

CHAPTER – ONE

INTRODUCTION

1.1 Background

Nepal is a small country sandwiched between plateau of china, in the North and India in the South East and West. With an area of 147181sq km, Nepal is a country of enormous physical diversity (UNDP, 2001). The length of the kingdom is 880 km East-West and its breadth varies from 114 to 240 km to the North South. Agriculture sectors have been considered the most important sectors in Nepalese economy. The contribution of the agriculture sectors to the Gross Domestic production (GDP) is 36% Agriculture sector occupies remarkable position in national income and employment. Agriculture is the primary source of livelihood of 65.6 % of Nepalese population (CBS, 2002). The per capita income of the people of the country is \$ 562 (CBS, 2010 estimation). Moreover crops account for about 60%, livestock 30%, and forestry 10% of the total agriculture gross domestic product. The share of horticulture to AGAP is increasing in the recent year.(APROSC, 2004).

Orange was introduced in this village nearly 100 years ago by a government official working at the Royal Palace in Kathmandu. However, commercial cultivation started only after 1974 when the government organized a mass campaign for dissemination of new agricultural technologies. The government provided subsidy on inputs required for fruit production in the hill region. A few innovative and resource-rich farmers quickly adopted orange cultivation. The majority of small farmers could not adopt this fruit crop despite of support from the government due to risks of long term investment and a low level of technical knowledge. After observing the success in neighboring farms belonging to rich farmers, small farmers introduced this new commercial crop as a substitute for subsistence crops such as maize, wheat, mustard and millet in the upland. Mutual exchange of planting materials and technical know-how among farmers played a crucial role in wider dissemination. Initial capital mainly originated from informal sources such as relatives and middlemen (Gauchan, 1994).

Geographical diversity has been beneficial for growing crops, horticulture, rearing animals and forest farming. Several types of fruits are of total cultivated land (3091000 hectare), 3.8% of land is used for growing fruits. According to statistics of fiscal year 2067/068, 831576 metric ton fruits have been produced from 111882 hectares of cultivated land whose productivity is 10.5 metric ton per hectare. Out of the total contribution of AGDP, 14% is from horticulture and out this 14%, about 3.8% contribution is from fruits farming 37565 hectare land is extended to produce SUNTALAJAT fruits and the production is 107582, metric tons. Likewise 58299 hectares land is extended to produce BARKHE fruits and the production is 340199 metric tons. In this way comparing the population of 2008 and the production of fruits it can be concluded that the consumption pattern of the country is 24 kg per person year (Falful Bikas Niresdeshanalaya, 2067/068).

A 20 years APP has been implemented since 1995 with a view to develop overall economy and alleviate poverty. Under the APP high value crops (HVC) are emphasized as:

-) Citrus through the mid hills
-) Apple season vegetable in the hills as well as Terai
-) Vegetable seeds in the hills and mountains

The APP target to increase the area of citrus of citrus production by 130 percent by 2015 (APROSC and JMA, 1995).

National agricultural policy – 2061 which updates the APP, has vision of improving living standard through sustainable agriculture development achieved by commercial and competitive farming system. Nepal has a wider scope for the production of various types of vegetable and fruits due to the diversity of climatic conditions.

Citrus is one of the most important fruits crops grown in the world. It is also one of the major fruits of Nepal in terms of area coverage, recognized as high value cash crop by agriculture perspective plan (APP, 1995). About 25% of the total fruits area in the country is covered by 15 species of citrus in 58 districts of the country

(CBS, 2000). Fruits contribution to augmenting food, improvement in nutrition, employment and help in income generation and maintain/ improve environment.

Orange is popular citrus fruits enjoyed by people though out the world. The name is thought to derive ultimately from the Sanskrit with its final from developing after passing through numerous intermediate languages. Oranges are valued for their delicious juices and high vitamin content. They are an excellent source of vitamin C and also contains vitamin A and several B vitamins. About 38 million metric tons of orange are harvested through out the world each year. Brazil is the leading orange producing nation, following by the united states of and Spain, Italy, Israel, India and Egypt are all large orange- producing countries. More than half of the orange grown around the world are processed into fresh, canned or frozen concentrated juice. About one quarter of the orange crop is sold as fresh fruits. The remaining fruits are used in making basked goods, sweets, marmalade, salads and soft drinks. Orange trees are widely cultivated in tropical and subtropical climates. Orange grows best in region with summers and cool winters in which the temperatures so not go below freezing. The orange commonly refers to three types of citrus fruits: sweet oranges, sour or Seville orange and mandarins. Oranges are among the oldest cultivated fruits. People have grown orange for more than 4,000 years. Orange probably originated in the part of Asia that includes India, Burma and south west china,(World Book Encyclopedia, 1997).

It has been given priority to the agriculture sector in the most of the periodic plans of Nepal realizing the important of this sector for the economic development. The third five year plan focused on transportation, communications and industrials and agriculture development as the first and second and the forth plan had given top priority to transportation and communication. The government has put forward the concept of corridor development from the fourth plan suggesting middle hills area as a suitable area for horticulture development. Fifth and sixth plan had given top priority to agriculture development. Agriculture has not been supportive to uplift their economic status. In this cash the state should intervene in agriculture sector as lead sector for the rural development. High investment it necessary to agriculture sector to change rural economy to surplus economy.

Orange farming has been considered very important and play significant role in poverty reduction through linking farm product to market, improve their productivity, increase income level.

1.2 Statement of the problem

National development is heavily depends on the development of different aspects of agriculture. Nepali climate condition suits for various types of agriculture activity where almost all kinds of horticulture crops can be grown which significantly contribute to the economic development of the country. Systematic development of agriculture sector in Nepal started in 1937 with the established of the agriculture council. Since then several steps were taken for the agriculture development in the country. Thought, there is no significant change in the development of agriculture.

In spite of the fact that, hilly region of Nepal has the best suited climate and soil for the fruits cultivation, the region is still dominated by cereal crops, unit and unless there is commercialization in agriculture, the socio – economic development of the rural people is impossible. So, high emphasis is to be given to bring area under fruits cultivation which could lead to the specialization in fruits.

Nepal is still poor in economic aspects even though it is rich in natural resource. So many development efforts have been made but the results have not been as expected. Agriculture production is heavily depends on monsoon. There still remains for the modernization of agriculture. The highly unskilled and illiterate people are engaged in agriculture.

The population growth has increased rapidly but the agriculture has not increased in population to the population growth. The inefficient traditional method of cultivation and the production of food grain cannot cope with the increasing population. Due to the geographical and climate diversity of Nepal, there exists a great prospect of producing seasonal fruits. As the demand of fruits is increasing in national and international level, the fruits farming can contribute to generate stable income to the rural cereals crops oriented farming system to commercial one

Orange is considered one of the valuable crops in the field of agriculture economy which can be a weapon to alleviate poverty and to uplift the living standard of the rural population. As the climate and soil of Kavre district is favorable for orange cultivation and many of the farmers are attracted towards orange cultivated. Falful Bikas Nirdeshanalaya has selected kushadhevi, Shanakhhu, Panauti Municipality, Balthali, Patlekhet, Kavre, Chalal Ganeshhthan, Shyampati and Saradabatase. VDC_s as orange pocket zone. Kusadhevi is one of the 87 VDC of Kavre District situated about western 15 km way from headquarter Dhulikhel. Among these VDC_s Kushadhevi is one of the top most orange producing VDC in Kavre district. The climate and soil of VDC suitable for orange cultivation.

Though the VDC is suitable for orange cultivation the production the area under orange field is not satisfactory. Modern method and new technologies for orange farming has not been adopted. Farmers have recognized it as most profitable crops but they could not have taken benefit as expected due to the many problems like lack of cold storage, lack of proper market (lack of suitable price), lack of technical support, lack of irrigation facility etc.

The main Focus of the study is on socio – economic import of orange on farmers of kushadhevi VDC of Kavre District. More specifically this study was concentrated on the following problems;

1. What is the socio-economic change among people after orange farming?
2. What is the impact of orange farming in the study area?
3. What are the problems and prospects of orange cultivation?

1.3 Objectives of the Study

The general objective of the study is to examine the socio- economic impact of orange farming on farmers in research area. In order to achieve this objective, the study has the following specific objectives:

1. To analyze the present status of orange farming in the study area.
2. To assess the role of orange farming in changing the socio–economic condition of the farmers.

3. To explore problems and prospects of orange cultivation.

1.4 Significance of the Study

Land is limited and there is no possibility of extending agriculture land to increase agricultural production in Nepal. The only way to increase agriculture production is to increase productivity and cropping intensity. For this high priority should be given to agricultural research activities which can contribute to the long term need and reality as population is increasing in exponential rates.

Land varies greatly in topography. Climatic, geology, soil and vegetable cover and accordingly there must be the land use for producing high yields with relatively low input. As indicated above there is a suitable climatic for orange farming in the study area. Though, it is still dominated by food grains that also adopting the traditional method of cultivation which cannot fulfill the entire basic needs of the people. Most of the people in the study area are engaged in agriculture and almost all are extending the orange farm year after year. As a result production is increasing each year. Now many farmers have started to cultivate it commercially. The main market of orange of this area are Banepa, Bhaktipur, Lalitpur, Kathmandu, Kalimati. Orange farming can contribute to strengthen the rural economy for this orange farming should be done commercially. Juice processing industries should be established and export to the foreign countries.

The farmers of the study area are facing many problems while cultivating their crops. Due to the slope field and lack of terrace farming the area is facing high intensive soil erosion. Plantation of fruits is one of the best ways which prevents landslide and soil erosion. Besides helping to balance the ecosystem in the main time. It is generating employment and income ensuring the improvement in the socio – economic condition of farmers who are facing a lot of problem like of irrigation, fruit diseases, lack of proper market, lack of cold storage, processing industry etc.

This research is based on field survey. The information has been generated a new concept with its own nature. Hence, the research has been an additional written document for future scholars, researchers, student and readers in the related field. It will be a precious asset for the District Agriculture Development Office (DADO) of

Kavre which are working for the development and promotion of orange farming and other NGOs and INGOs as well as for policy makers for formulating more effective and practical plans and policies.

1.5 Limitation of the Study

There are certain limitations of the study due to which was not possible to study all aspects of orange farming. However, this study has been limited to the following limitations.

-) Falful Biksa Nirdeshnalaya has selected 9 VDCs as orange pocket zone but this study has been limited to the area of orange farmers of Kushadhevi VDC of Kavre district and four wards 1, 2, 3 and 4 have been taken as sample from the VDC. It is representative to same extent only for this region regarding orange production.
-) The study concerns only with particular problems entitled “socio – economic Impact of orange farming on farmers” according to afore stated research objectives.
-) The main constraints are time Factor as well as finance, due to which limited respondents have only been, include to the study.

1.6 Organization of the Study

This study has been divided in to five chapters. The first chapter is introductory part of the study. It contains the back ground of the study, statement of the problem, objectives, significance, limitations and organization of the study. The second chapter it elaborates the literature review. The third chapter research methodology has been discussed with conceptual frame work, universe and sampling procedure, method of data collection including primary and secondary data, data processing and analysis procedure. The fourth chapter is related to data analysis. The sub chapters are back ground of the study area (district and VDC) production area, production and productivity of orange etc. The fifth chapter is the conclusion part of the study. It contains the summary, conclusion and suggestions. The bibliography, appendices and questionnaire are given at the end of thesis.

