

# CHAPTER I

## INTRODUCTION

### 1.1 Background

Nepal is an enormous agricultural country. In Nepal 80 percent of the total population depends on agriculture for their livelihood. (C.B.S. 2001). Agriculture is the largest sector and the pillar and backbone of Nepalese economy. Agriculture contributes of 40.19% its GDP on economy out of the total land about 20 percent cultivated (MOA 1998/99).

Nepal is divided into three ecological Zones mountain, Hill, and Terai . Mountain region covers about 7 percent of agricultural land, Hill region covers 40 and Terai region 53 percent of agricultural land (NSC, 1991). More than 90 percent of Nepalese population lives in rural area of Nepal (C.B.S 1995). The over all man land ratio is 5.7 persons per hectare (C.B.S, 2001)

Roman farmer verro (Jha:2000) described in first century B.C, "Agriculture is a science which teaches us what crops should be planted in each kind of soil and what operation are to be carried on in order to that the land may produce the highest yield in perpetuity . "The term "Agriculture" has been derived from Latin words "agor" meaning land or field and "culture" which means cultivation i.e. The science and art of producing crops and livestock for economic purpose.

The primary aim of agriculture is to cause the land to produce more abundantly and at the same time to protect it from deterioration and misuse. (Jager 2004). The diverse branches of modern agriculture, include agronomy, horticulture, economic entomology, animal husbandry, dairying, agricultural, engineering, soil chemistry and agricultural economics.

Early people dependent for their survival on hunting, fishing and food gathering. To this day some groups still pursue this simple way of life and others have continued as roving herders. However, as various groups of people undertook deliberate cultivation of wild plants and domestication of wild animals, agriculture came into being. Cultivation of crops notably grains such

as wheat, rice, corn, ryes barley and millet encouraged settlement of stable farm communities, some of which grew to be towns and city-states in various parts of the world. Early agricultural implements the digging stick, the hoe, the scythe, and the plow- developed slowly over, the centuries, each innovation (eg. the introduction of Iron) causing profound changes in humans life (www farming cook)

To appreciate the conditions of prehistoric agriculture we must seek information from the period of Neolithic industry. Dr Herr whose work on this question deserves every confidence has established the fact, that the inhabitants of the lake villages harvested hazel-nuts, sloes, strawberries, apples, water caltrop. beech-nuts, acorns and grapes as food either for themselves or for their herds and New-wailer recently drew up a list of nearly 120 different sorts of prehistoric fruits without including cereals such as rye, barley wheat and oats, which about in the pill-dwellings either in grain or ear. ( Morgan: 1990).

According to ember and ember (2000), the line between food collecting and food producing occurs when people begin to plant crops and to keep and breed animals. The grain of wild barley and wheat has a tough shell protecting the seed from premature exposure, where as domesticated grain has a brittle shell that can be easily separated which facilities preparing the seed for grinding into flour.

There is considerable evidence that the cultivated plants were not distributed uniformly throughout the world. Even today certain areas show far greater diversity than others in the form of certain cultivated crops and their wild relatives crop plants evolved from wild species in the area showing diversity and termed them as primary centers of origin. Later, crops moved to other areas primarily due to activities of man these areas generally lack the richness in variation found in the primary centers of origin.

But in some areas certain crop species show considerable diversity of form although they did not originate there. Such areas are known as secondary centers of origin of these species. The centers of origin are also called the centers of diversity. There are eight main centers of origin as proposed china,

Hindustan central Asia minor Mediterranean Abyssinia central America and south America (Vyas: 2004)

Agriculture is the main occupation and basis of livelihood of rural people. Fruit production is an important branch of agricultural occupation which fulfills the need of households as well as it can be considered as a source of income different kinds of fruits are the source the sources of carbohydrate vitamins and minerals. These diets help us to protect from different kinds of disease and provide energy. So nowadays consumers are attracted to consume fruit rather than those foods which are the source of fat and carbohydrate. 68 percent of the total area in Nepal is covered by mountainous region (Sharma: 2060, P.163). Because of the steeper land in mountainous region, a fruit crop is suitable rather than cultivation of corn crops. Among fruit crops, orange production is a major job and source of income in hilly area. By this soil erosion and landslide can also be controlled (Khanal: 2008).

Agriculture is a primary sector of the economy in developing countries like Nepal. It provides foodstuff and raw materials to agro-based industries. It helps to increase national income through commercial fruit farming, poultry farming and livestock keeping and large quality of cereal production. It also provides employment directly and indirectly. Orange is one of the most important agro-based commercial products not only in Nepal but all over the world.

Citrus is one the most important fruit crops of Nepal covers about 25% of the area under fruit cultivation (Subedi and Pandey: 2005). Sweet orange is one of the most important and highly commercial fruit crops of world and Nepal also. It is widely cultivated in the hills area ranges from 600-1400m as in eastern to western Nepal . (Shrestha and Pandey: 2062)

Some facts are given below about the evolve of orange (Hamal : 2001).

- ) Evolve 30 million year ago of orange breed.
- ) Explain before 4000 year BC in Chinese myth about of orange
- ) Also get to evolve more place of hill area of south east Asia of orange.

- ) Belief expanded to evolve from east India and South China to Mediterranean's ocean region, Europe and America.
- ) Found to expand of range Roman monarch in Europe and Spanish monarch in America.
- ) In international market we found to over exchange of orange than other fruits.

### **Context of World**

- ) Do orange farming 140 country of the world beside some north hemisphere country.
- ) Total production of orange ,one third part go to purity in the industry where as 80% orange use to make fresh juice.
- ) Total production of the world is 1.5 billion m. tons more than production are countries wise similar i.e U.S.A. Brazil, Spain, Mexico Italy, India, Japan, Argentine, Israyal, China, South Africa, Australia, Newziland etc.
- ) Florida state of America and Sanpablo state of Bragil 85% juice market are to cover in the world (orange)
- ) Now a days juice market enhancement starts to covers better place orange productions of China.

### **Context of Nepal**

History of orange was old in Nepal many years ago orange cultivates in east hill areas. Citrus (orange) covered the important place aspect of area and production in Nepal. Every year farmers have been attraction to grow of orange farming. It is clear from the following data given below.

**Table no 1.**

Economic plantation area, productive area, production and increasing rate of productivity citrus.

Year	Plantation area (Ha.)	Production area (Ha.)	Production (Ton.)	Production per/ton
052/53	15244	8977	88635	9/87
053/54	15924	9330	92994	9/97
054/55	17026	10034	100352	10/00
055/56	18007	10592	107250	10/13
056/57	19018	11277	116037	10/20
057/58	20673	11892	121665	10/23
058/59	22423	12615	130928	10/38
059/60	23663	13312	129110	10/45
060/61	24799	13931	146010	10/62
061/62	25909154	14605.98	156283.9	10.70
062/63	26686.76	15206.00	164074.68	10.79

Source : Annual report (063/64) DADO Syangja.

Above table 1.1 become to demonstrate every year increasing rate of plantation area, production area, production and per hector production. In 052/53 year become production 9.87 per h/ton similar increasing 10.79 per H/ton was production in 062/63 year.

Mid hill area of country is the important area for commercial production of orange juice, it has to identify, 37 mid hill district of Nepal, it has very suitable agro-climatic condition for the cultivation of orange, Nepal is the very low production (10.7 per H/ton) as compared to developed countries (30/60 per h/ton). (anomy 2001) LAP is to implement mid hill area of Nepal. It is to make commercial and income led to the orange farming. It is to support in rural employment and growth lifestyle of farmers.

**Table 1.2**  
Lunched LAP

Citrus Fruits 37 district	<p># Eastern development Region: Dhankuta, Bhojpur, Terathum, Sankhuwasbha, Udehayapur, Ilam, Khotang, Solukhumbu, Okhandhunga, Pachthar, Taplung.</p> <p># Central Development Region: Sindhuli, Rameshap, Dhading, Dalakha, Kavre, Sindhuplanchok,</p>
Special Programs of Commercial Pocket Package	<p># Western Development Region : - Gorkha, Tanahun, Lamjung, <b>Syangja</b>, Kaski, Parbat, Baglung, Arghakhachi, Gulmi, Palpa, Maygdi.</p> <p># Mid Western Development Region: Dailekh, salyan, Rukhum, Rolpa, Pyuthan.</p> <p># Far Western Development Region : Doti, Achham, Dadeldhura, Baitadi.</p>

Source : Agriculture Plan Report (2001) DADO. Syangja.

Syangja district is the pocket area of orange farming. So that farmers have attracted toward orange farming. The following data given below prove it

**Table: 3**

Plantation area, and increasing rate of productively.

Year	Plantation Area	Production M. Ton
2059/60	1060	7352
062/063	1263	9610
063/064	1263	10324

Source: Annual report of orange (2063/064) DADO, Syangja.

Sixty V.D.C. and two municipalities are in the Syangja district. Thuladihi is the most important VDC for orange farming. It has very suitable climate and height for orange farming. So that farmers are enthusiastic in cultivation orange production.

Rural development involves raising the socio-economic status of the rural populations on a sustainable basis through optimum utilization of local resources, both natural and human. While external help is necessary and appreciated, rural development can be achieved only when the rural people actively participate in the development process.

Rural development has been receiving increasing attention of the governments across the world. In the Nepali, context rural development assures special significance for two important reasons. First, about 86% of the population still lives in villages (C.B.S 2001) and there can not be any progress so long as rural areas remain backward. Second, the backwardness of the rural sector would be a major impediment to the overall progress of the economy. The industrial sector can not think of sufficient demand for its products so long as the rural incomes are low.

Rural development remains an uphill task due to the complexity of problem existing in the rural sector. The rural sector requires a multi-dimensional approach to reach cost effective solution to these problems.

The Rural areas suffer from poor infrastructural facilities. The villages are yet to emerge as the main centers of production activity. The productivity is to produce goods in urban areas, even to meet the basic needs of rural

consumers. This apart, the rural populations requires not one but a few inputs and services. These have to be provided at the right time and in the right sequence. (DR I.S.S. 2002). This demands the right kind of co-ordination amongst agencies extending help to the rural sectors.

It has been rightly pointed out that a purely agricultural country remains backward even in respect of agriculture. Much of the labour force in Nepal depends on agriculture, not because it is remunerative but because there are no alternative employment opportunities. This is a major cause for the backwardness reportedly seen Nepali agricultural section. We must opt for a type of rural industrialization which extends full support to the agricultural sector. A part of the labour force now engaged in agriculture needs to be shifted to non-agricultural occupation.

The new agricultural technology is responsible for the present comfortable food grain positions. But the Green Revolution too has created some problems. Moreover, the first phase of the revolutions is said to have reached the saturations point. Agricultural scientists are laying stress on its second phase which alone can give the real boost needed for Nepal's agriculture sector. Irrigation has emerged as a crucial input contributing to success of the revolution. The farmers no doubt require price incentives, but their problems can be solved only when there is a steady increase in agricultural productivity. Technology should be cost-effective and give good financial returns to the farming community.

## **1.2 Statement of the problems**

Nepal is one of the poorest agricultural countries. Total cultivable land is estimated about 18% of total area. Agriculture is main occupations and basis of livelihood of people. So living standards of rural people are low. It is backbone of Nepalese economy about 40 percent of GDP occur from the agricultural sector. More than 80% people depend on agriculture (NPC, 2001).

Now a days farmers are interested to grow money oriented crops, vegetables, fruits and live stocks with development of transportation, farmers



are able to carry their agricultural products to the market easily. There is very low level of technology in Nepalese agriculture system. So living standard of Nepalese farmers is low. The change brought by the application of modern tools and technique on farmer's socio-economic status. And also change brought by the cultivating cash crops. The fruits farming have the most important crops for brought the change of rural living standard. Other problems are to identify the role of orange crops in income generation and poverty reduction.

Therefore this study has mainly focused to find the answer the following research question.

- i. Why are the farmers interesting towards orange farming?
- ii. Has the orange farming helped in improving the living standard of the study area?
- iii. Has it helped in the rural development of orange farming?
- iv. What are the major activities of local farmer for oranges farming?
- v. Has it the increased socio-economic status of farmers?
- vi. How much did the orange farmer find the help from the GO's & NGO's?
- vii. Why are not the respondents' hopeful developments in orange farming?
- viii. What are the obstacles of farmers for orange farming?

### **1.3 Objectives of the Study**

The broad objective of this study was contribution of orange farming on rural development of Thuladihi VDC and it's perpherri

The specific objectives of this study were as follows.

- ) To find out the major causes behind the attraction towards orange farming.
- ) To find out how can the orange farming help in rural education, employment, income, living standard.
- ) To analyze the function and condition of orange farming.

## 1.4 Basic Assumption

The following points are the basic assumptions of this study.

