CHAPTER ONE

INTRODUCTION

1.1 Background

In this preamble chapter the researcher has introduced the research subject i.e. food security with some definitions given by various scholars, organizations and studies in a broad sense. Similarly, the researcher has given an introductory description of food security situation in Nepal. Conceptual clarification of the research topic with its main objectives is the central theme of this chapter. It further clarifies about the research problem, conceptual framework, importance of the study and some central concepts used in the study.

1.2 Definition of Food Security

The Rome Declaration of World Food Summit (WFS) held in 1996, in which 186 countries and governments participated, had reaffirmed its commitment to ensure that every citizen of the respective countries would be entitled to have access to safe and nutritious food as their basic human right. Food security is defined in literature in many ways and at many levels. A globally accepted definition of food security is one adopted by the WFS held in Rome in November 1996, i.e. 'Food security exists when all people at all times, have physical and economic access to sufficient , safe and nutritious food to meet their dietary needs and food preference for an active and healthy life' (WFS, 1996).

The Food Agriculture Organization (FAO) defines it as 'Food Security means either being able to produce enough food for one's own needs or having enough money to buy provisions in the markets' (FAO, 1979).

Food security is a problem most often conceptualized as a macro phenomenon-deviations from trend in aggregate consumption, however as a human problem, it is primarily one of the welfare vulnerability of distinct categories of people within the population… the urban poor, the rural land less and small or marginal farmers (E. Clay, 1981).

According to R. F. Hopkins (1986) food security stands as a fundamental need, basic to all human needs and the organization of social life. Access to necessary nutrients is fundamental, not only to life per se, but also to stable and enduring social order.

Buchanan-smith, M. J. Bailey and S. Maxwell (1990) opine that food insecurity is 'lack of enough food for an active, healthy life or the fear that there will not be enough to eat'.

Food insecurity is defined as lack of access by members of society and nations to enough food throughout the year to live healthily. This is a situation caused either by inadequate food availability i.e. lack of adequate supply or by inadequate entitlements i.e. lack of effective demand, or both (Khadka, 1991).

The term 'Food Security' is defined as access by all people at all times to enough food for an active, healthy life (World Bank, 1986).

If the WFS definition is accepted, then the three major sequentially interlinked components of food security-food availability, food access and food utilization-must be a central focus of the analysis.

For the purpose of food security analysis, food availability means a situation in which the food required to maintain a safe and healthy life is available for all people in the country. Access to food implies that the people in a given location have both physical and economic access to obtain food. Physical access implies a food supply system which insures easy availability of required foods, and is determined by local production augmented by imports and by the food distribution system. Food utilization relates in part to the capacity to translate efficiently into energy. This is determined partly by the level of nutritional knowledge and practice. It is also determined by standards of health, which in turn are a functional of the physical environment in which people live, their access to safe drinking water, access to health care facility.

Poverty and food insecurity are the two interconnected phenomena. In poverty analysis literature one encounters three types of poverty lines, 'relative', 'absolute' and 'subjective'.

The relative poverty line is simply a cut-off point. It may be the point in the welfare distribution below which a specified proportion lie, or it may be the proportion of population that lie below half of the median income.

An absolute poverty line is linked to a minimum welfare level necessary for life as a human being. Defining the poverty line in this way allows comparison to be made over time or across groups, as it would guarantee that two individuals irrespective of where they live are treated in the same way.

A subjective poverty line is defined in terms of the minimum level of income that a person feels is required to meet his/her basic needs. This approach leads to different poverty lines for people in different regions and for the same people over time but with the same level of welfare (FAO- NEP, 1999).

With the above definitional background it can be assessed that the concept of food security can be understood in terms of available food for a family at household level whether it is from own farm production or through access to market. The situation, where an individual is entitled to get safe and nutritious food as and when need, is perceived as food security.

1.3 Food Security Scenario in Nepal

Nepal is one of the world's least developed countries, with low per capita income (Rs. 15,000), and generally low socio-economic indicators. Life expectancy at birth of around 63.69 years and adult literacy at 48.6 percent are among the lowest in the world. Its overall human development index value of 0.509, human Poverty Index (HPI) 39.4, Life Expectancy Index 0.645, Human Poverty Index 35.4 ranks Nepal 142nd among 173 countries worldwide (UNDP, 2009). Unemployment statistics (14 percent in 1997) conceal a great deal of unreported unemployment. Unemployment is widespread, and about 50 percent of the working population is estimated to work for less than 40 hours a week. Nutritional

indicators are also among the lowest in the world. Almost half of the children are either under weight or stunted and 75 percent of pregnant women and 50 percent of women aged 15-59 are anemic (FAO- NEP, 1999).

In spite of over two decades of economic reforms, poverty is still widespread in the country. Slow down in economy during the last two years of the ninth Plan, together with reduced employment opportunities, especially in trade , tourism and manufacturing sectors and sharp rise in the share of landless population indicate a remote possibility of sharp fall in the poverty level (UNDP, 2004).

The current rate of agricultural growth is unable to create enough rural employment to absorb the additions to the labor force and is causing widespread damage to the environment through extension of agriculture to fragile lands and rapid urbanization. Incidence of poverty has increased and food deficit districts are now more numerous than in the 1980s. Lack of growth in productivity coupled with diminishing farm sizes has increased the production of rural agricultural household who face food insecurity (UNDP/FAO, 2003).

The following table presents the food self-sufficiency situation in 1990s. With steady growth in population and hence requirements, annual fluctuations in the level of food deficit at the macro level is directly determined by variation in production, which in turn is largely determined by variations in the production.

Table 1.1: Food self sufficiency: historical trend

Year	**Production (000Mt)**	**Requirement (000Mt)**	**Deficit**	
			'000Mt	**As % of requirement**
1990/91	3619	3487	+132	+3.78
1991/92	3373	3562	189	5.31
1992/93	3292	3634	342	9.41

1993/94	3585	3724	139	3.73
1994/95	3398	3883	485	12.49
1995/96	3917	3948	31	0.79
1996/97	3973	4079	106	2.6
1997/98	4027	4178	151	3.61
1998/99	4098	4279	181	4.23
1999/2000	4452	4383	+69	1.57
2000/01	4513	4430	+83	1.87

Source: FAO, NEP/99/023: SPPD Report

From the above table it is found that food insecurity is gradually increasing in Nepal after 1991. Though, we see it was food secured in 1991 but after that, we can see the fluctuation on the food production and requirement. In the year 1994/95 the food deficit is about 12.49 percent whereas in the year 1995/96 it is only of 0.79 percent. Though, it has increased in later years. The table shows food secured situation in the year 2000/01. However, if we see the trend of food security, we can conclude that in the later year food insecurity is increasing.

Again, the following table shows that there is a trend of the 'less-than-adequate' category increasing from east to west, interrupted only by an unexpectedly low figure.

Table 1.2: Food adequacy at national level (% of household)

Development region	Less than adequate	Just adequate	More than adequate
Eastern	49.1	49.7	1.2
Central	49.8	47.4	2.8
Western	54.8	44.3	0.9
Midwestern	46.9	51.3	2.2

Far-western	55.8	42.0	3.3
Nepal	50.9	47.3	1.8

Source: A compendium on environmental statistics 1998 Nepal, CBS.

The above table indicates that the food adequacy in the Far Western Region is comparatively high with other region. Previously, we have talked that food security is in decreasing trend in Nepal, here, we analyzed that far-western region is mostly being the victim of food security in comparison to all the other regions. This shows that, far-western region is suffering from food insecurity more than other regions of the country.

A report produced by MOAC, WFP and the FAO-estimates that 40 of the 75 district are food deficit because of the drought (IFPRI, 2009). By region, 2006 aggregate cereal output is estimated to have declined by 16 percent in the Eastern Terai, 9 percent in the Central Terai and 5.3 percent in the Western Mountain (ibid).

The food security situation has deteriorated in recent years in parts of the country. The country has been especially hard hit by the rise in food prices and recurrent episodes of drought. Consequently, the food self sufficient ratio is in decline with the current food grain shortage for the 2009 fiscal year estimated at approximately 400,000 Mt (WFP, 2011).

Rural poverty is a key factor affecting food security in rural Mid-Western and rural Far- Western regions, with poverty incidence at 46.4 percent and 45.6 percent respectively (CBS, WFP and World Bank, 2006). All these data shows that Far-Western region is suffering from food insecurity and Baitadi district is not an exception to this.

In this context the food security situation seems to be worsening in developing countries like Nepal. Unequal exchange with developed countries and unequal intra-national relationship has made most parts of the countries dependent to the centre. In order to break this trend the developing countries have to formulate appropriate development strategies in accordance with their own social, cultural,

geographical, political and environmental settings. Nepal is facing this problem since last some decades in its history and is being dependant to the core countries. In order to become independent and self-reliant, the government has to formulate appropriate policy environment by enhancing indigenous knowledge and skill. To do so it is most important to analyze the existing situation and find the ways of getting rid with the problem.

1.4 Statement of the Problem

Population of the world is growing significantly since the last few decades. The population growth rate of Nepal is 2.24 percent (CBS, 2058) which indicates the food insecurity is growing because the population increases in geometrical ratio and the food production increases in arithmetic ratio. The population growth rate is higher in the rural areas than in the urban areas. Thus, the production of food could not meet the need of the growing population. Findings of a study states if the world's total cereal production were to be equally distributed, then one kilogram of cereals would be available per person per day. However, since the distribution is unequal, 13- 18 million people die of hunger every year (Koirala Govind P. and Ganesh B. Thapa, 1997). Nepal is not exception to this.

The Far Western region of Nepal is commonly known as less developed region in comparison to some other parts of the country. The market access of Far-Western region is very poor. 23.7 percent people have to walk 3 hours to reach to the nearest market centre whereas only 18.7 percent people from Eentral region and a mere portion, 7.9 percent people from Central region have to walk the same distance to get to the market centre. Similarly the highest percentages of people (36.6 percent) have to walk three hours to get to the nearest communication centre. Further, per capita income of the people of the Far Western region is low (NRS 11504) in comparison to Eastern (13000), Central (16838), western (17172) and Mid West (13676) NLSS (2003/04). In terms of adult education, literacy rate of Far Western is 48.70 whereas it is 53.95 in Eastern, 51.53 in Central, 55.65 in the Western and 50.78 in the Mid Western region. Human Poverty Index (HPI) of Far Western is 39.0. In the other region it

is 33.7 in Eastern, 35.3 in the Central, 33.2 in the Western and 38.7 in the Mid Western region (Human Development Report, 2006). In addition, the food security situation of Far Western region is worsening significantly. This has become a major problem for survival of the local people. And neither specific study have been done to analyze the problem and its impact in the lives of people nor the government has been able to address the problem appropriately to up-lift the living standard of the people. So, this study will be more significant to understand the problem.

Though much of the studies have been done in terms of food insecurity in national and international context but no study has been done especially about the food security of the Far-Western Region. Nepal Food Corporation (NFC) which is one of the major government organs in relation to the food security has various objectives like; management of food grains supply for the effective implementation of the food policy of the government of Nepal, procurement, transportation, storage, sale and distribution of food grains, protect the interest of farmers and consumers, maintain stock of food grains to ensure food security and mobilization of food grains received under food aid from friendly countries and international organizations but the work of NFC has been blamed as passive and unable to carry out its activities according to the objective. In this context, the research will be helpful to carry out the problem of food insecurity. World Food Programme, which is working in the field of food security, is one of the major Multilateral Organization. Though, the works done by WFP are praiseworthy but often are criticized by saying limited in food assistance.

In respect to this, the present research has been focused on to identify the food security situation of the VDC, the production situation of the cereals, available of employment opportunities and food security, food security and social life of the people, causes of food insecurity, and the alternative coping mechanism that they have been practicing in times of food shortage including the local people's perception in coping with food insecurity. Thus, the present study has been based on specific theoretical and methodological framework to make the research authentic.

