from the western hilly region e.g. Bavada, Radhanagari, Bhudargad, etc. had very high level of working population, according to census records. These tahsils had subsistence farming as the main economic activity. The workers are either subsistence farmers or the agricultural labourers. Subsistence farming requires work force in large number, both male and females. Thus all the members in the family in the working age group are considered as the workers both either main workers or marginal workers.

Inversely, the work force in the urban and industrial centres is a migrated work force and majority of them are males. Members of their families are jobless and are classified as the non-workers. Again large percentage of teenagers and youth are engaged in learning due to the availability of educational facilities. Anyway, the census figures give a misleading picture about the occupational structure, especially the workers and non-workers. Surprisingly out of some 40 tahsils in the western hilly belt and the eastern drought-prone area only seven tahsils had low percentage of working population and another seven tahsils from the central prosperity belt also had low percentage of working population.

The research of the population structure reveals that in the case of most of the aspects of the population structure only the central economically developed belt shows the positivity. Otherwise that western hilly belt and the
eastern drought-prone area show negativity with few exceptions like Haveli, Mahabaleshwar, Solapur and Pandharpur. This kind of uneven nature of working population is a major hurdle in the economic development of the study area.

9.3 RECOMMENDATIONS

Taking in to consideration the above mentioned problems in the study area regarding various aspects of population structure in Pune administrative division the researcher would like to do some recommendations. These recommendations can be used as the guide lines to rectify the drawbacks and disparities in the region during the process of planning as well as during the action to be taken. They are useful for policy decisions also. Important recommendations are discussed below.

1. So as to reduce the high population pressure in Pune, Haveli, Pimpari-Chinchwad, where the density of population is above 400 persons per sq km the government agencies should adopt the policy of dispersion and decentralisation of industries in other areas.

2. Some 23 tahsils in the study area had high growth rate of population. These tahsils are located in the central belt of the study area. This is mainly due to the immigration of the workers. Programmes of development of agriculture in the western hilly region and increase in irrigation facilities in the drought-prone areas will increase the employment opportunities to the working force in these areas and will help to reduce the migration rate.

3. The Government and Non Government Organisations working in the field of literacy, adult education and education are recommended to implement proper programmes and campaigns to improve the literacy rate, especially in the hilly areas and drought-prone areas. The programmes for improvement in the skills should be implemented.

4. The planning authorities and the administrators should understand the problem of the people in the western hilly area. They should know the physiographic and climatic constrains in these areas. There is need to
improve the quality of population in these areas. Development Programmes for Hilly Areas and Drought-Prone Areas should be implemented with positive approach.

5. Decline in the sex ratio in the central belt of prosperity is a serious problem. Almost fifty percent of the tahsils in the study area recorded low sex ratio with a declining trend, most of them are located in the central belt. Percentage of females per thousand males is very low in Pune city, Satara city, Solapur North, Sangli-Miraj-Kupwad city and Karveer tahsil. In the adjoining areas it is low. Frequent cases and also in considerably large number of unlawful termination of female foetus in the central belt of prosperity. The authorities should handle the problem by taking harsh action. Save the Baby Girl Programme should be promoted and implemented in all such areas.

6. Population is highly concentrated in the urban and industrial areas in the study region. This has given rise to many problems like influx of migrants, increasing slum areas, pressures on civic amenities, traffic problems, social disorganisation, etc. Town Planning Authorities and officials in the Local Self Government organisations should assess the situation and follow the rules and regulations in a strict manner to avoid disorganised growth of towns and cities.

7. The Census Authority of India should give a second thought for collecting information about the occupational structure. The classification presently adopted (2001) covers only the main workers, marginal workers and non-workers. This kind of information is not sufficient to give correct idea about the number of actual work force, quality of work force and the workers engaged in different types of economic activities. The present statistics given in the census records is not sufficient. It does not give the proper information about the working population. The Census Authorities therefore are recommended to give detail information of working population, by adopting improved classification scheme.
9.4 SUGGESTIONS FOR FURTHER RESEARCH

At the end of this chapter the researcher would like to suggest some topics for further research. The suggestions are for the research workers in the field of Population Geography, Education, Demography, Economics and Sociology and the other interdisciplinary subjects.

1. Causes and consequences of declining sex ratio in the sugar belt of Maharashtra
2. The occupational structure of the people in the hilly areas and drought-prone areas of Maharashtra plateau.
3. Migration of people from the economically backward areas of Maharashtra plateau.
4. The study of literacy and educational status of the people in the hilly areas of Maharashtra plateau.
5. The study of geographical and socio-political hurdles in the growth of urbanisation in Maharashtra State.