- i. The study area of the farmers have attracted with the orange farming.
- ii. Orange farming has contributed different sector of R.D.
- iii. Orange farming has linked different city market and country to the study area.
- iv. The study area has the suitable both environment and height for the orange farming.

## 1.5 Conceptual Framework

Conceptual Frame Work is a conceptual design of researcher to conduct the study and to get the answer of the research question.

Fig: 1.1. Concept of Farmers Tasks, orange production and contribution R.D

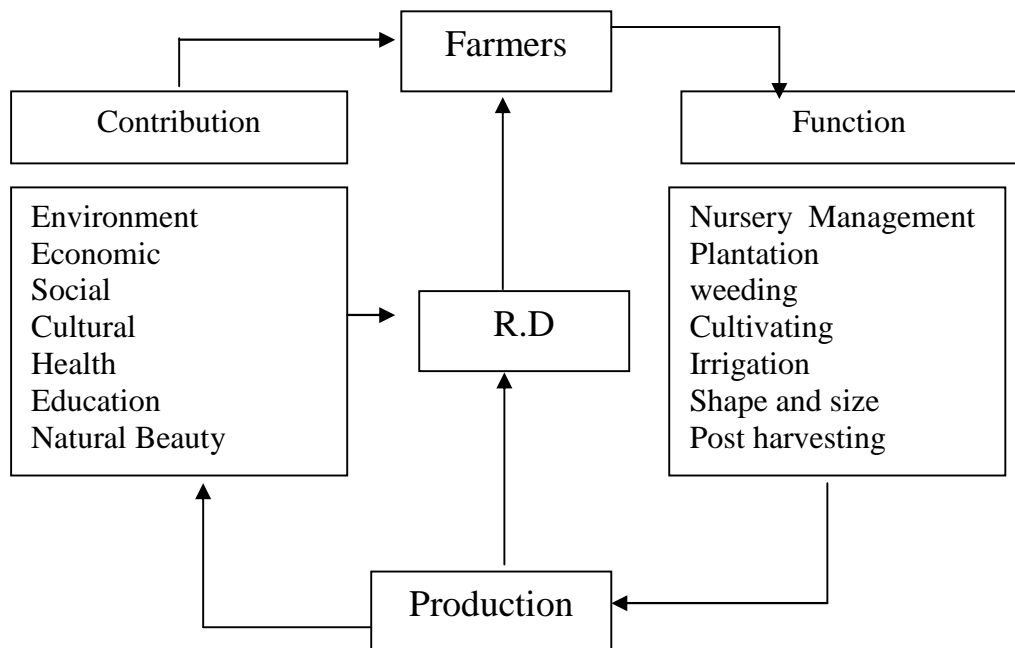
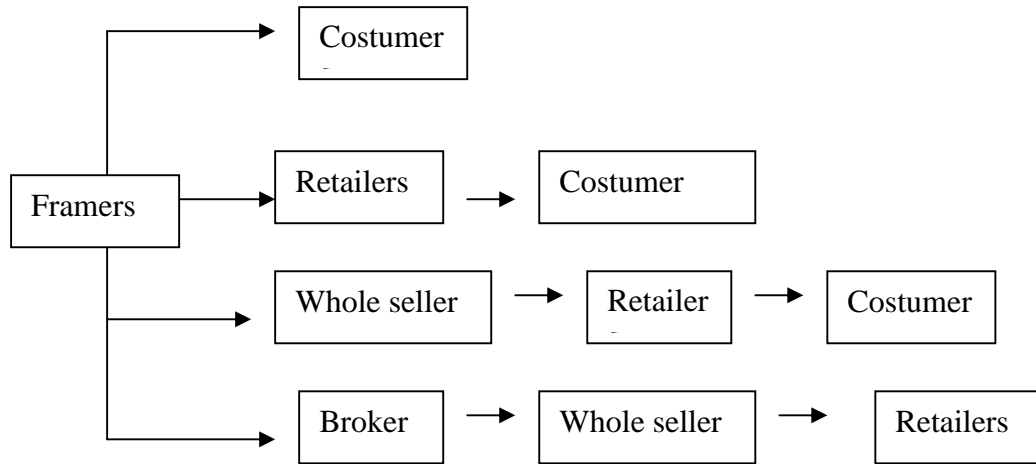


Fig. 1.1 deals with the concept of farmer function, production contribution of R.D. Farmers do various function for orange production. The production of orange to contribution the different sectors i.e. Environment,

economic, social, cultural, health, education, natural beauty. The contribution of different sector to be rural development.

**Figure 1.2 Level of Exchange System**



**Fig 1.3 level of market**

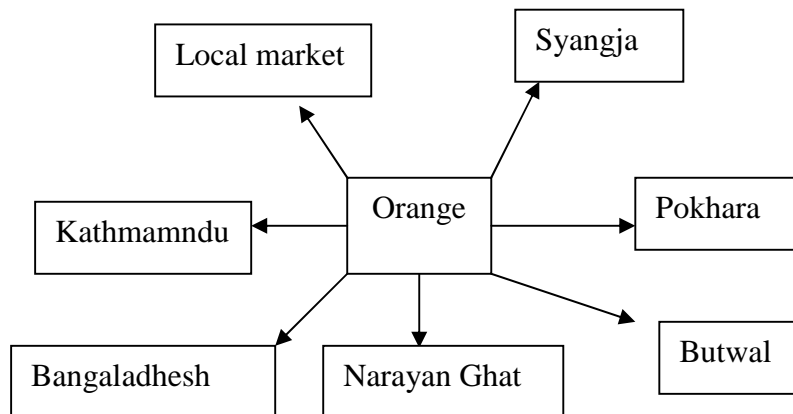


Fig 1.2 deals with level of exchange system . Some products of the farmers are directly sold to the consumers, some products are sold from the retailer to the costumers. Some farmers use 3<sup>rd</sup> level of exchange system and the large amount of product of farmers use forth level of exchange system. From fig 1.2 shows the farmers to reduce level of exchange system to get more profit. Fig 1.3 deals with the marketing channels from the figure it is clear that oranges have linked different place, city & country.

## **1.6 Significant of the Study**

Agriculture is major source of Nepalese economy. This study is related with fruits production with help of rural livelihood as well as it is an academic study. There fore this study has some significance . In this way the importance are as fallows:-

- ) This study is useful for those who study related subject matter and it is significant to do further study.
- ) Specially it is important to people of the study area.
- ) It is a help to the GO's, NGO's and INGO's to work related field.
- ) It's significance is related to Agriculture and fruit office & organizations.
- ) The finding of the study may provide some information to reader researcher, planner & policy maters.

## **1.7 Organization of the Study**

This thesis consists of eight chapters. The first chapter deals about the general introduction of the study. It consists of nine sub-chapters, background, statements of the problems, objectives of the study, basic assumptions significant of the study, conceptual framework. Organization of the study, delimitations of the study, definition of term. The second chapter presents the theoretical overview and review of related literature. The third chapter includes the research method. It contains selection of study areas, research design, Universe and sampling, nature and source of data, description of tool and data analysis and presentation. Fourth chapter presents introduction of study area and general information of the respondent. Likewise, chapter fifth presents reason of attraction towards orange farming. Sixth chapter deals with how can the orange farming help in rural education, income and living standard, chapter seven presents the function for orange farming of the respondent. Similarly the last chapter includes the summary, findings, conclusion and recommendations of the study.

## 1.8 Delimitations of the Study

Every study has to remain some boundaries and limits. Therefore in this study has also some limits and boundaries. These are following below.

- This study has been bounded only orange farmers of Thuladihi VDC of Syangja district.
- Sample population of the study is small. So the finding of the study may not be generalized in the context of whole country's orange farmers.
- The information collected from respondents depends upon respondents nature and attitude.
- Basically, this is an academic study, which is going to submitted for master's degree in sociology/ Anthropology.
- It is not applied study it only focuses on theoretical objective.
- The researcher, being student, financial factor, short period of time and other factor have also made this study limited.

## 1.9 Definition of Terms

### **Orange farming (Citrus Sinensis):**

Orange (*Citrus sine sis*) is grown under both subtropical and tropical conditions. Dray and arid conditions, coupled with distinct summer and winter having low rainfall are most favorable to the growth of the sweet orange. Rainfall seems to be unimportant if irrigations is provided but atmospheric humidity exerts a great influence.

The orange farming can be grown on a wide range of soils from clays to very light sands, with ph ranging from 6.0 to 8.0. The tree is particularly sensitive to high concentrations of salts and can not stand water logging.

**Fruit Crop:** Fruit crops culture requires more careful planning than field crop cultivation. Most of the fruit start yielding only after a few years from their establishment and remain on the site for many years. It is therefore necessary to be very careful in selecting the site in preparing the land in selecting the planting material.

**Farming:-** Farming is the business of working or managing a farm to grow crops or keep animals. In this study farming refers only soil farming

**Commercial Farming:** The production of crops for sale and profit, although the farmers and their families may be reinvested to improve the farm large - scale commercial farming is called agribusiness.

**Horticulture:-** Horticulture is the art study or practice of growing flower, fruit and vegetables.

## CHAPTER II

### LITERATURE REVIEW

Literature review is an important process of research work. The main objective of the literature review is to bridging the gap between the existing problems (research) and past research work in subject matter.

In this chapter discusses the related literature available on different aspects of orange production and farming on R.D. This chapter deals with related theoretical overview.

#### **2.1 Theoretical Concept**

##### **2.1.1 Theoretical Overview on World System Theory**

Among development theories of SOAN world system is popular. World system theory basically emphasizes economic linkage among various places and countries and gives analytical perspective on global economy. It is also known as neo-Marxism theory, Immanuel Wallerstein and other social scientist developed this theory in 1970. He defines it as" A system that has boundaries (political, social and economic), structure, member, groups, rules of legitimating and coherence. Its life is made up of conflicting forces which hold it together by tension, tear it a part as each group seeks to remold, it to its advantage." World system theory is a holistic approach to understand social change and development dynamics based on unequal distribution of wealth.

According to this theory a world empire is based on political military domination, whereas a capitalist world economy rule on economic domination. (Ritzier: 1996) Wallerstein identifies the following three categories in the world. The core, the semi periphery and periphery which explain now core countries (developed) exploit peripheral countries (developing and less developed) for economic advantage. The core countries always exports extensive goods and import cheap labor from peripheral countries and dominate over world market through capitalism. In peripheral countries

development is blocked by the competition of the more advanced industries of the center (core).

Thus world system analysis is a holistic (political , economic and cultural) approach to understand social change and development as governed by a world economic system rather than national dynamics based on unequal world division of labor where core states exploit peripheral area. This theory is multilevel and can be applied equally to the large and small scale.

By this theoretical perspective, the orange connected to the production area with various city and country. The orange production area economically depends with the core city. Crude things carrying from the remote area and return refined things to the core city and coming. This study is related from this theoretical views.

### **2.1.2 Theoretical Overview on Human Ecology**

Human Ecology in general is the study of relationship between human beings and their environment in different cultural context. It investigates how human beings interact with specific natural environment through their culture and social organization. Human ecological studies enable us to understand human life and activity in different ecosystems and culture not only in the present but also in the past. This leads to a better understanding of the factored influencing human environmental interaction. Anthropologists make use of Human beings with their environmental components including cultural organizations and patterns originated in the course of this interaction.

### **2.1.3 Cultural Ecology**

As studies of human environment interaction started getting serious attention in 1950's American anthropologist J. Steward proposed the concept of cultural ecology. It can be define as the interaction analysis of environment cultural relationship. It centrally focuses on how cultures are adopted to the environment.

This concept became very popular and significant guideline till's 1970's. Many anthropologists used it to study human environment interaction in



different settings. For example American anthropologist Clifford Geertz (1968) applied this concept to explain the great demographic disparity that existed between Java and the outer Island of Indonesia. Another American anthropologist Marvin Hairs (1966) used it to study about India's 'sacred cattle' and In 1970's A.P. Vedy and R.A. Rapp used and developed ecosystem based model.

In my opinion this study area's people become with the environment to do orange farming. The farming has made the culture of this area to do interaction with the environment.

#### **2.1.4 Agro - Ecological System**

Environment and agriculture are interdependent though there are too many variables which affect their relationship (Achary:1992). Environment and agriculture have intricate relation and modern agricultural activities have produced several undesirable environmental impacts at local as well as global levels (Jha: 2000)

Climate is one of the basic components of any agro-ecosystem. Potentiality of an area for the development of agriculture in sustainable way to a large extent is determined by its agro climatic congenial condition. Any given climate provides congenial condition and at the same time may act as limiting factor for cultivation of certain plant/animal species Agriculture in Nepal is weather dependent and go hand in hand with the variations in the climatic conditions. This is obvious from the variations in crops, cropping system and patterns in different parts of the country. For example the warm and sub humid conditions of the Terai favor cultivation of three crops in a year whereas the cold and dry climate in the high attitude areas allow only one crop in a year.