1.5 Objectives of the Study

The general objective of the study is to describe the food security situation of the VDC. More specifically, the study has attempted:

1. To explore food security situation in the VDC
2. To identify prime factors behind food security
3. To assess the effect of food security in the life of people
4. To identify the alternative coping mechanisms on food insecurity

1.6 Rationale of the Study

The study is basically concerned with food security situation of Kuwakot VDC of Baitadi district. Although most parts of the country are suffering from food insecurity situation and the trend is increasing significantly. The national policy of Nepal reads as:

All citizen of the country will have food sovereignty as provisioned in law (Interim Constitution of Nepal 2063). The article 16 and 33 of interim constitution has guaranteed the right to food security and the article 35 has provisioned to improve the vulnerable situation of food insecurity to marginalized community. Further section 6.5 speaks- through the food security combination committee, the combination of project planning, implementation and monitoring will be done in every district (ibid). Though, all these are stated by the government but have just been proved as the paper work. Therefore the study is useful to assess the effort needed for preventing food insecurity in Nepal.

The problem is deeply rooted in far-western region too. In the year 2005/06, the cereal production in Baitadi was observed deficit by 28841 mt (VDC Profile of Nepal, 2008).

A report by WFP shows that some 260,000people are highly food insecure in the hill and mountain districts of the Far West where the wheat crop loss in Doti was 30-70 percent, more than 70 percent in Bajhang and was 50-70 percent in Baitadi (WFP, 2009).

In this critical situation the study is more significant to understand the situation of food insecurity, its causes and impact in the lives of the people. Moreover the study has also helped to reveal indigenous knowledge in coping with the problem and is also helpful to other developmental organizations. And no specific studies on the subject as well as in the area have been done to find out the situation of food insecurity.

1.7 Organization of the Study

This research is organized into five Chapters. The introductory Chapter describes food security in the global and in Nepal. It also illustrates the objectives, rationale of the study, theoretical framework and the key concepts of food, insecurity, security and household. The Second Chapter reviews previous literature relating to the food security. The Third Chapter illustrates about the methodologies used in this research. Similarly, the Fourth Chapter (analysis and interpretation) presents brief overview of the overall food security situation of far-western region and study district and socio-economic characteristics of the population in the study area. This Chapter also explains the livelihood options and coping strategies, impact of food insecurity and people's perception toward food insecurity. In the fifth section, along with concluding remarks, I have pointed out major findings and have mentioned recommendations for further researchers. Two annexes have supported the research. At the end, references that have been used in this research have been mentioned sequentially.

1.8 Limitations of the Study

Each and every study has its own limitation. No study can be free from shortcoming and drawbacks because of various constraints. And this study is also not an exceptional one. The limitations of the study are as follows:

This study is based on Dependency theory. Though the study could be done with Gender Perspective, Conflict Perspective or World System Perspective but the researcher did not use them because of his keen interest on Dependency theory.

This study includes Key Informants Interview, households' survey, observation, un-structured interviews and focus group discussion. Though, case study, PRA/RRA, methods could be used but the researcher did not use them due to the lack of time and resources.

The study has been conducted in a small area to fulfill the academic requirement; therefore, detailed research on food insecurity was not possible due to lack of sufficient resources, therefore it is only based on assessing, describing impact, prime factors, people's perceptions toward food insecurity situation. The present study is limited to the specific VDC/ Cluster therefore the conclusion drawn from the present study might not be generalized for the whole. But the interferences might be valid to some extent to those areas which have similar geographical, social, cultural and environmental setting. Despite the limitation, the study has tried to meet the objectives as far as possible.

CHAPTER TWO

LITERATURE REVIEW

2.1 Background

In this literature review section the researcher has reviewed various research reports of different national and international organizations, books, and magazine, research bulletin to analyze the food security situation in a global as well as national level.

2.2 Analysis of Pervious Literature

According to Newman (1992) the proportion of households in food poverty is on the decline, and renewed international efforts to end food deprivation for children are under way. We are still a long way from a third threshold of a full but healthy diet with the choices available in industrialized nations. Projecting world food demand, under alternative assumptions of both diet and population growth, indicates that nearly three times the present level of food production might be required for an improved diet and almost five times for a full, but healthy, diet, some 60 years from now. He concludes that the global production of food needs to expand threefold over the next sixty years, and particularly in regions bypassed by the green revolution.

Newman's (1992) study is concerned with global and has not touched Nepalese context. He has made overall generalization of food security and fails to state the position of Nepal in global context.

Foster Phillips and Howard D. Leathers (1999) have analyzed the causes behind food insecurity in the World and have found that hunger, or under nutrition, remains problem for hundreds of millions of people in developing countries. Poverty, income inequalities, population growth and illness continue to be important causes of under nutrition. They have found economic, demographic, environmental catastrophe, political system, agronomic and health as the main causes of food insecurity. This study is basically concerned to nutritional status of the global and is not focused to specific case.

Hiramani Ghimire and Navin Dahal (2004) on the other hand have analyzed food security through import export basis. An increase in trade in food and agriculture products does have economic implications that are relevant to food security. Increased export would mean better incomes, which may enhance affordability of food products that are available in the market. The study reveals that Nepal's traditional food items are rich in micronutrients. They may, however, lose to the attractive looking and ready-to-eat food packages imported from elsewhere even if they may not have the same nutritional value as many homegrown products.

This study is related to the international trade basis rather than intra-national food security. Further, the study talks about national level and does not raises the food security of Far Western region.

A study by PANOS Publisher (authors name is not mentioned) (2001) has shed light on World Food Summit (WFS) target and possibility in achieving it in the given time. A report by Food Agriculture Organization (FAO) said that unless extra efforts are made to accelerate progress, the target will not be achieved before 2030-15 years late. FAO says that a 100 percent increase is needed by 2030.

David Seddon and Jagannath Adhikari (2003) have analyzed the cause and effect relationship between conflict and food security. According the study the current conflict has had an additional adverse impact on the local food economy, by creating a climate of insecurity which has both reduced market imports and exports of food and restricted government and NGO food distribution. From late 2001 onwards, the conflict, which by then affected most parts of Nepal, has had a range of effects on lives and livelihoods, system of food distribution and markets, production and consumption, development processes, service provision and the implementation of development programmes at all levels. The authors have estimated that there are perhaps as many as 5 million people whose lives and livelihoods have been affected in some ways over the entire period of the people's war.

This study is limited to the conflict and its effect to food security and does not talk about the other aspects of food insecurity like natural disaster, crop disease, land holding, employment.

Govinda P. Koirala and Ganesh B. Thapa (1997) have attempted to assess the challenges of food security in Nepal and have tried to identify suitable strategies for attaining sustainable food security. The study has analyzed the food security situation of Nepal from a historical perspective and found Nepal's poor position in the world context in terms of food imports and exports. Food production in Nepal is subdued by the closing agricultural land frontier, lack of desired growth in agricultural productivity, and unfavorable trade balance for the import of food. The study has found variation in agro-climatic conditions, illiteracy, Skill or competence and low budget allocation for research as the major challenges.

Shiva and Bedi (2002) have analyzed how the globalization has affected the food security system. The study found that the core element of globalization-liberalization, privatization and Structural Adjustment Program (SAP) have an adverse impact on household food stock and food distribution systems. According to them globalization destroys the possibility of growing food that can be grown locally because of the subsidies that hide the real costs of production and distribution.

Jagannath Adhikari (2008) has analyzed food security situation of Kathmandu valley from historical perspective. He has analyzed the data since 1975 to the till date. He has revealed the food production and consumption pattern and food supply (export and import) condition in the past and present. He concludes that with the adoption of economic liberalization policies since the 1980s, the market has directly and adversely affected each family's food security. Statistics also indicate that food prices have skyrocketed, especially in the 1990s when the government has implemented the liberalization in economy as a part of Structural Adjustment Program. At present, Kathmandu is dependent mainly on India for the supply of not only rice, but also other commodities like pulses, fruit and vegetable.

This study is limited to the Kathmandu valley and does not speak about the Far Western region's food security situation.

Another book by Jagannath Adhikari (2008) has examined the food crisis in Karnali from a historical perspective under the dependency theory. The data for the past 40 years has been presented in the book regarding food production and requirements, and the extent of malnourishment show that the food crisis has been deepening. He has clearly revealed that the rulers in Kathmandu have political and class interests in keeping Karnali subservient. Further He has also revealed that Karnali is a good example of 'geographical exclusion', which has arisen mainly because of lack of access of people to basic services like transportation and communication, information, employment, particularly the public service, and market. This inaccessibility has led to capability deprivation among the general mass of Karnali, which has further led to their exclusion from national social and political arenas.

International Food Policy Research Institute (IFPRI) have mentioned that thirty-three countries around the world have alarming or extremely alarming levels of hunger.

According to the Kantipur correspondent (2067) stating district agriculture office (DAO) food crisis in the Mid and Far Western region has been observed due to the long summer drought and high price in food items**.** It is estimated that the production of summer crops will decreases by 60 percent in Humla, 80 percent in Kalikot, 65 percent in Mugu, 70 percent in Bajura, 50 to 70 percent in Doti. In Baitadi out of total 9000 hectare irrigative land, 10 percent land is bare due to lack of irrigation facility. Due to lack and untimely rainfall, 100 family of Chumte, 25 family of Chumling, 20 family of Tharung and 15 families of Yahu in north Gorkha district are in food insecurity.

According to World Food Summit (WFS), (1996) it is estimated that more than 800 million people throughout the world, and particularly in developing countries, do not have enough food to meet their basic nutritional needs. The problems of

hunger and food insecurity have global dimensions and are likely to persist, and even increase dramatically in some regions.

WFS, (2005) found that in the two years on the world food situation, three fundamental factors have not changed. First, the world's population continues to rise and will most likely reach 9 billion in the next generation. Second, small farmers dominate agriculture in the developing world and are likely to continue to do so. Third, poverty remains the root cause of hunger and malnutrition. Although urbanization is increasing, the poor still live predominantly in rural areas and inequality between haves and have-nots is rising.

Interim constitution of Nepal (2063) has mentioned food access as a fundamental human right of all citizens. At present around 40 percent of total population lacks minimum calorie intake. According to the ministry of Agriculture and Cooperative 133000 metric ton food is insufficient due to marginal land and land slide in national level. According to the agricultural census 2001/002, the food production of the country is only sufficient for 40 percent of families. Similarly 26 percent of population has sufficient food for 4-6 months with their own production and 13 percent couldn't support even 1-3 months (Kantipur, 2009)**.** According to the Ministry of Agriculture, it is estimated that the production has decreased by 30 percent in Humla, 40 percent in Rolpa, 40 percent in Salyan and 50 percent in Jajarkot. Furthermore, WFP claims that 7 lakhs people are in food crisis in Mid and Far Western region due to the drought (ibid).

The production of food seems to be decreases by half in comparison to that of the last year (Annapurna Post, 2066). According to the statistic only 75 percent paddy has been planted all over the country. It is assumed that the paddy production will decreases by 25 percent due to the late monsoon rainfall. A combined study by ministry of Agriculture, WFP and United Nations and Food Agriculture Organization (UN-FAO) has mentioned that 66 percent of Nepalese people are facing food insecurity situation.

A full scale analytical study by FAO (2003) has found that continuing high population growth, slow growing agricultural output, lack of adequate livelihood

opportunities, shortage of nutritious food, high levels of poverty, lack of health care facilities, lack of education and public awareness have translated into a host of nutritional problems. However the study has raised some questions towards the Agriculture Perspective Plan (APP) (1997-2017) implementation, which was regarded as a milestone in the agricultural transformation. The implementation of APP has fallen far short of requirements, co-ordination has been poor, investment has been far short of targets and many of the important institutional reforms demanded by the plan are still –at best- in the pipeline.

A study by WFP (2006) has found that household vulnerability to food insecurity in Nepal is contingent on two inter-related issues: food utilization and food access. The study concludes that around 27 percent of households are said to be vulnerable to food insecurity and hunger – having access, utilization and consumption problems.

