

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study:

Nepal is a landlocked country having 1,47,181 square kilometers area, length 885 km (East to West) and width non-uniform mean of 193 km North to South. Ecologically it is divided into three ecological regions; Mountain, Hill and Terai. It has a great variety of topography, which is reflected in the diversity of weather and climate. The country experiences tropical type of climate on south.

Nepal is a predominantly agriculture country. Its 78 percent population is engaged in agriculture. The agriculture sector has large share on Gross Domestic Production [GDP]. Agriculture sector plays important role for the economic development of any developing country like Nepal. Food and agriculture industries should be developed to guarantee the regular supply of foodstuffs within the country.

Agriculture is a primary sector of any economy. It provides foodstuff and raw materials to agro-based industries. It helps to increase national income through various ways such as production of food grains, commercial fruit farming, livestock and poultry farming etc. It also provides employment to skilled and semi-skilled manpower either directly or indirectly. Organic coffee is one of the most important agro based commercial products not only in Nepal but also all over the world.

Coffee was first discovered in Eastern Africa (Ethiopia). A goat herder named Kaldi, who observed his goats acting unusually frisky after eating berries from a bush. Curious about this phenomenon, Kaldi tried eating these berries himself. He found that these berries gave him a renewed energy. The news of this energy laden fruit quickly spread throughout the region. (Tea and Coffee Development Section 2061)

So far as the economic change of Nepal is concerned, the directive principles of the state policy after 1951 were for giving socio economic justice together with the higher standard of living for the people. The government realized that, the country cannot develop without first restructuring the agricultural system on just and fair basis. The existing land owner and production system was against the welfare of the majority, who actually filled the land and government realized that the higher standard of life was not possible without increasing the production. (Wake: 1980)

Since coffee is a relatively recent crop to the Nepalese farmers, obviously its cultivation is also new to them. In Nepal coffee has been grown since 1943 AD in the hilly tracts of the Western region of the country. Its cultivation has been found in Gulmi, Arghakhanchi, Palpa, Syangja, Tanahu, Parbat etc. Moreover Gulmi district is one of the major coffee production areas where large number of household are engaged directly or indirectly on it. Though coffee farming in Arghakhanchi started very recently its commercial farming is increasing rapidly.

Regarding the study area the researcher has chosen Mareng and Kimdanda VDC which is situated at Arghakhanchi district. Due to the farming of organic coffee, it has become the major attraction of tourism. On the other hand organic coffee production has become the source of income which helps to uplift the economic condition of the people. To make coffee farming effective, different measures and steps are essential which would bring a great change in this area and it would uplift the economic condition too.

Although, Coffee can be cultivated in forty districts of mid and western hilly region of Nepal its cultivation is limited only to twenty three districts including Lalitpur, Gulmi, Palpa, Syanja, Kaski, Kavrepalanchok, Sindhupalchok, Arghakhanchi etc. During FY 2008/09 about 21000 farmers were involved in this sector, which is 16 percent increase compared to last year.

Table 1.1: Coffee Production in Nepal

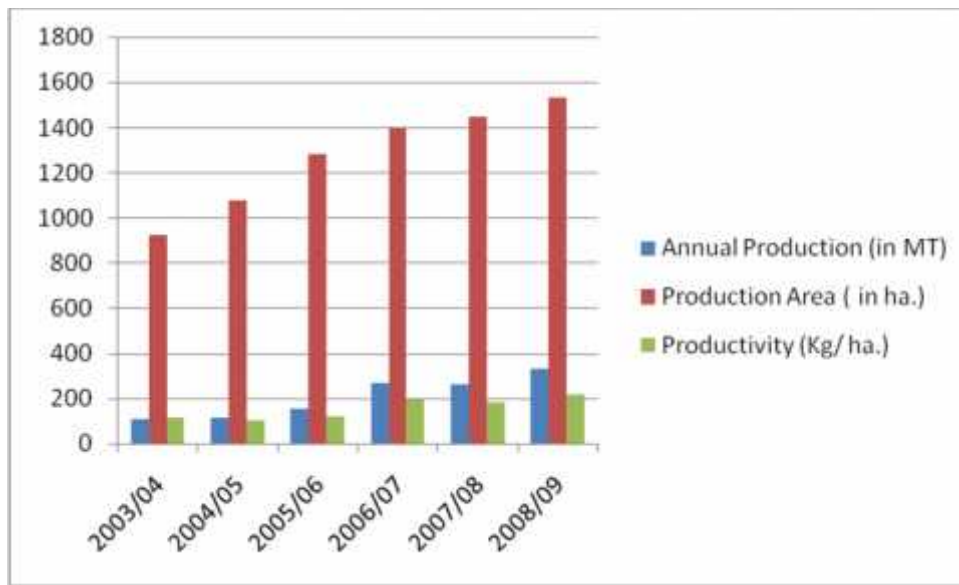
Fiscal year	Annual Production (in MT)	Production Area (in ha.)	Productivity (Kg/ha.)
2003/04	108	925	116.75
2004/05	114	1078	105.75
2005/06	156	1285	121.40
2006/07	270	1396	193.40
2007/08	265	1450	182.75
2008/09	334	1531	218.15

Source: National Tea and Coffee Development Board, 2067

Above data shows that in FY 2061/62 the coffee cultivated area was 1078 Hectors. In 4FY 2065/66 the area of cultivation was increased to 1531 Hectors. The production area of coffee in Nepal is increasing continuously and productivity also increasing continuously except for FY 2061.62 and FY 2064/65. Due to the lack of technical knowledge and infra-

structure, both quality and productivity of Nepalese coffee is still lower in comparison to the developed countries. The graph below shows the trend in coffee production and productivity

Chart 1.1 Trends in Coffee Production and Productivity in Nepal



Source: NTCDB 2067

Internal Market of Nepali Coffee:

When talking about market of Nepalese coffee we always discuss about exporting it but Nepal imports annually huge amount of coffee from abroad spending scarce foreign currency. Out of total production, about 35% is consumed in internal market and remaining portion is exported abroad. If we can produce quality coffee there is high potential in internal market as well as in export. The table below shows the amount of coffee imported annually

Table 1.2: Total Imported Value of Coffee

Fiscal year	Total Imported (in Rs.'000)
2005/06	2,265,000
2006/07	56,000,000
2007/08	64,481,000

Source: NTCDB, 2067

From the above data we can conclude that we spend billions rupees to import coffee from abroad. Day by day Nepalese expenditure in coffee is increasing. If we are able to divert people's habit to consume Nepali coffee, the market of Nepalese coffee can be increased and scarce foreign currency can be saved.

World Market of Nepali Coffee:

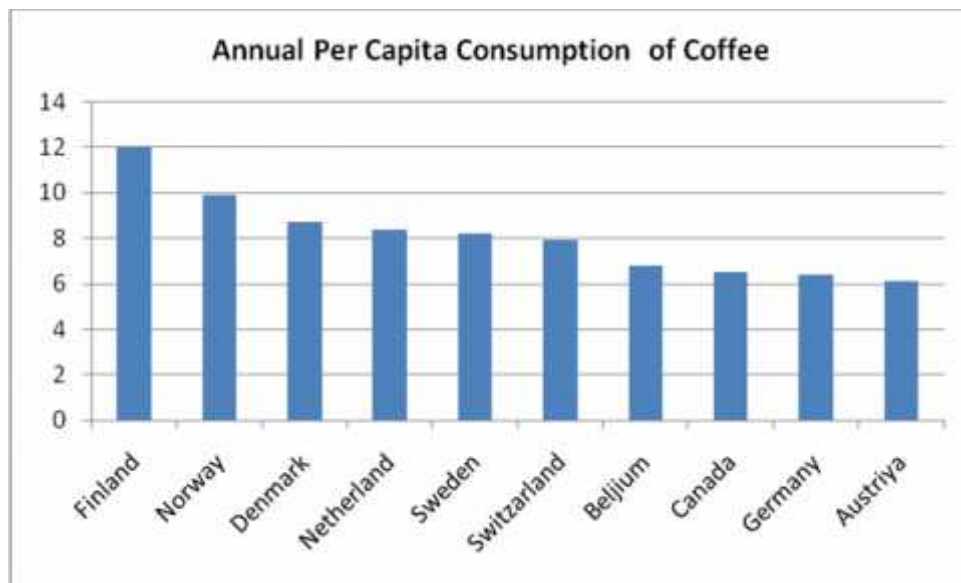
Main coffee producing countries are increasing the coffee production area. Nepali coffee is more expensive than other countries because of climatic factors, geographical structure, transport cost etc. Especially Nepali coffee is exported to Germany, Japan, Canada, USA, and India. During FY 2065/66, a total 88 MT. of coffee has been exported.

Chart 1.2: Export of Nepali Coffee



Source: NTCDB, 2067

Chart 1.3: Per Capita Coffee Consumption (in Kg.) of Selected Countries of the World



Source: NTCDB, 2067

1.2 Statement of the Problem:

The role of agriculture sector on GDP is very important. The major problems facing by the economy of the developing countries due to backwardness in agriculture sector are low income of people, low productivity, unemployment, food scarcity and lack of raw materials etc. Nowadays many people have abandoned their agricultural occupation due to its low productivity.

In recent times people are shifting from the hilly areas to the plain land of Terai. The density of population is decreasing in the hilly areas. Rural life can be made comfortable by fulfilling basic infrastructures such as road, electricity, drinking water, transport and communication services in hilly area. Skilled and semi-skilled men power are attracted towards

overseas especially in gulf countries for foreign employment. Local resources are underutilized within the country due to mainly lack of skilled manpower. In one hand unemployment and under employment is rampant in the country whereas on the other, some resources are underutilized due to lack of skilled manpower. This contradiction is the reason of rampant poverty.