Rainfall and temperature are main components of the climate that govern farming of almost all agriculture crop and animals species (Dahal 2000). Agro-ecological system can be characterized using data on physical factors cropping systems, culture technology market options and information linkages (Lunberg : 2000).

### **2.1.5 Orange a Commercial Horticultural Production**

Horticultural development is most agriculture development because commercial markets are required before production can be considered. As an example by initial supply demand analysis and estimation of marketing potential, citrus (Orange) fruits may appear to be a viable crop capable of bringing significant returns to the farmer in a particular planning unit. (Carson : 2000)

Orange is one of the most important and highly commercial horticultural production. In the 16<sup>th</sup> and 17<sup>th</sup> century horticulture was greatly develop and contributed to the so-called agricultural revolution. Explorations and intercontinental trade as well as, scientific investigation led to the development of horticulture knowledge of various crops and the exchange of farming method and product (www. farming co.uk).

By flagging the subtropical zone pockets within a one day walls of the road head, the land areas most suited for citrus (orange) production were then indicated. An initial estimate of potential horticultural land for developing target areas can thus be made (B. Carson, 2000).

### **2.1.6 Orange as a high- Value crops**

App priorities:

The APP has proposed a limited number of priorities.

1. priorities Inputs:- It categorically limits to only four inputs and they are as follows.
  - Fertilizes
  - Irrigation
  - Roads and power
  - Technology
2. Priority outputs:- APP categorically limits itself to these four major outputs.
  - Lives lock
  - High value crops
  - Agribusiness
  - Forestry

**High value crops:-** The hills and mountains of Nepal have comparative advantages for fruits and vegetable production. The income from high value crops is expected to triple. The annual growth rates of these crops will accelerate from 4.8 to 5.7 percent with focus on export their growth rates are likely to go even higher.

It is ironic that Nepal imports 67 percent of its vegetable consumption and 85 percent of its fruits consumption.

This is largely due to underdevelopment of marketing for Nepalese products rather than the lack of high value commodities and this has a favorable environmental impact commodity priorities: Nepal has diversified climatic conditions and natural resource base to produce a wide variety of high value crops at low cost. However in view of limited capacities in the fields of research extension market development and support services, it is decided to restrict the number of commodities. They are-

- i) Citrus :- Throughout the Mid Hills
- ii) Apple:- in the Inner Himalayan Zone.
- iii) Off Season Vegetables :- In the hills and Terai.
- iv) Vegetable and Flower Seed :- in the hills and mountains
- v) Bee Keeping:- In the hills and mountain.
- vi) Raw Silk:- in the hills.

This is the current priorities but the decisions can be gradually modified overtime as changing comparative advantages reduces the potential of some commodities and increases that of others. In the final analysis the market must determine their priorities.

### **2.2.1 Rural Development**

Rural development is a strategy to enable a specific group of people poor rural women & man to gain for themselves & their children more of what they want & need. It involves helping the poorest among those who seek livelihood in the rural areas to demand & control more of the benefits of development. The groups include small scale farmers tenants & landless.

Robert Chambers

In general, Rural development is conceived as a strategy designed to improve the socio-economic life of rural poor. As such, it involves extending the benefits of development to the poorest in rural areas e.g. small farmer tenants, landless other disadvantaged groups.

World Bank, 1975

Rural development would essentially mean desired positive change in the rural areas both quantitatively & qualitatively. It also means development of rural areas with the frame work of national goals & objectives within prejudice to the development of urban areas of the county.

-Mirsa & Sunduram, 1979 P.4

Rural development is a concept for planning & executing change in rural areas. It requires all natural technical economic & institutional relationship & then changes over time to be taken into account & combined in such a way so as to serve the well being & social into gratin of rural flak.

-FAO. 1975 P. 4

Rural development as process aimed at imparting the well being & self retaliation of people living outside the urbanized areas through collective efforts the farther contends that the ultimate target of rural development is people & not intra structure. The objective widen people's range of choices.

- Copp (1972)

Rural development is improving living standards of the mass of the low income population residing in rural areas & making the processes of their development self sustaining. The self sustaining requires productive agriculture mass participates & change in administrative set up.

-Uma Lale (1974)

Rural development would include the development of small & medium size lowers locates in the rural areas in an integrated manner so as to achieve a symbiotic relationship between urban & rural settlement

-Pathak (1986)

### **2.2.2 Contribution on Related Subject Matter**

The study of Paneru (1998) discuss the 'Production and marketing of orange' in Ashrang VDC of Gorkha District. This study has pointed the

problems of irrigation and disease as the constraints on production. Also unreliable transportation system and lack of fastest means of communication are the major constraints on marketing. This study has suggest to the producers to be sensitive towards market pice of orange and building unity to sell the product in a good price. It has suggested to the 'Orange Development committee' to fix the price of the product before haves ting and advertise the Gorkha orange. It shows the importance of black topped roads joining Ashrng VDC to the major markets, natural cold storage, Loan facility for production purpose and marketing activity.

The study of Paudel (2050) of the village profile of Bharatpokhari VDC in Kaski district describes about the orange farming in this VDC. It has pointed out the existing problems on orange farming in the study area lacks of technical knowledge of the farmer, lack of irrigation facility, lack of capital transportation problems are the major problems in the study area. It has noted that technical service, diagnosis and treatment of the plant, management of irrigation facility and government support are the measures to increase in production of orange. This study has suggested that loan facility for the long period (ten years) is essential for systematic development of orange farming. Agriculture rural exhibition, seminar, tour, revolving training are also essential to encourage and empowerment to the farmers.

Adhikari (19920) explained about the marketing system of citrus fruit in Bhojpur district. It has noted that existing marketing system at the farm lived in Bhojpur district was not organized yet. The study has explained the importance of farmers organization to reasonable price of their product. Although many supporting instructions have been engaged to promote orange farming in the district but their efficiencies and effectiveness have been captured by the insufficient agricultural credit facilities and poorly organized extension programmed. Similarly the study of Chapagin, (1987) on the orange marketing in Bhojpur the researcher has tried to link the problem of migration rural unemployment and food scarcity to the low productivity of land in the hilly region. This study has suggested for the sufficient fruit production and efficient

marketing in mountain region in order to get rid of these problems. It has emphasized on proper system of pricing distribution, storage and consumption of citrus. It has suggested managing physical infrastructure for agro product, systematic market channels supporting price to the producers for revolutionary change in agriculture sector.

The research made by APROSCUS (1989) found that the national policy of citrus development programmed may not be succeed because of the poor performance at suppurating instituting related to the citrus development programmed. It has suggested that citrus production can help to enhance the economic and ecological benefits. If emphasized on effective rate of government.

The annual report prepared by HMG/SFAMS (1976) focused on production cost, production trend and exciting market channels of major fruits like orange, Lemon, lime, banana and papaya in Kaski and Syangja districts. It has discussed only about favorable climate, suitability of soil availability of natural resources like water for the fruit cultivation. Its main focus was on the development of agro-forestry through orange farming in these districts. It has also pointed out the appropriation of cities farming in neighbor's districts like Tanahun, Lamjung, Parbat and Gorkha.

Another research about mandarin orange was done by New ERA (1989) in Dailekh. This research has pointed out the lack of organized marketing system. However it acknowledges the efforts of Non- Government organization (NGOS) and INGOS) to improve marketing system. If has recommended that the producer of mandarin orange should get input of time. Processing industry should be established at farm level. Irrigation facility as well as transportation facility should be increased.

The study of Shrestha (1995) discussed the production situation of mandarin orange in Bunkot VDC of Gorkha District. This paper has listed six reasons for the prospects of the expansion of fruit farming in Gorkha district. Market expansion and increase in the demand of fruits, greater profit than other alternative crops, easy to grow, construction of link road to the district

headquarter, low cost of production and domestic consumption for nutrition. In the locality the paper identified three social factors such as area covered, the number of households involved and farmers, willingness and five economic factors such as productivity, marketed fraction of product, local price of selling, flow of income and benefit potentiality as leading indicators.

The study of Upadhyay (1979) attempted to analyze the supply and demand situation of fruits in various seasons. It indicated that there is fruit surplus in peak harvestings seasons and shortage in the off seasons in Nepal. For this condition the study has suggested to have natural as well as modern cold storage in the production area. Further more, it indicates that migration from hill to urban and Terai, Terai to city have caused imbalance in market demand and supply of agricultural product. The study has suggested taking measures to reduce out migration from the rural areas. As a corrective measure, it suggested intensification in the cultivation of fruit like orange in the hilly regions.

## CHAPTER III

### RESEARCH METHODS

This chapter deals with the various research methods where I apply various method to fulfill the research objectives. This chapter include sub headings such as: Selection of study area, research design, nature and source of data, description of tools data analysis and presentation.

#### **3.1 Selection of Study Area**

The area of this study was Thuladihi VCD of Syangja district. It is located about five km away from the district headquarter towards the eastern part of the district. In this area orange farming has been good situation as well study and research about orange farming that may be main income source in the area of rural people. I am fully introduced in this study area. Therefore I selected this area.

#### **3.2 Research Design**

This study aimed to contribute of orange farming on RD of Thuladihi VDC of Syangja district. The source of information identified from the local farmer's knowledge and production about the orange farming.

This study has been used the exploratory and descriptive research design. The exploratory research design has been used to explore the contribution of orange farming on Rd and also explain the economic and socio-cultural and education status of the study area. The descriptive research has been used to describe the conditions of orange farming and activities of farmers of study area.

#### **3.3 Universe and Sampling**

There are 741 households in Thuladihi VDC of Syangja distict (HH Survey: 2061). More than 4 hundred households are engaged in orange farming. But the universe of the study was 3 hundred 10 households in which



orange farming is done with the capacity of more than 50 plants of orange. 20% household has been selected as sample informants using simple random sampling procedure. All together 62 households have been selected from six wards which are 5,3,5,7,5 and 37 samples are selected from 1, 5, 6, 7, 8 and 9 wards respectively.

### **3.4 Nature and Source of Data**

More primary and a few secondary data have been collected to fulfill the objective of this study. The primary data collection is the rural orange farmers of Thuladihi VDC. The primary and secondary data collected, in this study are both qualitative and quantitative data. The primary data have been collected by applying research tool, interview schedule and case study. For the need of the study a few secondary data have been collected from various published and unpublished sources.

### **3.5 Description of Tools**

#### **3.5.1 Household Survey**

In the first step of this field work I have used household survey. It helped to know the total number of orange farming households in the VDC and also in rapport building. This technique helped to find out the total number of orange farmers and their orange garden size. In this method, the households within the universe were enumerated ward wise to select the sample.

#### **3.5.2 Observation**

This technique is used to some qualitative information for this study. This technique is used both non or participatory observation. The observation is focused the condition of house, lifestyle, condition of orange farming farmer. Observing, many time walking from village to village .

### **3.5.3 Interview schedule**

Interview technique was the most important method of this study. It was conducted to gather primary data on the contribution of orange farming in this study area. On the basis of the research objectives of this study, the interview schedule was prepared with both open and closed ended question list and pre-test. They can provide both qualitative and quantitative data.

### **3.5.4 Pretest of Interview Schedules**

The research tool, Interview schedule was first prepared (pilot survey) . The Pre- test was carried in Nehorobari village ward no 9 of Thuladihi VDC. On which was not sample selection. From that village 3 farmers were chosen to collect necessary data. The data from the pilot survey was analyzed by tabulation. That analysis helped to finalize the schedule. Some questions were added in the schedule and a few questions were removed to make the research more reliable and meet the objectives of this studies.

### **3.6 Data Analysis and Presentation**

Collected data from orange farmers have been analyzed both qualitatively as well as quantitatively. Quantifiable data have been analyzed by using computer soft ware program SPSS for windows. Simple statistical tools like frequency and percentage have been used to present. Likewise, Tabulations, Chart, Diagrams have been used.

The non-quantifiable, qualitative data have been managed manually and analyzed descriptively.