A report of WFP (2008) has found that over the period July to September 2008, the number of people highly and severely food insecure increased by about 50 percent due to severe flooding in the East and Western terai districts, road obstruction because of incessant rainfall and landslides, rise in food prices and decreased food production. The food security situation in the flood affected districts of Eastern and Western terai remain precarious. According to the report some hill districts such as Jajarkot, Bajura, Dailekh, Rukum, Baitadi and Darchula were severely or highly food insecure during april-July 2008 because of heavy loss in winter crops, rise in market prices and lack of employment opportunities.

The other study of WFP (2009) has found that over 26000 people are highly food insecure in Dolpa, Jumla and Mugu and several areas of the hills and mountains of the Mid and Far-West are highly or moderately food insecure due to remoteness and marginal agricultural land, poor to moderate summer crops production. Most of the Far-Western districts are currently food insecure. The food insecure areas are generally remote areas with limited road/market access and marginal agricultural land.

The news by WFP (2009) mentions that conflict, high food prices, chronic food insecurity and frequent natural disasters have put millions of people on the edge of hunger and in need of immediate food assistance. Winter drought has led to a severe drop in crop production in Nepal, placing more than two million people at high risk of food insecurity.

Prativa Shrestha (2000) has done a study on intra-household resource dynamics and rural household food security through gender perspective and has found that 50 percent of HH of the study area reported food sufficiency up to only 6 months. She has conducted her study through gender perspective and also limited to a specific area. So, the generalization could not be generalized for the whole. Her study is silent about food security of Far Western region.

F. Lungeli Magar (2003) has also done a study on food security situation in Nepal which is based on secondary information and shows that there are massive numbers of HH who are suffering from food inadequacy. Food security measures are not fully success to solve the problem. Population pressure is very high and is in increasing trend. Supply of food grain from the food surplus district is decreasing. He has done the study based on secondary data available in various organizations and also does not reveal any finding of Far Western region.

A research study by IFPRI (2009) on website found that the food aid requirement is estimated at 1144000 tones, including 1400 tones in the western mountains, 19200 tones in the mid western mountain, 31000 tones in the Far Western mountains, and 62800 tons in the Far Western hills. With food aid anticipated from the Nepal Food Corporation (NFC) and WFP at 101800 tones, there remains an uncovered deficit of around 12600 tones. The study further writes lack of economic access to food is the core critical problem in the hill and mountain areas of the Far and Mid Western regions because of very low purchasing power and extremely high market prices. The food deficit by region, 2006 aggregate cereal output is estimated to have declined by 16 percent in the Eastern Terai, 9 percent in the Central Terai, and 5.3 percent in the Western Mountain. A total of 42 out of 75 districts in Nepal are estimated to be food deficit

in 2006/07. Rural poverty is very high in rural Mid-Western (46.5 percent) and rural Far-Western regions (45.6 percent). The study has concluded that poor performance and low agricultural productivity are the major causes of food insecurity.

World Food Summit (WFS) (1996) in his declaration has estimated that more than 800 million people throughout the world, and particularly in developing countries, do not have enough food to meet their basic nutritional needs. The summit found conflict, corruption, terrorism and environmental degradation as major causes contributing significantly to food insecurity.

Arjun Shaha in The Kantipur Daily (2066) states that sever food insecurity in 6 VDCs (Bichhya, Rugin, Sappata, Jagannath, Wai, Bandhu) of Bajura District have been observed. In all those six VDCs no household has food stock even for one month. A report surveyed by Food Security Network of the district has revealed that 3 thousand families are suffering severe food insecurity. The food production of the VDCs has been decreased by 80 percent. Food security situation is precarious in Baitadi district but he has not mentioned about it.

A study carried out by WFP (2009) has estimated that 3.5 million people have become highly to severely food insecure due to 2007/08 food price increases and the 2008/09 winter drought, an additional 5 million people have potentially fallen below the poverty line during that past 3 years. Moreover the study found that over the past 3 decades, the percentage of government expenditure on agriculture steadily fell from around 30 percent in the 1980s, to below 20 percent in the 1990s and to 5 percent in 2008.

Food Security System of WFP (2008) has showed that the current food security situation is worrisome and has deteriorated significantly compared to the same period last year. Despite significant food assistant to the Karnali region most of the district in the Karnali and Far West are currently classified as highly food insecure. WFP estimates that the winter drought has added approximately 700,000 to the 2.7 million people who were already identified as needing immediate food assistance.

Nilu Thapa (2066) in her article, has mentioned that food security situation of Nepal is worrisome. A recent study by WFP has showed that due to the decrease of local crop production by 20 to 70 percent, 2-50 lakhs lives of Mid –Western and Far –Western (Achham, Bajura, Dailekh, Dolpa, Jajarkot, Kalikot, Humla, Mugu and Rukum) districts are struggling hardly with food crisis. They are coping only 3 months by their own food production. Stating another report of WFP she has mentioned that 2.5 million people are in need of food assistance at the moment and more than 3.5 million people are likely in food insecurity situation in near future. She has not included Baitadi in her article which is also one of the food insecure districts.

Jagat Deuja (2067) has mentioned that Nepal was food independent in 1971/72 but now 41 district of Nepal are known as food deficit. Food Security Index of Nepal has decreased by 20 percent to that of 2008. More than 2 million people in Nepal are facing extreme food insecurity.

Raj Bahadur Sahi (2067) writes 18 VDCs out of 24 are in food insecure. Around six thousand household of Jima, Narthapu, Fot, Kalai, Viee, Dhainkot, Khamle, Sukadhik, Seri, Dolphu, Pulu, Rowa and Hynlu VDCs are facing severe food insecurity situation from the month of Mangsir. The production of Paddy, Milet, kauni, Chinu, Phapar, Maize and Pea has been decreased by around more than 60 percent due to the drought.

Dil Bahadur Chattyal (2067) states in Nagarik Daily that food crisis has been observed in Bichhya, Kolti, Jagnnath, Goti, Sappata, Jukot, Bai, Rogin, Badhu, Kotila and Pandusen VDCs of Bajura district for last 5-6 months. Their own production is sufficient only for 4-5 months. If subsidized rice has not been distributed, 11 VDCs of the district suffer by food insecurity in every year.

In January 2008, 1.3 million people were identified as requiring urgent food assistance. Because of high food prices, this number had increased to 2.5 million by June 2008, and again to 2.7 million people by December. Due to drought and winter crop losses during the first quarter of 2009, this increased again to 3.4 million (WFP, 2009). The majority of Nepal’s food insecure live in the Mid to Far

Western Hill and Mountain areas. In district such as Dolpa, Mugu, Bajura and Humla average agricultural production in a good year is normally only sufficient for 3-5 month's consumption (WFP, 2009).

The crop losses ranged from about 10 percent in the Terai to more than 50 percent in some mountain districts of the Mid and Far West. The poor winter crop production has resulted in an estimated national food deficit of 133,000 mt of cereals. It is estimated that 700,000 people are in need of food assistance. According to the bulletin, some 136,000 people are highly food insecure and another 5,000 are severely food insecure in Karnali Region, some 260,000 people are highly food insecure in the hill and mountain districts of the Far West where the wheat crop loss in Doti was 30-70 percent, more than 70 percent in Bajhang and was 50-70 percent in Baitadi and other districts. Furthermore, about 100,000 people in the Rapti Bheri hills are facing high to severe food insecurity (WFP, 2009).

The food security situation looks critical in Kailali and Kanchanpur of Far West where 137,000 people are estimated to be severely and highly food insecure. In Bardiya, around, 5,000 people are still highly food insecure (WFP, 2008).

Agriculture remains the main livelihood strategy of Nepali households. According to Nepal Living Standard Survey (NLSS) 2003/04, while agriculture is a major economic sector, land under cultivation is only one fifth of the total land area (NLSS, 2003/04, CBS).

Agriculture and rural economic growth remains constrained by inadequate infrastructure, weak irrigation and inefficient input and output markets, Nepal's poor road infrastructure –one of the least developed in the world- prevents the development of markets and hence the growth of farm and non farm incomes (WFP, 2006). Himalayan News Services (2011) has mentioned that Nepal is experiencing food shortage of 3,16,465 Mt. affecting over 1.6 million people this year. Food deficit was around 1,32,914 Mt. last year. Gap between food production and population is widening and has created an alarming situation for food security.

From the various literature it is obvious that food insecurity is the cause of comprise factors such as low production, conflict, uneven import-export situation, natural disaster. Most of the literature related to the food insecurity are concerned to the international level and are concerned with the historical trend, causes of food insecurity and government's role in tackling with the food problem. The books reports and news in terms of Nepal food insecurity situation is either lacking theoretical framework or are in limited to urban areas. Though much of the studies on food insecurity have been done but no studies have been done on food insecurity of Far-western Region. Furthermore, all of the studies have been found lacking the analysis of the people's perception towards food insecurity and the alternative coping strategies.

Thus, my present study is focused on to assess the overall situation of food security of the study area, causes of food insecurity, impact of food insecurity and has also explored the people's perception to mitigate with food insecurity.

2.3 Theoretical or Conceptual Framework

Food insecurity is the product of production, access and supply. The production is related to the availability of productive land, irrigation facility, fertilizer, knowledge of modern multi cropping farming. If the people have sufficient land and have better irrigation facility and are well known about farming there is less likely to be food insecurity whereas access is concerned to the ability of farmers to get such facilities as they require. If the farmers are economically sound, they can buy high yielding varieties, modern farming technologies to increase food production. Supply is also one of the important variables in terms of food security. Here, supply suggests of free movement of goods and services in one hand and on the other hand it indicates access to the markets. Agriculture production is related to the market. Farmers can sell the product in the markets and can buy other things from market. If there are not friendly supply mechanisms, the negative effect goes to the farmers. All the above mentioned factors are not only under the farmers. They are related to the national policies and politics too. Therefore, the relationship among national and local policies, politics and local governments should be harmonious.

This research is based on Dependency theory. Dependency theory is the critique of the Modernization theory and the elaboration of the Neo-Marxism or World System theory predominant in 19th century and onwards. It is still much relevant to study the relationship between metropolis and satellite.

Dependency theory was firstly developed by A.G. Frank, though it was talked by various scholars like Samir Amin, Paul Warren, Immanual Wallerstein. The analytical premises of the world system and dependency theories rest on the position of nation-state in the world system (the core, semi-periphery, and periphery)and its implications for the different layers or their internal units, such as, social and economic classes, geographic region, agricultural and industrial bases, urban and rural settings and gender position. Dependency theory attempts to provide the causes or underdevelopment of developing countries through various lenses and suggest a number of strategies for same escape. A key exponent of dependency theory, Andre Gunder Frank (1975) argues that dependency of developing countries in the world capitalist system is a relation of exploitation because they can neither control their development nor obtain tangible benefit from it. Rather, it promotes the 'development of underdevelopment' where '...certain classes, local ruling classes, can do benefit, in the short term at least, from underdevelopment, but this benefit is understood against the backdrop of harm-dome to her nation as a whole.'

According to eminent scholar of this school Immanuel Wallerstein (1977), the developer of World System theory, the world system theory is a perspective which deals about unequal economic and political relationships in which certain industrialized nations (among them US, Japan, Germany Britain etc) and their multinational corporations are in a dominant position at the core of the system. Found at the semi-periphery of the system are countries with marginal economic status. Wallerstein (1977) suggests that the poor developing countries of Asia, Africa and Latin America are on the periphery of the world economic system. These economies are controlled and exploited by core nations and corporations much as the old colonized empires ruled their colonies. Wallerstein classified the word in three system, core, semi-periphery and periphery.

Paul Baren (1973) appears equally critical of the developing countries' links with the capitalist system. He asserts that the luxury consumption of imported goods by state elites and bureaucracy eats the potential economic surplus for local investment.

Baran (1973) placed surplus extraction and capital accumulation at the center of his analysis. Development depends on a population's producing more than it needs for bare subsistence (a surplus). Further, some of that surplus must be used for capital accumulation - the purchase of new means of production - if development is to occur; spending the surplus on things like luxury consumption does not produce development. Baran (1973) noted two predominant kinds of economic activity in poor countries. In the older of the two, plantation agriculture, which originated in colonial times, most of the surplus goes to the landowners, who use it to emulate the consumption patterns of wealthy people in the developed world; much of it thus goes to purchase foreign produced luxury items—automobiles, clothes, etc. -- and little is accumulated for investing in development. The more recent kind of economic activity in the periphery is industry—but of a particular kind. It is usually carried out by foreigners, although often in conjunction with local interests. It is often under special tariff protection or other government concessions. The surplus from this production mostly goes to two places: part of it is sent back to the foreign shareholders as profit; the other part is spent on conspicuous consumption in a similar fashion to that of the plantation aristocracy. Again, little is used for development. Baran (1973) thought that political revolution was necessary to break this pattern.