Coffee production has not fully been commercialized because it is grown only in hilly tracts where market facility, transportation and communication facility, irrigation facility and reasonable price, policy are not available. Moreover, government has not taken any steps to develop coffee as a single crop. Other problems are to identify the role of coffee crop in generating the income and poverty reduction. If farmers are facilitated by modern chemical fertilizers, credit facility, technical services they can improve their farming, living standard and export trade. Among the problems in coffee farming include the lack of storage facilities, marketing problems, different kinds of diseases, etc.

1.3 Objectives of the Study:

The general objective of the study is to analyze the socio-economic condition of the organic coffee farming in Nepal. The Specific objectives of the study are:

1. To find out the present production situation of organic coffee,
2. To identify the problems faced by coffee growers,
3. To analyze the impact of the farmers in the study area,
4. To recommend appropriate suggestions based on this study.

1.4 Significance of the Study:

It is necessary to diversify agriculture in Nepal. There is a need to bring considerable cultivated land under cash crop. Organic Coffee, a new cash crop in Nepal played the vital role to introduce Arghakhanchi district.

Organic Coffee production has contributed a lot to the local farmers in improving their socio-economic life. This study focuses on the conditions of the organic coffee farmers who are facing numerous problems like unorganized market structure, lack of transportation facility, lack of irrigation, lack of proper fertilizer, pesticides, etc. In this study production of coffee in Arghakhanchi district has been analyzed. If the government does not have proper knowledge about the coffee production, it cannot develop good plan, policy or program relating to it.

This research is based on field survey. This report may assist students of the corresponding field to conduct related study and research. It is expected that this study will generate information useful for policy makers, planners, administrators and implementers as well.

1.5 Limitation of the Study:

This study is for the purpose of studying the impact, problems, present situation and prospects of coffee farming in Arghakhanchi district. So, there are some limitations of the present study which are given as follows:

1. The study covers only Kimdanda and Mareng VDC in Arghakhanchi district. It might not represent the case of whole nation but might present the scenario of coffee farming in western mid hills in particular.
2. The study focuses on socio-economic impact of organic coffee farming. Other aspects of farming are out of the scope of this study. On the basis of cross-sectional primary data and the related secondary data.

1.6 Organization of the Study:

The study has been divided into seven chapters. The first chapter presents the introduction, statement of the problem, objectives, significance and limitation. The second chapter is related to the review of related literature. The third chapter is presents about the methodology adopted while collecting data. Likewise, fourth chapter deals about the analysis and interpretation of the data. The fifth chapter analyses the impacts of coffee farming based on primary data. Sixth chapter is related to the problems and prospects of coffee farming and seventh chapter is the conclusion part of the study. It contains the summary, findings and recommendations.

CHAPTER TWO

LITERATURE REVIEW

Since coffee is a recent crop to the Nepalese farmers obviously its cultivation is also new to them. Nowadays its production is increasing in mid-hill of western part in Nepal. In the beginning farmer has started coffee plantation without proper knowledge about its cultivation. It was only the inception of commercial cultivation that District Agriculture Development Office and Agriculture Development Bank (ADB/N) have provided technical support to coffee farmers. But yet, there is lack of adequate technical expertise required in support of the program.

Coffee was first discovered in Eastern Africa (Ethiopia). A goat herder named Kaldi, Who observed his goats acting unusually frisky after eating berries from a bush. Curious about this phenomenon, Kaldi tried eating the berries himself. He found that these berries gave him a renewed energy. The news of this energy laden fruit quickly spread throughout the region.

Coffee berries were transported from Ethiopia to Yemen and then Turkey where coffee beans were roasted for the first time over open fires. The roasted beans were crushed, and then boiled in water and drunk as beverage. (FAO, 1968) It is also used in human being in Ethiopia. But its soluble is used in Arabian country and they name out that 'Kafiya'. Exactly it is known as a 'Coffee' name from Indonesia. (Sharma, 2054)

“Coffee” comes from the Latin from of the genus *Coffea*, a member of the *Rubiaceae* family which includes more than 500 genera and 6,000 species of tropical trees and shrubs. Coffee range from small shrubs to trees as tall as 32 feet high and the leaves can range in color from purple to yellow; however, green is the predominant color. There are about 25 major species within coffee, but the specialty coffee comes from *Coffea Arabica*. (Tea and Coffee Development Section, 2061)

Coffee was introduced into Nepal approximately in the year 1944 A.D., when seed was brought from Burma (now Myanmar) by Hira Giri and planted by two or three farmers of Aapchaur VDC in Gulmi district, Lumbini Zone, Nepal. For many years it was grown only by these few farmers. It was not until 1977, when Agriculture Development Bank of Gulmi district decided to provide loan money for cultivation that a small nursery was established by importing Arabica seeds from South India and more area was planted. Since that time the area under coffee cultivation is gradually increasing to other area. In Nepal, people have become interested in coffee production and currently small pockets of coffee are being throughout the country. A few districts are involved to same degree in coffee production. Among them Gulmi district has the highest production area. (Shrestha, 2054)

Due to the negative impact of chemical fertilizer, pesticides and insecticides, traditional agriculture system attracts people as its alternative solution. Traditional farming system is analysis by scientific way and again that system is broadened and organic farming is developed. In this method the aspects of agriculture is not fragmented but we study as integrated way.

Modern organic cultivation system is developed from the Silsi of Poland. Austrian philosopher Dr. Rudolf Stinner inspired the farmer of that place to modify the agriculture system in organic dynamic way. Now the organic crop production system is diffused at alarming rate in the world. Mokichi, Okada and Masanobu Fukuoka one of the nature followers of Japan initiate organic farming before the initiation of Green Revolution. And Bill Mollison of Australia, Sir Albert Howard of United Kingdom, Rabot Rodel of America shows that model of organic farming system.

-) Japan, Australia, Newzeland, America, Canada, and European country organic farming system is flourishing and in the country like Germany, Denmark, Norway its area is increasing.
-) Cuba initiated to make all agricultural products organic and policy has already been initiated for this purpose.
-) Now U.K published a policy to change agricultural area every year by 10 percent to organic farming system.
-) In our neighborhood country India and China also the area of the organic farming system is increasing. India declared to make 3 steps as organic states.
-) Although, the area of organic farming is smaller in Nepal, people started thinking and speak about it and them following organic farming system day by day. (Regmi, -2062)

Coffee farming in Nepal is fruitful while analyzing the overall socio-economic, geographical and historical experiment. But there is no expected physical progress due to the lack of technical knowledge, sufficient extension services (farm visit program). Nowadays con-

sumers are serious for their fooding standard and their own health. To protect themselves from the residual effect of fooding product due to use of insecticides, the demand of organic coffee is increasing in the international market. So the price of the organic coffee does not affect to the consumer due to availability to these kinds of commodities. The habit of organic coffee is beneficial to human health in international market also. So, it is needed to extend coffee farming in the form of organic coffee in Nepal. (Amgai, 2054)

The book TEA A TEA (2058) published by National Tea and Coffee Development Board, contains an article entitled 'Importance of Modern Technology'. The article analyses the overall socio-economic, geographical and historical experiences on coffee farming in Nepal. The article also mentions that there is not yet expected physical progress due to the lack of technological knowledge, sufficient extension services (farm visit program) etc. According to the article consumers these days are serious for their fooding standard and also on their own health. To protect from the residual effect of the fooding produced due to use of insecticides, the demand of organic coffee is increasing in the international market. Health conscious people do not care about the price of the product rather they are conscious about the quality of the product. So the demand of the organic coffee will not be fluctuated due to the fluctuation in price. So it is essential to extend organic coffee farming in Nepal.

The book 'World Coffee Survey (1968)' published by The Food and Agriculture Organization of Rome, contain following articles:

2.1 Ethiopia:

Ethiopia is a particular interest to the coffee world as it is the home of coffee Arabica L. Located on the Horn of Africa, Ethiopia covers an area of 1,221,900 Square Kilometers. The central part, two thirds of the country, is a high plateau with a mean altitude of 2,100 to 2,500 meters. Ethiopia is sparsely populated with about 21.5 million inhabitants or about 47.6 per square kilometer. Approximately 90 percent depend on agriculture for their livelihood. Coffee is grown in varying quantities in 13 of Ethiopia's 15 provinces. The provinces exporting coffee are, in order of importance: Kaffa (27 percent), Sidamo (19 percent), Harar (15 percent), Wollega (10 percent), Illubabar (10 percent) and Gamu-Goffa (9 percent).

Only Arabica coffee, which grows wild in Ethiopia, is cultivated. The first coffee, seeds introduced into Yemen, perhaps in the sixth century, came from Ethiopia. Yemen toward the end of the seventeenth century became the original source for coffee seed to be grown in the then existing Dutch empire from which it spread to the Western Hemisphere.

2.2 Asia:

It was in ASIA that coffee was first grown commercially outside its native habitat, Africa. The first seeds were possibly taken by Arabs from Ethiopia into the highlands of Southwestern Arabia in the beginning or middle of the seventeenth century as in 1690 the Dutch were already taking seeds from coffee plantations in Yemen to the former Dutch Indies. Coffee was taken to Ceylon by Arabs, possibly toward the end of the eighteenth century but its introduction into India seems to date from the seventeenth century. The Philippines

are said to have received coffee seeds from Brazil in 1740 and Coffee began to be grown in Burma, Thailand, Malaya, Indochina, China and Timor at various dates.