## CHAPTER IV

### INTRODUCTION OF THE STUDY SITE AND RESPONDENT

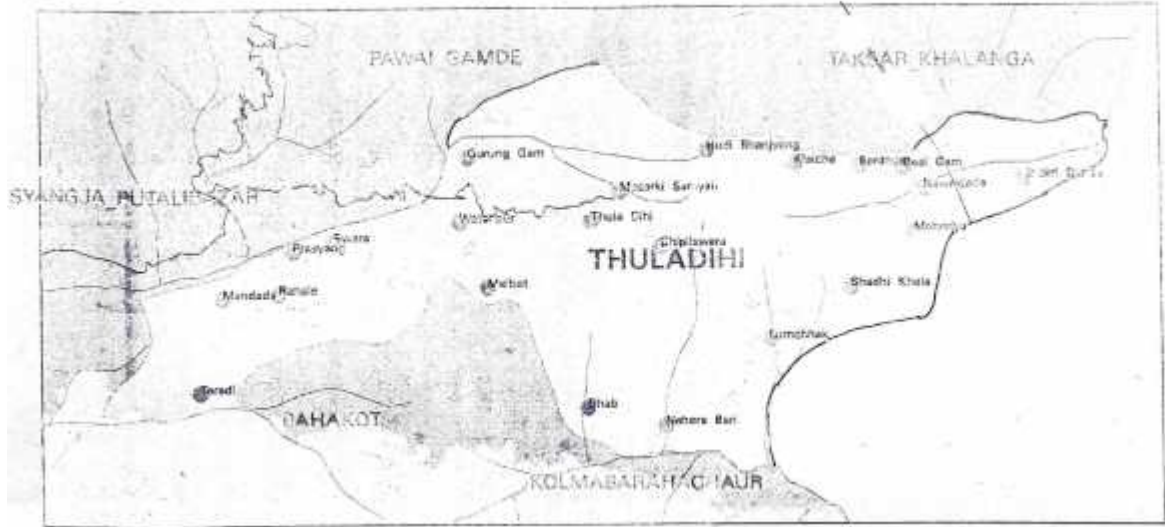
Brief introduction of study area in Thuladihi VDC of Syangja district and general information of the respondent have been the concentration of this chapter. Physical setting and cultural setting of study area have been discussed in first section. Similarly respondent's age, sex, ethnicity, religion, education and occupation have been discussed in second section of this chapter.

#### **4.1 Introduction of the Study Area**

##### **4.3.1 Physical Setting**

Syangja is basically a hilly district of Gandaki Zone. It lies between  $27^{\circ} 55''$  to  $28^{\circ} 13''$  north latitude and  $83^{\circ} 27''$  to  $84^{\circ} 6'$  east longitude. There are 60 VDC and 2 municipalities in Syangja district. Thuladihi is one of the VDC of Syangja district. It is 500 meters to 1600 meters high from the sea level. It is located 4 km north east part of district headquarter (Putalibazaar). Thuladihi VDC borders with Firfire VDC of Tahahun district and Taksar VDC of Syangja at eastern part and Putalibazaar, Municipality at western part, Paway Gaunde VDC and Taksar VDC at northern part and Bahakot and Kolma Barachaur VDC at southern part, covered 2912 hectares land (VDC survey 2061). Eastern part is wide and western part is narrow. It has totally hilly and sloppy land structure. The map of Syangja district and Thuladihi VDC showing study area is in fig 4.1.

# SYANGJA - Thuladihi VDC



Source: VDC, 2060)

Fig 4.1 Maps of Thuladihi VDC & Syangja District.

### 4.1.2 Cultural Setting

There is mixed community in this area. The total population in this VDC is 4938 according to VDC household survey 2060. This population include people from various castes ie. Brahmin, Chhetri, Magar, Gurung, Thakuri, Gharti, Jogi, Bhat, Damai, Kami, Sarki, Newar etc, From the religions point of view this VDC is inhabited by the people following different religions, such as much of the people Hinduism, some of the people Buddhims, little of the people Christianity. These people belonging to different castes and religions do have their own culture. All the people speak Nepali Language as well as some of them also speak Gurung and Magar language.

#### 4.1.2.1 Educational Background

Formal education in Thuladihi VDC was started in 2016 B.S. from the Rastiya lakuribot Pra.Vi. in Sourbot.

Now there is one higher secondary school, one lower secondary school, seven primary schools and one private secondary school and one private primary school. Literacy rate of Thuladihi VDC is 82.04 percent (Household Survey: 2060). Now circulate non-formal adult education programme is circulated to remove illiteracy.

Table 4.1 Education Status in the Study Area's Population

S.N	Level of education	Female	Male	Total
1	Illiterate	537	239	776
2	Primary	350	316	666
3	Lower secondary	157	158	315
4	Secondary	144	179	324
5	SLC	56	260	326
6	PCL	8	105	113
7	Bachelor	5	49	54
8	Master		13	13

Source : Household survey 2060 BS.

#### 4.1.2.2 Situation of Agriculture Sector.

The Agriculture is the main productive sector for livelihood in VDC. Most of the people are farmer in this VDC. This VDC agriculture product are as paddy, maize millet, wheat, mustard, soyabean and cash crops orange, mango, banana, potatoes and live stocks etc. The table below show the agriculture production.

**Table 4.2**  
Status of Agricultural Production

S.N	Agriculture statement	Production (qui.)	Percent
1	Paddy	818	12.01
2	Maize	1914	28.102
3	Mill ate	2113	31.02
4	Wheat	115	1.69
5	Potato	561	8.24
6	Mustard	23	0.34
7	Orange	665	9.76
8	green vegetable	545	8.0
9	Gedagudi	57	6.84

Source : VDC house hold survey (2060 BS).

## 4.2 General Information of the Respondents

### 4.2.1 Age Composition of Respondents

The distribution of respondent's age group by address is listed in

**Table 4.3**  
Table 4.3 Age group Composition of Respondent

S.N.	Age	Frequency	Percent
1	below 24	2	3.2
2	25-34	2	3.2
4	35-44	10	16.1
4	45-54	22	35.5
5	55-64	18	29.0
6	65 above	8	12.9
Total		62	100.0

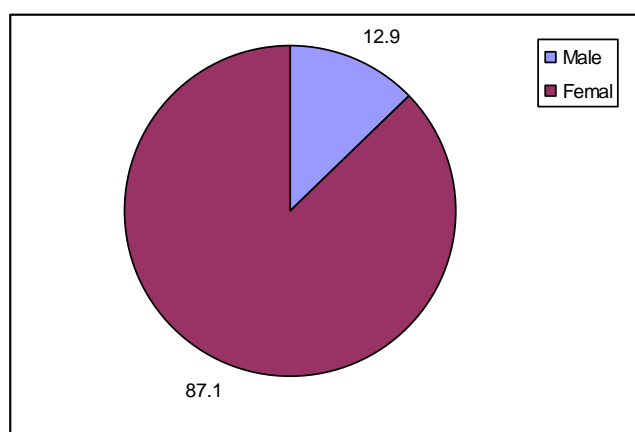
Source: Field Survey, 2009.

Above table clearly indices that 3.2 (2) percent of respondents were below 24 years old 3.2 (2) percent of respondents were 25-34 years old, 16.1 (10) percent respondents were 35-44 years old, 35.5(22) percent respondents were 45-44 years old, 29.0 (18) percent of respondents were 55-64years old and 12.9 percent of respondent were 65 above years old. This table shows that45-54 years old people involve in orange faming.

#### 4.2.2 Sex composition of Respondents

Majority of the respondent were males. The distribution of sex composition of Respondents is shown in figure 4.1

Fig 4.1 Sex Composition of Respondent



Source : Field Survey, 2009.

Figure 4.1 demonstrated that majority of the farmers were males 87 (57) percent involve in orange farming. And 12.9 (8) percent of respondents were female involving in orange farming.

#### 4.2.3 Religion Composition of Respondents

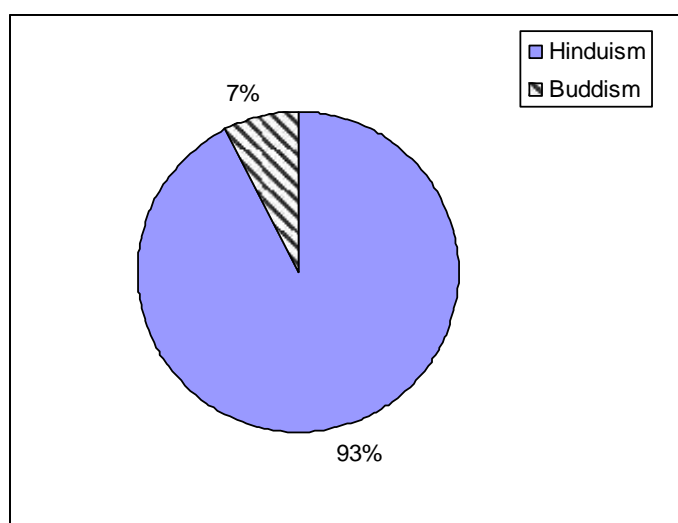
The high number of the respondents were Hindu. The distribution of respondents religion is shown in table 4.4 & figure 4.2

Table 4.4 Religion composition of Respondent

S.N.	Religion	Frequency	Percent
1	Hinduism	58	93.5
2	Buddism	4	7.5
Total		62	100.0

Source : Field Survey, 2009.

Fig 4.2 Religion composition Respondents



Source : Field Survey, 2009.

Table 4.4 and figure 4.2 demonstrates that most of the farmer's 93.5 (58) percent religion was Hinduism and 6.5(4) percent of the respondents followed Buddhism.

#### 4.2.4 Ethnic Composition of the Respondents

Farmers of multiple caste and ethnicity were found, it was due to mixed community. The distribution of farmers castes /ethnicity is shown in table 4.5 and figure 4.3.

**Table 4.5**

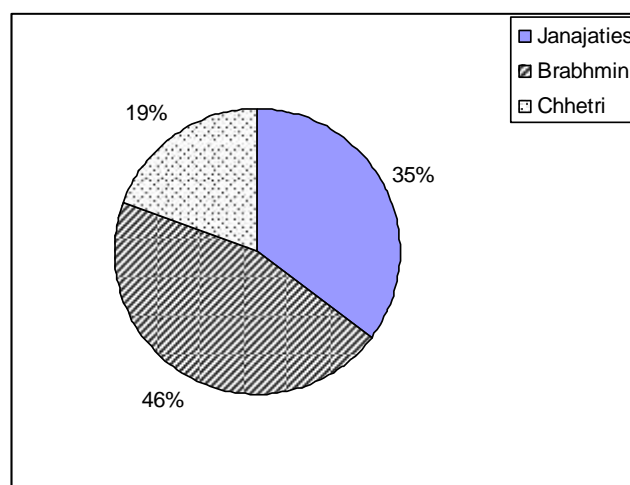
Ethnic Composition of Respondent

S.N.	Castle Ethnicity	Frequency	Percent
1	Janajatis	22	35.4
2	Brahamin	28	45.2
3	Chhetri	12	19.4
Total		62	100

Source : Field Survey, 2009.



Figure. 4.1 Ethnic Composition of Respondent



Source : Field Survey, 2009

Janajatis = Gurung & Magars

Chhetri = Takuri, Bhat, Chetri etc.

Above table & figure demonstrates that Janajatis were 35.4 percent Brahmin and Chhetri were 45.2 and 19.4 percent of respondent's respectively. It shows that Brahmins cultivated the orange farming more than other castes

#### 4.2.5 Education Composition of Respondent

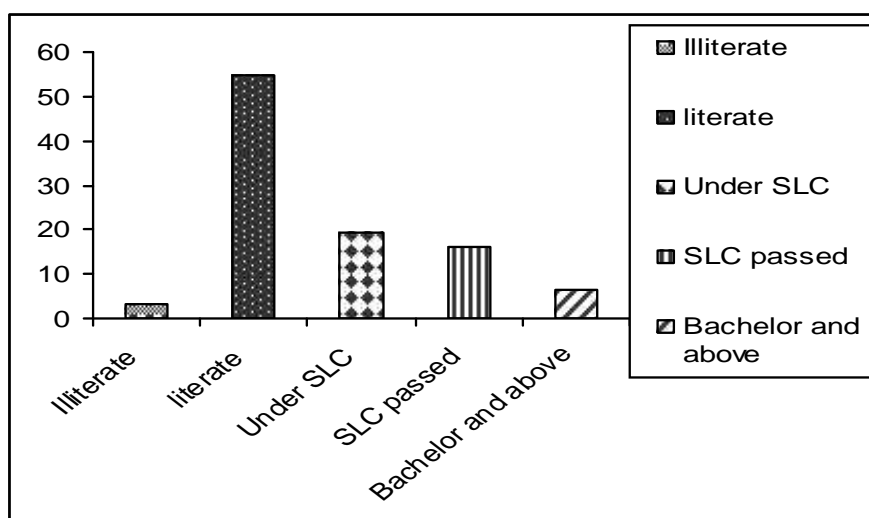
Education is the important ornament of the human. Role of education is main for living standard and agriculture. The education composition of respondents is demonstrated in the following table 4.6 and figure 4.4.