CHAPTER – TWO

REVIEW OF LITERATURE

2.1 Citrus and Orange Cultivation

Some of relevant literatures related to orange as well as citrus were reviewed here. All the related studies have focused on about the problems of market, transportation, irrigation, and method of cultivation. Although, all the researches are agreed that the socio – economic status of the hilly people can be achieved adoption fruits farming as the region has favorable climate and soil for fruits cultivation.

Socio – economic or socio – economic or social economics is an umbrella term with different usages. “Socio – Economics may refer broadly to the use of economics in the study of society.”(Wikipedia). Thus the term socio economic involves social as well as economic factors. Socio – economic imports affect pattern of consumption. The distribution of incomes and wealth, the way in which people behave, and the overall quality of life.

The adoption of commercial agriculture farming based on suitability of crops helps to uplift socio – economic status of farmers which is an economic and sociological combined total measure of a person’s work experience and of an individual’s or family’s economic and social position in relation to others, based on income, education and occupation.

Economic change makes social impact. The increase in income of the farmers by adoption of high value crop brings socio = economic changes in the community. For example farmers can send their children to school that helps to boast education fulfillment of vitamins and minerals requirement through the consumption of fruits helps them to maintain good health. They become capable of affording not only dresses but also ornaments and assets. Economic prosperity brings positive changes in various social aspects such as education, health / well being / sanitation, housing structure, social awareness, self esteem etc.

Fruits culture is recognized as one of the important subsectors of Nepalese economy. Orange is popular citrus fruits enjoyed by people through the world. The name is through to derive ultimately from the Sanskrit with its final from developing after passing through numerous intermediate languages. (World Book Encyclopedia , 1997). Orange is most common fruits grown in most of the mid hilly area of the country. Topography in climate of the area favors the production of quality of orange. Majority of people in the rural areas is poor and does not receive adequate food, shelter, clothing, education, etc. so orange farming can be the basis for meeting the requirements to gear up the economy and meets the basic needs compared to cereals crops as the income of farmers can be raised by its farming.

Orange farming is not connected only with economic growth but also connected with ecology and health .orange tree play significant role by balancing the declining environmental condition due to deforestation and also help the environment by checking landslide and degradation. Oranges are valued for the delicious juices and high vitamin C and also contains vitamin A and several B vitamins.

Falful Bikas Nirdeśhanalaya, Kritipur, Kathmandu has published annual progress report of fiscal year 2069/070. According to the report Geographical diversity has been beneficial for growing crops, horticulture, rearing animals and forest farming several types of fruits are being grown because favorable climatic. Out of total cultivate land (3091000 hectors), 3.34% of total land is used for growing fruits. According to statistics of fiscal year 2069/070, 240793 metric ton fruits has been produced from 24089 hectares of cultivated land and whose productivity is 10.00 metric per hectare. In the fiscal year 2069/070 the growth of SUNTALAJAT farming land is increasing by 4.9% out of the total contribution of AGAP, 14% is from Horticulture and out of this 14% about 7% contribution is from fruit farming. The area with 37565 hectare land is extend to produced SUNTALAJAT fruits and the production is 259191 metric tons. The area with 22535 hectare land is extend to produce HIUDE fruits and production is 107582 metric tons. Likewise 50889 hectare land is extended to produce BARKHE fruits. And the production is 340199 metric tons. In this way comparing the recent population (2008) and the consumption pattern of the country is 24 kg per person per year.

Till the fiscal year 2069/070 orange farming has covered 24284 hectare land and the annual production is 240793 metric tons and the productivity is 10.00 metric tons per hectare. In Eastern Development Region, orange cultivation has been done in 5540 hectare land and production is 38651 metric tons. In Central Development Region orange farming has been done in 3952 hectare land and production is 28576 metric tons. In Western Development Region it covers 8691 hectare land and annual production is 61814 metric tons. In Mid Western Development Region the orange farm covers 4144 hectare land and annual production is 25459 metric tons and in Far western Development Region orange farming has been in 1959 hectare land and annual production is 12112 metric tons. In Kavre district orange farming is done 1249 hectare and annual production is 9435 metric tons (Falful Bikas Nirdeshalaya, 2069/070).

The Kathmandu Post (oct,30,2011) a English daily news paper had published a news on heading “ where fruits reap no benefits for growers. “ the post writes , Nepal produces 25,000 tons of oranges annually, but only 10% of this output reaches the market due to in adequate transportation facilities ,poor market access and dismal export performance. It further writes, according to the ministry of agriculture and cooperatives, only 23,000 tons are shipped to buyers while the rest ends up as food for livestock. A ministry official said that although demand has not expanded and orange farmers are yet to learn how to get better prices, recent data shows that orange growers that orange growers have been enlarging the area under cultivation. Orange output amounted to 260,054 tons in the fiscal year 2009-10. The area under cultivation has increased to 23,098 hectares from 6,250 hectare in the last 10 years. Similarly, output increased to 250,854 tons from 66,654 tons during the same period, the ministry’s data showed. The country exported 830 tons 830 of oranges and 10,656 tons of orange juice in 2009-10. Orange is grown in over 54 districts, particularly in the hilly areas orange accounts for 25% of the total fruit production. A part from poor transport facilities, ineffective collection, inadequate cold storage facilities, poor market access and low prices have prevented producers from getting the real value of their production. Although the areas under cultivation and productivity have increased in last decade, the benefit for farmers has not grown proportionately. Orange production has overtaken mango, production which was at the top position, in terms of value oranges worth Rs. 10 billion are produced annually. Considering the

increasing interest of farmers towards orange cultivation, the country could produce oranges worth Rs. 20 billion in a couple of years. However, the government should bring an appropriate incentives package to boost output. The Western Development Region is the largest producer of orange accounting for 40% of the total output. Syangia is the largest orange producing district with a total output of 11,732 tons in 2009/10. Lamjung stood second with 10,814 tons. (The Kathmandu Post, 2011).

2.2 Review on Previous studies

Khanal (2011) conducted the study entitled “Orange Production and Marketing “ (A Case study of Thumki VDC of Kaski District). She found that there are 835 households in VDC, out of which 100 households engaged in is orange farming but only 28% households are engaged in purely commercial orange farming. The rank of kaski district for the production, total plantations are and productivity of orange is second among 56 orange producing districts in Nepal. As the conclusion of the study, it is found that the concept of marketing has not development in Thumki VDC yet. Production is necessary condition but not sufficient be sold at good price in order to maximized. More than half producers sell their orange on contract system in house. The average price received by the farmers is Rs. 13.91 per kilogram which is and whole sale market in kalimati Kathmandu. It is found that the marketing situation is poorer than the production situation in Thumki VDC.

Ruchal (2006) has conducted the study entitled orange cultivated in Sikkim. (A case study of khumdong Gram panchayat unit of East District). In this study it is indicated that khamdong is a notable orange growing area in the East District. Orange has been cultivated from time immorial in the study are. Initially orange was cultivated only for self – consumption but later on it receives more popularity due to high demand in national and international market. It is always the presence of middlemen who absorbs majority of the profit. However, due to the lack of Co- Operations, facilities transportation the farmers perfect garden selling. It is the small farmers who sell their products in the local market. The trend of orange in term of area and production is increasing in the study area. In term of cast and benefit of orange cultivation orange is mostly beneficial. In short, cost over showed has benefit. In term of uses of pesticides and insecticides it has been found has still one third of the total

households are deprived of such facilities. Orange farming provides more income to most of the households. Most of the farmers try to employ technological know – how in orders to increase production. Moreover the government also seems drawing out policies for the betterment of farmers. Storehouse for keeping orange for the beneficial marketing time has been found to be the 1strank in terms of priority order while doing problem Analysis associated to orange. The prospect of orange cultivation in Sikkim as well as in the study are is bright. Sikkim producers' good quality orange, which finds ready market in the national and international level. Some of the recommendations of the study are: to arrange a regular training for the field functionaries, development of organized marketing system and scientific storage, Facilities. Suitable intercrop with maize, soybean, healthy mother trees should be selected as the sources for collection of seeds, modern tools and technology should be provided to the farmers for better production, pruning and burning of diseased twigs should be done especially before monsoon , the researcher has further suggested that farmers co – operatives should be established and loans should be made available so that technology is afforded to increase production as well as the mountain the farms. (Ruchal, 2006).

Aryal (2005) has conducted the thesis entitled "Impact of production in rural economic, activities" (A case study of Khilung Deurali VDC on Syangja District). In this study, it is indicated that orange production has become one of most important alternative economic activities in Khilung Deuali VDC, where nearly 57% farmer have made orange cultivation commercially. The main objectives of the research are to do comparative study between orange grower groups and non orange grower group in terms of literacy status, income resources, livestock raising etc. The major problems exist in the study area are problem of technical knowledge, problem of disease and pert, marketing problem, irrigation problem, availability of loan and problem of hailstone. Besides these problems and limitations, farmers in the study area are still optimistic for the future prospects of the orange. The researcher has recommended to improve marketing mechanism, supply of agriculture inputs method of cultivation and for the establishment of cold storage, processing industry and irrigation facility (Aryal, 2005).

Laudari (2004) has conducted the study entitled "An economic analysis of orange production: a case study of Purkot VDC, Tanahun District, Nepal". It has the objective to estimate the production function of orange in linear and non linear form with labor, farmyard manure and chemical fertilizers as the inputs and it also has the objective to find the problems of orange production in the study area. This study has provided valuable information on whether farmers are using their resources efficiently. It has also tried to deal with several inquiries about the effect of different variables. It has indicated that inappropriate use of chemical fertilizers decreases the output. The study has found that the effect of farmyard manure is the most significant in the production of orange. It is because farmyard manure has a long term effect upon the soil. The study has pointed out that the method of making farmyard manure is very traditional and suggests that scientific methods of compost making should be taught to the farmers by the department of agriculture through JT/JTA. The study has indicated that modern inputs such as chemical fertilizers, plant protection chemicals, tools and equipment etc. are not available in time and at reasonable prices. Lack of irrigation facilities, lack of marketing facilities, lack of technical assistance, storage, processing facilities, problems of insects and diseases etc. are the major problems shown in the study. The study has also suggested to conduct adequate research activities and carry out its implementation (Laudari, 2004).

Chhetri (2002) conducted the study entitled "Orange cultivation in Sikkim, A case study of Sakyong Revenue Block of West Sikkim". In that thesis the researcher has revealed that the area and production trend of orange is increasing but sometimes there is cultivation due to physical conditions such as hailstone, high rainfall etc. The conclusion of this research is that orange cultivation has created a positive impact on rural economy. A proper orange farming is not done from a commercial point of view can enhance the socio-economic status of this study area. The researcher in order to remove the backwardness, poverty and illiteracy (Chhetri, 2002).

NARC has published an annual report according to the report, citrus is one of the most important and popular fruit crops grown in the hills of Nepal. It likes tropical and sub-tropical and even in some favorable parts of temperate regions. This report focuses that some problem is the low production and low marketing price at harvesting time. It is caused mainly due to the small area under citrus, lack of suitable

varieties for growing in different seasons (Early medium and late) and poor management practices. Poor fruit quality and lack of suitable storage methods are the main reason for low market price at harvest (NARC, 1999).

In a book entitled "Fruit development in Nepal" professor Dr. Gyan K. Shrestha introduces a need of and benefits from fruit growing in Nepal with brief outline relating to physiographic, climates and soil types of the country. This book also presents general problems of fruit cultivation and history of fruit development from pre - Rana to post Rana periods. It also presents fruit development programs reflecting the activities of different five year plans, horticulture centers and farms as well as potential areas of fruit production are briefly described. It presents status of fruit cultivation by emphasizing area and production of fruit, available fruit genetic resources, government policies, adoption of technologies and materials by farmers and post harvest handling marketing and processing. Dr. Shrestha writes, Nepal has suitable climate conditions for growing tropical, sub tropical and temperate fruit species in Terai, mid hills and higher hills respectively.