Poor nations provide natural resources, cheap labor, a destination for obsolete technology, and markets to the wealthy nations, without which the latter could not have the standard of living they enjoy. Wealthy nations actively perpetuate a state of dependence by various means. This influence may be multifaceted, involving economics, media control, politics, banking and finance, education, culture, sport, and all aspects of human resource development including recruitment and training of workers.

According to a revolutionary Marxist Che Guevara, “The inflow of capital from the developed countries is the prerequisite for the establishment of economic dependence. This inflow takes various forms: loans granted on onerous terms; investments that place a given country in the power of the investors; almost total technological subordination of the dependent country to the developed country; control of a country’s foreign trade by the big international monopolies; and in extreme cases, the use of force as an economic weapon in support of the other forms of exploitation’ http://enwikipedia.org/wiki/Depedency_theory).

Frank (1975) theorizes that the contemporary underdevelopment of Latin American countries is largely part of the historical products of the continuing economic, political, social and cultural relations between the undeveloped countries which he called the satellite and the more developed country metropolis of metro pole center. Thus, this relationship is an essential outcome of the expansion of the capitalist system over the past centuries and within this setting up (relationship) the metro poles tend develop and the satellite to underdeveloped. A.G. Frank classified the world in two categories as metropolis and satellite.

The elite in the core nations dominate and cooperate with the elite of the dependant nations to monopolize the production process, control the direction of trade and commerce and in that process, subordinate a majority of the population.

Another prominent scholar of Dependency theory, Samir Amin (1990) argues that the dependency situation of a country is the result of dependent situation of underdeveloped countries upon developed countries. So, to be self-dependent, first they have to get free from the chain of developed countries.

According to the dependency model, in my present research the relationship between core/metropolis (district headquarter) and periphery/satellite (The study area) and dominant (village elite) and dependant (relatively poor) has been

analyzed and tried to find out that how the core exploit periphery and makes them it's subservient.

Far-western region as the periphery is depended to Kathmandu (core) on one hand and on the other hand Kuwakot VDC which is considered as periphery is depended on DHQ (core). Core always intends to exploit periphery in terms of natural resources, services and therefore never takes proper initiation for infrastructural development and also does not supplies sufficient food as required due to which food supply from the core and production in periphery decrease owing to food insecurity for a long run.

Conceptual framework used in this study is basically derived from Amartya Kumar Sen's (1980) concept of entitlements to food and livelihoods approach of food security assessment. In the 1980s Sen promulgated entitlements approach to food security analysis that emphasized access to food rather than merely the food availability. Sen's work is considered to be a major breakthrough in the concept of food security, as before him availability of food was taken to be the overriding determinant of the hunger and famine.

Sen (1980) used the idea of entitlement and endowments to explain how an individual or a household can have access to food. According to him, food availability alone does not guarantee people's access to food for consumption. Individuals and households can have legitimate command over foods if they have entitlements to 'bundle of resources' such as land, capital, technology, skills, stocks and income. He later used the term 'expanded entitlement' to include social network, relatives and so on that may help to get food especially during distress.

Sen (1980) argues that hunger could occur even when there is enough food to feed the entire community and those who suffer from hunger and those who are fail to convert their 'exchange entitlements' into food.

Hence, livelihoods approach to food security assessment is helpful to find out both the severity of food insecurity, i.e. immediate food crisis as well as the

processes that may cause food insecurity with long-term impact on livelihoods, i.e. vulnerability and coping strategies of the households.

2.4 Concepts Used in the Study

Food

Oxford Advance Learners Dictionary defines food as “any substance that people or animals eat or drink or plants take in to maintain life and growth (Oxford Advanced Learners Dictionary, 1993).

Food Security

A globally accepted definition of food security is given by World Food Summit ‘Food security exists when all people at all times, have physical and economics access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life’ (WFS, 1996).

Koirala and Thapa (1997) have illustrated food security ‘A country and people can be said to be food secure, when their food system operates efficiently in such a way as to remove the fear that there will not be enough to eat. In particular, food security will be achieved when the poor and vulnerable, particularly women, children and those living in, marginal areas, have secure access to the food they want. Food security will be achieved when equitable growth ensures that these groups have a sustainable livelihood’.

Food Insecurity

Koirala and Thapa (1997) have defined food insecurity as ‘any adverse movement in one or more of the variables- household food production net of seed and animal feed, food storage losses and wastage, food supply in the market and food prices, household assets, income and cash flow, net transfers at any period could result in transitory food insecurity’.

‘Food insecurity is defined as lack of access by members of society and nations to enough food throughout the year to live healthy. This is a situation caused

either by inadequate food availability i.e. lack of adequate supply or by inadequate entitlements i.e. lack of effective demand, or both' (Khadka, 1991).

Household

In my present study household is defined as 'Individuals who comprise a family unit and who live together under the same roof; individuals who dwell in the same place and comprise a family, sometimes encompassing domestic help; all those who are under the control of one domestic head' (http://legal-dictionary.thefreedictionary.com/).

CHAPTER THREE

METHODOLOGY

3.1 Background

This chapter introduces with the methodology. Under this section the researcher has discussed about the research design, nature and sources of data, sampling procedure, data collection techniques, Household (HH) survey method, Focused Group Discussion (FGD), interview schedule, method of data analysis and the ethical aspects of the study.

3.2 Research Design

This study has been carried out with the blend of descriptive and explorative research design because the study has described and explored food insecurity situation of the area covering income level of the people, description of the crops grown in the area, production of the crops, food sufficiency for the people, causes behind food insecurity, alternative coping strategies, people's perception to mitigate with food insecurity and use of indigenous knowledge, the land they hold etc. Moreover, the study has highlighted the local peoples' perception in terms of high yielding breeds, how to increase agriculture production, importance, availability and possibility of irrigation facility etc.

All the above aspects related to food security can be assed in detail with the help of descriptive and explorative research design.

3.3 Data Collection Procedures and Instruments

Household survey questionnaire method has been applied to obtain the primary information from the households. Structured and unstructured interviews and field observation as well as focus group discussion and Key Informant Interview schedule tools were the key techniques. Key Informant Interview tool helped to cross check the data obtained from household survey and also widened the reliability of the information. Researcher's observation of the study area while

doing household survey and Key Informant Interview, also revealed the real situation of the food security.

3.3.1 Sampling Procedure

Upon arrival at the study VDC, researcher visited all four wards and counted each and every households located within the area. The enumeration revealed that there were total 403 households located in the sampled ward. Of the total households a sample size of 15 percent (60) households has been talen to analyze the data using simple statistical tools such as mean, ratio and percentage. More importantly, the determination of this sample size was also based on the limited time, energy and money. The sampling interval was 6.7.

Wards have been chosen in terms of the situation of food insecurity, geographical complexity, and social and cultural pattern. Out of 9 Wards in the VDC, four wards (Ward no 4, 6, 8 and 9) were chosen for the further study. According to the villagers these wards are more vulnerable to food security. Out of total household of the sampled wards (403), 15 percent i.e. 60 households were taken for the household survey based on random sampling. Fifteen households from each four wards with the help of coin toss method were taken randomly.

3.3.2 Household Survey

A set of questionnaire was prepared to conduct household survey. Open ended as well as close ended questions were prepared to generate the realistic and accurate data about the food security of the study area. The questions were asked to the sampled household. This has helped to seek the HH food security situation, its impact in their lives and their coping strategy in the times of food insecurity. The household head whether they were male or female, were asked the questions and were filled by the researcher himself. Household survey questionnaire has been appended in annex-I.

3.3.3 Focus Group Discussion

The focus group discussion has been carried out with the people of the study area. This technique has helped to cross check the data obtained from household survey questionnaire in order to check their reliability and has also decreased the biasness of the respondents. Furthermore, this was useful in analyzing the impact of food insecurity in the people's life and find out the ways of overcoming of the problem.

The participants were both male and female. Ten people participated in the FGD were village level political activists, farmers, Indian in-migrants and +2 students. The group was constituted with 4 female and 6 male among 10 part-takers. Among 4 female one was chairman of mother's group and the rest were farmers. And among the 6 male participants one was from political leader, two were students, one was social worker, one was recent in-migrant and the rest one was local farmer. The length of FGD was an average of 1.5 hours where the researcher has participated as a facilitator.

3.3.4 Interviews Schedule

Interview technique has also been widely applied to find out the food security situation. An Interview checklist was prepared for the convenience for the researcher which has been appended in annex-II. This research includes 10 interviews with people originally from various economical, educational and political backgrounds (People who were leader farmer, NGO/INGO employee, local political leaders, social workers) who always been a victim of food insecurity. Almost all the persons interviewed come from food insecure area of the same VDC except 2 interviewees who were from NGO/INGOs. All the interviews were face to face interview except one telephone interview conducted in Kuwakot VDC. Most of interviewees were men. At first, the researcher intended to integrate 50 percent male and 50 percent female into the interview list, but it proved to be extremely difficult to find women who had interest to come in public sphere and share the problems.

The language used in doing interview was local language. Being a residence as well as the practitioner of native language of Far Western region, it was easy to interact with the native people in Far Western local (Doteli) language. Therefore the interview was conducted in native language. The interviewees talked to the researcher with passionately on their problems like, lack of sufficient food, lack of irrigation facility, low level of educational attainment, reasons of out-migration, history of food security, alternative coping strategies.

Among 10 interviews, 2 interviews were conducted with I/NGO activist including one telephone interview, 1 with political leader, 5 leader farmers, 1 with social worker and one with president of mother's group.

The average length of an interview was one and half hour. One third of the part of the interview consisted of history of food security and insecurity situation, rest of the times was spent for impact of it. And half of the interview consisted of people's perception toward food insecurity.

The sampling technique consisted of purposive interviews with people who were contacted though various channels (for instances: networks of civil servants, INGO activists and scholars). This sampling technique necessarily introduced some bias and limited to some extent the representativeness of my sample. But these biases are largely reduced by the great diversity of the sources through which the interviewees were contacted.

3.3.5 Observation

Participant observation tool, to some extent, was also used to find out the impact of the food insecurity in their social life. While doing field survey the researcher has noticed their way of living, consumption pattern (what they take in their lunch or dinner), tangible household assets like radio, cassette, plough, water collection utensils, sandals, shoes which are the indicator of families' standard of living. One thing researcher noticed at the time was when he asked questions to women, first they hesitated and then once see to the male counterpart (it was seemed that they were taking a sort of consent) before answering to the

question. Similarly, researcher noticed to those households whose family members were migrated to India in order to find out the way of coping food insecurity.

3.4 Nature and Sources of Data

This study has largely been based on primary data. Necessary secondary data have been obtained from government policy documents, research reports, data sheets and other relevant literatures. Primary data has been obtained from household survey questionnaire, Key Informant Interview schedule and informal interaction with the people of study area, focus group discussion and field observation. Both, qualitative and quantitative data have been collected.

3.5 Methods of Data Analysis

The soft ware program Ms. Excel have been applied for the quantitative data analysis and simple statistical tools like mean, median, mode, table, graphs, and pie-charts have been used for data analysis and illustration. Text writing method has used for qualitative data analysis.

3.6 Research Ethics

Every researcher has its own research ethics therefore; the researcher too has the following research ethics:

- Al the respondents and interviewees have been kept secret for their physical, social and psychological well-being. Their rights to privacy, name of respondents, key informants have been confidentially respected.
- As a researcher, I have not put forward my own view in any circumstances, staying outside the issue beside some special occasions to alienate my respondents or get side tracked.
- It was cared during my research that no exploitation of respondent, as individuals or as a group should be occurred. And have tried to make the research as a fair return for their help.