Table 4.6 Education Composition of Respondent

S.N.	Level	Frequency	Percent
1	Illiterate	2	3.2
2	Literate	34	54.8
3	Under SLC	12	19.4
4	SLC passed	10	16.1
5	Bachelor and above	4	6.5
Total		62	100.0

Source : Field Survey, 2009.

Fig; 4.4 Education composition of respondent



Source : Field Survey, 2009.

Table 4.6 and fig 4.4 reveals that most of the respondents were literate 54.8(34) percent in the study area. Only 3.2 (2) percent of respondents were Illiterate, 19.4 percent respondents were under SLC, 16.1(10) percent respondent were SLC passed and only 6.5 percent respondent were Bachelor and above passed in the study area.

#### 4.2.6 Infrastructures

There is the facility of health post office and drinking water. There is the facility of electricity in whole wards of this VDC. There is one higher secondary school for the study after finishing secondary level education. Some agricultural groups are working in this VDC expected by the farmers. There is facility of non- pitched road in VDC.

Sixty two respondents from six wards were chosen for this study. Five respondents were chosen from ward one, six, eight respectively, seven respondents were chosen from seven ward. Only three respondents were chosen from number five ward and thirty seven respondents were chosen from ward number nine.

## CHAPTER V

### ATTRACTION TOWARDS ORANGE FARMING

This chapter is focused on finding out the there's people are attracted towards orange framing, To show reason of attraction and condition of orange farming and time of orange farming is the aim of this chapter.

#### 5.1 Introduction of Orange Farming

In this study tried to show on overview of orange farming respondent in the study areas. Thus asked question to respondents when they began orange farming (in year). Respondents response is shown in table 5.1

Table 5.1 Year for Starting Orange Farming.

S.N.	Year	Frequency	Percent
1	2030	2	3.2
2	2036	8	12.9
3	2039	2	3.2
4	2040	14	22.6
5	2045	16	25.8
6	2048	2	3.2
7	2050	8	12.9
8	2051	6	9.7
9	2056	4	6.5
Total		62	100.0

Source: Field survey, 2009.

From table 5.1 it is clear that orange farming began from the 2030B.S. As we see in the above table 3.2 (2) percent of farmers started orange farming in 2030, 2039, 2048 B.S. respectively, 22.6 (14) percent of households started from the 2040 B.S. and high 25.8 (16) percent of respondents started from 2045 B.S. and 12.9 (8) percent of respondents started orange farming in 2036 and 2050 and 9.7(6) percent of respondent started orange farming in 2051 and 6.4(4) percent of respondent started in 2056.

## 5.2 Land Area Involve Under Orange Farm

Agriculture is the largest sector and the pillar and backbone of Nepalese economy. Orange farming is main income source of farmers of study area. We see land area of orange farm. The respondents land area of orange farm is demonstrated in table 5.2

Table 5.2 Land Area of Orange Farm.

S.N.	Area	Frequency	Percent
1	1-5 ropani	2	3.2
2	5-10 ropani	6	9.7
3	0-15 ropani	2	3.2
4	15-20 ropani	20	32.3
5	20-25 ropani	16	25.8
6	25-30 ropani	14	22.6
7	30 above	2	3.2
Total		62	100.0

Source : Field Survey, 2009.

As we see the table 5.2 the farmers cultivated orange farming in 1-30 above ropanes land. Most of the farmers 80.7 percent of respondents had 5-30 ropani land of orange farm. 3.2 percent of respondents cultivated 1-5, 10-15 and 30 above ropanes land respectively, 9.7 (6) percent of respondents cultivated 5-10 ropanes land of orange farm.

## 5.3 Plantation of Orange

The mid hills and mountains of Nepal have comparative advantages for fruits and vegetable production. The orange production must be main source production of the study area. The high number of orange plant proved that farmers were attraction to orange farming. This study focused a number of orange plant of respondent. The number of orange plant is demonstrated in Table 5-3.

**Table 5.3**  
Status of Orange Plant

S.N.	Number of Plant	Frequency	percent
1	50-100	10	16.13
2	100-150	13	20.97
3	150-200	12	19.35
4	200-250	12	19.35
5	250-300	10	16.13
6	300-above	5	8.06
Total		62	100.0

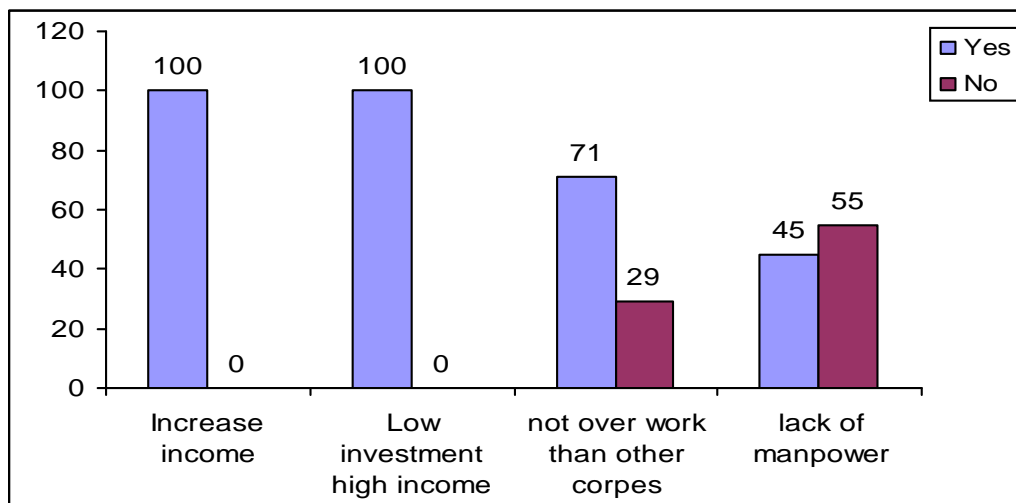
Source : Field Survey, 2009.

From table 5.3, 16.13 (10) percent of respondents have 50-100 and 250-300 plant of orange respectively. 20.97 (13) percent of farmers have 100-150 plant of orange. 19.35 (12) percent of respondents have 150-200 and 200-250 orange plant respectively and only 8.06 (5) percent of respondents have 300-above orange plant. Most of the farmers have 100-250 orange plant.

#### **5.4 Reason of Attraction Towards Orange Farming**

Thuladihi VDC of Syangja district is the important area for orange farming. It is Very suitable climate soil and height for orange farming. So most of the people involved on the orange farming. Some reasons of attraction towards orange farming are demonstrated in the following figure 5.4.

Fig 5.1 Some reason for attraction towards orange farming.



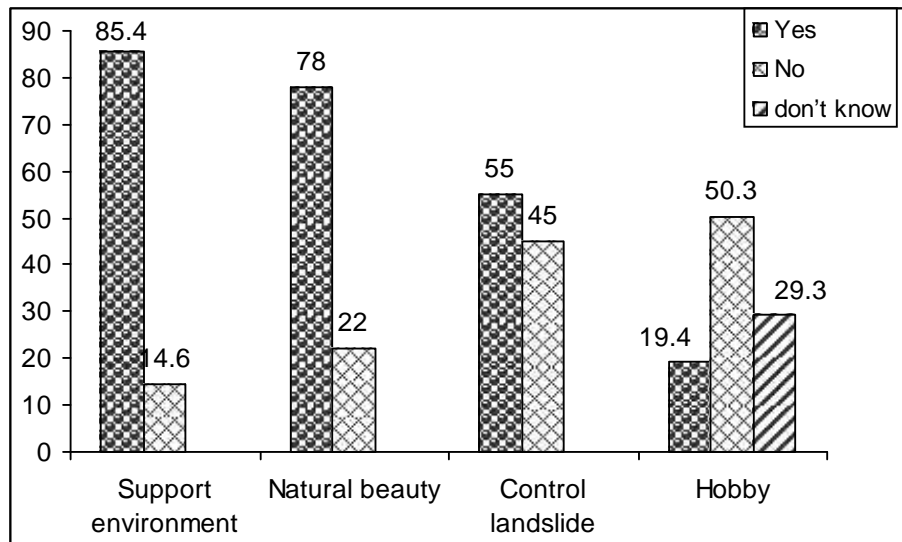
Source : Field Survey, 2009.

Above figure 5.1 clearly demonstrates the respondents' reasons. 100 percent of respondent were attracted towards orange farming to increase income source and to do low investment and high income, 71 percent of respondents were also attracted for less work than other crops & vegetables farming and less care to orange farming, and 45 percent of respondent were attracted because the of manpower are not available for work of orange farming.

### 5.5 Some Other Reason

It is hidden reason for attraction towards orange farming. Orange farming contributes to keep balance environment to control landside, to make natural beauty and greenery. The respondent's response is demonstrated in the following figure5.2

Fig. 5.3 Reason support environment Natural beauty control landside & Hobby



Source : Field Survey, 2009.

Above figure 5.3 clearly show the respondents reason for orange farming to support environment, to make natural beauty, to show beautiful views, to control landslide. Some respondents only 19.4 percent were to do orange farming for hobby. More than 85 percent respondents were to know the orange farming to save environment and more than 78 percent of respondent were agreed to make the natural beauty and greenery. 55 percent of respondent were agreed to controll the landslide.

Before forty years ago cultivated orange farming in study area and 35 over ropani of land to do orange farming. Universe of the study area's farming plant are more than 50 plant of orange.

We can say that orange is the high value crop. So the farmers increase income source from the orange farming. It is the main reason of attraction.

In the little investment take more income from orange farming. It is other reason for attraction on orange farming.

It is suitable everywhere in a land like Pakho Bari. etc. It is the other reason of attraction.

Rural people shifted (migrated) in the urban area economically productive manpower do not live in rural area. There only live unproductive

man power like old and aged people. In this situation the orange production is the main income source of the rural area.

Orange farming supported environment to show the natural beauty & greenery to control landslide. There are hidden reason of attraction also.



## CHAPTER VI

### CONTRIBUTION IN RURAL EDUCATION, EMPLOYMENT INCOME, LIVING STANDARD OF ORANGE FARMING.

This chapter is focused on the contribution of orange farming on different section of rural area. The contribution of orange farming is rural education, employment ,income, living standard and so on . The analyzed data are presented below.

#### 6.1 Contribution in Income Source

As we see income source of study area that it is seen by the help of orange farming, income level and orange farming helped to increase income source of study area. This study focused on contribution of orange farming on RD. The income source of respondent is presented in table 6.1

**Table 6.1**  
Status Respondent Income Source.

S.N.	Income Source	Frequency	Percentage
1	OF, AR	6	9.7
2	OF, AR, P/S	36	58.1
3	OF, AR, P/S and Shop	6	9.7
4	OF, PF, AR	2	3.2
5	OF,PF, AR	4	6.5
6	OF,PF,AR and PLS	8	12.9
Total		62	100.0

Source: Field Survey, 2009

OF=Orange Farming, AR= Animal Rearing, P/S= Personal/Service  
PF= Paltry From.

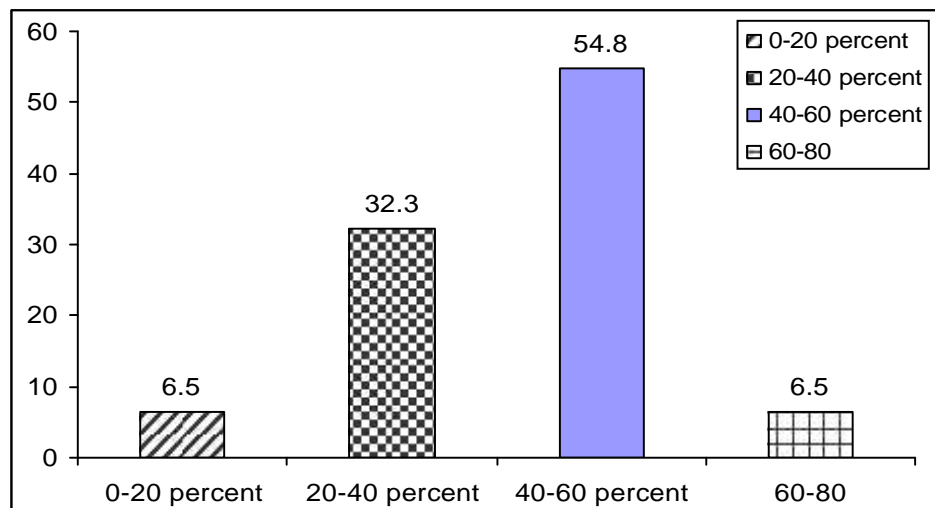
Table no 6.1 demonstrates different types income source that most of the respondent, 58.1 (36) percent of house hold are OF, AR and P.S income source. 9.7 (6) percent of households are OF and AR and OF, AR P/S, PF and shop

income source respectively. 3.2 (2) percent of households are OF, AR and others source of income. 6.5 (4) percent of households are OF, PF and AR and 12.9 (8) percent of household are OF, PF, AR and P/S income source in study area. The orange farming is the main income source of farmers in study area.

