Chapter 7
Conclusions, Problems and Recommendations

The important conclusions are the main objective of this chapter. Taking into consideration the interfaces of the investigation the investigator is alerted of the difficulties associated with the population structure, food security, agriculture cultivation and production, public distribution system of Pali district. The significant difficulties are also scheduled in the current chapter. It is challenging mission to rectify the shortcoming or to resolve the difficulties. Though, nearly recommendations have been prepared, which will be supportive to have resolution to these problems. At the end of the section the investigator has given some recommendations for supplementary investigation in the field. Nature of recommendations is multidisciplinary and interdisciplinary. The recommendations are based on the problems, which investigator originates across in process of the exploration. The research work embodied in the thesis is an examination of many facets of the population structure of the district. The investigator at the final step, through the investigation has reached at the following conclusions.

7.1 Conclusions

1. In India, the population geography is commanded in real earnest in early 1960. It has made admirable improvement in the last 50 years or so and discovers a place as the specific course in the geography curriculum or numerous universities. The matters of the population geography are principally concerned with growth, the distribution of population, the assembly of the population, and the Spatio-temporal variations in many facets of the population and the effects of the financial, socio-cultural, political matters, environmentally friendly issues. The population structure and distribution pattern, fertility, mortality, and migration are the roots of population studies. Study and consequences of fluctuations in population and demographic features are beneficial to understand the strategy of development and planning of the area. With the method the current study attentions on the Spatio-temporal variations in population in the Pali district. Administratively, the district is divided into nine tehsils i.e. Jaitaran, Raipur, Rohat, Sojat, Pali, Marwar Junction, Desuri, Bali, and Sumerpur. As far as population is concerned, Pali district is the fourteenth largest
district of the Rajasthan state. However, as regardsto the physiographic and climate, especially the temperature conditions and rainfall there is multiplicity in the study area, which has reflected in the population structure, specifically the density, employment structure, distribution, and urbanization.

2. Jodhpur division comprise of the six districts viz. Jodhpur, Jalore, Barmer, Pali, Sirohi, and Jaisalmer. The Pali district is situated between 24° 45’ to 26° 29’ north latitudes and 72° 47’ to 74° 18’ east longitudes. Its maximum length from North to South is about 192 km. and while its maximum breadth from East to West 166 km with having an area about 12, 387 sq.km. The general slop of the region is south-eastward to westward. The Aravalli hill ranges in the south-eastward to north-eastward, middle ward river basin and westward semi desert and undulating topography at the center. The Pali district administrative division shares 3.62 percent of the total area of the Rajasthan state and 2.97 percent of population. Out of the nine tehsils of the district i.e. five tehsils area located in the south-east to north-east ward hilly region, which have rough terrain and experiences moderate rainfall. There are favourable factors like fertile soils, moderate rainfall, river basin, developed agriculture irrigation facilities, good transportation network and well developed industrial centres. These factors are responsible for dense population and growth of cities. Remaining four tehsils are located in the drought areas with scanty rainfall and scarcity of water. The study region horizontally can be divided by the Luni River. The general topographic elevation in the district ranges broadly between 150 m to 300 m above mean sea level. The lowest elevation of 149.3m mean sea level is noticed in Rohat block in the western part of the district whereas the highest elevation of 1,068 m above mean sea level In Bali in southern part of the district.