The first species to be cultivated everywhere was *coffea arabica*. However the devastating effects of the leaf rust (*Hemileia vastatrix*), which appeared in Ceylon, India and Java between 1869 and 1878, caused either the complete disappearance of coffee or its replacement by other crops, or the total or partial substitution of Arabica at first by *C. Liberica*, thought to be resistant, then by Robusta. The latter species, imported around 1900 into Java, saved the Asian coffee industry from complete collapse.

Coffee in Asia is now grown on an extremely wide area on both sides of the Equator; on the northern side from Yemen to the Philippines, including India, Ceylon, Burma, Thailand, Malaysia, Cambodia, Laos, North Viet-Nam and the Republic of Viet-Nam, Mainland China and China (Taiwan); and south of the equator in Indonesia and Timor. It thrives from almost sea level to altitudes up to 2350 meters and is, therefore, subject to the great variety of climates. As various species of *coffea* are grown, there is also a great range of different qualities of Asian coffee on world markets.

In total of coffee output, Asia held second place in the world up to 1937/38; from then on it was overtaken by Africa. Total yield in that year reached a peak of 2.6 million bags which was not exceeded until after 1960.

More than any other coffee producing area, the whole of Asia suffered from the second world war, Indonesia in particular experiencing a drastic reduction in coffee output. Asia's lowest output occurred in 1944/45 (nearly 600,000 bags) but from then onward a gradual increase has again been evident.

In Asia coffee is grown on farms of all sizes ranging from a few trees as in Yemen, to large estates as are still found in Indonesia and in India. The general tendency however is toward an increase in the number of small holdings.

2.3 Coffee: A Smallholder's Undertaking

Coffee is produced on some 3 to 4 million farm units in the World. Contrary to the common belief that coffee is almost every-where an estate crop, the present survey shows that it is mainly a smallholder's enterprise of all the countries analyzed, more than half grow coffee exclusively on small holdings and in many others small and medium-sized coffee orchards predominate. Only a dozen grow coffee for the main part on large plantations. In several countries due to shortage of labor and ever-increasing wages, coffee estates have been abandoned in favor of medium and small units. This trend is likely to continue.

Coffee is thus of considerable importance to small holders in the tropics. Only rarely it is a cash crop of relatively secondary value; in the majority of cases it is the main and often the only cash crop needed for the subsistence of farmers. Coffee has contributed substantially, much more than cocoa or any other crop in the tropics, to raising the standard of living of millions of people, particularly in Africa. It is, therefore, a crop of considerable social importance. (FAO, 1968)

2.4 Production Methods and their Modernization

Coffee is the second most valuable commodity in international trade, surpassed only by petroleum and its products. In spite of its high economic importance to many nations, production methods are still primitive in many areas. In some, it is still picked from spontaneous coffee population; in many others, it is still considered a forest plant, efforts being made to create artificially an environment similar to that prevailing in its native habitat; in others, it is grown without any alignment in association with banana, cocoa, rubber, various fruit trees or even annual food crops. It is only in a few regions that coffee is grown intensively as an orchard crop according to modern techniques to secure the highest economic production per hectare of a high-quality product.

A book under the title *The Market For Soluble Coffee In Canada And Japan* published by international trade Centre UNCTAD/GATT, which states that Canada has the highest per capita consumption of soluble coffee in the World, most of the soluble coffee on the market is domestically produced, the rest being imported at low prices. Canada is a very important market for soluble coffee and is closely tied to the United States channels and exports from developing countries could very easily reach in the Canadian market is a combined overall effect of penetrations of the total North American market.

Japan is also rapid growth of soluble coffee consumer's country because in 1960-70, domestic production of soluble coffee raise from 150 to 10,500 MTs annually and total consumption from 178 to 12,700 M. Ton. Soluble coffee is regarded by Japanese consumers as

a western quality product of sophisticated technology. The reasons for the rapid growth of soluble coffee consumption in Japan are raising incomes, changing consumption pattern and it is able to produce a low-priced soluble coffee accessible to large segments of the population. (UN 1971)

In Nepal, coffee is relatively a recent crop though its cultivation for the first time was done in the early fifteen however; commercial farming was started in 1977. So there are very limited literatures and studies in this field. The general introduction about coffee cultivation, farming and processing technique is found explaining in coffee *Khettee* written by Acharya and in coffee *Khettee Ek Parichaya* by Shrestha. Analyzing with different aspects of coffee cultivation and processing method, these both booklets stress on reducing import of coffee and increase in quality with qualitative production so that self-sufficiency goal will be achieved and it can be developed as export commodity. So these works stress on the systematic and planned coffee cultivation in possible areas to fulfill domestic demand and quality production. Bed Kumar Shrestha also suggests that NECCO should purchase only parchment coffee through coffee processing committees, so that its quality will meet the international standard. He has also stated coffee cultivation as profitable business for the rural farmer. (Shrestha B. K 1984/85)

Another research work A Study on Coffee Cultivation in Gulmi District has been done by Pradhan. He has collected primary data from only those farmers whose coffee plants had come to bearing stage. Ten farmers each from two Panchayat had been selected to make the total sample size of 20, and checked its gathering information from ADB/N Gulmi

branch and CDC Gulmi. He used descriptive and analytical method to analyze the gathered information. He has mentioned the cost of coffee farming on the basis of per ropani of land and the returns on cherry coffee on the basis of per ropani orchard. He started the main problems faced by coffee growers as; lack of inputs, irrigation, technology, bank loan, marketing, insect and disease control and lack of technical knowledge to the growers. According to him Gulmi district has been considered one of the most suitable area where coffee is being cultivated, it may be the true representative district. In Gulmi district, load on coffee had been cultivation has been distributed in 28 villages Panchyat. Based on the loan amount distributed, Aapchaur and Turang village panchayats were selected for the study. (Pradhan, C. M. 1990)

Shrestha has done a thesis related to coffee cultivation. She has found that the involvement of women is greater than that of male in coffee cultivation. Most of the physical works and care taking type of work are being done by women. As the technical component e.g.; training and pruning and pest management of coffee tree is done by male it shows that females are still weaker or than male in the technical aspects of coffee cultivation. In her study the middle size (11-20) ropani land holding families are involved in coffee production than the small and large size of leading position. Brahmin caste holds the leading position in coffee cultivation. Majority of the member associated with women coffee producer group are literate and are seeking to change their traditional occupation. The study also found that female works more in coffee farming in the study area. (Shrestha, 2001)

Another attempts made by Pathak (2001), reveal that cherry coffee is traded in Nepal. Parchment and green beans are the intermediary products. Green beans are exported. In his study area market promotion has not properly done. Market channel members are farmers, processors, marketers, departmental store, hotels and restaurants. Only 22.90 percent domestic market was captured by domestic product. He also finds that Nepalese coffee has high export potentialities Nepalese coffee is worth exporting and Nepalese consumers prefer instant coffee mainly imported from India. (Pathak, 1998)

CHAPTER THREE

METHODOLOGY

Research methodology is an essential part of the thesis paper which forms the framework for obtaining all necessary inputs of the study. In the present study the methodology includes research design, nature and sources of data, sampling procedure, data collection techniques and tools, data processing, analyzing methods and presentation.

3.1 Research Design

This study is exploratory and descriptive research design because the study is focused on the socio-economic impact of organic coffee production on the Arghakhanchi district. Research design refers to the procedures for the collection of data and its analysis. This study had analyzed all the information collected by field survey.

3.2 Nature and Sources of Data

This study is based mainly on primary and depends on secondary data whenever required. The study is mainly focused in collecting primary data in Mareng and Kimdanda VDC of Arghakhanchi district. The primary data are both qualitative and quantitative. Priority has given more to qualitative data by key informative interviews, structured questionnaire, and semi-unstructured questionnaire. All the secondary data have been collected from different published and unpublished records, reports of government and non-government organizations.

3.3 Sampling Procedure

The universe of the study is the organic coffee farming participated households in Mareng and Kimdanda VDC of Arghakhanchi district. Fifty households were taken out of the total households of two VDCs.

Majority of the fifty households taken as the sample were among the farmers fully depending on organic coffee cultivation. Detailed information related to the situation, production, economic benefit and social status of the people was collected from each of the fifty households.

3.4 Data Collection Techniques and Tools

The data have been collected systematically by adopting different tools as structured questionnaire, unstructured interview, participant observation and case study.

3.5 Method of Data Analysis

The data are analyzed in two ways; descriptive and analytical. Descriptive analysis consists of concrete description about the growers and their farm product regarding available sources of data. It further presents the input to output feedback of the cultivation to identify the problems of the growers. In the analytical method, the study presents an execution whether the coffee cultivation is increasing or decreasing. It deals with comparative analysis about the cultivation to fulfill the above mentioned objectives.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION

4.1 LOCATION OF THE STUDY AREA

Before unification, there were two states: Argha and Khanchi that unified and merged in Palpa District later. When the government categorized the nation into 14 zones and 75 districts, the Argha and the Khanchi were unified to one district as Arghakhanchi. Arghakhanchi is one of the six districts in Lumbini Zone. It is located in the western part of the Zone. Geographically it is bounded by the Gulmi to the north, Palpa to the east, Kapilbastu and Rupandehi to the south, and Dang and Pyuthan to the west. Arghakhanchi lies between 27°45' to 28°6' north latitude and 80°45' to 83°23' east longitude. The total area of this district is 119,300 Hectare. There are 40868 households in Arghakhanchi with a total population of 265300.

Kimdanda VDC is one of the forty-two VDCs of Arghakhanchi, which is the neighboring VDC of the district headquartered. The total area of Kimdanda VDC is 1604 Hectare. Total population of Kimdanda VDC is 4399, out of which 2235 are male and 2154 are female. (DADO: 2065/66). The VDC is bonded to the east by Sandhikharka VDC, which is the headquarters of the district, to the south by Nuwakot VDC, to the west by Dharapani VDC, and to the north by Argha VDC.