## 6.2 Role of Orange Farming of Respondent Economy

Needless to say the contribution of orange farming on rural livelihood and rural economy is very high . The study has focused on contribution of orange farming on rural income. Role of orange farming in total income of per household is shown in Fig 6.1

Fig 6.1 Role of Orange farming Household Economy



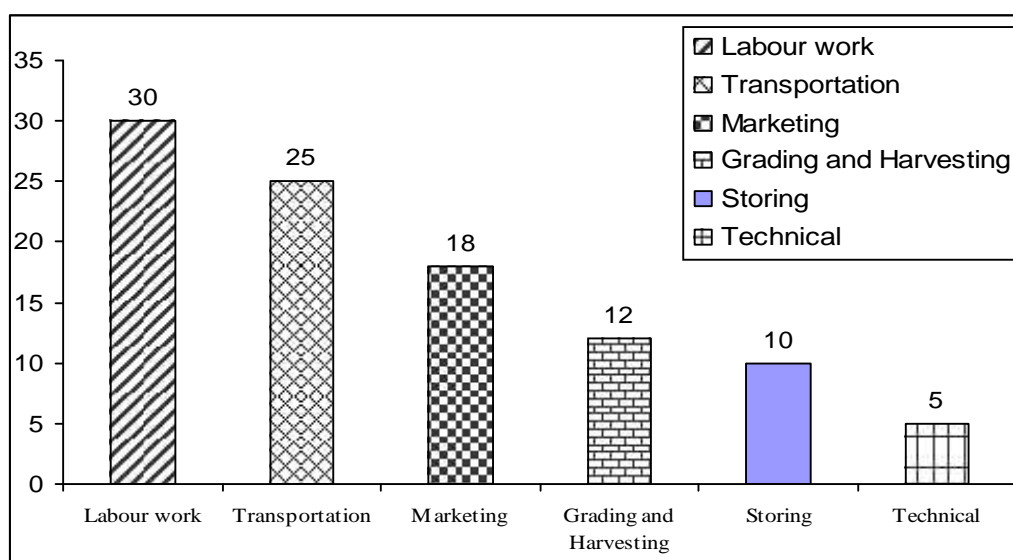
Source : Field Survey, 2009.

Above figure clearly indicates that's the high number of house 54.8 (34) percent have contributed 40-60 percent family income. Only 6.5 (4) percent of household have contributed 0-20% of family income. 20 (32.3) number of household have contributed 20-40 percent family income and 4(6.5) number of respondent have contributed 60-80 percent family income. It is proved that the role of orange farming is so important for the farmers in the study area.

### 6.3 Contribution on Rural Employment

Employment is also a source of income. All of the respondents agreed orange farming provides employment. The orange farming is given different types of rural employment. Different types of rural employment is presented in figure 6.2

Fig 6.2 Status of Different Types of Employment



Source: Field Survey, 2009.

Above figure clearly indicates that the orange farming gave the different types of rural employment such as labor work, transportation i.e (truck jeep etc) gave some to trader business and marketing. Others employment are technician, storing, grading and harvesting and nursery management etc.

### 6.4 Types of House

As we see types of house have measured living standard of respondent. . Type of respondent house is shown in table 6.2

Table 6.2 : Types of House

S.N	Types of house	Frequency	Percent
1	Made of mud stone with tin roof	4	6.5
2	Made of mud stone and cement with tin roof	54	87.4
3	Made of mud stone and cement with cemented roof	2	3.2
4	Made of mud and stone with straw roof	2	3.2
Total		62	100.0

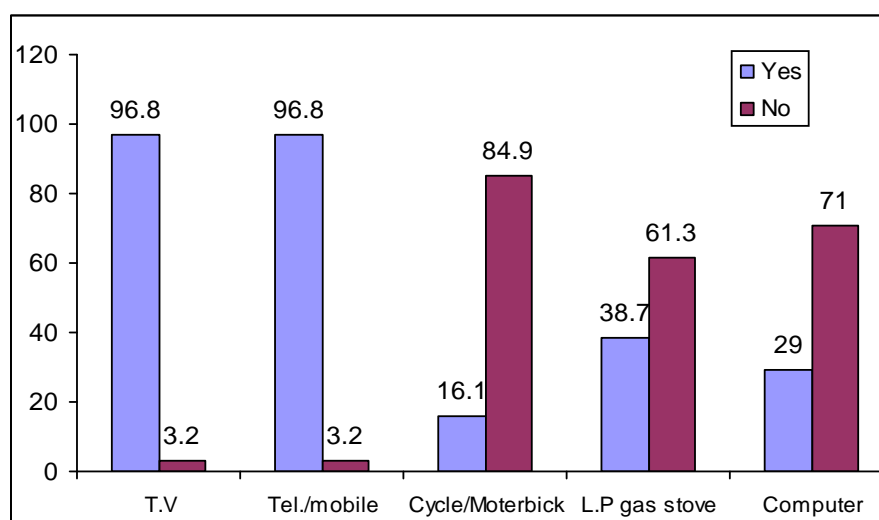
Source: Field Survey, 2009.

Above table clearly demonstrated that majority 87.1 (54) percent of respondent have made up of mud, stone and cemented with tin roof house. 6.5 (4) Percent of respondents have made up of mud, stone with tin roof. And 3.2 (2) Percent of respondents house have made up with stone straw roof and made up of stone and cemented with cemented roof respectively.

### 6.5 Assets of Households

The orange farming has resulted in the possession of household assets in study area. It has changed the living standard, custom and way of living with the change in household assets. During the field study, the orange farming incomes helps to various sector, i.e education, economic, facilities as they have radio, television, others facilities. The status of household wise assets is shown fig 6.3

Fig 6.3: Status of Household Assets



Source: Field Survey, 2009.

Above figure clear presents that 96.8 (60) percent of households have used T.V/ VCD, radio and mobile/ telephone respectively. Only 16.1 (10) percent of households have used cycle / motorbike, 38.7 (24) percent of households have used to LP Gas stove and 29.0(18) percent of households have used computer.

The data clearly speak that there is good contribution of orange framing and production to improve household facilities. We can say that the orange farming have improved rural living standard.

## 6.6 Institutions for Education Children

Education has been regarded as a vehicle of change of development. Here focused on educating children studying in institution like government school/ campus, private school/ Campus.

The institution for educating children are presented following table 6.3

Table 6.3 Institution For Educating Children

S.N.	Institution	Frequency	Percent
1	Government	22	35.5
2	Private	30	48.4
3	Both	10	16.1
Total		62	100.0

BOTH = Government + Private

Source : Field Survey, 2009.

Above table clear indicates that 35.5 (22) percent of respondent are taken education from the governments school/campus, 48.4 (30) percent children of respondents are taken from private school/campus and only 16.1(10) percent children of respondent are taken from the both institution (government + Private).

Income from the orange farming has improve economic condition of many households as well as have brought changes in education. Many people of study area are able to send their children in private schools to get quality education. We can say that it is the contribution on education of orange farming.

## 6.7. Annual Income from Orange Production

There are many income source in study area. The orange production is the one of the main source of income. This study focused the annual income from orange production. Annual income from orange production is demonstrated in table 6.4.

Table 6.4 Status of Manual Income From Orange Production

S.N.	Rs	Frequency	Percent
1	2500-5000	6	9.7
2	50,000-100,00	32	51.6
3	100,000-150,000	10	16.6
4	150,000-200,000	8	12.9
5	200,000-250,000	6	9.7
Total		62	100.00

Source: Field Survey, 2009.

Above table clear presents income of orange production of farmers in study area 9.7 (6) percent of the respondent have taken Rs 25,000-50,000/- from orange production, 51.6 (32) percent of the respondents have taken Rs 50,000- 100,000/- income from bought orange, 16.6 (10) percent of household have taken Rs 100,000-150,000/- thousand income from bought of orange. 12.9 (8) percent households have taken Rs 150,000-200,000/- thousand income from the orange production and 9.7 (6) percent of households have been taken Rs. 200,000 -250,000 thousand in come.

During the field study time overall orange farmer's annual income is increased day by day. They have brought changes in life style education, behaviour food and dress, habit etc. They have also the gradual improve in domestic have radio, TV, DVD, vehicles mobile, computer etc. Orange farming helped different sector of farmer's i.e education, occupation, living standard, income etc. So that we can say that the orange farming helped reduce rural poverty.

## CHAPTER VII

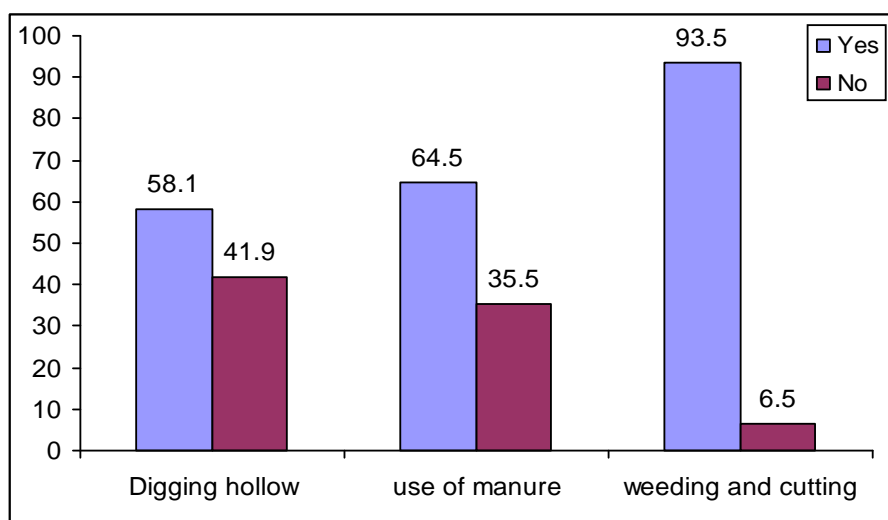
### FUNCTION FOR ORANGE PRODUCTION

Anthropology is study of man and his behaviors specially culture. This study is also anthological study. So this chapter is focused on activity and behaviors of orange farmers for orange production. This function is their culture of orange farmers in study areas.

#### 7.1 Function for Orange Production

Orange farming is the main income source of study area-So that the farmers have given some time for orange farming They have done first preparation of land for orange farming. During field study it was asked whether they dig hollow, use manure, weed etc. This study is focused on some function of farmers for orange production. Some function of farmers is presented figure 7.1.

Figure no. 7.1 : Status of Digging Hollow, use of Manure & Weeding and Cutting.



Source: Field Survey, 2009.

Above the figure is clear indicates that 58.1(36) percent of respondents were digging hallow before orange plantation and 41.9(26) percent of

respondent were not digging hollow before planted orange. The suggestion of DADO Syangja for the size of hollow is at least 2.7 cubic feet (3ft 3ft3ft) in this areas. According to the suggestion preparation of hollow before 3 month is better.

During the field study period I know most of the farmers in Thuladihi VDC have been found to use organic manure, compost manner, oil cake, dung of the hen (Shulee) in their farm for orange farming. 64.5(40) percent of respondent have used something manure used to made fertilizing land for orange farming. Only 35.5(22) percent of respondents have not used manure for orange farming.

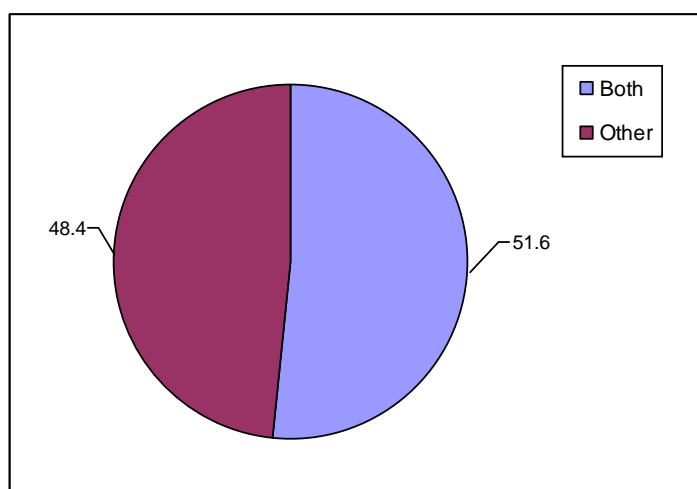
Weeding and cutting is done after harvesting specially in January, February and March .Farmers dig all round the bottom of plants and put manure and filling hollow. This is a technique of weeding by this improvement in quality and quantity of orange is obviously possible, cutting scissors used best for cutting. Majority of the respondent 93.5(58) percent are weed and cut in own orange plant but only 6.5(4) percent of respondent do not weed and cut for orange farming.