Climatic and soil conditions vary locality to locality. He further writes, a rewarding work on fruit growing business and its development is only possible if proper strategic planning could be developed and exercised immediately so as to meet fruit requirements in years to come. The government, semi-government, and non government national and international organization/agencies should pay an adequate yet immediate attention to their problems and constraints and develop proper technology for fruit cultivation in Nepal. He has made several recommendations to improve fruit production programs. Dr. Shrestha further writes government policies might have some changes reflecting the high value fruit agriculture and income generating plans and programs emerging in this nation latterly. To preserve and keep up with its mandates NARC must prepare fruit research strategies to develop production technologies and packages for commercial fruit species, otherwise research reorganization is needed. The research thrusts as suggested must be prioritized and production inputs should be made available in the production areas at times when they are needed. Post harvest handling proper packaging and timely marketing, etc. are problems of fruits as barrier if adequate infrastructure facilities are not built. The writer stressed that the development planners, government officials,

researchers etc need a serious thought to the recommendations to help in intensive fruit, expansion programs (Shrestha, 1998).

Rai (1998) conducted the study entitled "A study of orange cultivation in the eastern hilly region: A case study of Chhintang VDC of Dhankuta district". According to the researcher, orange cultivation is popular in Chhintang since a long time. The study area in terms of literacy status, occupation, land holding size and food sufficiency. The study shows that the area under cultivation is increasing continuously. Among the major problems of orange cultivation in Chhitang VDC lack of transportation is the dominant one. The other problems shown in the study are technical problem, problem of market, problem of irrigation, problem of disease and processing industries, the study has also shown the problem like lack of modern inputs, improved saplings, chemical fertilizer, agrochemical, insecticides as well as irrigation facility. The researcher further writes, due to the lack of modern means of transportation people are compelled to carry their product on their back. Besides these problems, researcher indicated that farmers in the study are still optimistic for the further prospects of orange (Rai, 1998).

APROSC (1989) had conducted a research on the topic "Fertility study of citrus development for the selected mid hill district of Nepal" volume of Kathmandu. The study has highlighted various aspects of citrus cultivation in the mid-hills of Nepal. The study has pointed out that nation's policies are still unsuccessful for developing citrus farming due to the poor performance of institutional supports related to the citrus development programs. On the basis of land use, it has indicated that citrus production is limited. However, the potentiality of citrus production in mid hill is still higher than the level crops. Citrus production according to this study, can provide tangible as well as intangible benefits to the country. Increase in income is the tangible benefit that citrus farming provides whereas improvement in the environment is the intangible benefit that it provides. It has suggested that effective governmental effort should be launched practically for the development of this sector (APROSC, 1989).

In the report of FAO, the review has been made in important progress that has been made from 1984 to 1988 in production and consumption of citrus juice, concentrated juice in particular. It also analyzes the factors responsible for the

domestic growth of international trade in processed citrus fruits. Finally, in view of the very fast expansion in output of citrus for processing and processing capacity in some areas especially attention is given to the outlook for international trade and possible market problems, which could arise in the future. According to the study about 20 million tons of citrus are processed annually. This amount represents almost 40 percent of world output of citrus. Two countries the United States and Brazil, account for over three quarters of the volume processed with a share of almost 80 percent, orange account far largest part of all citrus fruit processed concentrated orange juice, mostly in the form of FCOJ is by far the most important item in the international trade in citrus juice. It accounts for almost 85 percent of exports of all types concentrated orange juice increased dramatically during the last two decades (FAO, 1988).

Department of food agriculture and market service (DAFM) has conducted a study on topic "A socio-economic study on the area around prithivi highway 1979. In this study five VDCs viz Manakamana from Gorkha, Sirkwa, Sistwa from Kaski District, Chhang VDC from Tanahun district and Jivanpur and Benighat from Dhading district were taken as sample VDCs. In the report presented, it was stated that in some regions, the facilities of transportations encouraged to some extent the cultivation of cash crops and fruit. In conclusion of the report it was remarked that roads have a remarkable effect on the development of production forces of agriculture road provides the opportunities for increasing income and boosting the socio-economic condition to the people (DFAM, 1979).

From above mentioned literature focus on the economic activities, social facilities and services stimulation of agricultural activities, linking diversity But, I found the gap between impacts of orange farming activities, socio-economic change and developing orange farming but are so many problems as maintain prices, distributing and selling management etc. and scarcity of cold storage in found as a problem in that area. As a conclusion, although there are so many problem limitation in orange agriculture. There are high possibilities of the development economical and social improvement by the help of that professional agricultural. So, I tried to field of these gaps in my research and related literature and to make a conclusion.

CHAPTER – THREE

RESEARCH METHODOLOGY

3.1 Research Design

Descriptive research design is used in the study. The major purpose of the descriptive research design is to describe the impact of orange farming on farmers in Kushadhevi VDC of Kavre District. In addition it tries to descant of socio-economic activities, present status of orange farming and problems and prospects of orange cultivation in the study area. As per nature of the research, data related with social and economic phenomenon, demographic calculation, etc. are collected based on existing situation. The study has basically followed descriptive method. Using the descriptive method, the acquired data and information has been analyzed and result is derived.

3.2 Selection of the Study Area

The present research has been concerned in four words of Kushadheki VDC of Kavre District viz ward no. 1, 2, 3 and 4 which are considered as core area for orange production in Kushadhevi VDC. Following reasons were there for the selection of the study area. So far as no studies have been carried out is this area on the similar topic. The domination of orange cultivation is found in the Kushadhevi VDC Kavre is the researcher's own home. The familiarity of various aspects of the area will be ascendible and appropriate to collect required information for the study.

3.3 Nature and Sources of Data

Primary data were collected in Interview, Observation, Case Study and secondary data were collected through information from various sources, which include published and unpublished documentary sources; books, booklets, magazines, newspapers, articles, thesis reports etc. Secondary data have also generated from fragmentary sources, project document, village and district profiles, census data, routine national / regional statistics, published book, journals, research reports etc. have consulted. Unpublished materials such as orange farming guideline, database and website have used as per need of the study. The collected data and fact are

particularly in two natures are qualitative and quantitative, which help to fulfill the requirement of the study, include as a major part to achieving its all the objectives of the thesis.

3.4 Population Sample and Sampling Procedure

The studies have selected four wards of Kushadhevi VDC purposively. Therefore, among the nine wards of Kushadhevi VDC, ward number 1, 2, 3, and 4 was purposively selected for the propose of study became the in commercial farming. The selection of the informants for study have based on socio-economic consideration. Different information has taken under different criteria that is, occupational change, change in living standards, impact of orange farming etc.

Out of 127 household in ward number 1, only 32 household are selected. As there are 135 household in ward 2, but only 33 household has been selected for sampling. Likewise, above 98 households have present in ward 3, but only 25 household have selected. Similarly, there are 165 household in ward number 4, but only 30 household have been selected. Therefore, out of 525 household in above mentioned four wards of Kushadhevi VDCs of karve district only 120 household were sampled as a respondent for the study. Almost all the farmers in the ward are involved in orange farming. Therefore, about 23% of the population was selected as sample. The collected data and fact are particularly in two natures are qualitative and quantitative, which help to fulfill the requirement of the study, include as a major part to achieving its all the objectives of the dissertation. Purposively identified VDC, ward and number of households.

3.5 Techniques and Tools of Data Collection

The term case study usually refers to a fairly intensive examination of single unit. A unit may be a person or a small group of people or a single company. Case studies involve measuring, looking what is there and how it got there (historical approach). Its enable us to explore, unravel and understand problems, issues and relationship in a particular situation.

3.5.1 Household Survey

Household survey was conducted by developing structure questionnaire as tool. This mainly concerned socio-economic change of people due to orange farming. In addition, the people and prospect of orange farming was also inquired. All members like, all age group, occupational, economic status; income source on community has inquired to gather the information (See ANNEX I).

3.5.2 Observation

During the study period observation was carried-out. Generally, participation observation was made through transect walk of respective orange farming. Local user people meeting observation, community visit etc. Information received from participants observations were used for the triangulation of received from other sources (See ANNEX III).

3.5.3 Focus Group Discussions

A focus group discussion with local people was conducted at community level. During discussion, some qualitative data on attitude and perception of local people towards orange farming impact on socio-economic sector support the community to participate in various functions. The discussion was conducted based on semi-structured questionnaire. Data/information received from other sources (See ANNEX II).

3.6 Method of Data Processing and Analysis

In this study, the collected data have been edited, coded, tabulated and checked to remove possible errors during the fieldwork evaluation. Then, tried to match the responses of each of the respondents with the questions and the topic discussed during the interview. This helped to analyze research data appropriately.

Basically, quantitative data were categorized and presented as per need of the study. In order to analyze the data, simple statistical tools such as frequency and percentage is used. Similarly, the data was also presented and analysis by the help of bar

diagram and pie chart Likewise, mainly Microsoft Word and Microsoft Excel were also used as computer facilities. Interpretations have been made on the basis of results, which was assisted by qualitative data / information available from both primary and secondary sources.

CHAPTER – FOUR

DATA, ANALYSIS AND INTERPRETATION

4.1 Introduction of the Study Area

4.1.1 Geographical Setting

Kavre palanchok district is located in eastern part of Nepal. This district lies in between $85^{\circ}24'$ - $85^{\circ}49'$ in eastern longitudinal and $26^{\circ}20'$ - $26^{\circ}45'$ northern assess. Situated in Mahabharat mountain chain. It is 300 m to 3018m high from sea surface.

Kushadhevi is one the 87 VDC of Kavre district situated about 14 km away from headquarter Dhulikhel. The VDC lies in between $27^{\circ}34'$ - $27^{\circ}36'$ North longitude and $85^{\circ}24'$ East to $85^{\circ}30'$ East latitude. In reference to the introduction of this VDC in Rana Governmental period it is gifted to Barhimins by Rana to Scattering 'kush' by the time twisting that word kush this VDC named as Kushadhevi as colloquial assumption. Geographical the rounding area of this VDC_s is raised above Panuati municipality is located in East area, Rayale Bihaber VDC is located in western area Mahendrajyoti Basdol and Nasika Sanga is located in Northern part and Kolati Bhumidanda VDC are situated in Southern part of this VDC. Total area of this VDC is 1976 Square km. the total population of this VDC is 7114 in which male are 3264 and female are 3850 according to the population report of the year 2068.

4.1.2 Climate

The VDC which is situated in North eastern part of Fulchocki Danda is environmentally. So cold in winter season and so hot in summer season almost all the area of this VDC is sloppy area so that the climate is sub - tropical this VDC is turned toward northern area so that it is not sunny because of that most of the time here is found cold season. The proportional temperature of this VDC is $15-30^{\circ}$ C in summer season and $0-20^{\circ}$ C in winter season.

4.1.3 Population

According to the census of 2011 the population of the Kavre District is 381937. Among them 52.10% are female and 47.89% are male. The density of population of the district is 276.27 per sq.km and the population growth is 1.73%. Hence, table 1 shows the ward wise distribution of all the households along with male and female population of Kushadhevi VDC.