Mareng VDC is also one of the VDC of the Arghakhanchi district. The total area of Mareng VDC is 1236 Hectare. Total population of Mareng VDC is 5410, out of which 2691 are male and 2719 are Female. (DADO: 2065/66). The VDC is bounded to the east by Bhagawati VDC, to the south Arghatosh VDC, to the west and north Gulmi district.

4.1.1 Population of Age Group of Study Area

This data indicates that economically active and non-active population of Kimdanda and Mareng are likely to equal. In the context of Nepal, 54.15 percent people are economically active (15-59 Age)

Table 4.1.: Population of Age Group

Age Group	Kimdanda		Mareng	
	Population	Percent	Population	Percent
0-14	1424	40.52	1731	40
15-59	1766	50.26	2183	50.45
60 above	324	9.22	413	9.55
Total	3514	100	4327	100

Source: CBS-2001

4.1.2: Population by Sex

This data shows that the number of female of Kimdanda and Mareng is higher than male.

Table 4.2: Population by Sex

Sex	Kimdanda		Mareng	
	No.	Percent	No.	Percent
Male	1563	44.48	1938	44.79
Female	1951	55.52	2389	55.21
Total	3514	100	4327	100

Source: CBS-2001

4.1.3 Distribution of Population by Caste

This table reveals that number of Brahmin is higher than other castes. The percentage of Brahmin population is 30.48 percent in Kimdana and 41.83 percent in Mareng.

Table 4.3: Distribution of Population by Caste

Discription	Kimdanda		Mareng	
	No.	Percent	No.	Percent
Brahman Hill	1071	30.48	1810	41.83
Chhetri	1022	29.08	1342	31.01
Kami	150	4.27	487	11.25
Sarki	183	5.21	326	7.53
Damai/ Dholi	67	1.91	150	3.47
Newar	21	0.6	102	2.36
Sonar	8	0.23	45	1.03
Gharti/ Bhujel	-		25	0.58
Muslim	-		16	0.37
Unidentified Dalit	231	6.57	10	0.23
Magar	341	9.70	6	0.14
Gurung	-		6	0.14
Unidentified Caste	281	8	-	
Thakuri	113	3.22	-	
Sudhi	11	0.31	-	
Kumal	7	0.2	-	
Others	8	0.23	2	0.05
Total	3514	100	4327	100

Source: CBS-2001

4.1.4 Literacy Status of Kimdanda and Mareng VDC

This data reveals that literate people are more than illiterate. In Kimdanda VDC there is 37.33 percent people were cannot read where 35.67 percent in Mareng. The people who can read and write were reported in Kimdanda are 52.59 percent and 55.97 percent in Mareng.

Table: 4.4 Literacy status of Kimdanda and Mareng VDC

Discription	Kimdanda		Mareng	
	No.	Percent	No.	Percent
Can't Read	1133	37.33	1350	35.67
Can Read Only	273	9	277	7.32
Read and Write	1596	52.59	2118	55.97
Not Stated	32	1.05	39	1.03
Total	3035	100	3784	100

Source: CBS-2001

Table: 4.5 Literacy Status by Sex of Kimdanda and Mareng VDC

Discription	Kimdanda		Mareng	
	No.	Percent	No.	Percent
Male	1307	43.06	1676	44.3
Female	1728	56.94	2107	55.7
Total	3035	100	3784	100

Source: CBS-2001

Above data interestingly shows that literacy rate of female is greater than male.

Table 4.6 Households Having Agriculture Land, Livestock and Poultry

Discription	Kimdanda	Mareng
Agriculture Land	32	41
Livestock Only	1	3
Poultry Only	0	1
Land and Livestock	241	476
Land and Poultry	6	12
Livestock and Poultry	0	1
Land, Livestock and Poultry	484	353
None of All	6	12
Total	770	899

Source: CBS-2001

4.2 Demographic Characteristics:

Demographic characteristics mean those activities which are related and concerned with population. Different types of population activities are included in demographic characteristics. Total population compositions of the population are included in demographic characteristics. Thus, it shows the population activities mathematically

4.2.1 Total Population of the Sampled Households:

The total population of the sampled households is 236 and it is presented as the basis of different composition.

4.2.2 Respondents Composition by Age:

The Population activities refer to the different aspects of the people living in a certain society and country. Age composition is a process of studying the population activities because the total population is divided into different age groups children, young and adult from the major age groups of the population in any society. The age composition of the sampled households in Kimdanda and Mareng is presented in Table 4.1.

Table 4.7: Respondents Composition by Age

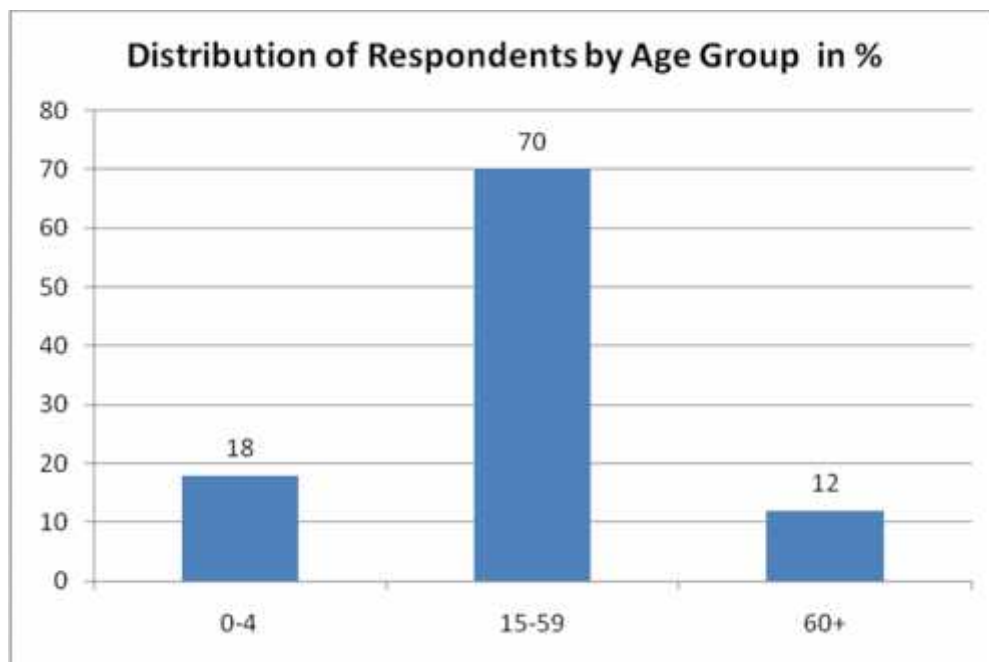
S.N	Age group	Number of Population	Percentage
1	0-4	43	18
2	15-59	164	70
3	60+	29	12
	Total	236	100

Source: Field Survey-2011

The age group of 15-59 years which consists of 70% of the total population forms, the independent age group and indicates almost three fourth population to be inactive working phase of life (active man power). The age group of 0-14 years consisting of 18% popula-

tion and that of 60 years and above consisting of 12% population constitute the dependent age groups. They have to depend on the age group of 15-59 years.

Chart 4.1: Distribution of Respondents by Age Group

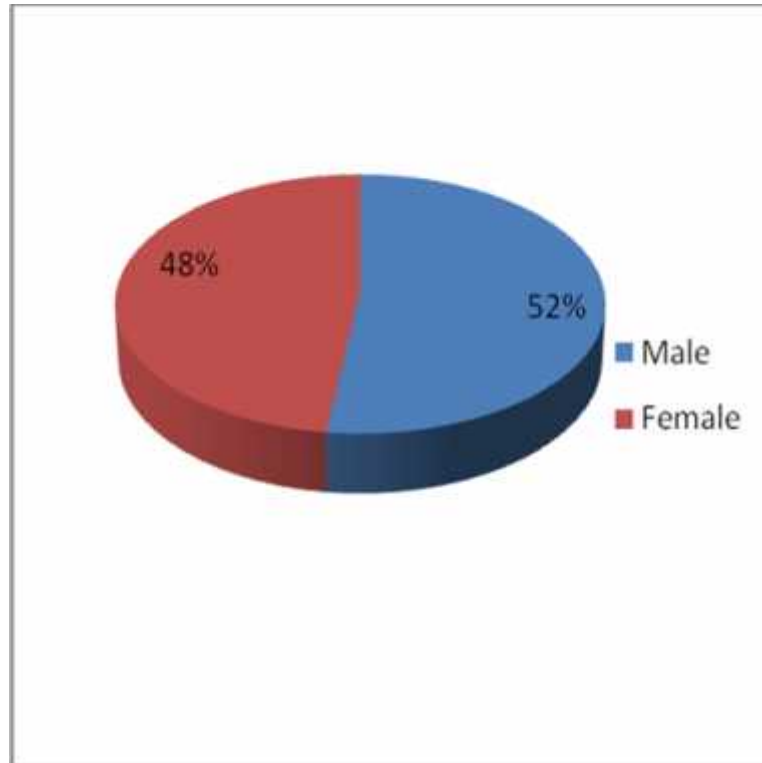


Source: Field Survey 2067

4.2.3 Respondents Composition by Sex:

Out of the total population of 236 people in the sampled population, 124 are male and 112 are female, 52% and 48% respectively. The male population is higher than the female population. The causes of the lower percentage of women is that most of the daughters have been already married and sons are not married yet in the sampled households, since married daughters leave for their husbands houses, mostly in other VDC and/ or other districts.