## **7.2 Source of Plant**

Source of plant is important for orange farming. This topic is focused the source of plant. The source of plant is presented in figure 7.2, 51.6(32) percent of respondents have brought orange plant from both own nursery & other nursery. 48.4(30) percent of respondents have bought from other nursery. Some farmers have received subsidies to purchase orange plant from VDC & DADO Most of the farmer have brought orange plants outside i.e. Gorkha, Lamjung, Palpa, Kaski etc.



Figure 7.2 : Status Source of Plant.



Both = own + other

Source: Field Survey, 2009.

### 7.3 Types of Orange Plant

Different types of orange plant have planted by farmers in the land in study area. Here types of orange plants have planted in study area used is demonstrate table No. 7.1

Table 7.1: Types of Orange Plant

S.N.	Types of plant	Frequency	Percent
1	Biju	6	9.7
2	Biju and Badhiya	18	29.0
3	Biju Kalami	4	6.5
4	Biju, Kalmi and Badhiya	34	54.8
	Total	62	100

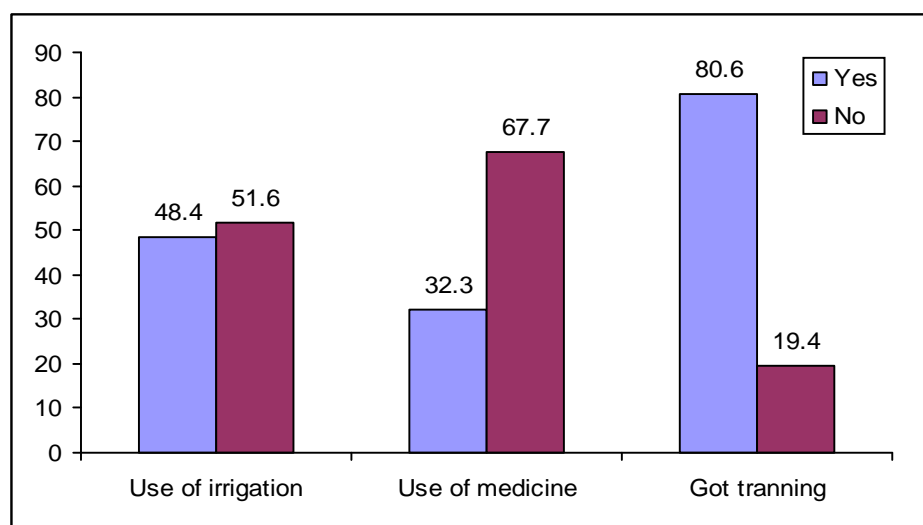
Source: Field Survey, 2009.

Table 7.1 demonstrates that 9.7(6) percent of respondents have planted Biju orange plant, 29.0(18) percent of respondent have planted, Biju and Badhiya plant of Orange, 6.5 (4) percent of respondent have planted, Biju and Kalami plant of orange and most of the respondent 54. 8(34) percent have Biju Kalami and Badhiya planted orange plant in their land.

## 7.4 Others Function for Orange Farming

Some other functions have necessary for orange farming. Irrigation is necessary in dry season for orange farming, use of medicine is necessary to control disease and trained man power is also necessary for orange farming. This study has focused, use irrigation, use of medicine, take of training only yes or no response is shown figure 7.3.

Figure : 7.3 Status of Use of Irrigation, use of Medicine, Got Training



Source: Field Survey, 2009.

Above figure, there is problem of irrigation in the study area. Out of the selected 62 household 51.6(32) percent of household have no used irrigation their orange farm. Only 48.4(30) percent of households have been used irrigation facility by pipe and partially irrigate their farm by carrying pot.

In study area some farmers use local medicine like cows urine, liquid of ash water, tobacco and water etc. Some of them use medicine for orange plant and fruit of orange, such as Bordeaux mixture, Bordeaux paste, Bordeaux paint etc. Above figure clear indicates only 32.3(20) percent of respondents have used of medicine in their orange farm and 67.7(42) percent of the respondent have not used of medicine in their orange farm.

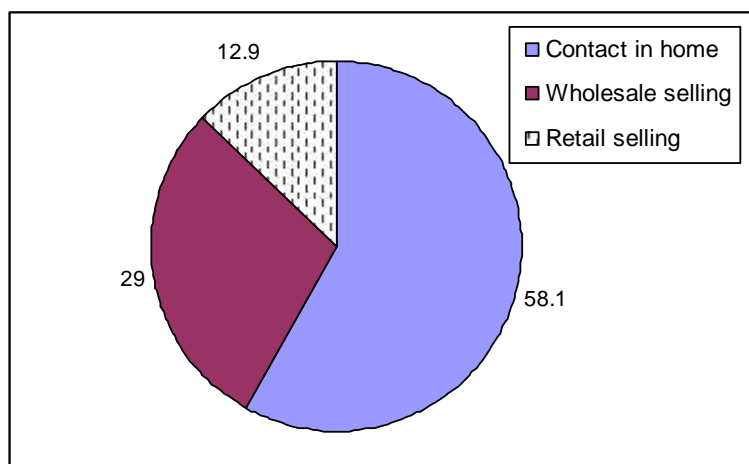
In figure 7.3 clear indicates that 80.6(50) percent of respondent have got opportunity of training related to the orange farming. It means they have got

only basic training. But 19.4(12) percent of respondent have not got opportunity of training for orange farming.

### 7.5 Methods of Selling.

In study area farmers use different methods to sell their oranges. This topic has focused different methods of selling production orange. Methods of selling is shown in figure 7.4

Figure. 7.4 Method of Selling



Source: Field Survey, 2009.

Above figure 7.4 clear presents 58.1(36) percent of respondents have sold orange as their house as contact system, 29.6 (18) percent of respondents have sold orange in whole sale and only 12. 9(8) percent of respondents have sold orange to retail seller.

### 7.6 Basis of Price Estimation

In study area farmers use different methods of price estimation to sell orange. Different types of price estimation is shown in table no. 7.2

Table 7.6 Basis of price estimation

S.N.	Estimation	Frequency	Percent
1	No. of orange	6	9.7
2	per kg	10	16.1
3	Per Doko	4	6.5
4	Whole Garden	42	67.7
	Total	62	100

Source: Field Survey, 2009.

Above table 7.2 clear demonstrates that they have no systematic method for price estimation. The whole farm is determined by the interaction between farmer and trader. Farmers try to either the number of orange, number of Doko (Bamboo Basket), crate and the weight (kilogram and quintal). But they cannot get suitable price of their product this system. 9.6(6) percent of respondent have estimated number of orange. 16.1(10) percent of respondent have estimated only per kg of orange, 6.5(4) percent of respondent have estimated per Doko Price of orange and 67.7(42) percent of respondents have estimated whole garden price and sale orange.

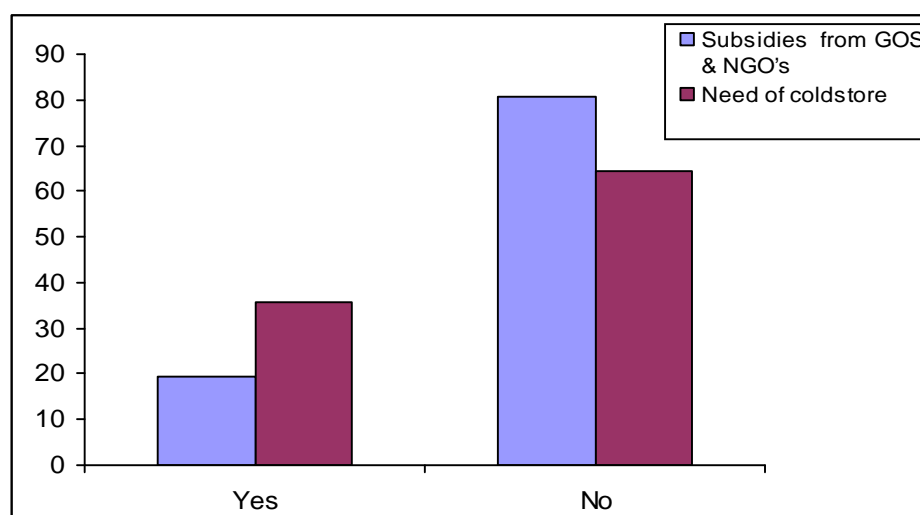
### **7.7. Appropriate Place for Selling**

The farmers sell their production in their choiceable market. Most of the households have sold in their home to traders. Traders come form different places i.e. Pokhara, Kathmandu, Butwal, Narayanghat etc. Some farmers have selected Pokhara city sold is wholesaler traders, some farmers have sold retailer traders, some farmers have sold local market i.e. Thuladihi Syangja, Nagdata etc. some households have sold at hat bazaar as a Grand festival. Town place is appropriate place when asked. 100 percent of respondents have given positive answer to the town and city. They have got appropriate price from town.

## 7.8. Subsidies From GOS & NGOS, Need of Cold Store

Thaladihi VDC is suitable areas for orange farming. But special programmes are not arranged in this area. They have got 50 percent subsidies in orange plant but it is low quality (level) plant. Availability of cold storage helps the farmers to take reasonable price of their product as well as it helps for inter seasonal price stabilization. It is beneficial for consumers too. So that the farmers of Thuladihi VDC feel about the necessity of cold storage. During the field study period it was asked if they got any subsidies from GOS & NGOs and if they felt the need of cold store. The responses have been presented in figure 7.5.

Figure no 7.5: Status of Subsidies from GOS & NGO's, Necessity of Cold store.



Source: Field Survey, 2009.

Above figure presents that 19.4(12) percent of respondents have got some little subsidies in plant and instrument for orange farming 80.6(50) percent of respondents have not got any subsidies from the GOS & NGOs for orange farming.

Out of the 62 households 35.5 (22) percent of households have needed of cold store for orange and 64.5(40) percent of households have not expressed about necessity of cold store now but in future have necessity of cold store for orange and of cold store. They have no knowledge about the concept and significance of cold store.

## CHAPTER VIII

### SUMMARY, FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

#### 8.1. Summary

Agriculture is the largest sector, pillar and backbone of Nepalese economy. Agriculture is main occupation and basis of livelihood of rural people. Agriculture, in its broad sense, is very vast. It covers activities like horticulture, irrigation, land development, soil and water conservation, animal husbandry, dairying, poultry, pig-farming, fishery handloom and other village industries, social forestry and setting up of agro- based industries. Mid-hill area of Nepal is the important area for commercial production and it has very suitable agro climatic conditions for fruits productions. Nepal is a semi-feudal and semi capital country. In that situation, agricultural system comes modification. Specially it modifies live stocks, poultry farm, vegetables, fruit crops. The orange production of Nepal is also slightly developed in mid hill area. This study is fruit production study especially orange production study in agriculture. The main objective of this study was the contribution of orange farming on rural development in Thuladihi VDC of Syangja district. While following are its specific objectives.

- ) To find out major reason behind the attraction towards orange farming.
- ) To find out how can the orange farming contributed in rural education employment, income, living standard.
- ) To analyze the activity for orange farming.

Basically this study is academic study which gave some important information and contribution of orange framing for the farmers and students, which can be very useful for formulating fruit production and farming raising programme developing agriculture.

Being an anthropological study it mainly focused on attraction contribution, activity of orange farming on RD. Thus farmers function and activities are their culture. This study is linked cultural models.

Limited budget and manpower made this study limited. This study was also limited to the orange farming of the Thuladihi VDC of Syangja district in this study exploratory and descriptive research designs have been used.

Stratified simple random sampling method was adopted to determine the sample size, six, ward of the Thuldadihi VDC in Syangja district were selected randomly for the study. Pre- tested schedules have been used to collect necessary data regarding contribution of orange production on R.D.

Collected data from the respondents have been analyzed both quantitatively and qualitatively. Quantifiable data have been analyzed by using computer soft ware program SPSS for windows. Simple statistical tools have been used to present the analyzed data. Tabulation, pie-chart and Bar diagram have also been made. The non-quantifiable qualitative data have been managed manually and analyzed descriptively likewise all the data have been interpreted anthropologically as much as possible.

Multiple castes of respondent were found nearly two third respondent were ward number nine and other one third percent of respondent were ward no 1, 5, 6, 7 and 8. most of the respondent followed Hindu religion. Majority of the respondent's were found illiterate, literate, under SLC, SLC passed, Bachelor & bachelor above educational background. The main occupation of the respondent were agriculture, service/pension and others.