Table 4.1: Ward wise Distribution of Households Population 2067

Ward No.	Total No. of H.H.	Population			Average Family Size	House owner	
		Total	Male	Female		Male	Female
1	195	1026	533	493	5.26	178	17
2	238	1407	689	718	5.91	213	25
3	209	1067	523	543	5.11	189	20
4	140	699	357	342	4.99	108	32
5	121	743	375	368	6.14	109	12
6	89	528	269	249	5.82	85	4
7	184	948	442	506	5.15	166	18
8	177	909	462	447	5.14	138	39
9	162	876	437	439	5.41	130	32
Total	1515	8195	4090	4105	5.51	1316	199

Source: Households Survey Base Year, 2067

According to census of 2011 (HN Survey, 2067) the total population of Kushadhevi VDC is 1515. Among the 9 wards the highest population is in ward no. 2 and least population is in ward no. 6.

4.1.4 Ethnic Composition

An ethnic group is a group of human whose members identify with each other each through a common heritage that is real or presumed. Nepal's 2011 census enumerated 123 distinct caste and ethnic group including unidentified groups. Even

in the Kushadhevi VDC different caste and ethnic groups are settled with maintaining harmonious relationship with each other.

Table 4.2: Population by Caste / Ethnic Group in Kushadhevi VDC from 2011
Census

S.N.	Caste And Ethnic Group	Number of People	Percentage
1	Brahmin	4742	57.86
2	Chhetri	1443	17.61
3	Tamang	1293	15.78
4	Newar	414	5.05
5	Kami	116	1.42
6	Damai	88	1.07
7	Gharti/Bhujel	55	0.67
8	Rai	29	0.35
9	Major	15	0.18
Total		8195	100.00

Source: Households Survey, Base Year 2067 (VDC Profile, 2067)

4.1.5 Religion and Language

Religion is the most important thing which affects the general life of the style of the people. Many laws, rules and religion are issued in accordance to the religion. All the people even Barmhin and Chhertis of Kushadhevi VDC follow Hindi religion. All most all people of the VDC speak Nepali language as their mother tongue.

4.1.6 Transportation and Communication

The management and access of Road live network of this VDC is linked by the “Panuti Kushadhevi, Lubhu Sadak Khanda” as a main road line. Except this which is joined by 68 km road line which is remarked as differed sub road line, touched & joined different wards. There are not regular transportation. but the vehicles VDC are in the access of the communication service because of the availability of the ncell, Namaste & CDMA mobile network, likewise here is post of

is developed & functionally inactive situation , many newspapers ,local newspaper ,daily national newspapers also distributed & well access upon them.

4.1.7 Electricity

Panuti micro hydro plan on 2023 vs electric capacity 2400 kilowatt was distributed for limited area days, but now days the accessibility of central electrical distribution system is joined in 3 municipalities along with 36 VDC, 20605 electric mater are transplanted, as a result the electric availability is accessible in this VDC joining micro hydro are developed in different places under the programmer of rural energy development programmer.

Table 4.3: Status of Electricity, 2067/68

Status of Electricity	VDC/Municipalities
Reach in Some ward	28
All ward available in electricity	22
Only started completed	6
No facility of electricity	34
Total no of VDC of Municipality	90

Source: Nepal electricity Corporation, Kavre Distribution Centre, 2068

4.1.8 Education

Educational in the general sense in any act or experience that has a formative effect on character or physical ability of an individual. In its technical sense, educational is a process by which society deliberately transmits its accumulated knowledge, skills and values from one generation to another. Education can also be defined as the process of becoming education. An educated person refers to a person that has situation they are in that person is able to perceive accurately, think clearly and act efficiently to achieve self – selected goals and aspiration.

One of kathmandu University, six Campus, eighteen higher secondary school, thirty three source centre and one hundred eighteen one child development centre

available in this Kavre district. Sixty four % are literacy in this district whereas female is fifty two (52.8) % ,and male is seventy five(75.7)%.

Table 4: Educational Institutes in Kavre District

S.N.	Levels Schools	No. of School
1	Secondary school	139
2	Lower secondary	91
3	Primary school	437
4	Pre – primary school	576
Total		1243

Source: District Education Office, Kavre 2067

The literacy rate of kushadhevi VDC according to the household's survey of 2067 is 74.36%.

4.1.9 Land Use

The crops and cropping pattern are distinguished based on arable land types. Generally two types of land one is Khet land and another is Bariland are cultivated. Khetland are irrigated and rain fed lowlands Bari land is usually rain – fed land paddy, maize, wheat and millet are the major crops grown in kushadhevi VDC. Other fruits like orange, lemon, lapsi, banana, haluwabeb, apple etc are also grown here but they have not got commercial momentum. Cattle, buffalo and goat are common livestock raised in the area. Khetland has high commercial value as paddy can be grown here in comparison to bariland, assuring the social status.

Table 4.5: Agriculture Area of Based in Utility

S.N.	Coverage agriculture area	Area (hec.)	Coverage %
1.	Farming area	48400	50.21
2.	Khelland area	22900	23.76
3.	Pakho area	25500	26.45
4.	Total agriculture area	96400	100

Source: Internal Estimated District Agriculture Development Office, 2067

Table 6: Types of Land in Kushadhevi VDC

S.N.	Types of Land	Cultivated Area	%
1	Pakko	64.87 hectares	3.28
2	Bari	637.67	32.24
3	Forest and brush	1194.75	60.41
4	Besi / tar	80.24	4.05
Total		1977.53	100

Source: VDC Profile, 2067

As in the other hilly areas upland is more used for farming than low irrigated land.

4.2 Socio-economic status of Household Population

4.2.1 Age Structure

The population activities refer to the different aspects of the people living in a certain society or country. Age composition is the process of studying the population activities because the total population is divided into different age groups like children, young and adult from the major age groups of the population is any society.

The composition of the sampled households in Khshadhevi VDC is presented in table below.

Table 4.7: Composition of Population by Age

S.N	Age Group (years)	No. of Population	Percentage
1	0-15	136	25.90
2	15-60	351	66.86
3	60+	38	7.24
Total		525	100

Source: Field Survey, 2013

The study shows that of the population in the study is in age group 0-14 years. The age group in between (15-59) years considered as the active population and highest 66.86 % of the population in the study area are in this age group. Likewise merely 7.24% and 25.90% are both child and old people are in the age group 60+ and this population is considered as dependent population.

4.2.2 Sex Structure

According to field survey, 2013 the population statistics to Kushabevi VDC of Karve district is presented in table no. 8.

Table 4.8: Composition of Population by Sex

S.N	Sex	No. of Population	Percentage
1	Male	389	74.09
2	Female	136	25.91
Total		525	100

Source: Field Survey, 2013

Out of total sampled population i.e. 525 of the study area, 389 are male which accounts 74.09% and 136 are female which accounts 25%. This shows male population is higher than the female in the sampled households.

4.2.3 Occupational Structure

The occupational status of the kushadevi VDC according to field survey 2013 is divided into four groups having agriculture, service, business and other given in below table.

Table 4.9: Distribution of Population by Occupation

S.N	Occupation	No of households	Percentage
1	Agriculture	64	53.33
2	Service	40	33.33
3	Business	8	6.67
4	Other	8	6.67
Total		120	100

Source: Field Survey, 2013

Agriculture is the primary source of livelihood of 67% of Nepalese population (CBS, 2011). The main occupation of sampled households of the VDC is also agriculture where 53.33 % of the sampled households are engaged in agriculture likewise 33.33% households are engaged in agriculture likewise 33.33 % households are engaged in service, 6.67.67% in business and remaining 6.67 % are engaged in other activities like sikarmi and labor.

4.2.4 Educational Status

Education in the general sense is any act or experience that has a formative effect on the mind, character, or physical ability of an individual. In its technical sense, education is the process by which society deliberately transmits its accumulated knowledge, skills and values from one generation to other. Education is also a basis of studying the characteristics such as quality of the living standard, level of awareness of the population.

Table 4.10: Education Status

S.N.	Level of Education	No. of Population	Percentage
1	Illiterate	12	2.29
2	Primary	134	25.52
3	Under SLC	155	29.52
4	SLC and +2	147	28
5	Bachelor and above	77	14.67
Total		525	100

Source: Field Survey, 2013

In above table, regards to the educational status of the members of the selected household, most of them belong to upto the level of SLC. Still, 2.29% of them are found to be illiterate where as 25.52% of the total populations are small children who have started going to school and under SLC. Out of the total members 29.52% people have the upto SLC. Out of total members 28% people have the SLC and +2 level and 14.67% people have the qualification of bachelors and above level.

4.2.5 Caste and Ethnic Group

The research area is dominated by Brahmins and Chhetris in terms of caste and ethnicity. The given table with the existence of Dalits, ethnic groups and Brahmins and Chhetris in the community, one can assume that there is mixed religion, culture and social structure instead of having the absolute domination of anyone caste and ethnicity in the research area.

Table 11: Composition of Population by Age

S.N	Ethnic Group	No. of households	Percentage
1	Brahmins	24	20
2	Chhetries	84	70
3	Janajati	8	6.67
4	Dalit	4	3.38
Total		120	100

Source; Field Survey, 2013

People of various caste and ethnic group are residing in Nepal. People of different caste and ethnic groups are living together and have harmonious relationship with each other. Out of the 120 sample households 20% are Brahmins, 70% are Chheteri again 6.67% are Janajati and rest 3.33% are Dalit.

4.2.6 Composition of Family by Age

A family is a group of individual who are sharing the same roof and related by blood, marriage and adoption. They interact as per their designated roles for collective development. The number of family members denotes the size of the family. Generally families are divided two groups viz: small and large families. The size of the family affects the fulfillment of basic needs. Social values and beliefs, age at marriage family structure, desire for large family and status of women in the society determine the size of the family. The size of the family is generally large in Nepal. According to the census 2011, the average family members per households are 5.3 in

Kavre District. The average family members per household in sampled population are 4.37%.

Table 4.12: Composition of Family by Age

S.N	Members of family	Households	Percentage
1	0-3	8	6.67
2	4-6	68	56.67
3	7-9	28	23.33
4	10 and +	16	13.33
Total		120	100

Source: Field Survey, 2013

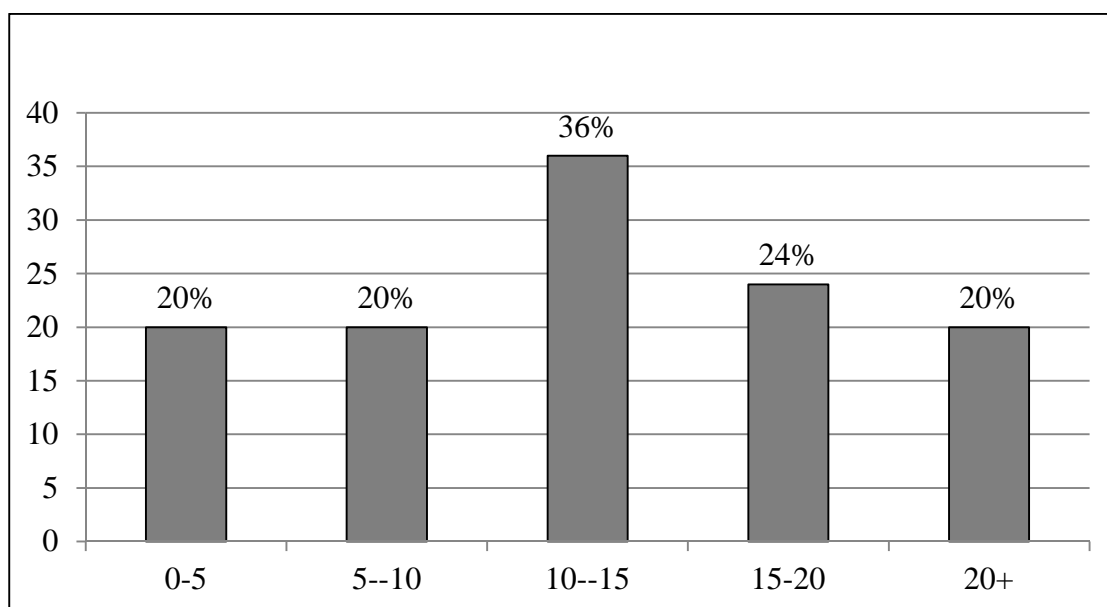
The above data shows that percentage of family members in between 4-6 per household is highest with 56.67% and percent of the family members in between 0-3 least with 6.67%. Likewise, percentage of family members in between 7-9 is 23.33% and percentage of family members 10 and above per households is 13.33 %.