- The privacy of family life about various economic and social issues has been considered. On the other hand, their time was also considered according to their convenience.
- The importance of respondents' participation has been emphasized throughout this research.
- Respondents have rights over data that I have produced. They can see transcripts of interviews and field notes and to alter the content, withdraw statements, and can be provided by additional information if they wished so.
- Respondents are entitled to know the feedbacks and conclusion on my research that is what I am saying about them.
- Extra attention has been paid to good communication with respondents because it takes more time to gain valid consent, and to build trust among particularly disempowered people.

CHAPTER FOUR

ANALYSIS AND INTERPRETTATION

4.1 Background

In this chapter I have outlined Nepalese food insecurity context to some extent and then the data obtained from the field have been analyzed and interpreted. I have done the assessment of the food insecurity situation, described the impact of food insecurity situation in the lives of people, the prime factor behind food insecurity situation and have also highlighted the local people's perception in coping with the food insecurity problem.

4.2 Study Site Description and Rationale of the Study Site

Physical Setting

Baitadi is one of the hill districts that fall in Far Western region of Nepal. The district is surrounded by Bajhang and Doti district in the East, Pithauragadh district of the neighboring country India in the West, Darchula district in the North and Dadeldhura district in the South. The total area of the district is 1519 sq. km. The district is 390 meter to 2950 meter high from the sea level. Administratively the district is divided into 2 electoral regions, 13 ilaka, 62 VDC and one municipality (Dashrathchand Municipality). Out of total area 1519 sq. km., 50.69 percent is surrounded by forest and bush. The total population of the district is 2,34,418 where house hold number is 40,387 and population density is 158 sq. km. Male population is 1,13,538 (48.4 percent) and female population is 1,20,880 (51.6 percent). 98.6 percent of the population speaks Nepali/Doteli language. Population growth rate of the district is 1.58 which is the lowest in comparison to other far western districts (District Profile, 2063). Maximum temperature is 34.0° Celsius, minimum is 5.0° Celsius and maximum rainfall is 1243 milliliter. The district is in 62th position (UNDP, 2003/04).

Kuwakot VDC is generally known as food unsecured district. Though almost VDCs of Far Western are known as food unsecured VDCs, I preferred Kuwakot

VDC for my study because of my limitation on time, money and energy with my limited resources.

Social Setting

Most population of the district follows Hindu religion. Based on ethnicity, Chhetris are the largest (46.9 percent) followed by Brahman (21.5 percent), Thakuri (9.1 percent), Kami (8.4 percent), Sarki (2.9 percent) and 11.2 others. In terms of language, 93 percent speak local language i. e. Doteli, 5.6 percent speak Nepali language and 1.4 speaks ethnic language. According to the main profession, 87.2 percent people are involved in agriculture, 4.7 percent are in government service, 0.4 percent in business, 3.8 percent does the household chore and 3.9 percent do other works (NGO Federation of Nepal, 2062). Literacy percent of the district is 42.25. In this district, 208 primary schools, 56 lower secondary, 48 secondary, 8 higher secondary, 96 private schools and two campuses level educational institution are available (District Profile 2063). On transportation facility of the district, only 15 VDCs and a municipality are road head area. Except these, the people from 18 VDCs have to walk 3 hours one way to get to the road area, 6 VDCs are 3.5 hours far from the road, 17 VDCs are 5 to 9 hours far and 6 VDCs are more than 9 hours far from the road area. Industrial development sector of the district is also not satisfactory. Only 465 industries are registered. Of them, 73 are production oriented, 68 are agriculture related, 27 are forest related and 297 are service oriented. The total productive land of the district is 25,700 hectare. Out of it only 26.88 percent land has the irrigation facility. Mostly produced crops of the district are paddy, maize, wheat, millet, barley and potato. Normally rice is planted in 5,325 hectare, maize 8,400, wheat 9,100, millet 850, barley 700 and potato 610 hectare respectively (District Profile Baitadi, 2063). The food availability and requirement of cereal of the district is as follows;

Table 4.1: Production of cereals in the district (in mt).

Year	Population	Rice	Wheat	Maize	Millet	Barley	Required	Deficit
2005/06	251560	4706	5940	10310	629	138	50564	28841

Source: VDC profile of Nepal, 2008

The table shows that the food deficit of the district is by nearly half with that of the requirement in the year 2005/06. This is the fact that the production area will remain the same and the population will increases at the same ratio and the food deficit will likely increases. Cereal crops area and production of the district is as mentioned below;

Table 4.2: Area and production of the district (land in ha. And production in mt.)

Crops	Paddy		Maize		millet		Wheat		Barley	
Year	Area	Prodn	Area	Prodn	Area	Prodn	Area	Prodn	Area	Prodn
2006/07	5320	8138	9400	16450	850	770	5000	6500	500	500

Source: VDC profile of Nepal, 2008

The table shows the area and the cereal production of the district. The land holding of the VDC has been found an average of 0.6 hectare which is less than the national average of land holding which is 0.8 hectare (NLSS, 2003/04). Paddy is considered as the main crop but in this district paddy planting area is much lower with that of maize and so is the production. This might because of unavailability of irrigation facility.

Kuwakot VDC of Baitadi district, which has been taken as the research site, is in Far Western region of Nepal where the food insecurity has been a major problem. The VDC is surrounded by Hat, Bhatana, Deulikot, Bhumiraj and Kotila VDCs and very close to the Bajhang district. This area is roughly more than 85 kilometer from the District Headquarter of Baitadi district. The people speak local (Doteli) language. They are living a simple life. The area is dense with houses. There is a road being constructed to get there. People have to walk about 5 hours from the road head side. People celebrate local festivals like Bisu (New Year festival), Holi, Rakshya Bandhan, Maghe Sankranti, Shivaratri, Jnat

(worship ceremony of local deity) including national festivals Dashain and Tihar. The people of various castes like Bahun, chhetri, so called Dalit live in this VDC. The total population of the VDC is 4412 (male 2208 and female 2204) and the households are 722 (VDC profile, 2063). The VDC has no transport access and has been lacking by other services like, communication, health, higher educational institution provided by the government. The mostly cropped crops of the district are wheat, maize, rice, barley, millet and potato. The people of the VDC are solely depended on subsistence agriculture. Food insecurity is pervasive where there is always a fear to mitigate the family food needs in terms of Far-Western Region. Especially in case of the study area of Far Western region the problem is more severe.

In this respect, the area is facing hardships to fulfill the basic needs. Due to the subsistence agriculture production system, the production is not sufficient for them. To mitigate with the food insecurity the people have to migrate to India to earn cash income. Because of very far from the district headquarter; they could not get governmental services. In such a situation it is very relevant to carry out a study to find out the real situation of food security and its impact in their life.

4.3 Food Security: Conceptual Underpinnings and Nepalese Context

Food has been understood in different forms and very often it has been defined narrowly to mean food self-sufficiency, but it is much more than this. The FAO (2003) defines food security as a state 'when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.' This definition encompasses several dimension of food security like it implies both physical and economic access to sufficient food, it means that such access all times in a year, and in times of unusual events like war and times of natural calamity as well as it implies that food has to be safe, nutritious and conducive to a healthy life. Of the several dimension of food security, physical access to nutritious food is of most direct concern of the agricultural sector (FAO, 2003). The report further reads continuing high population growth, slow-growing agricultural output, lack of

adequate livelihood opportunities, shortage of nutritious food, high level of poverty, lack of health care facilities, lack of education and public health awareness have translated into various types of nutritional problems among different sections of population.

Food security can be segregated into several components. It is not possible without sufficient income, hence it is income security; it is not possible without the supply of food, hence it is food supply security; it is not possible with intra-household biases against a sex or age group, hence it is socio-cultural security, and it is never possible without good health to productively use the ingested food and hence it is equally health security (Koirala Govinda P. and Ganesh B. Thapa, 1997).

The average agricultural yield in Nepal is poor, particularly compared to neighboring countries. In addition, sluggish growth in crop production has not kept pace with growth in population and increasing demand. Over the past 5 years, overall cereal production has increased by only 5 percent, whereas the consumption requirement has increased by more than 20 percent (WFP, 2009).

Extreme weather event between 2006-09, including droughts and floods, have significantly affected food production in Nepal. Compared to 2008, the 2009 winter crop harvests of mountain, hill and tarai districts decreased by 40 percent, and 10 percent respectively. A national year-on-year decrease in wheat and barley production of 14.5 percent and 17.3 percent, led to an annual cereal deficit of 133,000 mt in 2008/09 (WFP. 2009). WFP's current estimate of the number of food insecure people in Nepal in need of assistance is 3.4 million (WFP, 2008).

Nepal is vulnerable to severable types of natural disasters such as droughts, floods, landslides, windstorms, hailstorms, cold waves, disease epidemics, fires and earthquakes. Drought, hailstorms, floods and landslides are by far the most serious ones and the most recurrent natural disasters, annually causing significant material and human losses (IFPRI, 2007).

Those who can neither produce sufficient food for subsistence nor afford to buy the required balance are the most vulnerable group from the view point of food security. About half the populations of Nepal who are below the absolute poverty level of income are the obvious victim of food insecurity in this sense (Food Security Challenges, 1997).

4.4 Food Security and Social Life

Food security situation of the study site has been assessed to find out whether the area is food secure or insecure. What is the relationship between the household's income, land holding, educational status, employment opportunities, market access and gross production with food insecurity? To analysis the above mentioned aspects, a set of household survey questionnaire was administered to the sampled household. The objective was formulated to understand the way of life of the people in times of food insecurity. As it has already been mentioned that food has been defined in many times in many ways but what the people of the study area understand by the term food is one of the most conceptual underpinning.

4.4.1 Understanding of Food

Food is one of the most important basic needs of every human being to be alive. Without food there is no imagination of life. All people need food to be healthy and work for. Without sufficient dietary food it is impossible to lead an active, healthy and prosperous life.

In this research, participants were asked what do they understand by the term food or how do they perceive it. Most participants replied food as a medicine that keeps us alive. Some of them took food as cereals namely rice, maize, wheat. Some other perceived it as an essential thing that gives us energy to work every day and that help us to fight against disease.

In the FGD, two types of understanding of the term food were found. The first view from female participants was that food is what we eat every day. They

defined breads of barley, wheat and millet, very often rice, potato, pumpkin, tomato, milk and milk products as food. They call their food in their vernacular language as *Roti, Bhaat, Phado* (a kind of liquid food made by maize or millet flour with local spices) *Bhujo, Tamtar, Dudh, Dahi, Chhachh, Mangeri* (a kind of liquid food made from curd). The other view from male participants was that food that we eat might have a varied understanding and definition. According to them, food may be either as the female participants mentioned or it may be as the balanced diet as it is taken in other developed towns of the country like pulse, rice and vegetables, meat, fish, milk and milk products, sometimes wines. According to them, it is varied according to the access someone gets to land, income and market. It denotes that they are pointing out the food politics. In their society a person is considered superior or inferior or his/her position in the society is determined by what he eats. If someone eat dietary food sufficiently he is regarded a wealthy person and his position in the society is dominant and if one lacks he/she is considered a poor or a marginalized.

Though, food mean same thing to all but is different in the sense that we define it. Their explanation was very close to some extent to food politics. Though there is a hidden politics in food consuming pattern.

With this analysis it is clear that the understanding of food is very simple and straight forward. The perspective on food for them is ultimately a weapon that keeps us alive, gives us energy to work and maintains one's position in a society.

4.4.2 Economic Condition and Food Security

Economy of every country is considered as a back bone of its development. In 1970s most of the countries took economic development as a prime factor neglecting all the other aspects like social, environmental, gender, human. It was considered that if a country becomes economically well off it can enhance its nation into the way of development. Economic development means increase in per capita income and increase in purchasing power of the people of a country. Undoubtedly, economic factor is most crucial for a nation to be developed but, however, it is not the ultimate cure. Nepal is facing severe economic crisis where

per capita income of Nepal stands at 15000, where urban per capita is 28957 and the rural is 12534 (NLSS, 2003/04).