Chart 4.2: Respondents Composition by Sex



Source: Field Survey-2011

4.2.4 Distribution of Respondent by Occupation:

Nepal is an agricultural country. 78 percent population of Nepal depends on agriculture. So, agriculture is still the predominating occupation in Nepal. The main occupation for the sampled households in Kimdanda and Mareng VDC is also agriculture. Out of the total fifty households, sixty-two percent people are fully depend on the agriculture occupation, while twenty-six percent also follow teaching and service occupation; twelve percent follow small trade occupation.

Table 4.8: Distribution of Population by Occupation

S.N	Occupation	Number of Households	Percentage
1	Agriculture	31	62
2	Teacher/Service	13	26
3	Small Trade	6	12
	Total	50	100

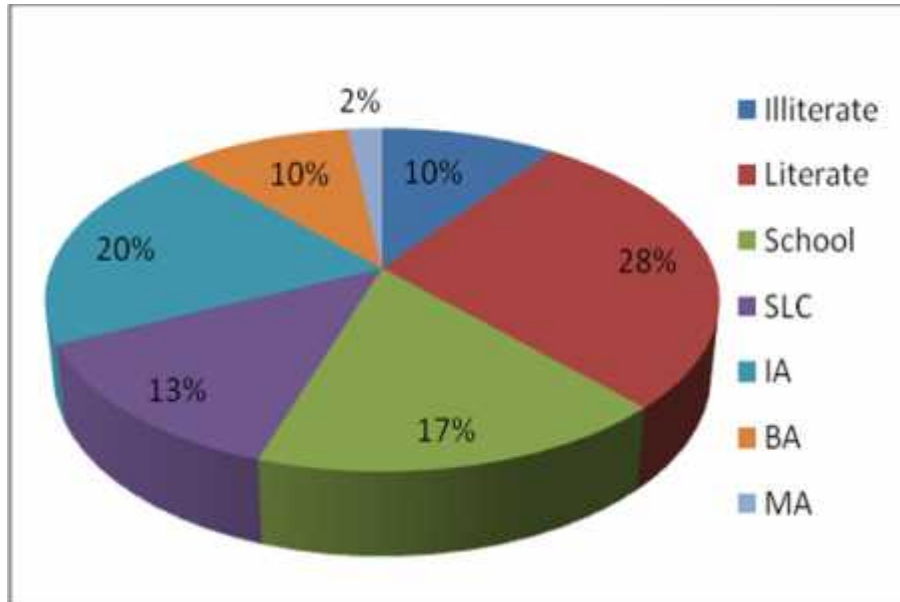
Source: Field Survey-2011

Most of the employed people have adopted the teaching profession. Teaching is easy and also important in the rural society, there is not physical task for teachers since there are not much other opportunities of part time activities in the rural society, have to use their spare time in the occupations related to agriculture.

4.2.5 Distribution of Respondents by Education:

Education is also a basis of studying the characteristics such as quality of the living standard, level of awareness of the population. Out of the 236 total populations of the sampled household's twenty-four people are illiterate, which is ten percent of the total sampled population. Sixty-five people are literate. It is twenty-eight percent of the total population of the sampled households. Seventeen percent children go to school, thirteen percent have passed SLC, twenty percent have passed IA, ten percent have passed BA and two percent people have passed MA.

Chart 4.3: Distribution of Population by Education Level



Source: Field Survey-2011

4.3. Land and Food Grains

4.3.1 Land Holding Size:

Because of the system of division of property in Nepal, land is getting divided in smaller and smaller units. Thus the land holding capacity is also decreasing generation after generation. The following table shows the state of the total ownership of land of the fifty sampled households. It shows that an average household owns lands between 10-20 Ropani.

Table 4.9: Land Holding Size

S.N	Land Description (in Ropani)	Households	Percentage
1	0-10	14	28
2	10-20	23	46
3	20-30	5	10
4	30+	8	16
	Total	50	100

Source: Field Survey-2011

4.3.2 Cultivated Land for Food Grains and Other Crops

Out of total cultivated land 24 percent House Holds (HHs) have 0-10 Ropani land, 46 percent HHs have 10-20 Ropani land, 12 percent HHs have 20-30 Ropani land and 18 Percent HHs have 30 above Ropani land.

Table 4.10: Cultivated Land for Food Grains and Other Crops

S. N	Cultivation land (in Ropani)	Households	Percentage
1	0-10	12	24
2	10-20	23	46
3	20-30	6	12
4	30+	9	18
	Total	50	100

Source: Field Survey-2011

4.4 Starting of Organic Coffee Cultivation

Out of total sampled households thirty-four percent households have been started organic coffee farming before 2060, forty-six percent households have been started between 2060 to 2062 and twenty percent households have been started coffee farming from 2062.

Table 4.11: Starting of Organic Coffee Cultivation

S.N	Years	Number of Households	Percentage	Remarks
1	Before 2060	17	34	
2	2060-62	23	46	
3	2062 onwards	10	20	
	Total	50	100	

Source: Field Survey-2011

4.5 Members Engaged in Coffee Cultivation:

Of the total households there is at least one person involved in coffee farming in eighteen percent households, at least two persons involved in sixty-six percent households and three or more people involved in sixteen percent households.

Table 4.12: Members Engaged in Coffee Cultivation

S.N	Person/ HHs	Number of Households	Percentage
1	1	9	18
2	2	33	66
3	3+	8	16
	Total	50	100

Source: Field Survey-2011

4.6 Main Sources of Income

Nepal is an agriculture country. Most of the people of Nepal are farmer. Agriculture is the main occupation for the Nepalese. Orange, Ginger is their major cash crops. They sell their ginger and orange in the market of Butwal. Rice is the main cereal crop in Kimdanda and Mareng.

Table 4.13: Main Sources of Income

S.N	Income source	Households	Percentage
1	Agriculture	40	80
2	Agriculture + Service	10	20
	Total	50	100

Source: Field Survey-2011

4.7 Training in the Organic Coffee Cultivation

Regarding the training availability eighty percent have got opportunity of training related to the coffee farming while twenty percent farmers have not got any opportunity of train-

ing. According to the farmers DCPA and OAMPR have been give training such as soil management, nursery management etc.

Table 4.14: Training in the Organic Coffee Cultivation

S.N	Description	Households	Percentage
1	Trained	40	80
2	Untrained	10	20
	Total	50	100

Source: Field Survey-2011

4.8. Main Purpose of the Organic Coffee Cultivation

Most of the households of Kimdanda and Mareng have started organic coffee cultivation from the commercial point of view. Out of the total fifty sampled households, sixty percent households are engaged in the organic coffee cultivation from the commercial purpose and forty percent households have been practicing the organic coffee cultivation for commercial and self-consumption purpose. Nobody was found in the coffee cultivation for just consumption purpose.

Table 4.15: Main Purpose of the Organic Coffee Cultivation

S.N	Description	Households	Percentage
1	Self-Consumption Only	0	0
2	Commercial Production	30	60
3	Both(Consume/Commercial)	20	40
	Total	50	100

Source: Field Survey-2011

4.9 Production during the Last Three Year (in kg)

Total production of organic coffee in Arghakhanci district is 20.5 M.T. Out of this production 2 M.T. have been used for internal consumption and 18.5 M.T. for trading out of the district. (DADO)

Table No. 4.16: Production during the Last Three Years

Production Kg/HHs	Year 2064	Year 2065	Year 2066
0-50	25	34	30
50-100	5	9	13
100-150	1	3	3
150-above	4	4	4
Total	35	50	50

Source: Field Survey-2011

Out of sampled households 15 households did not produce organic coffee during year 2064. The data shows the increasing trend in organic coffee production. The number of farmers producing 50-100 kg organic coffee is increasing from five households in 2064 to 13 households in 2066.

4.10 Income from Organic Coffee Rs/ Year

The data below shows that, there were total thirty five households in 2064 who earned from organic coffee. Out of thirty five households only one household earned more than eight thousand. Similarly, out of fifty households only two households earned more than Rs. eight thousand in 2065 and four households earned more than Rs. eight thousand in 2066. This data shows that earning from organic coffee farming is increasing every year.

Table 4.17: Income from Organic Coffee

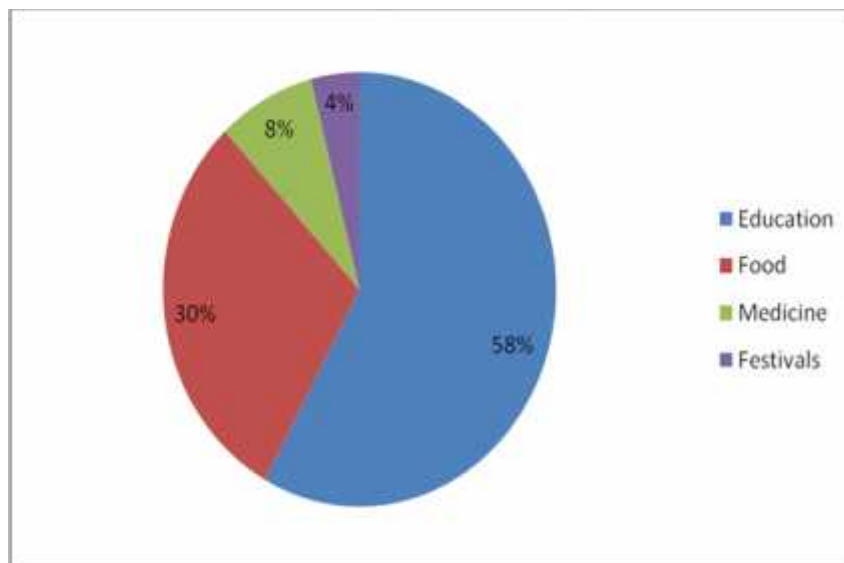
Income Rs /Year	2064	2065	2066
0-2000	24	38	34
2000-4000	5	5	6
4000-6000	3	2	3
6000-8000	2	3	3
8000-above	1	2	4
Total	35	50	50

Source: Field Survey, 2011

4.11 Pattern of Expenditure Money in Sampled Households (based on 1st priority)

The people of Kimdanda and Mareng VDC have spent their income in education, food, medicine, festivals and religious occasions. But the priority of their spending seems varied. Farmers in the study area have given different priorities to different expenditure headings. Some people have given priority to foodings, some people have given priority spending in religious occasions, ceremonies and festivals, those which do not have problem in food catering activities, have spent their income in the ceremonies, festivals and the education, but those which have some problem to cater food spent in food grains.