3. The geological formation of the district is represented by different igneous sedimentary and Meta sedimentary rocks. The Delhi Super Group rocks represented by Ajabghar Group occur near the eastern border of the district and consists of schists, phyllite, marble and basic volcanic. They are intruded by granites and rhyolites, the predominant of which is the Erin Pura Granite which covered the south and south eastern parts of the district. The Jalore types of granites are exposed south of Pali town and are generally pink in colour. The Melani rhyolite (volcanic) cover only small areas restricted to the south west of Pali. The rocks of the Marwar Super Group occur in the northern part of the district and are presented by limestone,
dolomite, sandstone and shales. Rich deposits of the minerals like lime stone, gypsum, asbestos, calcite, feldspar, clay, gypsum are found in the district. Phyllite and marble are found near the eastern border of the district, whereas granite and rhyolite in the south east of the district. Asbestos ids used in the industries engaged in the manufacturing of spume pipe and fitting. Calcite of high quality is found in the district which is used for the cement manufacture are found in Sojat, Kharchi etc. the contents of calcium carbonate in lime are as high as 96.21 percent. Granite is found in Desuri, Kharchi, Bali, Raipur and Pali tehsils. Clay deposits are found in Jaitaran tehsil. Feldspar is occurred in Raipur tehsil and Thandi Beri, Birathiya Khurd and Bera. Calcite is also found in abundance in Raipur tehsil and Thandi Beri, Birathiya Khurd and Bera. Thus Pali district is rich in minerals whose extraction is done on contract basis. Feldspar, Quartz, Asbestos, Calcite, Gypsum, white clay and other clay, soap stone, Magnesite and Bali clay are considered to be principal minerals of the district. On the other hand limestone, Rhyolite, Marble, Masonary stone, Brick clay, sand and Granite are considered to be secondary minerals. The mineral wealth of the district is largely non-metallic. The chemical grade limestone, Quartz, Feldspar and Calcite produced in the district is also known for their quality. Other minerals are Asbestos, Soap stone, Magnesite, Gypsum, Marble and Barytes. The district has sustainable resources of Quartz Felspar, Asbestos, Lime Stone, Marble and Granite.

4. The soil of the district is mainly of deep yellowish brown sandy. As per soil classification the district can be divided into four parts. The maximum part of the “Deep Yellowish Brown Sandy” soil type in the study area, which is 43.76 percent while the 30.25 percent of the “Medium Light Yellowish Brown Loamy” soil type. The ratio of the Medium Light Yellowish Brown Sandy and Shallow Pale Brown Gravelly Loam are 12.10 percent and 7.11 percent respectively and other types of the soil are 6.78 percent. The areas of the river basins in the study region are suitable for agriculture, especially commercial. The cash crops like Mehandi are grown. The Mehandi 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 forest are mainly concentrated on the southern Aravali hills area of the district are located at Sadri, Desuri, Beejaji ka Guda, Sendrl, Rankpur and Pali.
5. The climate of the study region is essentially of tropical monsoon type. Range of Aravali is main determinants in climate conditions of the study area. Thus, the highlands of the Southern Ghat get heavy rainfall, while to the eastward to westward rainfall decreases rapidly. It is the drought area.

6. The most part of the study regions is drained by the no perennial river in the district. The Four tributaries of river Luni viz. Sukri, Luni, Bandi and Jawai flow in the district. There is no lake or natural spring in the district for irrigation purpose a number of big and small tanks have been constructed. The M.C.M. capacity of Jawai Tank is 198.2176 litters and water tank capacity is 0.1699 M.C.M. litters. Out of these, the water capacity of Jawai Dam is maximum, which is located in Bali tehsil, whereas water is smallest tank. The main dams which are being used for irrigation are Jawai, Raipur, Loonu, Hemawas Kharda and Biratia Khord Dam. Thus the production of cash crops, mainly Mehndi, Cotton, Mustard, Castor and other crops is comparatively high in the regions. All these reasons contribute the dense population irrigated area 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 agro-based industries, also, especially the Mehandi Cotton factories. As a result, these are the thickly populated areas.

7. Pali, Sojat, Jaitaran, and Sumerpur are the industrially developed area with textile, power-loom and handloom, automobile, transport equipment, electronic goods, Mehendi, food processing and handicraft etc. The 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 Pali and Sojat nearby urban area are industrially rapidly growing regions. These urban regions have attracted more working force and population.