To find out the food security situation of the VDC, HH survey questionnaire related to their cash income were administered at household level. This was done because income is one of the important factors to determine household food security. Cash income is also an indication of a persons or households purchasing power.

Table 4.3: Income level of respondents (Annual)

Income Range (in Rs. 000)	**Percentage of H/H**
0-5	12
5-10	23
10-15	25
15-20	13
20-25	12
25-30	5
30-35	-
35-40	-
40-45	-
45-50	3
50-55	3
55-60	2
60-65	-
65-70	-
70+	2
Total	100

Source: Field Survey, 2011

Economic condition of the people of the research area is found very poor. People do not have adequate financial access to buy food and to fulfill other necessities. Their income is considerably poor. The data shows that most of the people earn around 10 to 15 thousands. Least of them are able to earn more than 70

thousands in a year. It shows their poor financial level. 23 percent of people earn 5 to 10 thousands where as only two percent earn 55-60 thousand. The data shows that 12 percent people earn up to 5000 in a year. 23 percent earn 6 to 10 thousand, 25 percent earn 11-15 thousand 13 percent earn 16 to 20 thousands. We see that 12 percent of them earn only 0-5 thousand in a year and this is not the negligible percent. It shows their poor economic level again. 13, 12 and 5 percent earn 15 to 20, 20 to 25 and 25 to 30 thousand respectively. The average income for households stands at Rs. 16,684. This shows that house hold income per year is poorer than that of National Household Income that is 80,111 (NLSS, 2003/04) it denotes the poor level of income of the people of this area.

The data clearly reveals very poor economic situation of the region where the majority (25 and 23 percent HH earn only 6-10 and 11-15 thousand respectively), this indicates their poor access to basic need, health, and education as well. One can easily imagine how they are struggling with severe poverty.

One the one hand they do not have food sufficiency because of low land holding and unproductive land on the other hand they are not able to buy food items from the market. With this data it is clear that there are not any supportive income opportunities available. People are compelled to take debt and forced to migrate in India for seasonal labor work.

The economic condition of a family has a direct impact to his childrens' education and health. Children do not have any option except to be drop-out from school and involve in labor work or migrate to India.

Researcher's observation, while doing research, also revealed that many less than 12-15 years of age children were involved in labor work. Informal talking with the people also indicated that most of the children drop out school and go to India to earn cash to support their family. This has made them further subservient.

4.4.3 Educational Status and Food Security

The data shows that 56 percent people are having primary level education, 68 percent are secondary level education and only 33 percent are high school level education. Not surprisingly, no person was found above intermediate level.

Graph 4.1: Educational status

Source: Field survey, 2011

It is clear that if a person is educated there are more opportunities for him to engage in various services whether it is permanent or temporary. Normally educated person can earn more than uneducated. In my research area I wanted to find out that does household food insecurity has any effect to education? Above data shows that firstly, people send their children to school enthusiastically, later on when the expenditure grows up, they want their children to go to “Lahur” (going India for manual work) instead of school. This is because; they face food insecurity and need economic support to sustain first, more than education. Thus, I found that education rate is decreasing slowly because of food insecurity.

Education also plays a vital role in food security. Educational attainment is an important factor related to food security. Households of educated members are more likely to be economically mobile, have better health and nutritional status, and are better able to meet their food and non- food needs. Education reduces the intergenerational transmission of poverty, food insecurity and malnutrition (WFP, 2006).

Therefore, it can be summarized that education attainment rate is getting low because of the food insecurity because the people have not enough food to eat so they are unable to spend for the education in one hand and on the other hand food insecurity is supposed to be increases in future due to low level of educational attainment because if they lack getting education they will be unable to involve in services either it be governmental or private sector like I/NGOs, teaching, business.

In the FGD, the people revealed that they are suffering with food insecurity and they do not have sufficient income to pay for their children's schooling. Children prefer go to India with their elders instead of going school. This is because of lack of awareness and their poor economic condition.

4.4.4 Land Holding and Varieties of Crops

Of the total agricultural land holding at national level, less than 10 percent are in the mountains. The remaining 90 percent are almost equally divided between Hills and Tarai. Among the development regions, the central region has the highest number of agricultural land holdings. Not surprisingly, the land holding gap between the rural areas (93 percent) and the urban areas (7 percent) is very wide. Average household size of all households in Far-Western region is 5.7 (WFP, 2006).

Agriculture land holding is a major indicator of a household's wellbeing. In Nepalese context land is considered as a wealth. A person who holds more land is recognized as wealthy person and his position in a society is dominant. Moreover, there is close relation between land and food security. The more land the less food insecurity whereas the less land the more food insecurity.

Table 4.4: Land holding of respondents

Dry Land			**Wet Land (paddy planting area)**		
Ropani	**Frequency**	**Percentage**	**Ropani**	**Frequency**	**Percentage**
1-5	18	30	1-5	22	37
6-10	16	27	6-10	6	10

11-15	16	27	11-15	1	2
16-20	7	12	16-20	-	-
21-25	3	5	21-25	-	-

Source: Field survey, 2011

It may be stated that the larger farm household are more likely to satisfy their livelihood necessities through farm activities compared to those who don't have.

There are two types of land in this region: dry and wet. Dry land is the land where irrigation facility is not available and is less productive. Wet land is the land where irrigation facility is available and especially used for paddy plantation. In this area, talking of dry land, 30 percent people hold 1-5 ropani land, 27 percent hold 6-10 ropani and 11-15 ropani respectively, 12 percent hold 16-20 ropani and the 5 percent own 21-25 ropani. In terms of Wet land, 37 percent own 1-15 ropani, 10 percent own 6-10 ropani and 2 percent hold 11-15 ropani.

The research research shows that the average land holding of the people is 0.522 hectare of dry land and 0.122 hectare of wet land. This shows the decreasing land holding and the production which is one of the indicators of food insecurity. This is made clearer by the report of NLSS 2003/4. This report states that majority of households in Nepal are farm households. About 80 percent of the total households are agricultural households. The average land holding size in national level is 0.8 hectare while it was 1.1 hectare in 1995/96 (NLSS, 2003/4). Size of land holding is decreasing significantly causing food insecurity at household level. The data by WFP (2006) shows that the size of land holdings ranges from 0.01 hectares to 7 hectares- with an average of 0.6 hectare in national level.

Here is an important relationship among land holding, income, population and food security. According to the field data, one family who has got 2 ropani wet land and 3 ropani dry land, has food sufficiency for 7-9 months. This is because of the family has sufficient irrigation facility and less number of population (approximately 5 person). The income of the family is 7000 per year. In the contrary, the people who earn up to 15 to 25 thousand in a year, hold 8 to 15

ropani dry land and around 6 to 8 ropani wet land have food sufficient only for 4 to 6 months. This is because, according to the group discussion, these households do not have access to irrigation facility and some of them have large size of family numbers ranging from 10 to 19 members in a household.

Dry land is comparatively not much productive and lacks irrigation facility. There can only maize, barley, millet and to some extent wheat be produced. Due to the lack of irrigation facility and depending upon rainfall, productivity is very low. Even in wet land, where rice can be produced, lacks from irrigation facility. Therefore, food production is not enough for the farmers. In this connection food deficit situation will definitely risen and this will remain the same until the problem is solved.

The people own much dry land therefore the percentage of maize and wheat grower is highest (98.33 percent) as the table 2 below shows followed by rice, barley, soyabean and millet whose production stand at 57, 21.66, 13.33 and 10 percent respectively. Paddy requires frequent irrigation facility which is not available in this area so the production of rice is minimal in comparison with maize and wheat. Maize and wheat can be grown in dry lands with not sufficient rainfall. Millet is grown in rain fed areas because it does not require irrigation regularly. Varieties of crops produced are presented in graph 4.2.

Graph 4.2: Varieties of crops produced by hh

Source: Field survey, 2011

The figure clearly shows that most families grow wheat and maize followed by paddy, barley, soya bean and millet. This data also indicates that rice planting area is comparatively low. This is because of unavailability of irrigation facility.

4.4.5 Irrigation Facility and Food Security

Availability of irrigation facility is one of the most essential components for the agriculture production. Irrigation plays a vital role for the increase in crop production. Many parts of our country do not have easy access to irrigation. In this connection I found irrigation facility is a crucial factor for agriculture production and food security. The sampled households were administered survey questionnaire to find out the availability of the facility. The responses are mentioned in table 4.5.

Table 4.5: Availability of irrigation facility

Irrigation Facility	Percentage
Available	3
Not Available	97

Source: Field survey, 2011

In this research area, the data reveals that, only 3 percent people have answered of using this facility while the rest 97 percent people have to rely upon the seasonal rainfall. The national figure reveals that the highest percentage of irrigated area of Far-West region is (69.3 percent) (NLSS, 2003/04). Of the total crop production area 33, 64,139 hectare, 10, 31,137 hectare has irrigation facility that comes to be 31 percentage (CBS, 2007). Of the total 1.8 million hectare available for irrigation at present, surface water irrigation infrastructure covers about 0.9 million hectare. The total irrigated area reported to be using ground water is 168,000 hectare. Nepal is making use of less than 8 percent of its water resource potential (Koirala and Thapa, 1997).

As it has been mentioned earlier, in land holding analysis, that most people hold dry land where provision of irrigation is more difficult. This problem has an adverse impact on food security situation of the region. In this area one the one hand the land is unproductive and one the other hand un-availability of irrigation facility has halted crop production. Nearly two fifths of agricultural land is irrigated but only 20 percent of irrigable land has access to year round water supply (WFP, 2009). Approximately 64 percent of the households practicing agriculture report rain-fed agriculture. 26 percent reported irrigation, the primary source of which are rivers, followed by canals, dams and then pumps. In the mountain belt, among household practicing agriculture, 59 percent rely on rainfall, 30 percent on river, and the rest canals/ dams. In the Hill belt, 70 percent rely on rainfall, 34 percent on river and the rest on canals and dams. In the Terai, 57 percent rely on rain fall, 23 percent on canals/dams, 12 percent on rivers and 8 percent on pump (WFP, 2006).

The FGD revealed that there is possibility of irrigation but no intervention from government and/or I/NGOs toward this has been taken yet. Because of this, the people are unable to grow crops in time and cannot produce off-season crops and other vegetables.

4.4.6 Access to Employment Opportunities

There is close interconnection between food insecurity and employment. Employment increases people's purchasing power. When the people have access to employment they increase earning and can buy whatever they wish. Service is one of the reliable sources of income. In the research area, the following table shows that a mere 5 percent people have the government service where the majority (88 percent) people are unemployed. Three percent people are engaged in non-governmental service and the same percent is involved in teaching profession through private source (The people who teaches in a school with the salary provided by the local people and resources like VDC, community forestry and users group).

Table 4.6: Access to employment

Service Category	**Percentage**
Governmental Service	5
Not in any kind of job	88
I/NGOs	3
Teaching through private source	3
Total	100

Source: Field survey, 2011

The data clearly reveals that majority people do not have regular income source. In such a situation they have to adopt alternative coping strategies for their living. Either they are forced to go to India for labor work or take debt in high interest. Even sometimes they have to sell the livestock and land. Here we can notice that employment is closely connected to educational attainment. As mentioned earlier the people of this area are mostly illiterate. The percent of the people who have passed SLC is only 33 percent. This means they are unable to grab the competitive employment opportunities.

In this context the group discussion and my informal chatting with the people revealed that, a large proportion of members, especially male, temporarily migrate to India for work. Just before the start of winter people start to leave their

villages and remain in India until April. In this period, they could bring back roughly 3,000-8,000 along with food grains, clothes and other necessities. This practice is very common. Foreign labor migration is not found. The people who go to India replied that those who go to India to work, income depend upon where one ends up. Some employers do not pay salaries and some get salaries just enough for survival there. Secure income is from daily wage, labor work, like working as porters.

4.4.7 Food Self Sufficiency

Food sufficiency varies across region and within districts. It also varies from year to year, as production is highly dependent on the monsoon. Invariably, however, there is a period of scarcity before the harvest season and period of abundance immediately after the harvest. Demand for food from external sources is greatest during period of scarcity before a harvest (WFP, 2009).