The farmers of the study area were attraction towards orange farming. It was found different reason; they cultivated orange nearly 40 years ago. They also cultivated orange 1-30 ropani above land. They have 300 over plants of orange. The main reasons of attraction are; increases income, low investment high income, lack of manpower, support environment, natural beauty and control landslide etc.

The orange farming of study area is contributed different sector of farmers. The orange farmers income source is from orange production in the study area and helped total income ratio, contribution of different types of employment i.e. labour works, transportation, marketing and business, grading & harvesting, storing, technical employment. It etc also contributed education

of farmers and increased living standard & life style of rural people of the study area.

The study area's farmers do different work and activities for orange production. They are preparation of land digging the hollow, increase the fertility power of land weeding & cutting, use of medicine etc. After the production of orange they are brought in different cities and bought the orange.

## **8.2 Major Findings**

This study tried to find out the contribution of orange farming on rural development Thuladihi VDC in Syangja district. The main findings of this study are as follows.

- ) The economy of the study area is mainly based on agriculture with the combination of orange farming, live stocks, crops farming pension/ service and others.
- ) The farmer of study area were cultivating. Orange farming before forty years ago in 1-30 over ropani land.
- ) The farmers are attracted towards the orange farming from various reason, There is increase income, in low investment take high income, no over work, lack of manpower.
- ) Orange farming is supported other different hidden sector i.e. support environment, natural beauty, to make greenery control landslide. These are also attractions.
- ) The GOS, NGO's/INGO's and no significant roles for providing subsidies and special programme for orange farming in study area. Role of GOS, NGOS/INGOS are more necessary.
- ) The orange farming is contributed various sector of rural village in study area i.e. education, employment, income, living standard etc.
- ) The farmer of study area do works & activities for orange production. i.e. digging hollow, weeding and cutting, use of irrigation, use of medicine, use of manure and fertilizer plantation.
- ) The farmer functions are highly positive significant for orange farming.



- ) The contribution of orange farming is highly positive significant for farmers in study area.
- ) Training, encouragement, awareness and special programme about orange farming are more necessary for orange farmers of study area.
- ) Information about the orange farming & commercial tricks are necessary for the orange farmers in the study area.
- ) Cold stone, agriculture tools & instrument, transportation, and technician of agriculture are not available. Which are more essential for orange farming.
- ) The farmer of the study area and the orange farming of study area are more significant positive and relation is one hand give other hand take relation.

### **8.3 Conclusion**

This study is agricultural study links with anthropological models & theory. Mid hill area of Nepal is the important area for fruits farming. It is very suitable agro-climatic conditions for the cultivation of orange. Thuladihi VDC of Syangja district is also suitable environment, height and soil for orange farming. People of Thuladihi have selected right crops for right place 50 percent of household in this VDC are involved to orange farming with the help of over all study. I can conclude, the farmers of the study area change and increase orange farm and to develop quality and quantity or orange production.

The farmer of the study area's have various income source. Likewise orange farming is most important source. The farmers do essential work for orange production. The orange farming gives income employment to progress living standard. So that economic status is increased of the people in study area. The help of overall study I can conclude the farmer of the study area and orange farming of the study area are the more significantly positive role. This relation is one hand give and other hand take relation.

But lack of training, lack of encouragement and awareness programme hinder the orange farming. Lack of economic support small land holding, lack of agricultural market, lack of loan facilities, expensive tools, technician of agriculture tools & instrument are also back ward to orange farming the orange

farming is developed an agricultural industry and country may developed original agricultural country. By the help of whole study I can conclude that the GO's, NGO's/ INGO's I can not see significant role in study area for orange farming. The role of GO's, NGO's/ INGO's are more essential for orange production.

#### **8.4 Recommendation**

Following recommendation are made from this study.

- ) Geographical conditions are suitable for orange farming in this area. The farmers are recommended to extend orange farming. So that they will be self employed with higher income and higher profit by this utilization of local resources is also possible.
- ) DADO Syangja has to be serious to identify and to control the disease to provide technical suggestion and training to the orange farmers.
- ) The government is recommended to initiate to fix price before harvesting, to settle seasonal wholesale market in local area to provide subsidies for the construction of cellar store.
- ) The farmers should get cheap loan facility for production and marketing activities.
- ) Farmers should be given agricultural imputes like improved plant & seeds chemical fertilizer and plant protection etc. on term and in reasonable price.
- ) Irrigation play important role in orange farming. It helps to change forming system. Thus irrigation facility should be provided.
- ) Extension program of orange farming provides detailed information to farmers. For this extension program should be launched to improve agriculture.
- ) Most of the farmers have commented that agricultural technicians are beyond their access. So government must mange frequent services of the agricultural technicians in the field area.
- ) GOS, NGOS, INGOS have recommended encouragement & awareness programme about the orange farming lunched in study area.

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## Appendix I

### Interview Schedule

(Contribution of Orange Farming on Rural Development)

a. General Information:

S.N.	Name	Relation	Tole	Ward No.	Age	Education	Sex	Cast/Ethnicity
1.	Household Head							
2.								
3.								
4.								
5.								
6.								
7.								
8.								

2. Types of family

- a. Nuclear      b. Joint      c. Extended

3. Types of house

- a. Made up of mud stone with stone roof
- b. Made up of mud, stone with tin roof
- c. Made up of mud, stone and cemented with tin roof
- d. Made up of cemented and stone with cemented roof
- e. Made up of mud and stone with straw roof
- f. Made up of wood and bamboo with straw roof

4. How much land area

- a. Cultivable land (Ropani) .....
- b. Orange farming (in Ropani) ....

5. Purpose: what is your purpose of orange farming?

- a. Commercial      b. Domestic consumption      c. Both

6. When did the starting of orange farming ? (In year)
7. Plants: a source of plant available?
  - a. Own nursery
  - b. other sources
  - c. Both
8. How many orange plants do you have?
  - a. Productive
  - b. Unproductive
  - c. Total
9. Area covered by productive plant (in ropani)
10. Types of plants
  - a.
  - b.
  - c.
11. Plantation of other crops under orange farming.
  - a. Yes
  - b. No.
  - c. If yes name of crops .....
12. Uses of irrigation?
  - a. Yes
  - b. No
13. Weeding and cutting?
  - a. Yes
  - b. No
14. Attack of disease in plants
  - a. Yes
  - b. No
  - c. If Yes name of disease.....
15. Use of medicine
  - a. Yes
  - b. No
  - c. if yes name of medicine.....
16. Digging hollow before plantation
  - a. Yes
  - b. No
17. What are the main problems you have to face during cultivation?
18. Use of manure/fertilizer.
  - a. Yes
  - b. No.

## Market Situation

19. Methods of selling System:  
a. Contact in house    b. Wholesale selling    c. Retail selling    d. others.
20. Which place is appropriate for selling?  
a. Local market    b. Hat bazaar    c. Town special    d. Whole sale or Retailer
21. Basis of price estimation by farmers.  
a. Per kg    b. per doko    c. per fruit    d. per plant  
e. Whole garden  
f. Others.
22. Did you get subsidies from government or non government agencies?  
a. Yes    b. No.    c. If yes, types of subsidies...
23. Did you get any training about orange farming?  
a. Yes    b. No
24. Did you feel the need of cold store?  
a. yes    b. No.
25. If there is need of cold store which types you need?  
a. Economic support    b. Labour donation  
c. Capital investment    d. Other support
26. Volume of annual total production of orange.  
kg. ....
27. Annual total income from Orange Production.  
Rs. ....
28. Annual Expenses on orange farming and production.  
Rs. ....  
Socio - economic and educational information.
29. Is your monthly income increased after Orange farming?  
a. Yes    b. No.    c. Don't know
30. Where do your children study?  
a. Government school/campus  
b. Boarding / Private school / Campus    c. None.



31. Has the orange farming support the rural employment.
- i. Yes [     ]                      ii. No. [     ]
32. If yes Name of employment?
- a. Labour Intensive  
b. Transportation  
c. Marketing  
d. Technical  
e. Harvesting  
f. Storing
33. Has the support on the environment ?
- a. Yes [     ]                      b. No [     ]
34. Is the really orange graden looking the beautiful view?
- a. Yes [     ]                      b. No [     ]
35. What is the source of your personal property?
- a. Orange farming              b. Poultry farming              c. Animal rearing  
d. Pension / service              e. Others.
36. How do help in your livelihood from orange farming?
- a. 1-20%                              b. 20- 40%  
c. 40 - 60%                              d. 60 -80%
37. What is the main cause attraction in the Orange farming?
- a. Increase income source                      b. Low investment high income  
c. Don't over work                              d. Lack of labour manpower  
e. To do stop land slide                      f. To made green  
g. Your found
38. What are the activities for the orange farming?
- a. Land preparation                      b. Fertilization  
c. Use of insecticide/ pesticide.                      d. Seeding  
e. Planting                              f. Irrigation  
g. Cutting                              h. Harvesting  
i. Marketing                              j. Storage.

39. Your suggestion to develop orange farming.

- a. ....
- b. ....
- c. ....
- d. ....

40. Any more comments.

41. Do you have the following assets?

- a. T.V.
- b. DVD/VCD
- c. Radio/ Cassette player
- d. Telephone/Mobile
- e. Cycle / motor bike
- f. Sofa
- g. cupboard
- h. Gas stove
- i. Computer
- j. electricity.
- k. Others.

*The End*

## Appendix -II

Name of Respondent, ward no.

S.N.	Name	Ward	Village
1.	Chhavi Lal Regmi	1	Ambat
2.	Gridhar Regmi	1	Thumka
3.	Durga DuttaRegmi	1	"
4.	Kamalapati Regmi	1	"
5	Vawanisankar Regmi	1	Rayale
Ward No. 5			
1	Chou Bahadur Gurung	5	Lumchal
2	Kingkong Gurung	5	"
3.	Keshershing Grung	5	"
Ward No. 6			
1.	Thaman Bhat	6	Hundhibhanjayang
2.	Bishnu RanaBhat	6	"
3.	Birendra Ranabhat	6	"
4.	Ujeli Thapa	6	Khaniswwra
5.	Gir Bahadur Thapa	6	"
Ward no 7			
1	Krisna Thapa	7.	Sadhikhola
2.	Bhom Bahadur Thapa	7	"
3	Ganga Ram Thapa	7	"
4	Baburam Thapa	7	"
5.	Lal Bahadur Rana	7	"
6	Ret Maya Thapa	7	"
7	Maya Thapa	7	"
Ward 8.			
1	Bisho Mitra Nepal 8	8	Archalbot
2	Khem Narayan Doragga	8	"

3.	Laxmi Nepal	"	"
4	Raju Nepal	"	"
5	RamKrishna Regmi	"	"
Ward No. 9			
1.	Janak Lal Regmi	9	Nehorabari
2	Bodh Raj Regmi	"	"
3.	Om Kumari Regmi	"	"
4.	Maya Regmi	"	"
5.	Pitamber Regmi	"	"
6.	Mandhoj Thapa	"	"
7.	Ram Kaji Rana	"	"
8.	Susila Regmi	"	"
9.	Suk Bahadur Thapa	"	"
10	Mitra Lal Regmi	"	"
11	Bal Kumari Rana	"	"
12	Nebu Kumari Rana	"	"
13	Jyoti Prasad Subedi	"	Kulbot
14	Jhabi Lal Regmi	"	"
15	Rupa Kumari Regmi	"	Nawligade
16	Hari Prasad Regmi	"	"
17	Lal Hira Regmi	"	"
18	Surya Kumari Ale	9	Dhaba
19	Tej Bahadur Rana	"	"
20	Bijaya Kumar Thapa	"	"
21	Ram Prasad Regmi	"	"
22	Laxuman Prasad Regmi	"	"
23	DhanBahadur Thapa	"	"
24	Raju Regmi	"	"
25	Bishnu Prasad Regmi	"	"
26	Resham Lal Timilsina	"	Toradi

27	Him Bahadur K.L	"	"
28	Jitendra Shahi	"	"
29	Ghan Shyam Bujel	"	Arbakuna
30	Birendara Shah	"	"
31	Ruki Kumari Kubar	"	"
32	Yam Bahadur Shen	"	Gairakhor
33	Dipah Malla	"	Beshidhara
34	Som Bahadur Bhujel	"	"
35	Surya Bahadur Malla	"	"
36	Surja Bahadur Malla	"	"
37	Gyam Bahadur Malla	"	"

**Appendix III**  
**Observation Checklist**

Condition of house

Condition of orange farming

Life style

Farmers status

Facility of Irrigation

Number of orange plant

Appendix IV  
Photo Gallery



Researcher take information with male respondent.



Female respondent give the information.



Two man to pluck the orange.



A view of Orange Near the House.





Orange Farm.



Orange Farm.