8. It is found that the distribution of population in the study area 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 found from the present study that there is uneven pattern of population distribution through-out the study region. The population has increased continuously throughout the investigation period but rate of increase or the decadal variations showed some ups and down in the study area this is largely due to the higher natural growth of population after independence. As far the rate of
increase of population is concerned, three stages are clearly seen. The first stage is in between 1901-1941, which witnessed slow and steady growth of population. On the other hand, second stage i.e. from 1941-1971 showed an alarming increase in the growth rate of the population and while from 1971-2011 i.e. the third stage, recorded a comparatively slow rate of increase.

9. It is observed that, all the tehsils in the study area showed increasing trends in the total working and all tehsils almost followed the average working population of the Pali district with some exceptions. Generally, India on a large scale has agrarian economy and in this kind of economy majority of the people are engaged in the primary activities. In accordance to that, numerous tehsils in Pali district have the similar trend. Therefore, these tehsils recorded high percentage of working population. The tehsils located in north-west and west (Rohat tehsil and Jaitaran tehsil) and north- east (Raipur tehsil) part of the study region. These tehsils were also dominated by the numbers of the family in the working age group area engaged in agriculture, as it does not require special training of skills. On the other side, those tehsils, which have shortly started the urbanization and industrialization process mostly subjugated by secondary and tertiary sector, and much population is not engaged in these sectors, as these activities require skilled labour force on the large scale. Consequently, these tehsils recorded low percent of the working population. Another reason is that, people migrated towards these tehsils in search employment in the secondary and tertiary sector with their families, and due to that, there is an increase in the dependency ratio.

10. All these things influenced on the structure of working population. According to available census data the tehsils classified as in the zone of low working population include the Pali tehsil, Sumerpur tehsil, and Bali tehsil. The Pali city is highly urbanized and industrially development tehsil, center of textile industry, Sumerpur tehsil also urbanized and industrial tehsil. All these tehsils have been offering opportunities of employment. Even then, according census data they have a low working population which is hard to believe if we consider the ground reality. However, this is only a general picture due to universal classification of workers. Separate in depth study is, therefore recommended to bring about the true picture of the occupational structure.
11. After the advent of the dual skills of reading and writing the relevance of literacy to the cultural advancement enhanced significantly. Literature such as cost of education, degree of urbanization, general values system, standard of living, status of women and so on and so forth. As per Census 2011, Rajasthan state has an average literacy rate of 66.1 percent. In which male literacy rate is 79.19 percent and female literacy rate is 52.12 percent. Similarly, Pali district has an average literacy rate of 62.39 percent, with male literacy rate is 76.81 percent and female literacy rate is 48.01 percent. As per Census 2011, Rajasthan's average urban literacy rate is 79.68 percent. In which male literacy rate is 87.91 percent and female literacy rate is 70.73 percent. Similarly, the average urban literacy rate of the Pali district is 75.84 percent in which male literacy rate is 87.1 percent and female literacy rate is 63.89 percent. As per Census 2011, the average rural literacy rate of Rajasthan state is 61.44 percent. In which the male literacy rate is 76.16 percent and the female literacy rate is 45.78 percent. Similarly, the average rural literacy rate in Pali district is 58.4 percent, where male literacy rate is 73.64 percent and female literacy rate is 43.48 percent.

12. The gender and age structure of the members of the respondent family has been described. The maximum number of the members in the 15-35 age group is 33.75 percent. While the lowest in the age group of 60 is 3.07 percent. It means that approximately 68.05 percent fall below 15-30 age group, which is a very big part. 68.05 percent of the members covered in the working age group. Maximum female members are about 49.41 percent in 35-40 age group. While the highest male members are approximately 57.51 percent in the age group of 15-30 years. The minimum male and female members are related to the age group of 15-30 and 45-60 with 42.58 percent and 50.58 percent respectively.