4.3 Status of Orange Farming

4.3.1 Land Holding Size

Land is one of the most economic parts of Nepalese farmers as it indicates the Socio-economic status of the farmers. It may determine their relative power and status and their possible influence. Thus, the land holding capacity is also decreasing generation after generation it has high importance, not simply as a factor of production but also as a continuous source of income and security. The composition of land holding size and land covered by orange farming of the sampled households in the study site is presented in the figure.

Figure 4.1: Land Holding Size



The above figure shows the distribution of land holding size of 120 households in the study area. Highest no i.e.120 households have land in between 0-5 ropani which is equal to 20 % the table also shows that the respondents having 5-10 ropani, 10-15 ropani, 10-15ropani and more than 20 ropani land size are equal to 20%, 36%, 24% and 20% respectively.

4.3.2 Land Under Orange Farming

Table 4.13: Land under Orange Farming

S.N	Size in Ropani	No. of Households	Percentage
1	0-5	88	73.33
2	5-10	28	23.34
3	More than 10	4	3.33
Total		120	100

Source: Field Survey, 2013

The above table shows that households i.e. 73.33 %have used 0-5 ropani of land for orange cultivation. Likewise 28 ropani i.e. 23.34% households have used 5-

10 ropani land for orange cultivation and only 4 respondent i.e.3.33% households have used more than 10 ropani of land for orange cultivation.

4.3.3 Land Under Orange Farming on the Basis of Caste Ethnicity

The above table shows the status of land covered by orange farming on the basis of caste/ethnicity. The Dalits have used merely less than 5 ropani of land for orange farming. This is due to the less land belonged the them.

Table 4.14: Land under Orange Farming

S.N.	Land used for Orange Farming size in ropani	Brahmin	Chhetiri	Janajati	Dalit
1	0-5	16	60	4	2
2	6-10	8	24	4	2
3	More than 10				
Total		24	84	8	4

Source: Field Survey, 2013

In above table shows that, land used for orange farming size in 0-5 to 6-10 ropani Brahmin are 20% household used. Similarly, 0-5 to 6-10 ropani used are Chhetri 70% household. Janajati are 0-5 to 6-10 ropani used in 6.66% household and Dalit only 3.33% household are used in 0-5 to 6-10 ropani. However, it can be summarized that an average of 0-10 ropani of land is possessed by most of the families and most of the families have more bari and less khet.

4.3.4 Types of Land Used for Orange Farming

The crops and cropping pattern are distinguished based on arable land types. Generally, two types of land one is khet land and another is Bari land are cultivated. Khet land, are irrigated and rain- fed lowlands. Paddy, maize, wheat and millet are the major crops grown in Kushadevi VDC.

Table 4.15: Types of Land Used for Orange Farming

S.N.	Types of Land	No of HHs	Percentage
1	Keht only	-	-
2	Bari only	48	40
3	Khoriya +Bari	16	13.33
4	Khet + bari	20	16.67
5	Khet + bari+Khoriya	36	30

Source: Field Survey, 2013

In the study area, respondents are found to be contributing land for orange farming. Among the sample 40% household are used only Bari. 13.33% household are used Khoriya + Bari, 16.67% household are used Khet + Bari and 30% household are used Khet + Bari + Khoriya. Most of land used for orange farming is bari land in the study area where very limited others types of land is used for orange farming.

4.3.5 Intercropping

In the orange garden, there is enough space left between these which can be utilized by adopting intercropping. Generally, orange are planted on the edge of the Bari so that farmers have been doing the cultivation of coral crop as before. But in the orange garden intercropping has been drove as shown in the table below. As per the farmers, due to the shadow of the orange trees the cereal crops cannot grow properly. Some farmers have started to grow gingers and vegetables as intercropping.

Table 4.16: Intercropping

S.N.	Types of land	No of HHs	Percentage
1	Paddy	-	-
2	Maize	44	36.67
3	Wheat	8	6.67
4	Oil seeds	28	23.33
5	Millet	8	6.67
6	Vegetable	12	10
7	Chilly	16	13.33
8	No intercropping	7	3.33
Total		120	100

Source: Field Survey, 2013

The total household of this study is 120. Out of these 120 families 3.33% families are no intercropping and 96.67% families are intercropping. Still many farmers have been cultivating maize and wheat as intercropping through the yield of these crops as intercropping is very low.

4.3.6 Change in Crop Structure

Table 4.17: Major Crops Before Orange Farming Intercropping

S.N.	Description	No of HHs	Percentage
1	Maize	52	43.33
2	Wheat	32	26.66
3	Paddy	8	6.67
4	Oil seeds	20	16.67
5	Millet	8	6.67
6	Vegetable	-	-
7	Others	-	-
Total		120	100

Source: Field Survey, 2013

Out of 120 respondents cultivating the orange from different VDC understudy 43.43 % of the respondents reported that maize was the major crops before orange cultivation. Then after 22.66% respondents reported that wheat was their major crop. Paddy and oil seeds were also the major crops as reported by 6.67% and 16.67% respondents respectively.

4.3.7 Starting Years of Orange Farming

In the beginning during 2040B.S farmers in the study realized that orange farming can be done commercially in this area and found more benefit than only other cereal crops till the end of 2050B.S farmers are planting the trees only at the brooders of the BARI land near the house. After 2060B.S many farmers have planted this fruits all over the BARI and any, where as possible. Now, other corps has been displaced by orange farming and limited only in intercropping.

Table 4.18: Starting Year of Orange Farming

S.N.	Time of Years	No of HHs	Percentage
1	0-5	8	6.67
2	5-10	12	10
3	10-15	32	26.67
4	15-20	56	46.67
5	More than 20 years	12	10
Total		120	100

Source: Field Survey, 2013

The study showed that it has already been around (15-20) years that 46.67% households have started cultivating the orange. Likewise 26.67% have reported that they had started cultivating it from part (10-15) years. In this way 10% have been cultivating orange far more than 20 years. 10% of the farmers informed that they have started it from last (5-10) year and the remaining 6.67% responded that they have started cultivating the orange from within 5 years.

4.3.8 Transportation Facility Related to Orange Farming

Proper transportation facility and marketing system plays a significant role for the promotion and development of orange production. Farmers of the study area can transport ant their productions to the market centers as jeeps and teachers are playing daily through the Kushadevi VDC.

Table 4.19: Land under Orange Farming

S.N.	Description	No of HHs	Percentage
1	Self	12	10
2	Jeep/ tractor	8	6.67
3	Intermediaries	100	83.33
4	Others	-	-
5	Total	120	100

Source: Field Survey, 2013

Majority of the respondents that is 83.33% have revealed that sell their orange to the intermediaries so that they do not take any burden of transportation likewise 6.67 % farmers have raveled that they use jeep/ tractor for the transportation of orange and only 10% small farmers sell their products by themselves in the near market.

Table 4.20: Transportation and Marketing of Orange

S.N.	Description	No. of HHs	Percentage
1	Local market	12	10
2	Intermediaries/ Garden sell	100	83.33
3	Self business in the city	8	6..67
4	Others	-	-
	Total	120	100

Source: Field Survey, 2013

The percentages of garden selling/ selling to intermediaries farmers are found highest which is 83.33%. Likewise, 6.67% of the respondents said that they sell their products by themselves in the city. Rest 10% small farmers informed that they sell the orange in the near and local market.

4.3.9 Technical Know How

There are two reasons to purpose scientific knowledge: For the sake of the knowledge itself and for the practical uses of that knowledge. Because this second aspect of science, affects the lives most people and technological advances arises. Training in the act of increasing the knowledge, still and performance which helps in the systematic and successful completion of the job and as a result productivity increases.

Table 4.21: Status of Support by Government and Non-Government Institutions

S.N	Particulars	No of households	Percentage
1	No support	24	48%
2	Grants to purchase tools and plants	14	28%
3	facility by ADB	7	14%
4	Technical support and suggestions	3	6%
5	Free charge for medicine	9	18%
6	Prize and certificate	3	6%
7	Opportunities of training	4	8%
8	Training but not sufficient	16	32%
9	Not training opportunity	30	60%

Source:-Field Survey, 2013

Among the households in selected area 48% have not got any support by government and non-government institutions, 28% farmers have got supports grants to purchases tools and plants, 14% farmers have got facility for fruit farming by ADB, 6% farmers are facilitated for technical suggestion and supports by DADO Kavre.6% farmers have got prize and certificate for well done in orange farming. 18% farmers

have got free charge medicine. Some farmers have got miscellaneous supports but some farmers have not got any support.

4.3.10 Loan

Loan also facilities the commercial farming of the orange. Availability of loan is fundamental for investment. Therefore, the loan statuses of the respondents were collected which is presented in table below:

Table 4.22: Source of Loan

S.N.	Name of bank	Loan (Amount in Rs)	Interest rate	No. of HHs	Percentage
1	Banks	-	-	-	-
2	Cooperatives	20000	13%	60	50
3	Local money lenders	15000	16%	8	6.67
4	Relatives	12000	12%	8	6.67
5	Loan no borrowed	-	-	14	36.66
	Total	47000		120	100

Source, Field Survey, 2013

There are 50% households, they take loan from co –operatives organizations which are located in local areas as agriculture co – operatives organization, women agriculture co-operative organization, saving and credit co – operative organizations. 8% household take loan residential 3% households take loan from their relatives. And 36.66% households doesn't take any loan from no where. Cooperatives, Local Money Lenders, Relatives are all loan holder. There is no access to bank because lack of knowledge about bank. The sample population was not all educated, no found in bank near selected VDC.

4.3.11 Cold Storage Facility

Availability of cold storage helps to the producers to confer reasonable price of their product as well as it helps for inter- seasonal price stabilization. It is beneficial

for consumers too. So, the producers of Kushadevi VDC feel about the necessity of cold storage. Out of the selected 120 households, 66% households have considered that cold store is essential and 13% households have expressed about the necessity of cold storage in future. 3.33% respondents have no knowledge about the concept and significance of cold store. But 16.66% households have not considered as essential.

Table 4.23: Necessity of Cold Storage

S.N.	Types of response	No of households	Percentage
1	Necessary	80	66.66%
2	Necessary in future	16	13.33%
3	No necessary	20	16.66%
4	No knowledge about cold store	4	3.33%
	Total	120	100%

Source: Field Survey, 2013

4.3.12 Insecticides, Pesticides, and Chemical Fertilizers

Chemical fertilizers, pesticides, insecticides, improved variety of saplings and modern agriculture tool are very important in order to get high yield of production. By using the proper amount of chemical fertilizers, insecticides, and pesticides farmers can increase the production but excessive use of them ultimately decrease the soil fertility and deteriorating the environment. Therefore, farmers should have the knowledge about its proper use.