Nepalese agriculture is generally of a subsistence nature, with most HH consuming their own production. Food access is crucial factor determining food security status at household levels. Poor households lack productive resources to produce enough food for them. They often lack employment opportunities to generate enough income to meet their food needs. To analyze the household level food security it is most important to know about how many months' people consume the food produced by them. The table 4.7 shows the detail.

Table 4.7: Food self sufficiency

Months	**Percentage**
0-3	33
4-6	55
7-9	12
10-12	0

Source: Field survey, 2011

The table shows that about 88 percent of the HH severely live with food shortage owing to sufficient only for six months. Only 12 percent have food self sufficiency

up to nine months. No HH was found to be food sufficiency for the whole year. This is because of, according to the people, low land holding, lack of irrigation facility, use of traditional farming system and traditional farming technology. National data shows that 31 percent of household food consumption is less than adequate while 67 percent is just adequate and the remaining 2 percent more than adequate (NLSS, 2003/04). The data of this research shows that 33 percent people consume their own production up to 3 months. This figure is somewhat similar to the WFP (2009) which reads food stocks are sufficient for less than1-2 months in Baitadi District.

For a food secured family it must have sufficient nutrient food for the whole year. The current data of Baitadi District shows the food deficit by 28841 Mt. where the requirement is 50564 Mt. in a year (VDC Profile of Nepal, 2008). Across the nation the average household food supply is less than 2 months (WFP, 2008).

Several findings indicate that in recent years there have been changes in demand and supply, food market structure, dietary intake and consumption due to diversification of income sources. These developments have increased people's dependency on markets for food supply and impacted household food insecurity (WFP, 2007).

Landless wage laborers and marginal cultivators were considered to be suffering from food insecurity problems in the study area. This clearly indicates that socio-economic factors particularly uneven entitlement endowments of the households limit their capacity to access food.

4.4.8 Access to Market

Obviously the markets and marketing system play an important role in agricultural and economic development by enhancing the availability of food. However, some basic characteristics of the agricultural marketing system in Nepal are the lack of an integrated national market, lack of physical and communication infrastructures, high losses in collection, storage and distribution processes.

Market is a place where people can buy and sell things as they wish to do. To develop a region there should be provision of markets. Easy access to market means the people of the surrounding region are enjoying facilities. Furthermore expanding market area also indicates of the well being of the people, their access to safe drinking water, facility of education, health, communication, availability of employment opportunities and many more. In such a situation there is less likely of food insecurity situation. Therefore I tried to dig out the market facility of the area whether easy markets access is available or not.

The study area of this research is roughly more than 85 km far from the district headquarter. It is close connected with Bajhang district. The data shows that market facility is not available in this area. Due to the long distance of getting to the district headquarter people cannot easily go there. The main market of this area is Bitthad Bazaar of Bajhang district which is eight hours far on walking. This is similar to the finding of WFP (2005) where it reads 27 percent HH has to walk eight hours on foot to get to the nearest motor way and they have to walk four hours to get to the nearest market.

Nepal's geography is one of the primary challenges for developing road connectivity, both internal and external. In addition to being land locked, the extreme topography in the hills and mountains has prohibited the development of transportation link between these areas and the Terai. This limited connectivity impedes the supply of essential goods to the hills and mountains and results in high transportation costs in these areas and increased vulnerability to food insecurity (WFP, 2007).

Above all there is no easy access to market facility. People have to spend a whole day. It should be noted that, at the mountains and hill districts, road connectivity generally does not include road access beyond the district headquarters. The high transportation costs in these areas additionally places high priced market items further out of reach of these households. This limited purchasing capacity, despite demand, inhibits the development of markets in remote, rural areas.

It is very clear that market access is not easy in this region. People have to spend whole day to get to the market. In such a situation people have more difficulties at times of food insecurity. The information from group discussion revealed that at times of food shortage elderly people of the family go to the market and brings necessary food and non food items sufficient for some days.

4.4.9 Food Production at Household Level

The variety of foods/food groups consumed by household members is one proxy indicator of household food insecurity (WFP, 2005). Cereals are the dominate component of agricultural production in Nepal, with paddy, maize, wheat, millet and legumes being the major crops of the country. To find out the household food production the respondents were asked about the year round crops and their production. The data shows as follows.

Graph 4.3: Food production at household level

Source: Field survey, 2011

In this region paddy, wheat, maize, millet and barley are most commonly produced. Rice is planted in wet land but other crops can be produced in dry land too. According to the surveyed 60 HH, 21 percent produce 35 Qt. of rice. Normally, rice is grown in wet lands but the people own minimal quantity of wet land and there is no irrigation facility. Thirty-four percent produce 58 Qt of maize and 35 percent grow 59 Qt of wheat. Maize and wheat are most commonly

grown crops because these crops are produced in dry lands and require relatively less irrigation. Seven percent grow 12 Qt of barley and 3 percent grow 6 Qt of millet.

The cereal production of the region is very poor. In terms of the cereal production of the district in the year 2005/06, the production of rice, wheat, maize, millet and barley was 4706, 5940, 10310, 629, 138 Qt respectively where the requirement of the cereal in the same year was 50564 Qt. The deficit was by 28841 Qt (District Profile, 2063).

According to WFP (2005) the largest proportion of households cultivate mainly paddy (76 percent), followed by wheat and summer maize (63 percent) and millet (39 percent). Paddy and wheat cultivation is greatest in the Far West, while summer maize is most in the Mid West. Paddy, maize and wheat together, account for over 70 percent of the annual cropped area and 95 percent of all food grain production.

If we compare the data with land holding it can be said that the production of wheat and maize is higher because these crops require less irrigation and can be produced in dry lands. The area lacks irrigation facility so the production of paddy is less. Further, the people hold less quantity of wet land.

In the FGD, the researcher came to know that the situation of food insecurity is much more severe owing to decrease in household food stock and annual crop production. This is due to the low productive land, low land holding (up to 15 ropani dry land and up to 5 ropani wet land), lack of irrigation (not availability of irrigation- 97 percent), lack of awareness about off-season and multi-cropping farming system, traditional farming technologies and lack of easy market access. Majority of the people consume the food produced by them only for 4-6 months. To fulfill the rest month’s food requirement they migrate to India in search of labor work. The major problem of this area was noticed and expressed by majority was irrigation facility.

4.5 Effect of Food Insecurity in Social Life

Here, impact refers to somewhat long term results instead of short term effects. To find out the impact of food insecurity in the lives of the people, the participants were administered household survey questionnaire. More specifically researcher's observation while staying in the study area and informal talking with the people including group discussion has revealed the long term adverse impact in the lives of people. The outcomes are mentioned in the following chapters.

4.5.1 Migration and Food Security

In the Kuwakot VDC, the data reveals that people are following the traditional migration pattern as a coping mechanism. Of the surveyed 60 household, overwhelming percentages (77 percent) migrate to India for work. Only 14 families (23 percent) do not migrate. A study by CFSAV also states the similar figure as household who reported on migration, 39 percent indicated that the main destination is India, 38 percent stated Nepal and 32 percent reported a destination outside of the Indian subcontinent (Nepal: CFSVA). Table 4.8 shows the migration destination of the study area.

Table 4.8: Migration trend of households

Countries	**Percentage**
India	77
Gulf Countries	-
European Countries	-
America	-
No migration	23

Source: Field survey, 2011

Due to the out migration there is also an adverse impact on food production. The out migration of able-bodied persons and land owners, lack of inputs, lack of marketing opportunities, lack of irrigation and the like led to a decline in production. Labor migration is a preferred livelihood strategy among household.

The most common destination for migrants was reported to be India (39 percent) of household having one or more members (Nepal: CFSVA 2006).

The prime cause of this migration was found the lack of food availability. One the one hand the people of this region hold low land (up to 15 ropani dry land and up to 5 ropani wet land) and on the other hand the land is unproductive with unavailability of irrigation facility (unavailability of migration- 97 percent). Moreover no employment opportunities are available at local level. Therefore, to meet their basic need and to feed their family they do not have any other options except going to India for labor work. This is highly supported by a report of FAO, SPPD (2003) where it reads the economy of nearly all of the Mid Western and Far Western Hills seemed to depend on the seasonal migration of nearly all the men folk from poor households, particularly those in inaccessible areas, who go to India to find work as unskilled laborers.

The people, in the FGD and informal talking, said that with the money they brought from India use to pay due debt which was taken by the family at the time of their absence and also use to buy food items and other necessities. When they come back they bought sufficient food till the next crop harvesting season and store for further consumption.

In the researcher's observation it was found that the way they dressed-up, the way they speak (Hindi Mixed), the way they talk to each other (Filmy Gaf), the use of shampoo (a kind of soap that is used to clean hair), the mobile phone set, the spectacle, shoes, watch and tape recorder clearly indicate that they were recent in- migrants. Normally one or two persons from every household migrate to India. This is a kind of traditional trend and is supposed to be continues even after the problem has been addressed.

4.5.2 Children: Towards Education or Farming?

The respondents were asked whether their children go to school or involve in farming to identify the educational status of their children and to find out the relationship between food security and education. This is much more important to

assess the impact because due to the lack of sufficient food the family could not sending their children to school and obviously, this has a long term effect in the future. If they are uneducated they will not get job opportunities and the situation of their family will remain the same.

Table 4.9: Children enrollment in school

Option	**Percentage**
Go to School	84
Do not go school	11
Both	5

Source: Field Survey, 2011

The data clearly shows that the overwhelming percentage of children go to school where still 11 percent do not go school and 5 percent do the both job i.e. go to school and assist in farming. However, if we compare this with educational status of the respondents we found that out of total 159 literate, 95 are primary student, 43 are secondary and only 21 are high school level students.

From the group discussion and informal discussion with the people it was revealed that the drop out trend of school children is high. From those poor families who suffer highly with food insecurity and do not have alternative income sources have to go to India and the children have to take care of house and other dependents. Furthermore, obviously, it is very hard for poor families to spend for the education. In 60 surveyed households no student of Bachelor Degree and above was found. Once if a student fails in an exam drops out and becomes a part of seasonal migration in India as they call him locally *lahure*.

The researcher's observation reckons the impact of the lack of education will exist to the next generation because if they are not aware-of then how do they convince to their children to study? Further, the next generation will not be able to get employment opportunities and this problem will remain unfinished.

4.5.3 Alternative Coping Strategies

Coping strategies are defined as the way a community, household or individual adjust their livelihood strategies in response to a shock or risk. Coping strategies may involve short-term changes in behavior as switching diets, consuming less expensive foods or borrowing money. When normal coping and response strategies are exhausted household will use negative crisis strategies, such as selling productive assets (WFP, 2006).

From the land holding and food self sufficiency, it is well introduced that food insecurity is very high in this region. But the question arises here is that how do they cope at times of food insufficiency?

Graph 4.4: Alternatives of food scarcity

Source: Field survey, 2011

The figure clearly shows that the overwhelming majority of the respondents expressed labor work and migration to India are the main alternative coping strategies. The data reveals that 44 percent people do labor work for their living. 41 percent migrate to India in search of work. Eight percent people sell their live stock to overcome from the hunger. One percent sells land. Two percent do food barter and 5 percent take debt as alternative coping strategy. Land selling is the least practicing. This could be because of low land holding. This is similar to the study by WFP that speaks people are coping by borrowing money, buying food

on credit and selling of live stock. Many households are consuming less preferred food (WFP, 2009).

This shows that most people depend on labor work either at local level or in neighboring country. The people, who do not have much land and other job and those who do not own productive land, mostly involve in labor work. The percent of taking debt is also minimal. This is why people do not have regular income source and whatever they earn is not sufficient for their annual spending because it has already mentioned, in economic condition, that 85 percent people earn up to 25 thousand in a year. If we divide this into months it is only around two thousand per month. Only two families earn 60-70 thousand per annum.

According to the key informants, when some organizations implement developmental work like drinking water project, rural road construction project in this area, the local people involve in and get some cash income. This has also helped to some families to mitigate food insecurity situation.