13. The maximum respondents comes into the level of Basic education and While the lowest respondents come into the level of Up to senior secondary, its percentage is 24.67 percent and 7.33 percent respectively. In the No education level, 19.78 percent respondents come. Similarly, 19.78 percent, 17.78 percent and 10.67 percent respondents fall in the Up to primary level, Up to secondary and Up to graduate level respectively.
14. In the structure of the working force of all tehsils of the study area, more than 50 percent non-working population is found in the tehsils and the all tehsils have less than 50 percent working populations in the district. The survey analysis show that the maximum working population belong to the Jaitaran, Rohat and Raipur tehsils with 46.16 percent, 46.07 percent and 45.09 percent respectively, and the minimum working population is in Sojat tehsil (40.0 per cent), Pali tehsil (40.38 per cent) ) and Sumerpur tehsil (40.77 percent). Similarly, the bottommost non-working population in Jaitaran tehsil is (54.84 percent), Rohat tehsil (53.93 percent) and Raipur tehsil (54.91 percent). While the highest non-working population in Sojat tehsil is (60.0 percent), Pali tehsil (59.62 percent) and Sumerpur tehsil (59.23 percent). The level of food security in the study area is directly affected by the level of education and the working population by level of occupation. The working population is associated with the three types of occupations (primary, secondary and tertiary occupation).

15. According to the primary survey, about 58.32 percent workers of the Pali district is engaged in primary occupation, which is a very major part of the working population. In the district, 52.48 percent workers are involved in agriculture work. According to the census 2011, 28.91 percent (males 28.92 percent and females 28.89 percent) and 28.17 (28.17 percent males and 17.81 percent females) percent workers involve in the cultivators and agriculture labours respectively.

16. Based on the primary survey, 14.8 percent workers are involved in the secondary occupation of the Pali district. According to census 2011, only 3.10 percent workers are engaged in the household industry and ratio of male and female workers is 3.29 percent and 2.79 percent, respectively. As per primary survey, there are various industries in the district such as: Textile industry, Dyeing-Printing industry, Mehandi industry, Cement industry, Building-material industry, Brick industry, and others and around 29.51 percent and 70.49 percent workers are engaged permanently and temporarily respectively. That is, approximately 70 percent of workers are daily wage earners. In this way, we can say that increasing mechanisms system in the industries is increasing unemployment. A very few households engaged in this occupation are food secure. If the households associated with this occupation are given proper training, then unemployment can be removed to a great extent.
17. In the tertiary activity, 26.88 percent workers of the district are engaged. According to census 2011, 39.82 percent of workers are involved in other work category, in which 49.98 percent are male workers and 23.18 percent are female workers. Through the primary survey the percentage of employed in the government jobs is 28.45 percent, whereas 39.71 percent are employed in the non-government jobs. Similarly, 19.61 percent and 4.23 percent workers are participated in private business and trade/business work respectively. Only 7.72 workers are involved in transport and communication work. It can be said that in a significant number, the households associated with this occupation type, they come under the category of food security.

18. The source of the income has a very important role in maintaining the economic condition of the household, which can belong to any type of the occupation. It is not profitable to depend on the one type job in the present age. But it is mandatory to use other types of income sources. Similarly, in Pali district, a questionnaire has been used to know the main source of household. While doing survey it is found that there are nine types of the household income sources, which are as follows: - sale of the agricultural production, sale of the animals and animal’s product, the rural temporary work, the urban temporary work, the monthly salary, the remittance, the trade/business, MGNREGA, and other works. All types of sources of the income has been given the first, second and third positions respectively. The Study identifies the economic importance of the sources of the income of the any household. The main source of the household income according to the priority and it is found that households gave urban temporary work as the first priority with (26.88 percent),the rural temporary work, the second priority with (21.67 percent) and the MGNREGA work, the third priority with (26.83 percent).

19. The average percentage of the role of the each main source of the household income in Pali district. According to the field survey, the urban temporary work (16.81 percent) and rural temporary work (15.91 percent) have the maximum percent of the main sources of the household income and While the minimum percent of the main source of the household income is the remittance (4.45 percent) and monthly salary (6.01 percent).
20. According to primary filed survey 2016, only average 31.1 percent households are under the category of food secure in the Pali district, it means average 69.90 percent households are not getting quality of food in the adequate quantity. In field survey, out of 474 households (randomly selected) in the district, only 147 households were found food secure.