Chart 4.4: Pattern of Spending



Source: Field Survey-2011

4.12 Comparative Benefit from Organic Coffee Farming:

Majority of sampled households believe that they are getting comparative benefit from organic coffee, whereas, few farmers believe that cereal and food grain production is more beneficial than organic coffee. The table below shows the farmer's view in this regard.

Table 4.18: Comparative Benefit from Organic Coffee Farming

S. N	Description	Households	Percentage
1	From Cereal Crops	9	18
2	From Organic Coffee	41	82
	Total	50	100

Source: Field Survey-2011

4.13 Influence of Organic Coffee in Economic Condition:

Out of sampled households eighteen percent households have feel good influence on economic condition, eighty-two percent households have feel general and nobody have felt that the organic coffee farming did not contribute any more to improve economic condition.

Table 4.19: Influence of Organic Coffee in Economic Condition:

S. N	Description	Households	Percentage
1	Good	9	18
2	General	41	82
3	No	0	0
	Total	50	100

Source: Field Survey-2011

4.14 Satisfaction from Selling Price

Out of sampled households forty percent households seem satisfied with selling price of organic coffee, whereas sixty percent households are not-satisfied with selling price of organic coffee.

Table 4.20: Satisfaction from Selling Price

S. N	Description	Households	Percentage
1	Satisfied	20	40
2	Not-satisfied	30s	60
	Total	50	100

Source: Field Survey-2011

4.15 Application of Modern Technique in Coffee Production

Considering the current production of row coffee the study area needs processing equipments like; drum pulpier machine, grader machine etc. Out of the sampled households two percent households have Drum Pulpier machine and grader machine. Ninety-eight percent households have not any machine or equipment for coffee processing. According to the farmers machine is costlier, so they could not afford to buy such machine alone.

Table 4.21: Application of Modern Technique in Coffee Production:

S. N	Description	Households	Percentage
1	Applied	1	2
2	Not-applied	49	98
	Total	50	100

Source: Field Survey- 2011

4.16 Causes of Not Application of Modern Techniques

The role of modern techniques and tools are significance in organic coffee. Modern tools and techniques help producing quality coffee and also reduce the number of labors. But, as discussed earlier very few people are using its, mainly because people have very few knowledge about it and machine are not available easily. Of the total 50 households only one household has modern equipments like pulpier and grader machine. Remaining 49 households lacking such equipments. The main reason behind the lack of such modern machines is lack of knowledge about such equipments. Other reasons are as follows:

Table 4.22: Causes of Not-application of Modern Techniques

S. N	Description	Households	Percentage
1	Lack of Knowledge	23	47
2	Unavailability of Instruments	14	29
3	Too Risky	12	24
	Total	49	100

Source: Field Survey-2011

4.17 Main Insects and Disease in Organic Coffee Plantation

Most of the farmers in the study area could not identify the name of disease but they can say the symptoms seen in their farm. On the basis of symptoms, various kind of diseases were reported.

Table 4.23: Main Insects and Disease in Coffee Plantation

S. N	Description	Households	Percentage
1	<i>Bot oilaune roga</i>	8	16
2	<i>Fal sukne ra jharne roga</i>	13	26
3	<i>Seto gabaro</i>	20	40
4	No any disease	9	18
	Total	50	100

Source: Field Survey-2011

Of the selected households main disease in coffee farming seems “Seto gabaro”. Forty per cent farmers are suffering form it. Twenty-six percent are affected by *fal sukne ra jharne roga*, sixteen percent are affected by *Bot oilaune roga* and eighteen percent haven’t seen any kind of problem.

4.18 Problems of Seasonal Disease

The table below reveals that the coffee farming is affected by disease during fruiting season. About sixty of farmers were suffering at this stage of cultivation. Very few farmers were suffering before flowering.

Table 4.24: Problems of Seasonal Disease

S. N	Description	Households	Percentage
1	Before Flowering	3	6
2	Flowering Period	5	10
3	Fruiting	33	66
4	Not any time	9	18
	Total	50	100

Source: Field Survey-2011

4.19 Methods of Prevention of Disease:

This data reveals that sixty percent households have been using indigenous methods. Very few (four percent) households have been used modern methods, where as thirty six percent households did not use any method to prevent from disease.

Table 4.25: Methods of Prevention of Disease

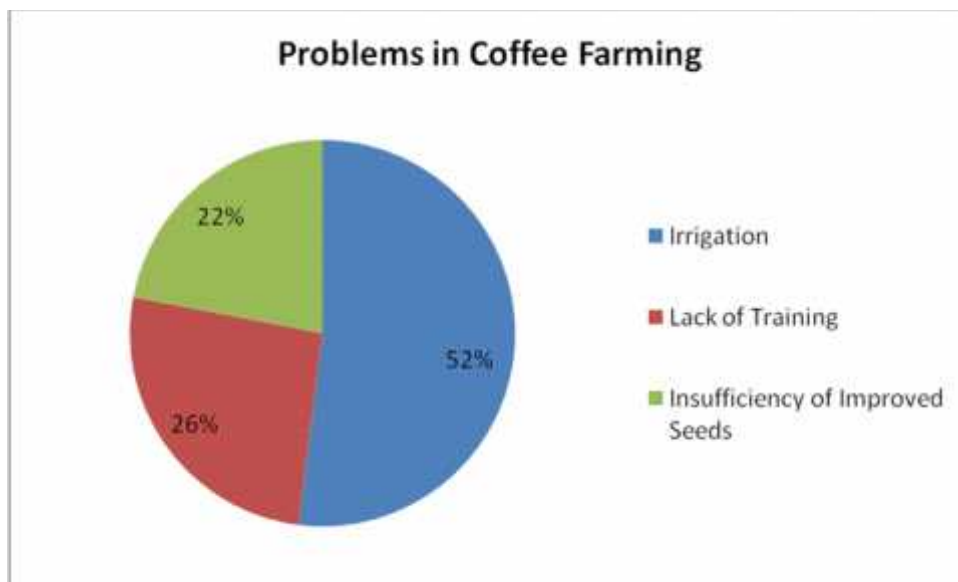
S. N	Methods	Households	Percentage
1	Indigenous	30	60
2	Modern	2	4
3	Not any methods	18	36
	Total	50	100

Source: Field Survey-2011

4.20 Problems of Organic Coffee Production

This chart below reveals the fact that irrigation is the major problem in coffee production. Fifty-two percent households have irrigation problems. Twenty-six percent do not have coffee related training and twenty-two percent have not sufficient improved seeds.

Chart 4.5: Problems in Organic Coffee Production



Source: Field Survey-2011

CHAPTER-FIVE

IMPACT STUDY ON COFFEE FARMING

5.1 Emphasis in the Agriculture Occupation:

Productive capacity helps to change social status, the organic coffee producers of Kimdanda and Mareng have increased their coffee production and income is also increased in the last three years and they have given emphasis to organic coffee cultivation. Majority of them now place more emphasis on the organic coffee cultivation.

Table 5.1 Emphasis in Agriculture Occupation

S.N	Description	Before		At present	
		Food grain	Organic coffee	Food grain	Organic coffee
1	Households	48	2	12	38
2	Percentage	96	4	24	76
	Total				

Source: Field Survey-2011

Previously ninety-six percent households used to give emphasis to food grain and only four percent to organic coffee cultivation. At present increasing number of households are giving emphasis to organic coffee cultivation than food grains. Thirty-eight percent households used to give emphasis to food grains and Seventy-six percent households have given emphasis to the organic coffee.

5.2 Land Coverage by Organic Coffee Cultivation (in Ropani)

Total number of organic coffee producers in Kimdanda and Mareng is increasing. In one hand the number of coffee farmers is increasing, on the other, farmers already involved in farming, increasing the area under coffee cultivation. At starting year of coffee cultivation, eighteen percent households cultivate coffee in one to two Ropani land and four percent of households cultivate coffee in more than two Ropani of land. But at present thirty-two percent of households cultivate coffee in one to two Ropani of land and eight percent households cultivate coffee in more than two Ropani of land.

Table 5.2 Land Coverage by Organic Coffee Cultivation (in Ropani)

S. N	Land Covered by Organic Coffee	Households	
		At starting Year	At present
1	0-0.5	25	19
2	0.5-1	14	11
3	1-2	9	16
4	2-above	2	4
	Total	50	50

Source: Field Survey-2011

5.3 Sources of Organic Coffee Plants

The easy availability of coffee plants has also helped in extending the coffee cultivation. Due to the easy access of plants has helped the people of Kimdanda and Mareng to be motivated to coffee cultivation. About eighty-four percent farmers get coffee plants from local nursery.