Table 24: Insecticides, Pesticides and Chemical Fertilizers

S.N.	Description	No of HHs	Percentage
1	Use insecticides pesticides and chemical fertilizers	36	30
2	Do not use insecticides pesticides and chemical fertilizers	84	70
	Total	120	100

Source: Field Survey, 2013

Among, these 30% are used insecticides pesticides because they want high production, business mind and vulnerability. Chemical fertilizers and 70% are do not used insecticides pesticides and chemical fertilizers because organic manures is sufficient to orange farming. Some people do not know ideas about pesticides and chemical fertilizer and they flow only traditional system. Most of the farmers in the study area do not use the insecticides, pesticides and chemical fertilizers.

4.3.13 Source of Orange at Present

A nursery is a palace where plants are propagated and grown to usable size. Nurseries often grown plants in a green house a building o glass or in plastic tunnels, designed to protect young plants from harsh weather especially frost, while allowing access to light and ventilation. Orange saplings cannot properly from seeds anywhere and at any time suitable to epigraphy, climate sail along with great case in needed for orange sapling to germinate and produce healthy saplings. Therefore plant nursery is very important for farming in order to produce healthy plant. Few farmers of kushadevi VDC have been growing orange saplings in their own field for self plantation and rests of the farmers are getting the saplings from the local nursery.

Table 4.25: Source of Orange at Present

S.N.	Description	In the beginning of orange cultivation		Percentage	
		No of HHs	Percentage	No of HHs	Percentage
1	Self nursery	-	-	-	-
2	Local nursery	-	-	4	3.33
3	Agriculture office	100	83.33	44	36.67
4	Outside the VDC	20	16.67	72	60
	Total	120	100	120	100

Source: Field Survey, 2013

About 60 % the respondents revealed that they are getting orange saplings from outside the VDC and rest 36.36% have made self nursery for planting the orange,

now where they used to cover long distance for orange saplings in the beginning of orange cultivation.

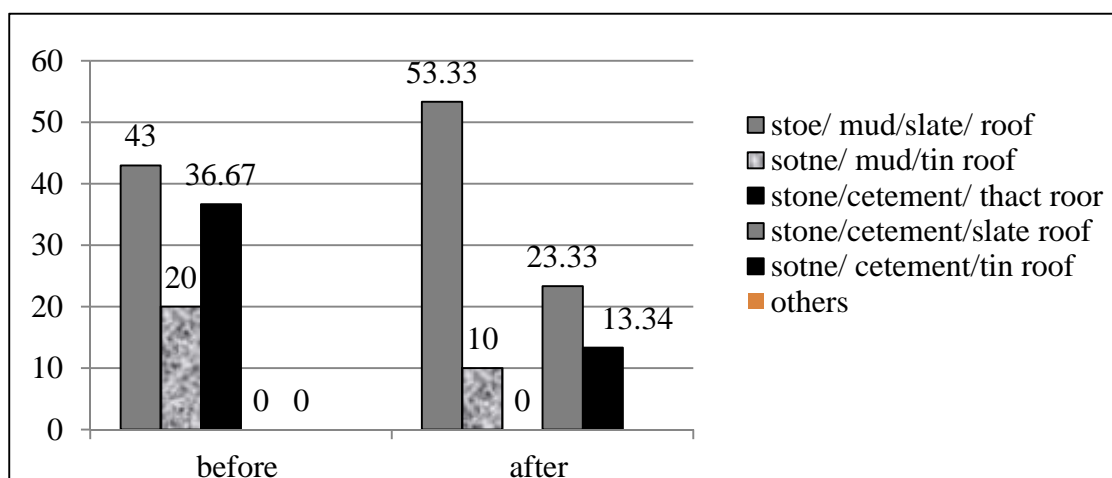
4.4 Role of Orange farming in Changing Socio- Economic status

Socio economic status in an economic and sociological combined total measure of a process work experience and of an individual's or family's economic and social position in relation to others, based on income, education, and occupation. When analyzing a family's socio-economic status, the household's income, earner's education, and occupation are examined, as well as combined income, versus with individual, when their own attributes are assessed.

As in throughout much of the hills and habitable mountainous, range must settlements in the study area consists of loosely blustered households surrounded by agriculture land. However the most common house in the study area is two-stray, mud-stone with slate roof and some houses have been changed into tin-roofs. All most houses in the study area are painted by red clay ocher at the bottom and the top half are white washed. The roof of the house in cleaned regularly with a newly applied mixture of wet cow dung and clay.

4.4.1 Changing in Housing Condition

Figure 4.3: Changing in Housing Condition



Before starting orange cultivation 43.3% of farmers in the study are had houses made up of stone/ mud/slate roof but this percentage has increased to 53.33% after adopting orange farming. Likewise, 36.67% farmers were living in the house made up of stone/mud/thatch roof but how all of the orange farmers have changed the housing structure either with slate roof or tin roof. Some of orange farmers in the area now have changed the housing structure even with cement planting and tin roof.

4.4.2 Changing in Sanitary Condition

Table 4.26: Changing in Sanitary Condition

S.N	Description	Before		After	
		No of HHs	Percentage	No of HHs	Percentage
1	No toilet	32	26.67	-	-
2	Temporary toilet just by digging hole and hatch fencing.	88	73.3	16	13.3
3	Modern safety toilet	-	-	104	86.67
	Total	120	100	120	100

Source: Field Survey, 2013

At present most of the people of Kushadhevi VDC have constructed the toilet near the house. Out of the 120 households 16 (33.33%) households have temporary toilets just by digging hole and thatch fencing. The number of households having modern safety toilets is (104 i.e. 86.66%). Before orange cultivation 26.67% households did not have toilets 73.33%

Households had temporary toilets and none of the households had modern safety toilets. This shows that at present more people in the study area are care about health and sanitation after adopting orange cultivation.

4.4.3 Changing in Food habits and Balance Diet

Food is an essential factor of life and we need food for survival or support life. To remain healthy there must be sufficient nutrients in the food and for this there must be varieties of food in the diet. The food habits of Kushahevi VDC have changed after orange cultivation as income level has changed. Adaption of orange cultivation has helped to afford a balance diet in their food.

4.4.4 Condition of Breakfast Before and After Orange Farming

Table 4.27: Condition of Breakfast Before and After Orange Farming

S.N	Description	Before		After	
		No of HHs	Percentage	No of HHs	Percentage
1	Breakfast	-	26.67	24	20
2	Lunch	66	53.3	76	63.33
3	Snacks	2	16.7	8	6.67
4	Dinner	52	43.33	12	10
	Total	120	100	120	100

Source: Field Survey, 2013

Before orange cultivation people were cultivating cereal crops as major crops and these crops were not able to fulfill their daily needs. They could not afford to eat breakfast regularly. Now after adopting the orange farming the income of the farmers has increased and is sufficient enough to spend on food. Majority of the respondents, that is 20%, have revealed that now a day they can easily afford to have breakfast but they could not afford it regularly before orange cultivation.

4.4.5 Health Condition

Health is the level of functional and metabolic efficiency of a living being. In human it is the general condition of a person in mind, body, and spirit, usually meaning to be free from illness, injury or pain.

4.4.6 Place of Health Check Up

Table 4.28: Place of health check up

S.N	Description	Before		After	
		No of HHs	Percentage	No of HHs	Percentage
1	Visit to district hospital	24	20	28	23.33
2	Visit to health post	72	60	80	66.67
3	Visit ot Dhamijhakri	8	6.67	4	3.33
	Total	120	100	120	100

Source: Field Survey, 2013

Before orange cultivation 6.67% households used to visit Dhamijakri where as at present only 3.33% response dents revealed that they sometimes visit to Dhamijhakri to cure the disease. likewise, 13.33% respondents said that they used to visit Biday where still 6.67 %respondents go Baiday for general treatment. The percentage of the respondents to visit district hospital has increased from 20% of 23%.

4.4.7 Change in Literacy Status

Educational plays a major role in skill sets for acquiring jobs, as well as specific qualities that strategy people with higher socio- economic status from lower socio- economic status. Social change can be brought by means of education and knowledge. The orange growers of Kushdhevi VDC have become conscious about education and they are sending their children to school. Some are able to afford to teach their son/ daughter even in Boarding school and higher education.

4.4.7.1 Literacy Condition Before and After Orange Farming

Table 4.29: Literacy Condition Before and After Orange Farming

S.N	Description	Before		After	
		No of HHs	Percentage	No of HHs	Percentage
1	Illiterate	208	39.62	12	2.29
2	Primary	115	21.90	134	25.52
3	Under SLC	96	18.29	155	29.52
4	SLC and +2	95	18.09	147	28
5	Bachelor and above	11	2.09	77	14.67
	Total	525	100	525	100

Source: Field Survey, 2013

The field survey shows that 39.62% people were illiterate before orange cultivation where as at present the percentage has decreased to 2.29%. Likewise, before adopting of orange farming only, 21.90% people were primary before orange cultivation where as at present the percentage has decreased 25.52%. After orange cultivation where as at present the percentage has decreased. Out of the total member 29.52% people have the under SLC. Out of the total 28% people have above SLC and 14.67% are people have the qualification of bachelor's level and have got education upto Masters Level.

4.4.8 Changing in Income and Expenditure Pattern

Income refers to wages, salaries, profits, rents, and any flow of earning received. To income of the people of Kushadhvi VDC have been increased from the orange cultivation and consequently they are capable of spending more money in other activities like education, health, festivals etc. the living standard of the people has been increased after adopting the orange cultivation or some orange farmers have changed housing structure and even added the ornaments. Some farmers have spent the income to educate their children giving the priority to education. The economic

condition of orange farmers was low before starting orange cultivation. The economic condition of orange farmers was low before starting orange cultivation. They used to cultivate paddy, wheat, maize, oilseeds, and millet, vegetable and chilly on their field for self consumption. In addition to this, animal husbandry, service, wage, labor are also the subsidiary source of income. They did not have sufficient income to afford daily necessities. Now the orange growers have been earning. Now the orange growers have been earning sufficient money to fulfill their daily needs. Some farmers are even able to afford for higher education to their sons and daughters.

4.4.8.1 Expenditure Pattern in Different Items

With the increase of income level of orange farmers the expenditure pattern of the farmers has been changed. The expenditure pattern s of farmers in different items is tried to identity and is discussed in priority orders.

Table 4.30: Expenditure Patterns in Different Items after Orange Farming

S.N	Priority items	No of HHs	Percentage
1	Education	25	20.83
2	Food	73	60.83
3	Clothes	5	4.16
4	Medicine	4	3.33
5	Ceremony / festival/ marriage	5	4.16
6	Fixed assets	4	3.33
7	Others	4	3.33
	Total	120	100

Source: Field Survey, 2013

In above table show that, Among 120 household, 73 household or 60.83% household expend their income in fooding as large amount of their income. According, to their response I found that is a first priority and second priority is in education.

Table 4.31: Expenditure Pattern in Different Items Before Orange Farming

S.N	Priority items	No of HHs	Percentage
1	Used to spend on their above items at present	48	40
2	Did not spend on their above items as at present	72	60
	Total	120	100

Source: Field Survey, 2013

Majority of the respondents that is 60 % have said that they did not spend on these items as mentioned above table before orange cultivation.

4.4.9 Change in income Structure

The earning from orange farming is much higher than any other local's crops. One of the farmers of kushadhevi-3 Sher Bdh. Thapa has been earning more than Rs 200000 every year which is the highest earning in the VDC. Least earnings of the sample households are not found less than Rs 10000.