21. The maximum part of the population of the district comes in the food insecure without hunger-moderate category. According to primary survey, approximately 58.22 percent households belong to the food insecure without hunger-moderate group. The study found that the most of the working population is engaged in primary and secondary activities. While the evidently true the primary activities are directly affected by the natural disasters and the resulting uncertainty of economic activities. The 276 out of 474 surveyed households fall under the food insecure without hunger-moderate category.

22. According to the primary survey of the district, approximately 10.75 percent households belong to the food insecure with hunger category and 51 out of 474 surveyed households represent this class. From this category, it is known that most of the working population falls in this group because maximum households do not have agricultural land. The economic status depends on temporary employment like MGNREGA etc.

23. According to agro climate condition the whole Rajasthan state is divided in ten agro climate zones like this: arid western plain, irrigated north-western plain, hyper arid partial irrigated zone, transitional plain of inland drainage, transitional plain of Luni basin, semi-arid eastern plains, flood prone eastern plain, sub-humid southern plains, humid southern plains, and humid south eastern plain. So the research area involves the zone of transitional plain of Luni basin.

24. The total land area and land ownership data of the survey household were obtained by primary survey in the district and for analysis purpose the land area is divided into seven categories according to size. The largest size of area is (more than 7.5 hectare) and the smallest size of the land area is (less than 1.5 land hectare). According to the survey, 36 percent and 30 percent households have 1.5 to 3 hectares and 3 to 4.5 hectares total land area respectively. Similarly, 4.5 to 6 hectare the total land area has 15.11 percent households. Whereas 6 to 7.5 hectare
the total land area has only 4 percent households. The smallest size of land area has the 12.22 percent households and the largest size of land area have only 2.44 percent households.

25. The economic development is based on the available agricultural land in the any region. The other types of land use work as a hindrance in economic development. The land use data received by the primary field survey of the district and result display by the pie diagram. Only 46.43 percent of the total land area in the district is cultivated, while 53.57 percent of the land area is uncultivated land. The maximum fraction share of this area is cultivated wasteland (14.73 percent) and land under non-agricultural (14.57 percent). Likewise, 10.33 percent and 13.94 percent of the land area is in forest land and barren/uncultivated land respectively. If irrigation facilities are available throughout the year on available cultivated land in Pali district, the level of food security of the households dependent on agricultural related work will be impressively improved.

26. According to the primary survey, average 81.20 percent households in Pali district cultivate the food gain crops on their agricultural land in whole year. Similarly, the households having maximum food grain crops cultivate in the Rohat tehsil (93.61 percent), Sojat tehsil (88.01 percent), and Jaitaran tehsil (87.71 percent) and while the household having minimum food grain crops cultivate in the Pali tehsil, Raipur tehsil and Bali tehsil with 70.51 percent, 73.58 percent and 75 percent respectively. The study area is affected by the problem of rainfall irregularities/uncertainty and lack of water for irrigation. In tehsils where sufficient water is available for irrigation, there is good crop production vice versa those tehsils which are lacking in it. To sum up, about 70 to 90 percent of the households cultivate some food grain crops on their agricultural land during the year.

27. According to the primary survey, average 68.86 percent households in the district cultivate the pulses crops on their agricultural land. Similarly, the households of Rohat tehsil (85.74 percent), Desuri tehsil (75.83 percent), Raipur tehsil (74.90 percent), Jaitaran tehsil (74.21 percent) cultivate maximum pulses crops, while minimum pulses crops are cultivated in Pali tehsil, Bali tehsil and Marwar Junction tehsil with 52.82 percent, 53.63 percent and 66.59 percent households respectively. The study area is affected by the problem of rainfall.
irregularities/uncertainty and lack of water for irrigation. Those tehsils which have sufficient water for irrigation, harvest good crop production vice versa water scarce tehsils. The conclusion is that average 70 percent of the households cultivate some pulses crops on their agricultural land during the year.