Table 5.3: Source of Organic Coffee Plants

S.N	Sources	Households	
		Before 5 year	At present
1	Out of Districts	13	0
2	Local nursery	37	42
3	Own nursery	0	8
	Total	50	50

Source: Field Survey-2011

5.4 Condition of Housing Structure

Housing structure also show the economic condition of the people, because most of the wealthy people make large and standard, modern houses and poor people cannot make the same. Poor people live in small and congested houses with difficulty.

Table 5.4: Condition of Housing Structure

S. N	Description	Households	
		Before 5 year	At present
1	Mud + Stone	46	47
2	Hut	4	0
3	Cement	0	3
	Total	50	50

Source: Field Survey-2011

This data reveals that ninety-two percent farmers had already made by mud and stone wall houses and eight percent households had hut but no-one had concrete houses. The condition of the housing structure has been improved in five years. At present forty seven farmers have mud and stone house, six percent farmers have cemented house and no farmer is living in huts.

5.5 Condition of Roof of House

This data reveals that twenty percent farmers had thatched roof, seventy-four percent farmers had stone roof and six percent farmers had zinc sheet roofing before five year. The condition of roof of households had improved. No-one have thatched roof. Sixty-eight percent farmers have stone roof and sixteen percent have roof of zinc sheet at present.

Table 5.5 Condition of Roof of House

S. N	Description	Households	
		Before five year	At present
1	Thatched	10	0
2	Stone	37	34
3	Zinc sheet	3	16
	Total	50	50

Source: Field Survey-2011

5.6 Condition of Toilet

Most of the people of Kimdanda and Mareng have now made toilets near home. Some rich people had already made toilets before organic coffee cultivation. Later on many people improved their toilets, while others have built modern and permanent toilets.

Table 5.6: Condition of Toilet

S. N	Description	Households	
		Before five year	At present
1	Open	12	0
2	Simple	33	13
3	Modern	5	37
	Total	50	50

Source: Field Survey-2011

This table shows that ten percent households had already made modern toilets while sixty-six percent households had simple and twenty-four percent had no toilet before five year. The condition of the toilets has improved in five years period. Seventy-four households

have modern toilets, twenty-six percent households have simple toilets and there is no household left without toilet. The organic coffee cultivation and production has helped farmers to improve their economic condition that contributed to the construction of modern toilets in most households.

5.7 Condition of Drinking Water

This table reveals that five years ago one household used to go to river and thirty-nine households used to go local water pond (*padhero*) for drinking water. But ten households already had water taps in their own houses. After their increase in income from organic coffee cultivation no-one need to go to river for drinking water. Ninty-six percent households have tap in their own houses and two households have still need to *go to padhero* for the drinking water.

Table 5.7: Condition of Drinking Water

S. N	Description	Households	
		Before five year	At present
1	River	1	0
2	<i>Kuwa/ Padhero</i>	39	2
3	Tap in House	10	48
	Total	50	50

Source: Field Survey-2011

5.8 Health Service

Educated people are more conscious towards their condition health than uneducated people. So, health is related with education. The people of Kimdanda and Mareng were in very difficult condition before coffee cultivation. But after they started organic coffee production their earning increased and it helped people in many ways.

Table 5.8: Health Service

S. N	Description	Households	
		Before five year	At present
1	<i>Dhamijhankri</i>	7	0
2	Traditional Medicine	15	7
3	Hospital	28	43
	Total	50	50

Source: Field Survey-2011

Out of sampled households fourteen percent farmers used to go *dhamijhankri* when they are sick, thirty percent farmers used traditional medicine and twenty-eight households go to hospital when they got ill. But at present no-one have to go *to dhamijhankri*. Fourteen percent farmers use traditional medicine and eighty-six farmers go to hospital when they get ill. Most of the households go to hospital, when they get ill because they have improved their socio-economic condition from the organic coffee.

5.9 Changes in Irrigation System:

Irrigation is most important for coffee farming. In the study area, there was not enough irrigation facility five years ago. From 2061 with the help of Ujyalo Nepal, District Coffee Producers Association (DCPA) of Arghakhanchi, gave financial support to coffee farmers to prepare *plastic ponds (plastic pokhari)* for water collection (DCPA 2062). In Mareng there are no households having *plastic ponds*, there are 13 households in Kindanda facilitated by *plastic ponds* for irrigation.

Table 5.9: Irrigation System

S. N	Description	Households	
		Before Five Year	At Present
1	Pipe	2	16
2	<i>Plastic Pokhari</i>	0	13
3	Rain Water	48	21
	Total	50	50

Source: Field Survey-2011

Five years back, for irrigation purpose out of sampled households four percent farmers had piped water, no-one had plastic ponds and ninety-six percent farmers were depend on rain water for irrigation. But now thirty-two percent farmers have piped water for irrigation, twenty-six percent farmers have plastic ponds and forty-two percent farmers are still depending on rain water for irrigation.

CHAPTER SIX

PROBLEMS AND PROSPECTS

6.1 Problems

To find the problems connected with coffee growers is also one of the objectives of this study. All the respondents were asked to explain about the problems in coffee production based on their experience. Different respondents mentioned different problems facing by them. The problems are categorized into two groups as general problems and problems of disease and insect pest as described below.

6.1.1 General Problems

Coffee farming has been a new experience for traditional and ignorant farmers. On the one hand, most farmers have no knowledge about farming and on the other hand, government and other agencies have not been able to provide effective service to coffee farming.

It is obvious that irrigation is very important. The majority of farmers have established coffee garden without irrigation facility. Lack of irrigation facility was seen as the main problem in coffee farming. Most of the farmers have not any irrigation facility on their farm. Very few area of Kimdanda were facilitated with plastic ponds and some people of Mareng were facilitated with piped water supply and they have also managed water for irrigation and drinking purpose, but there are still some people who have lot of difficulties relating to irrigation facilities in organic coffee cultivation. Lack of knowledge and training (coffee cycle training) was seen as the major problems in coffee farming. The majority of

farmers have not proper knowledge and training. Such training must be provided by the government or coffee related agencies. Due to the scarcity of technical knowledge, most of the cropping patterns are traditional in nature. Land preparation and layout, nursery establishment, re-plantation, use of fertilizer or compost and pesticide etc. are the areas that farmers should be trained and consulted. Farmers are preparing new saplings without selection and proper treatment of seed and seed bed. They used wild saplings for re-plantation. Therefore, training is necessary in the study area as well as district level in order to make them familiar with coffee technology. Though there are some institutions to provide training to coffee farmers, but it is not sufficient to impart coffee cycle and leadership trainings.

The respondents have reported that another major problem of coffee farmers was the problem of food or what they would eat for four years? Agriculture in rural area is still a way of life. Coffee grower need to wait for four years after plantation. Coffee trees start giving fruits only after three to four years of plantation. During this period farmers should have alternative source of income to feed their families. Most of the rural farmers have limited land for cultivation. So if they cultivate coffee commercially, they have to use most of their land on this crop and remaining land may not give sufficient production for feeding.

6.1.2 Problems of Disease and Insect Pests

Due to the lack of technical know-how and technical assistance, coffee growers are facing so many problems of disease and insect pests. The problem of insect pests was the main reason of low productivity and low quality of coffee beans. The main problem of insect

pest was 'Anthores Leuconotus' (*Seto Gabaro*) which was reported by forty percent households. The next serious disease was '*Fal Sukne ra Jharne Roga*'. About twenty-six percent households were facing this problem. The problem of '*Bota Oilaune Roga*' was reported by sixteen percent of the total sampled households.

This is also serious problems for coffee farming. Almost all farmers are being discouraged from coffee farming due to the helplessness in controlling most harmful diseases and insects. About eighty-two percent farmers were suffered from insects and disease in the survey area. Farmers cannot afford sufficient amount for the cultivation and pest control. Due to the problem of collateral they couldn't lend money from banks and financial institutions. It needs good amount of capital for introducing scientific methods, fertilizers, skilled labors, transportation etc. The service provided by ADB/N is not sufficient to meet the requirement.

6.2 Prospects

Generally, all the prospects have some problems. Similarly, coffee farming also has some problems as mentioned above. However it has bright prospects in the study area as well as mid hilly region of western part of Nepal. Commercially, it is more profitable than other cultivation of traditional cereal crops. Topographically and climatically, the study area is suitable for coffee production. At the same time there is not serious problem in transportation facility also. Though very few coffee growers reported the problem of transportation, it was very small numbers. So, it has better economic prospects for the cultivation of coffee farming. Thus if all the farmers of the study area grow the coffee trees instead of other

prevailing traditional crops like maize, millet etc., they can certainly receive better income. Better income helps them to improve their economic status by improving educational status, health status, social status etc.

The production of coffee has not only given the better income for coffee growers, it has also created additional employment opportunities for people at various levels such as orchard operations, transport media, storage and processing factory, technical personnel etc. This would also be helpful to check the out migration as many people migrate either permanently or temporary in search of employment opportunities. The prevailing situation of disguised unemployment can also be removed to some extent by growing coffee farming.

By growing coffee trees, the environmental balance can also be maintained by checking the landslides, soil erosion, drought, floods which are the problems facing by hilly as well as other regions of the country.

CHAPTER SEVEN

SUMMARY, CONCLUSION AND RECOMMENDATION

Summary of the Study

In the hilly region of Western part of Nepal including the study area, where the climatic condition is favorable, the coffee farming could be a major source of cash income. Unfortunately, the coffee growers have not been able to gain reasonable returns from the production process. Thus this study has made attempts to evaluate the profitability of coffee production compared to the prevailing pattern of food grain like paddy, maize, wheat, millet.

Coffee production has become one of the most important alternative ways of earning in Mareng and Kimdanda, where many farmers have been attracted towards coffee cultivation.