Table 4.32: Annual Incomes from Orange Farming

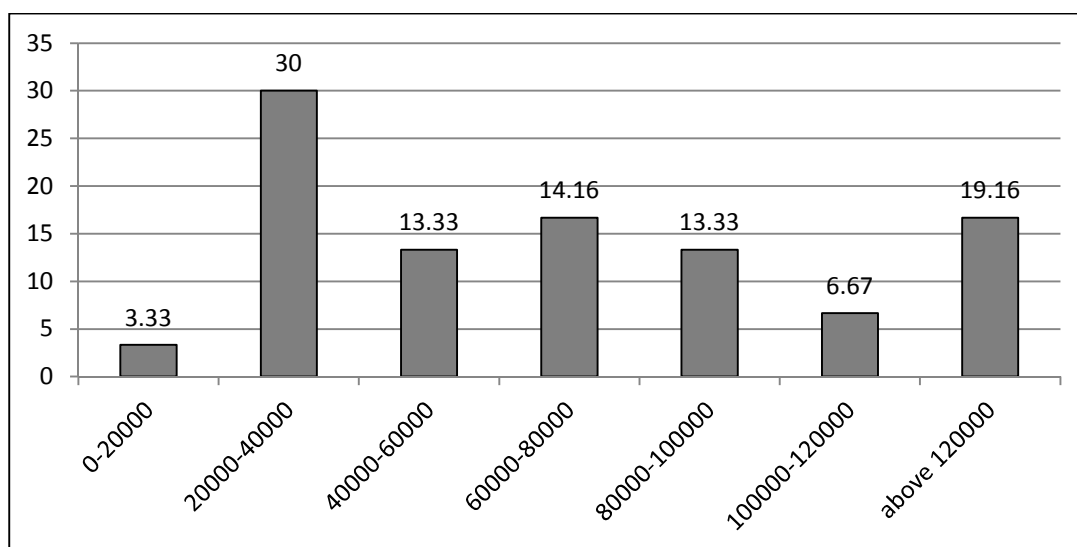
S.N.	Income (in Rs)	No of HHs	Percentage
1	0-20000	4	3.33
2	20000-40000	36	30
3	40000-60000	16	13.33
4	60000-80000	17	14.16
5	80000-100000	16	13.33
6	100000-120000	8	6.67
7	Above 120000	23	19.16
	Total	120	100

Source: Field Survey, 2013

From the survey it is found that 30% households have the income in between Rs. 20000-40000. This indicates that more and more benefit can be taken if it has

farming is done by adopting modern methods and technologies by replacing the traditional method of cultivation.

Figure 4.3: Annual Income from Orange Farming



4.4.9.1 Income on the Basis of Caste/ Ethnicity

Table 4.3: Income on the Basis of Caste/Ethnicity

S.N.	Income (Rs)	Brahamins	Chetries	Janajati	Dalits
1	below-20000	-	4		4
2	20000-40000		28	8	
3	40000-60000	-	12		
4	60000-80000	4	8		
5	80000-100000	8	8		
6	100000-120000	12	12		
7	Above 120000	8	4		
	Total	32	76	8	4

Source: Field Survey, 2013

The above table shows that the Dalit communities have low income from an orange cultivation in comparison to other ethnic groups because of less land belonged to them.

4.4.9.2 Area Production and Income Pattern of Last Five Years

Table 4.34: Area Production and Income Pattern of Last Five Years

Year	Area under farming (in ropani)	Production in No. Kg	Income (Rs)
2065	424	240000	240000
2066	576	6000000	6000000
2067	624	6600000	6600000
2068	640	7200000	7200000
2069	700	7175000	7175000

Source: Field Survey, 2013

The study of last five years trend shows that area and production is continuously increasing. But generally due to the natural calamities like hail stone, strong wind, heavy rainfall etc. there is heavy fluctuation in production and income for example, this year (2069) due to the hail stone during flowering time of orange the production is believed to decreased by 50% or above.

4.4.9.3 Production of Food Grains and Annual Income Households

The area under cultivation in Kushadhevi VDC is 13158 hectares. Out of which 3970 hectares area is covered by paddy field (KHET) and remaining 13153 hectares land is covered by upland (Bari) paddy land is located near the stream bank where water for irrigation is available and other cereal crops are generally cultivated in rain fed area in Bari. Most of the orange farming has been done in Bari i.e. in rain fed area.

4.4.9.4 Saving Before and After Orange Farming

Table 4.35: Saving Before and After Orange Farming

S.N	Description	Before		After	
		No of HHs	Percentage	No of HHs	Percentage
1	Saving	28	23.3	52	43.33
2	No saving	92	76.67	68	56.67
	Total	120	100	120	100

Source: Field Survey, 2013

Making the saving was almost impossible to the farmers of the study area before orange cultivation. Nowadays situation has been changed as saving can be made by the farmers. Before orange cultivation only 23.33% households used to save money but now the percentage of saving households has increased to 43.33%.

4.5 Problems of Orange Farming

Many orange orchards and garden now have sprung up in Kushadhevi VDC. Technologies adopted by the farmers are mostly conventional type where most of the farmers have been doing orange farming without having any new technological knowledge and facilities though orange farming has played the significant role in the economy of Kushadhevi VDC and people of the area able to solve their day to day needs. In spite of this a numbers of problem are there. Today, that the orange farmers are facing while doing the orange cultivation.

Table 4.36: Problems Associated to Orange Farming

S.N.	Problem of orange cultivation	No. of HMs	Percentage
1	Cold storage	73	60.83
2	Marketing	10	8.34
3	Technical knowledge	34	28.33
4	Processing industry	3	2.5
	Total	120	100

Source: Field Survey, 2013

Statistics of survey indicator that the problem of cold storage 60.83% as greater problem in all the areas of that VDC. Likewise technical knowledge is 28.33% as second problem which maintain. Marketing problem of orange cultivation 8.34% and lowest problem is shown in processing industry statistically as 2.5%.

4.5.1 Lack of Cold Storage

Proper arrangement or technology is needed to keep the orange fresh for the longer time. The lack of cold storage facilities, farmers in the study area are faced to sell the produce right after harvesting or they are selling in low price during the peak harvesting seasons. Many farmers consider lack of cold storage in the major problem.

Although there is high degree of production and income by this professional one troublesome subject is not being single cold storage. Every respondent noticed that the lack of cold storage is a greater production; the first index of the priority should be the cold storage, because there is not a single cold storage is available up to now in this VDC.

4.5.2 Lack of Technical Support

Orange farming has been doing in the traditional method in the study area. Farmers have not get any training and technical support in order to bring some positive change in orange farming. Neither there is frequent movement of IT/ JTA nor there the involvement of any other agencies in this regard. Due to the lack of modern tools and techniques, improved seeds research work, measures to control diseases etc, the productivity is low leading to income of the farmers, lack of technical support has get the second rank with table.

4.5.3 Lack of Organized Market

Market centers are not so near from the study area that the agriculture output can be sold easily. Market plays a significant role for the development of any agriculture farming. Due to the lack of knowledge about exiting market, many of the farmers have adopted garden selling. There are only very few small farmers who are selling their orange directly to the consumers. Thus due to the lack of organized market, real farmers are not getting the benefit as expected.

4.5.4 Lack of Processing Industries

There is no even single orange processing industry in the study area. The supply of orange is high at the harvesting time and there is a lack of cold storage facility. In such situation processing factory has a high value. High return can be obtained if the orange is processed into juice, jam and jelly. Lack of processing industries in survey VDC area.

4.5.5 Natural Calamities

Physical changes are part of natural and humans have learned to cope with these regular changes quite well. However, time and again these regular events turn very violent and then tragedy strikes resulting into huge suffering and loss of lives and antes. (Puskar Paradhan and Bandana Pradhan2066).The main natural calamity that destroy the orange farming is hail stone and others calamities like strong wind, heavy rainfall etc. also causes heavy destroy in the orange farming. If such calamities occur during flowering, they cause heavy loss resulting high fluctuation in productivity. Net covering in one of the methods to protect the tree from such calamities but it is too costly that farmers couldn't able to afford it; as a result there is always the unnecessary in taking the benefit from orange farming.

4.5.6 Problems of Diseases and Pets

To get the benefits from orange farming, orange trees are to be pro protected from different types of diseases, pests and insects. Generally the diseases and pets like Gummosis , Scab, Powdery Mildew, leaf minor, bores etc. attach the orange trees and causes heavy damage.

Not only research has been done yet regarding the diseases and pets in the study area so that there is no exact identification of diseases and pets. The local farmers have recognized these disease and pets by their own names.

KHAIRE ROG: when the plant gets affected from their diseases, the part of the plant of the plant trust into brownish collar

PATARE KIRA: It is most common in the study area which directly damages the fruits. It damages the fruits by sucking the juice of the fruit and fruit usually drops within few days.

SAPLING'S GUDE KANE KIRA: It eats the inner soft parts of the saplings.

AIJERU: It is seen most common in the orange tree. It damage the orange tree by developing its own braches rapidly than orange tree itself .Its branches absorbs water and minerals of the plant and finally plant dies.

Farmers of the study area are facing the problem of such diseases and pets.

4.6 Prospects of Orange Farming

Orange farming is considered as one of the profitable farming as compared with others farming due to its increasing commercial value.

Due to its suitability in the study area and high demand all the respondents believe that it can be the means to uplift the socio- economic life of the people of Kushadhevi VDC. Farmers of the study area hopeful and see the great prospects of orange farming due to the following aspects of the study area:

- . The area rich in suitable climate and soil so that there is great possibility of orange cultivation in the study area.
- The market of fruits in not only limited to national level but in the international level.
- There is the possibility of development of agro-processing industries and hence can help to reduce unemployment.
- Studies have revealed that orange farming in much more profitable than others cereal corps. In comparison to other crop orange is found to be good source of income n the study area.
- Orange farming can play a vital role to cop up with environmental degradation as the study area is sloppy area and farmer are facing the extensive soil erosion in the study area.
- Due to its nutritional value too, it can be supportive means to solve the problem of malnutrition in the study area

Thought a number of problems are found facing by the farmers in the study area during the field survey, it has been found that all most all the respondents are optimistic and see great possibility of orange farming. The government and concerned authorities need to do is possible help to the farmers to eradicate these problems and help in developing conducive environment so that farmers could be benefited from this orange farming.

CHAPTER – V

SUMMARY, CONCLUSION AND RECOMENDATIONS

5.1 Summary

The study on impact of orange farming through the perspective of socio-economic, present status of orange farming and problems and prospects of orange cultivation was carried out Kushadevi VDC of Kavre district in Nepal. For this study 120 household were sampled based on random sampling method from the four wards. The main objectives of the study are to examine the orange production and socio-economic impact of orange farming on farmers in Kushadevi VDC of Kavre district. Introduction of commercial orange production reduced employment opportunities in farming in the surveyed village Female labor input following adoption of orange cultivation decreased while input of hired male labor increased.

Present study was carried out to access the status of people in orange farming in Kushadevi VDC of Kavre district. The data were obtained from the field survey. Most of the common tools of data collection of social science such as questionnaire, interview, observation and focus group discussions were adopted. This was basically an empirical study with the help of the primary data collection from the field survey. Secondary data were also used to support primary data.

Research had been conducted with farmers involved in orange farming applying the purposive sampling method. One hundred twenty (120) households have been taken from the 4 words and 30 households have been picked up from each word. Out of the total sample population i.e.525of he study area,389 are male which accounts 74.09 % and 136 are female which accounts 25.25% out of 525 sampled population 44.95 % literate, 2.29 % are illiterate and rest 42.67 % have the education above SLC.