28. In the district, sesame, peanuts, mustard, castor, soya bean etc. oilseed crops are sown as per season. Most sown oilseeds crops are mustard, sesame, and peanuts, etc. This is a main source of the household income in this area. Sesame seeds and peanut crops are sown in the summer season and mustard and soybean crops are sown during the winter season. The main benefit of these crops is that good production comes with lesser labour and minimum water. The local production of the oil seed is sufficient, and the district imports a medium quantity to fulfil the demand of the fast increasing population. There is a need to exploit the probable of the oil crops by creating more attractive and conductive environment through the formation of then effective marketing scheme of oil seeds crops, besides brining fresh varieties of high yields. The average 68.78 percent households in the district are cultivating the oilseed crops on their agricultural land area during the summer and winter season.

29. In Pali district, spice crops are cultivated in summer and winter season. Climate, temperature, rainfall, water availability, soil fertility, and varieties of seeds, etc. factors are directly affects the spice crops cultivation and production. The major spice crops in this area are as follows: - chilli, coriander, cumin, turmeric, fenugreek, oregano, garlic, onion, and mustard etc. An Average 38.39 percent household in the district cultivate spice crops on their agricultural land.

30. The Producing the vegetable crops is the main source of the household income in the study area. But in the modern era, production of the off seasonal vegetable crops is for the high income. According to the summer and winter season, vegetable crops are sown in the study area and major crops: tomatoes, cabbage, spinach, fenugreek, cucumber, onion, garlic, peas, carrots, eggplants, chillies and pumpkin etc. According to the primary survey, 22.19 percent households in the district are cultivating vegetable crops on their agricultural land according to the season.

31. The cash crops are a main source of the household’s income. Some major cash crops are also cultivated in the district, which are as follows: - Cotton, Tarameera,
Mehandi (Henna) etc. In the district, average 43.68 percent households are sowing the cash crops on their agricultural land according to the season in whole year.

32. The tree crops are a main source of the household income in the modern time. If sufficient water facility is available for irrigation, it can be shown on any type of land.

During the survey, it has been observed that most of the tree crops have been sown on wastelands and barren and uncultivable area and the drop-irrigation system have been seen to some spot. Thus, according to the climate of the Pali district, major tree crops are - lemons, oranges, pomegranate, embolic, plum, papaya, guava, gunda, karonta etc. and wood production tree crops are: Sagwan, Sheesham etc. Average 18.71 percent households of the district have sown tree crops on their land.

33. Every household uses the different types of source for the adequate food arrangement for management of the household food security. The main sources of the accessing food are: agriculture production, regular monthly salary, sale of live stock, daily wages (agriculture and non-agricultural work), public help, help from relative and friends, trade and small business, remittance and other work. The highest first priority is given to "agricultural production" source by the 63.56 percent households and then to “daily wages” source by 13.25 percent households. Similarly, the households have given the second highest priority 41.34 percent to "daily wages" and 15.96 percent to "regular monthly salary" source. The third highest priority30.77 percent was given to "other work" and 21.42 percent to "friends and relative help" source, by households.

34. It emerges from the primary survey, 2016 that every family use altered strategies to remove the daily household food insecurity. According to the primary survey in Pali district average 45.55 percent households purchased food on credit 1-2 times in a month, while 4.88 percent households used this strategy in the 1-2 times a week. Similarly, 30.66 percent, 12.44 percent and 6.44 percent house households used this plan for removing the daily household food insecurity with 3-5 times a week, daily, and 1-2 times in six months respectively.

35. Use of the low quality and cheaper food stuff strategy followed by the 48.66 percent and 39.55 percent household in the 1-2 times in six months and 1-2 times a
month in the district respectively, while 6.88 percent, 3.11 percent, 1.33 percent, 0.44 percent households use this strategy in the 3-5 times a week, 1-2 times a week, daily, and never respectively.