Introduction of “Organic Coffee” have been discussed in Chapter I. It gives brief sketch of coffee farming in Nepal. The objectives of this study are to find out the present production situation of coffee, identify the problems faced by coffee growers, to analyze the impact of present socio-economic condition of coffee production and give appropriate suggestions.

In this study, data has been collected from the structured questionnaire, unstructured interview and observation. The research design in this research was exploratory as well as descriptive. The primary as well as secondary data were used in this study. Fifty households

were taken as a purposive sampling from Kimdanda and Mareng VDC. Data was collected in the basis of participant observation during the field visit.

No land less people were found in the study area but inequality in distribution was found in the study area. Most of the trees of coffee were found yet to be productive and many of them were just starting to bear coffee beans. The major marketing agencies of the study area are Annapurna Organic Agriculture Industry Arghakhanchi, District Coffee Producers Association of Arghakhanchi, and District Co-operative Gulmi. Some coffee growers were applying traditional instruments such as local roaster (*Hadi*) and stone grinder (*Jhato*) to make coffee dust.

Thus, if farmers invest some amount at the initial stage of farming, it gives regular return for long period. It is believed that the coffee farming is done appropriately, it starts to bear returns after 3 years of plantation and it lasts for about 40 years on an average.

Some support institutions as OAMPR, DCPA, are engaged in promotion of farming coffee in the study area, but the coffee growers reported that the available support service is effective but not sufficient.

The coffee growers reported about many other problems connected with farming such as lack of knowledge and training, lack of technical support, lack of leadership development training, problems of insect and disease, financial problems etc. In order to minimize the risk of farming some of the farmers expressed the need for coffee plant insurance.

CONCLUSION

Although the coffee growers of the study area have been facing with so many problems, they are still optimistic about better prospects of coffee farming. Moreover, being a highly potential area, the establishment of modern processing factory will accelerate the production speed with the development of better marketing areas. With the acceleration of coffee production, the problems of unemployment will be reduced and the flow of migration from hilly region to Terai will be minimized to some extent as the coffee production is labor intensive occupation. Similarly, wide spread support services should be made available at the farm level as an incentives to the farmers, hence the coverage area of coffee orchards will be increased, which will help to maintain environment balance by checking the landslides, soil erosion, floods air pollution etc. Thus the people of the study area should be advised to grow coffee plants in their farms by providing incentives such as financial, technological and other necessary supports by the government.

RECOMMENDATIONS

Mid hilly region of western part of Nepal is considered as suitable area for coffee, which is one of the most important cash crops. Its development would help increase farmers income to a greater extent. More than this, it can be a major source of foreign currency. Based on the findings and conclusion, following recommendations have been made:

- J Those farmers grow coffee sapling should be trained. To increase their inspiration and experience, the provision of study and research tours should be made.
- J The machine should be distributed in low price to make green beans, to roast coffee beans (roaster), and to prepare coffee dust by the agro-tolls factory. To improve the quality, the process of making cherry coffee storage and processing method should be improved.
- J One of the most important things is that farmers must be given the confidence that, the produced coffee can be sold at reasonable price at reasonable time.
- J After studying different aspects it is concluded that develop and expand the coffee plantation area and launch package program in selected area to make coffee orchard and nursery.
- J In Nepal coffee is a new crop that's why, technical knowledge is lacking over here. To make technical manpower efficient, there should be a provision of abroad training to related personal.
- J The district level and village level coffee production group should be supported by giving them technical, economic, physical and other helps. They are the real organization of field workers.
- J The way of coffee production, processing, marketing management and way of taking, should be advertised through newspapers, pamphlet, slide, radio, T.V. etc.

- J To give continuity to the referred work and to develop work in systematic way, one coffee planting project is needed. Provision of soil testing should be made.

- J In order to generate the healthy and qualitative saplings a well-managed nursery should be established.

- J The government should establish an organization that involves in research and development in coffee plantation and farming. This institution would fully be responsible for studying climate, soil quality, saplings quality etc. The other aspects of research would be the preparation of compost; protection of the plants; shelter of the trees, fencing, irrigation and processing etc. This institution would work in coordination with National Coffee Development Board, Nepal Agriculture Research Council (NARC) and Agriculture Department etc.

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Questionnaire on “Organic Coffee Farming in Nepal; A Case Study of Mareng and Kim-
danda VDC.” of Arghakhanchi District.

1. Name of the farmer:.....
- A) Age.....B) Sex:
- C) VDC.....D) Ward no:
- E) Occupation:
- (a) Main:
- (b) Other

2. Description of family member

S.No.	Name	Relation with household	Age	Sex	Education	Occupation		Remarks
						Main	Other	
1								
2								
3								
4								
5								
6								
7								

3. How much arable land do you have in ropani?

- A) Khet
- B) Pakho.....

4. Total cultivated land in ropani:

Before Five Year	At Present
a) Food Grains	a) Food Grains
b) Organic Coffee	b) Organic Coffee
c) Other	c) Other

5. When did you start coffee cultivation from?

.....

6. How many members are engaged in coffee cultivation from your family?

.....

7. Main income source of your family:

- A) Cultivation
- B) Business / Trade
- C) Services
- D) Other

8 Main purpose of the organic coffee cultivation:

- A) Self consumption
- B) Occupation / Sell
- C) Both

9 Have you got training about organic coffee cultivation?

- A) Yes
- B) No

If yes from which organization.....

10. Impphasis in the agriculture occupation:

Before Five Year	At Present
a) Food Grains	a) Food Grains
b) Organic Coffee	b) Organic Coffee

11. Total cultivated land by organic coffee (in ropani):

At starting year	At Present
a) 0-5	a) 0-5
b) 6-10	b) 6-10
c) 11-20	c) 11-20
d) 20 over	d) 20 over

12. Production during the last five years (in kg):

- A) B.S 2066.....
- B) B.S 2065.....

C) B.S 2064.....

D) B.S 2063.....

E) B.S 2062.....

13. Selling rate of organic coffee per kg (in Rs) and what amount of coffee do you sell in these year (in kg):

Year	Rate	Amount
a) B.S 2066		
b) B.S 2065		
c) B.S 2064		
d) B.S 2063		
e) B.S 2062		

14. Income from the selling organic coffee in these year (in rupees):

A) 2066

B) 2065

C) 2064

D) 2063.....

E) 2062

15. In which sector do you spend? (based on priority 1, 2, 3, 4, 5)

A) Education

B) To fulfill the scarcity of food

C) Medicine and clothes

D) Ceremony, festival and marriage

E) Others.

16. Have you got loan for coffee farming?

A) Yes

B) No

17. Have you got loan from banks?

S.N	Name of the bank	Loan rupees	Interest rate	Date of return	Date off to return	Remarks
a.	ADB/N					
b.	Commercial bank					
c.	Nepal Bank					

d.	Co-operative					
e.	Others					

18. Did you felt difficulty to get loan?

- A) Yes
- B) No

19. What kind of difficulty did you face?:

- A) High interest rate
- B) Lenthly process
- C) Far
- D) Other

20. From which cultivation do you get better benefit from the same area of land?

- A) From cereal crop
- B) From organic coffee

21. Are you feeling positive influence on your economic condition from coffee cultivation?

- A) Good
- B) General
- C) No

22. Are you satisfied from selling rate?

- A) Yes
- B) No

23. Do you apply modern technique in coffee farming?

- A) If yes what kind?.....
- B) If no why?
 - (a) Lack of knowledge.
 - (b) Laack of instrument
 - (c) Too risky

24. What are the main disease of organic coffee farming?

.....

- a) Main Insects.....
- b) Time of disease.....

e) Methods of prevent.....

25. What are the problems of organic coffee farming?

.....
.....
.....

26. Sources of organic coffee plants:

Before Five Year	At Present
a) Self nursery	a) Self nursery
b) Local nursery	b) Local nursery
c) Agriculture office	c) Agriculture office

27. Condition of education of household member:

Before Organic Coffee Farming	At Present
a) Cannot read and write.	a) Cannot read and write.
b) Can read and write.	b) Can read and write.
c) Primary education.	c) Primary education.
d) Secondary education.	d) Secondary education.
e) Higher education.	e) Higher education.

28. How many children go to the boarding/ private school?

Before Organic Coffee Farming	At present
a) None	a) None
b) One	b) One
c) Two	c) Two
d) More then two	d) More then two

29. Condition of housing structure:

Before Organic Coffee Farming	At present
a) Mud	a) Mud
b) Stone	b) Stone
c) Hut	c) Hut
d) Cement	d) Cement

30. Condition of roof of house:

Before Organic Coffee Farming	At Present
a) Thatched	a) Thatched
b) Zinc sheet	b) Zinc sheet
c) Stone	c) Stone
d) Concrete	d) Concrete

31. Condition of Toilet:

Before Organic Coffee Farming	At Present
a) Open	a) Open
b) Simple	b) Simple
c) Modern	c) Modern

32. Condition of drinking water:

Before Organic Coffee Farming	At Present
a) River	a) River
b) Ground water / Mul	b) Ground water
c) Kuwa	c) Kuwa
d) Tap in house/ Tole	d) Tap in house/ Tole

33. If you got illness, where do yo go?

Before Five Year	At Present
a) Dhami Jhankri	a) Dhami Jhankri
b) Traditional Medicine	b) Traditional Medicine
c) Hospital	c) Hospital

34. What kind of irrigation system do you apply?

Before Five Year	At Present
a) Pipe	a) Pipe
b) Plastic Pokhari	b) Plastic Pokhari
c) Rain Water	c) Rain Water

35. Have you some suggestion, recommendation and view about coffee cultivation?

.....
.....
.....
.....