Out of the land holding size of 120 households in the study area highest no i.e. 20 households have land in between 0-5 ropani which is equal to 16.67%. The study also shows that the respondents having 5-10 ropani 10-15 ropani, 15-20 roipani and

more than 20 ropani land holding size are equal to 16.67%, 30%, 20%, and 16.67% respectively.

Eighty eight households i.e. 73.33% households have used 0-5ropani of land for orange cultivation .likewise, 28 respondents i.e. 23.34% households have used 6-10 ropani land for orange cultivation. The percentage of given selling/ selling to intermediaries farmers are found highest which is 83.33 %, likewise, 6.67% of the respondents said that they sell their products by themselves in the city. Rest 10% small farmers informed that they sell the oranges in the near local market.

Now after adopting the orange farming the income of the farmers have increased and has been sufficient to spend food. Majority of the responds that is 63.33% have raveled that nowadays they can easily affected to have lunch but only 55% of them could able to afford it regularly lunch orange cultivation.

The present status of orange farming is commercialization in agriculture, the socio- economic development. The area rich in suitable climate and soil so that there is great possibility of orange cultivation. There is the possibility of development of agro-processing industries and hence can help to reduce unemployment. Studies have revealed that orange farming in much more profitable than others cereal corps. In comparison to other crop orange is found to be good source of income. Orange farming can play a vital role to cop up with environmental degradation as the study area is sloppy area and farmers are facing the extensive soil erosion.

The government and concerned authorities need to do is possible help to the farmers to eradicate these problems and help in developing conducive environment so that farmers could be benefited from this orange farming. Socio economic status in an economic and sociological combined total measure of a process work experience and of an individual's or family's economic and social position in relation to others, based on income, education, and occupation. When analyzing a family's socio-economic status, the household's income, earner's education, and occupation are examined, as well as combined income, versus with individual, when their own attributes are assessed. Due to its suitability in the study area and high demand all the respondents believe that it can be the means to uplift the socio-economic life of the people of the

Kuhadevi VDC. Farmers of the study are hopeful and see the great prospect of orange farming in the days to come.

5.2 Conclusion

Orange farming has increased the income of the farmers than before which makes their life easier and ultimately shows the overall socio-economic change of farmers. The attitude of the people towards education has become positive as they have started send their children to school. They have added ornaments. Their food habits and the dressing have been changed. In some cases they have changed their housing structure. The perception of the people on primary health care and sanitation has been changed.

In spite of being a high yielding farming there are numbers of bottlenecks the farmers of the study area are facing. The technologies adopted by farmers are mostly found conventional types. Manures and chemical fertilizers are applied in adequate level. There is lack of proper training and advice, marketing facility and cold storage, lack of knowledge to use insecticides/ pesticides and other agricultural inputs are also not easily accessible. Orange farming has been carried out by most of the farmers without modern inputs like improved saplings, chemical fertilizer, agro-chemical, insecticides and pesticides as well as no irrigation facility as available in the study area.

At last we can conclude that, climatic parameters are not only responsible for orange farming and agricultural production of that region other factors like: availability of resources, use of fertilizer and pesticides, quality of seed and quality of soil also affecting on orange farming of this area. Orange cultivation has been found to be promising because of high output it delivers when adopted with appropriate knowledge and skill, as a result a lot of farmers can be benefited which will ultimately contribute to nations economy.

5.3 Recommendations

Though the study area is suitable for orange cultivation in all aspects, there are a number of problems that the farmers are facing. If such problem could be come out

then more and more benefits can be taken by farmers and finally it would become the weapon to upgrade the socio-economic life of the people of the study area. Some of the recommendations are seemed to be crucial in order to come out from these problems. Based on the study on impact of orange farming, the following recommendations are made:

- The farming method is traditional, so modern technology and method should be launched. Training facility should be provided to the local farmers time to time.
- The government should provide the subsidy to loan and technical materials for the orange grower farmers.
- Link between production and marketing centers should be established.
- Local youth clubs and mother groups should be empowered for social harmony.
- Importance and benefits of the orange farming should be broadcasted by radio, TV moreover through FM channels (most of the people in the study area listen FM radio nowadays)
- There should be establishment storage and processing industry, which may reduce to damaged fruits during the period of harvesting and marketing method.
- Training system should be made effective and they should be applied strongly in the related aspects of orange farming.
- The government should provide the information about modern and scientific technology in the orange farming.
- There are lots of areas to be studied by the scholars regarding the positive and negative impacts of orange farming on livelihood.
- There is no cold storage in this VDC so in this case needed to cold storage in every ward if there is not possible the combined one cold storage of orange is needed for farming area of ward 1, 2, 3, and 4.

REFERENCES

- APROCC (1989). *Small infrastructure of vegetable and fruit in Sindhuli District*, Kathmandu: AP ROSC.
- APROSC and JMA (1995). *Nepal Agriculture Perspective*, National Planning Commission Secret, Kathmandu, Nepal: Sing Durbar.
- Aryal L.P. (2005). *Impact of Orange Production in Rural Economic Activities (A Case Study of Khiling Derurali VDC on Syangia District)*. An Unpublished M.A. Thesis Tribhuvan University Kirtipur, Kathmandu, Nepal.
- Chhetri, N.B. (2002). *Orange Cultivation in Sikkim: A Case Study of Sakyong, Revenue Block of West Sikkim*. An Unpublished M.A Thesis Tribhuvan University, Kirtipur, Nepal.
- Central Bureau of Statistics (2000). *Statistical Pocket Book of Nepal*. Kathmandu: CBS.
- Central Bureau of Statistics (2001). *Population Census of Nepal*. Kathmandu: CBS.
- Central Bureau of Statistics (2001). *Statistical Year Book Nepal*. Kathmandu: CBS.
- Central Bureau of Statistics (2011). *Population Census Preliminary Report*. Kathmandu: CBS.
- DDDO, (2012). *Annual Agricultural Development Program and Statics Book*, Kavre, Nepal Dhulikhel.
- DFAM, (1979). *A Socio-Economic study on the area around Prithivi Highway*. Report, Tanahun District Nepal.
- Falful Bikas Niradehnalya (2068/069). *Most Culture Devloment Program*. Yearly Progress Report, Kirtipur.
- FAO, (1988). *The world market for Tropical Horticulture Production, Rome: Economic and Social Development Papers, Food, and Agriculture Organization for the United Nations*. Geneva: FAO.
- Gouchan, D. (1994). *An Optimum Planning for Integrating Citrus in Nepalese Hill Farming System*. Unpublished Master's Thesis, Chiangmai University, Thailand
- HMR(DFAM(1979). *A Socio- economic Benchmark of the Area Around Prithivi Highway, NMG/ Development of food Agriculture and Market Service*. Kathmandu: DAFM.

- Kothari C.R. (1989). *Research Methodology Methods and Techniques*. New Delhi: Willey Easterly Ltd.
- Khanal A. (2011). *Orange Production and Marketing: A Case Study of Kaski District, Nepal*. An Unpublished M.A Thesis Tribhuvan University, Kirtipur, Nepal.
- Laudari B.R. (2004). *An Economic Analysis of Orange Production: A Case Study of Purkot VDC, Tanahun District, Nepal*. An Unpublished M.A Thesis Tribhuvan University, Kirtipur, Nepal.
- National Agriculture Research Center (1999). Annual Report. Kathmandu: NARC.
- Pokherel, G. (2011). *Socio- Economic Impact of Orange Farmers on Farmers (A case study of Gulmi District)* An Unpublished M.A Thesis Tribhuvan University, Kirtipur, Nepal.
- Rai S.K. (1998). *A Case Study of Orange Cultivation in Eastern Hilly Region: A Case Study of Chhintage VDC of Dhankuta District*. An Unpublished M.A Thesis Tribhuvan University, Kirtipur, Nepal.
- Ruchal, L. (2006). *Orange Cultivation in Sikkim (A Case Study of Khanmdong Gram Panchayat Unit of East District)*. An Unpublished M.A Thesis Tribhuvan University, Kirtipur, Nepal.
- Shrestha G.K. (1998). *Fruit Development in Nepal, Past Present and Future*. Technique Concern, Kathmandu, Nepal,
- The Kathmandu Post (2011) *Where fruit to Reap No Benefit for Growers*. English National Daily News Paper Oct. 30, Kathmandu.
- World Book International Work Inc, (1997). *The World Book Encyclopedia a Scot Ferzer Company*, London, Sydney, Tunbridge wells Chicago. Volume 14. Page 481to 483.

Websites.

www.Wikipedia.Com

www.moac.gov.np

www.moad.gov.np

(Statistical for returns)

ANNEX I

(Questionnaire for Household Survey)

(A case study of Kushadhevi VDC of Kavre District, Nepal)

Date:

District:

Ward:

Name of village :

Respondent's Name:

1. Family Composition on the basis of age, sex education and occupation

S.N.	Relation with Respondent	Age	Sex	Education	Occupation	Marital Status	Religion	Caste
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

2.Types of Land (in Ropani)

	Amount	Remarks
Khet		
Bari		
Khoriya		

3 When did you start orange cultivation?

.....

4. Which was a major crop before cultivation the orange?

- a) Maize b) Wheat c) Paddy d) Oil Seed
e) Millet f) Vegetables g) Others

5. Production of food grain

S.No.	Cereals Crops	Annual Production	Total Income (In Rs.)
1	Maize		
2	Wheat		
3	Paddy		
4	Oilseeds		
5	Millet		
6	Others(Barley+Kerau+Phapur)		
	Total		

6. Have you adopted intercropping in your orange farm?

- a) Yes b) No

If, yes, mention which crops have you cultivated?

- a) Paddy b) Maize c) Wheat
d) Oilseeds e) Millet f) vegetable g) Chilli

7. Is there any organization who is supporting you in orange cultivation?

- a)Yes b)No

If yes, specify the name?

8. What kinds of support?

- a) Finance b) technical

9. Have you got training about orange cultivation?

- a)Yes b) No

34. What is the condition of toilet?

	Before	After
a) No toilet b) Temporary toilet just by digging hole and thatched fencing c) Modern safety toilet		

35.

House hold Assets	Before	After
Telephone		
TV		
Motorbike		
bus		
Mobile		

36. Where do you go for your health check up?

S.N.	Description	Before	After
1	Visit to district hospital		
2	Visit to health post		
3	Visit to Dhamijhakri		
4	Visit to Baidya		
	Total		

37. Dietary Habit/status.

	before orange cultivation	After orange cultivation
Breakfast		
Lunch		
Snake		
Dinner		

38. Most of the family members are:

	Before orange cultivation	After orange cultivation
a) Illiterate		
b) Literate		
c) Educated		
d) Number of children going school		
e) Number of dropout		
f) Types of school		

39. What are the problems in orange cultivation ? and why?

.....

40. What are the possibilities in orange cultivation?

.....

ANNEX II

Focus Group Discussion Guidelines (Two Group)

1. Are you satisfy from your orange farming?
2. Are you involve in any agency related with orange farming?
3. It that agency help to develop your village community?
4. Is this orange farming helps to fulfill the basic needs of your family?
5. While farming how do you work like in group work exchange (parma) or individual?
6. If you are involved then how much that agency helps you?
7. Is there any problem where to sell the cost of orange?

ANNEX III

Observation Checklist

1. Is orange farming system is directly impact on socio-economic sector or not?
2. What types of change is needed in orange farming for increase economic status of local people?
3. Is their irrigation system or not?
4. How many tree of orange which contained Aijeru?
5. How much orange tree is suffered by Pateru insects?
6. Is the orange farming system is traditional or used is modern technology?
7. Observe on the level of interaction and interrelationship among the local people?