36. As per primary survey, 100 percent households follow the “Used up saving” strategy for the remove daily household food insecurity and maintain the economic status in the Pali district.

37. The average 71.77 percent and 26.44 percent household used the “reduced expenditure on health and education” strategy in the 1-2 times six months and 1-2 times a month respectively for maintaining the household food security in the study area.

38. The “reduce the number of daily meals” is a very tough strategy because this situation shows that the very low household income and low purchasing power, etc., so 70.55 percent, 19.55 percent, 5.88 percent and 2.66 percent household used, this strategy 1-2 times a month, 1-2 times six months, 1-2 times in a week and 3-5 times a week respectively for removing the household food insecurity in the study area.

39. According to Rajasthan Food and Civil Supplies Corporation Limited, minimum quantity is of Annapurna ration cards and maximum quantity is of Above poverty line ration cards in the study area. In the district, Annapurna ration cards are 0.008 percent and 0.091 percent in the urban and rural areas respectively. Similarly, ration cards of the Antyodaya scheme in urban area is (1.619 percent) and rural area (3.465 percent). In the urban areas, BPL and State BPL ration cards are 8.62 percent and 0.98 percent, whereas in the rural areas BPL and State BPL ration cards are 11.98 percent and 3.55 percent respectively. In Pali district, the maximum proportions of APL ration cards, the ratio of rural and urban area is 80.96 percent and 89.64 percent respectively.

40. It is found in the field survey that the food Aid goods are distributed by the Fair Price Shops under the Public Distribution System in the study area. The survey examines the food aid substantial given on the basis of the Annapurna ration card, Antyodaya card, State Below Poverty Line ration card, Below Poverty Line ration card and Above Poverty Line card. 4 households of the Annapurna ration card, 73 households of the Antyodaya ration card, 159 households of the BPL ration card,
134 households of the State BPL ration card and 200 households of APL ration card were covered by the field survey 2016 to find out the difficulties related to public distribution system in the study area.

41. In the district, only wheat, kerosene and sugar are distributed by the fair price shops on the basis of the Annapurna ration card. Only 41.67 percent Annapurna ration card households are getting wheat from the fair price shops. 66.67 percent Annapurna ration card households are distributed 2.5 lit. Kerosene per ration card and 25 percent holders get sugar from the fair price shops.

42. According to the field survey, in Pali district only 38.35 percent households of Antyodaya ration card holder are getting 500 grams of sugar per head once in every two-three months from the fair price shop, while 57.53 percent and 68.49 percent of the Antyodaya ration card households are receiving kerosene and wheat per month. Due to the absence of information, low quantity of material distributed, etc. many families are unable to get food aid.

43. The average 40.88 percent, 62.89 percent, and 9.43 percent of BPL ration card households receive wheat, kerosene and sugar respectively by the fair price shop since in one-two months in the district, while the average 59.11 percent, 37.11 percent and 89.95 percent BPL ration card families do not get wheat, kerosene and sugar respectively from the fair price shops because of lack of stock as per dealer.

44. According to the field survey 2016, In Pali district, on an average 44.77 percent State BPL ration card family collects wheat once every two months by fair price shops. The 58.20 percent of the state BPL card holders get 2.5 litres of kerosene per ration card and 11.19 percent of state BPL ration card households get sugar by fair price shops in once every six months.

45. The maximum households in the district are the APL ration card holders. As per field survey, only 7.5 percent APL ration card family receives wheat from the fair price shop occasionally during the year. That is, distribution of the food aid items is equivalent to none based on the APL ration cards. Only 17.5 percent of the APL ration card households occasionally receive 1.5 litre of kerosene per ration card, in a year.
7.2 Problems

Taking into consideration the inferences of the investigation the researcher came across many problems related to the distribution of population, occupational structure, employment, transport connectivity, drinking water facilities, irrigation facilities, level of education, household food security, agriculture, public distribution system etc. of the study area *i.e.* Pali district administrative division. The most important problems are discussed below.

1. The distribution of population in the study area is unequal. Most important point to be noted is that, there is an influence of geographical factors like physiographic and climatic conditions on the distribution of population to a greater extent. Pali and Sojat are Highly populous, developed, urbanised and industrialised centres with centres of Textile, Mehandi and Cotton industries. The maximum number of the textile industries is located in and around Pali city. The city is suffering from high environmental problems rapidly because of mismanagement of the waste water and material of the industries. The hundred percent waste and chemical water flow in the Bandi River. The Sojat city is also suffering from the environmental problems.

2. In case of literacy percentage, the Pali district always remained behind the state and nation. Area of the high literacy is confined to the Pali tehsil. The Jaitaran tehsil, Bali tehsil, and Raipur tehsil are having low literacy. This kind of disparity in area of literacy is a serious problem in the region, which needs immediate attention and a long term action plan.

3. Urbanisation is an important indicator of the economic development of any region and it also indicates the growth of secondary and tertiary occupation. However, four tehsils from the western drought area have more than 80 percent rural population indicating economically underdeveloped stage. This is a serious problem. There are very rare possibilities of growth of development in the part of the study area in the near future. The planners should give attention towards this issue.

4. Low proportion of working population is an obstacle in the economic development of the region. Surprisingly the study has revealed that some
tehsils (Pali, Sumerpur, and Sojat tehsil) from the study region had very low level working population. In contrast to these tehsils from the western plain area, Jaitaran, Raipur, Rohat tehsils and Marwar Junction tehsil (eastern part of the study area) etc. had very high level of the working population, as per census. These tehsils had subsistence farming as a main economic activity. The workers are either subsistence farmers or the agricultural labourers. Subsistence farming requires work force in large number, both females and males. Thus all the members in the family in the working age group are considered as the workers both either main workers or marginal workers. 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 fingers give a misleading picture about the occupational structure, especially the workers and non-workers. The study of the population structure and household food security reveal that in the most of the aspects of the population structure only the urban area of Pali, Sumerpur, Sojat, Desuri and Bali tehsils show the positivity and rural area of these tehsils show the negativity. The western plain area and drought-prone area such as Jaitaran, Rohat, Pali and Sojat tehsils show negativity.

5. As per primary survey, the maximum fair price shops do not work with accuracy. Many people come back without getting any ration distributed by the fair price shops so this is a major problem in the study area.

7.3 Recommendations

Taking into consideration the above mentioned problems regarding various aspects of population structure and household food security in the study area, the researcher would like to place 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. There should be proper exit and management of the Industrial waste and impure water so that damage of the agriculture land around the Bandi Rivers and Pali city is stopped.

2. To make available fresh drinking and irrigation water facilities in the district particularly in Jaitaran, Pali, Rohat, Raipur, Marwar Junction and Sojat tahsils throughout year the region should be connected from the Indira Gandhi Canal.

3. The Programmes of development of agriculture in the western plain region and enhance in irrigation facilities in the drought-prone area will raise the employment opportunities to the working force in the areas and will help in reducing the migration rate.

4. The government and non-government organisations should work rapidly for eradication of illiteracy and pay attention towards education, adult education, job oriented education and training and skills development particularly in rural areas to increase job opportunities.

5. The planning authorities and the administrators should understand the problems of the people in the study area. They should know the physiographic and climatic constrain in these areas. There is need to improve the quality of life of masses in these area. Development programmes for hilly areas and drought-prone area should be implemented with positive approach.

7.4 Suggestions for further research

At the end of this chapter the researcher would like to suggest some topics for future research. The suggestions are for the research workers in the field of agricultural geography, urban geography, population geography, environment geography, education, demography, industrial geography, economics, and sociology and there interdisciplinary subjects.
1. Role of the textile industry in the urbanization of the Pali district.


3. The impacts of the textile industries on the environment in the Pali district.

4. The rural literacy and household food security in the Pali district.

5. The urban literacy and household food security in the Pali district.

6. The Oilseed and pulses crops v/s household food security: A study of the Pali district.