From this analysis it can be easily concluded that the food security situation is very poor and there is no hope of improvement. People have hardship to buy food items at times of food insecurity.

4.6 Food Insecurity: Why not Food Security?

From the above analysis food insecurity is highly observed in this area. The study has an objective to find out the main causes of food insecurity. In order to know the factors behind food insecurity respondents were asked about it. To dig out the causes of food insecurity the researcher had set up some possible reasons as mentioned in the following sub-heading.

4.6.1 Reasons behind Food Insecurity

In addition to poor agricultural productivity and high transportation cost due to the difficult terrain, the high price in these regions is compounded by long lasting conflict and frequent droughts affecting the area. With such high prices and per capita incomes estimated to be 28 to 33 percent less than the national average,

the Mid West and Far West hilly and mountain areas have less access to markets (WFP, 2007). Many possible reasons might be responsible in terms of food insecurity. This research has given a list of some most probable reasons and the respondents were asked which of these are the most frequently occur and which are relatively less.

Table 4.10: Reasons of food insecurity as of respondents

Reasons	**Percentage**
Low productive land	95
Traditional farming system	32
Natural disaster	88
Lack of transport	12
Crop disease	77
Lack of irrigation	95
Fragmentation of land	13
Bandh /Strike	-

Source: Field survey, 2011

The people have multiple answers towards the causes of food insecurity. However the highest respondents (95 percent) strongly blamed the low productive land and lack of irrigation as the prime cause of food insecurity which is also mentioned in a study by FAO Nepal as it states The key factors associated with poverty and food insecurity are: lack of year round irrigation, population growth (FAO, 2003). The second highest percent considered natural disaster as the cause of food insecurity. This is similar to the finding of The Cost of Coping, a study by WFP (2009) where it has mentioned that floods and landslides are the most common disasters including drought, flooding, landslide and hailstorm. 77 percent found crop disease as the cause, followed by traditional farming system fragmentation of land and lack of transportation.

Though, all the aforementioned are the causes of food insecurity in one or the other form. Thus, the researcher tried to find out to what extent the reasons are responsible for the food problem. In other sense what is the respondent's

perception toward them. In this connection, crop disease and lack of irrigation have been found the two prime causes of food insecurity because these two problems have the highest percentage i.e. 92 percent. Low productive land stands as the second cause owing 85 percent. Natural disaster, traditional farming system, fragmentation of land and lack of transportation stand at 88, 32, 10 and 3 percent respectively as the causes of food insecurity. Bandh and strike has not made any effect to their food insecurity.

However the Key Informants noticed Bandh as the cause of food insecurity including lack of irrigation facility, due to the Dry land, lack of knowledge about crop disease, no use of proper fertilizer, gradual decrease in production and reduction of fertile land. But this is contradictory to the finding of an intensive research WFP (2009) which has revealed that regular week long Bandhs shout down entire regional centers and this has huge food security ramifications for the poor who rely on each day's food supply. The first four causes (crop disease, lack of irrigation, low productive and natural disaster) are the most important according to the respondents.

From the above analysis, FGD and my observation, this area is excluded from the government services. Firstly, this area is very far from the district headquarter so they lack of getting modern seeds, fertilizers and pesticides. Secondly, because of the difficult terrain it is not so easy to provide irrigation facility though it is not impossible. However, no intervention toward this has been taken yet. The people urged that because of the natural disaster, especially landslides and floods, the size of land holding is decreasing considerably. Dry land is being destroyed by land slide and wet land is decreasing by summer flooding. Some farmers indicated that traditional farming system is also a cause of food deficit. People are unaware with new technology and no organization is working in this sector. The monitoring and supervision mechanism of government in relation to the crop production is also weak and insufficient.

One of the leader farmer said that the cause of food insecurity are population growth, no support, supervision and suggestion of agricultural experts and

unavailability of modern productive seeds and lack of proper storing mechanism. The food security situation of this region is highly influenced by the above mentioned causes.

4.6.2 Alternative Income Sources: The Hidden Fact

It was worthwhile of asking if the people are facing food insecurity situation then how they are coping with the situation. It is clear that the region is facing extreme food insecurity situation. In such a situation obviously there arises a question, what are the alternative income sources as perceived by the respondents. From this it can be analyzed that what is the hidden cause of food insecurity. The following table (4.11) gives the detail of it.

Table 4.11: Opinion of respondents on Alternative income sources

Alternatives	**Percentage**	**Prioritizing Percentage**
Labor work	92	90
Herb collection	2	-
Cattle keeping	97	93
Vegetable farming	7	2
Cash crop production	7	3
Service	3	3
Business	2	-
Cottage industries	-	2

Source: Field survey, 2011

The data illustrated above reveals that most people do cattle keeping like cow, buffalo and goat. But the researcher's observation in the area could not found cattle keeping as a profession. It was just like traditional herd maintenance. This may be because of not availability of markets and could be because of lack of awareness. Of the total 60 households, 97 percent people keep cattle. A research by FAO-SPPD (2003) considers livestock as a source of income and says the decline in the livestock economy has had a doubly negative effect on

poverty and food security in food deficit hill and mountain district. 92 percent people do labor work, 7 percent people do vegetable farming and cash crop production, 3 percent people are engaged in service (teacher through private source) and 2 percent do business.

So, the numbers of people who do labor work either in home town or India is the second greatest alternate. The data shows that the people have not any permanent regular income sources because very few percent are involved in income generating activities.

Prioritization of the responses reveals that the highest percentage is in favor of cattle keeping following the labor work. The rest four alternatives (cash crop production, service, vegetable farming and cottage industry) are the pillar of regular income source which the people are lacking.

The hidden fact of this analysis is that labor work which has been practicing traditionally has made them blind and dependant. They only think of going for labor instead of doing something in their own land. Cattle keeping are also unproductive and traditional. No household has kept cattle as professionally. Cash crop production, vegetable farming, small business which could be better alternative for them has not been practiced any more.

From the analysis it is clear that people do not have income generation alternatives to fight with food insecurity. The researcher has inquired about why people do not involve in income generating activities rather than doing labor work and staying with a bare hand. The people replied that due to the lack of education they are unable to do service in government as well as I/NGOs. Vegetable farming might be an appropriate alternative but without proper irrigation it is also impossible in most places. Further there is no easy access to the market to sell the vegetable production. If they grew vegetable they have to take it to the nearby market, Bitthad in Bajhang, on their back which takes eight hours. They also blamed the district agriculture office because the office employees never come to this area to give suggestion and help about new agriculture farming system. Some I/NGOs namely Environment Culture

Agriculture Research and Development Society (ECARDS-Nepal), NEWA, Poverty Alleviation Fund (PAF), FINIDA had worked in this VDC in the field of agriculture extension programme, drinking water programme, rural road construction work. I/NGOs who work for the enhancement of agriculture sector come, do group formation, provide trainings and distribute seeds. They do not take the responsibility after that like prevention of disease, regular supervision, marketing of the production etc. Therefore, people do not give much attention and participation to such activities because they feel this has made them dependent in a way.

4.6.3 Does Hybrid Seed help Increase Production?

Since the last few decades, especially when I/NGOs entered in enhancing agriculture sector, the use of hybrid seeds has been increasing. To some extent this has helped to increase food production. However, the arguments and or debates for and against of the hybrid seed is also prevalence in the realm of agricultural experts and farmers as well.

In this research the question was asked whether they use hybrid seed or not in one hand and on the other hand has the hybrid seed helped to increase food production or not. The responses are illustrated in the following graph.

Graph 4.5: Use of hybrid seeds

Source: Field survey 2011

The data gathered from the study area shows that the use of hybrid seeds is considerable as the figure stands at 75 percent. The highest percentage replied that they use hybrid seeds and a small portion (8 percent) replied that they do not have any idea about it. The National data shows that in Far-Western region the second least percentage (2.8 percent) use improved seed for paddy (NLSS, 2003/04).

In the FGD it was revealed that if they used hybrid seed it increases crop production. Though, there might be the fear of disappearing of local varieties and people have to depend fully with markets and those companies who produce the seeds. If the seeds do not accessed in time the farmers would not be able to plant in time. Therefore use of hybrid seed is also one of the causes of food insecurity in its long term impact.

4.6.4 Government's Presence and Food Insecurity

The government has made increasing efforts, especially in past decades, to adopt policies appropriate to addressing the poverty and food security problems, particularly through two agriculture and poverty focused programmes, the Agriculture Perspective Plan (APP-1997 – 2017) and the Ninth Five Year Plan (1997-2002). The Ninth plan takes poverty alleviation as its main objective, identifying the APP as its principle policy instrument for achieving this goal in the food and agriculture sector. Major policy prescriptions include emphasis on the production of nutritious foods to increase food availability at the household level and reduce malnutrition (FAO- SPPD, 2003).

In this context government has the sole responsibility towards its citizen to provide food as they require at times of food insecurity. The government has been providing food to those areas which are facing food insecurity but this subsidiary work of government is blamed of being an uneven and not sufficient. In this research the researcher tried to find out whether the government has been providing food in this area regularly as per the need or not. For this household survey questionnaire were administered including key informant interview and

informal interaction with the people of this area. The findings are presented in the following table.

Table 4.12: Does government provide cereals?

Alternatives	**Percentage**
Always	-
As per need	42
Does not provide	58

Source: Field survey, 2011

Household survey data shows that the majority of respondents (58 percent) replied that the government does not provide food in this area at the time of food insecurity. 42 percent households replied that the government provides food as per need i.e. when the household require. However according to them the food provided to them is not sufficient for the insecurity situation. It is only for some days or weeks. This is very similar to the figure presented by WFP research where it says the Nepal food Corporation (NFC) provides subsidized rice to 30 districts, including Baitadi, across Nepal; this will likely total around 17,000 Mt during 2008/09. NFC's distribution amounts to only 5-6 percent of the total deficits (WFP, 2009).

Here arises a question that why some said government provides and others say does not provide? The researcher had discussed this with Key Informants and they told that government rarely provides food at hand besides it provides as a form of food for work (a collaborative programme with other I/NGOs and multilateral organizations like WFP) by implementing some sorts of projects. So, the household who involve in it get food and those who do not involve do not get any food. Hence, the people who replied that the government provides food normally involve in work and who said government does not provide do not involve. Some of them said that some time the government has provided food as a form of food for work only to those who are suffered from conflict, flood and natural disaster.

Researcher's observation during the research shows that the food insecurity has an adverse impact in the lives of people. The food self sufficiency at HH level only for 2-3 months, not availability of income sources, low level of educational attainment clearly reveals that the people, at early age, migrate to India in search of job instead of going to school. Furthermore, the interview explored that indigenous knowledge in combination with scientific knowledge would be the most appropriate strategy to overcome with the rooted food insecurity.

4.7 Local People's Perception in Coping with Food Insecurity

To find out the people's perception about the food insecurity and coping mechanism, the people were asked some questions. This was done to know about how far is the indigenous knowledge is important to mitigate with food insecurity and to solve the problem for long term.

4.7.1 Food Insecurity and Coping Mechanism

The above analysis clearly shows that the area is under food insecurity and people have hardships in mitigating with this problem. One of the objectives of this research was to identify the alternative coping mechanism. For this some frequently applied alternatives were selected and the people's views were collected through household questionnaire. This can be further illustrated with the help of the graph 4.6.

Graph 4.6: Alternative coping mechanisms

Source: Field survey, 2011

The data obtained from household questionnaire shows taking debt at times of food insecurity is most common followed by selling cattle. Borrowing money from the neighbors' is much lower. The people of this area do not have regular income source so that they can help others when they need. A mere 2 percent household does food exchange. This is because no household has sufficient food even for their own family. The situation of debt clearing according to FAO Nepal is very surprising as it states many poorer households sell their food crops shortly after harvest in order to clear their debts and raise cash, and later purchase at much high prices through the income earned from the sale of their labor or livestock (FAO, Nepal SPPD Report, 2003). But in my research area this is not found rather people who have gone to India come and pay the debt what their family had taken in their absence. The prioritizing percentage of the alternative coping strategy is not much fluctuating as it is in percentage line.

4.7.2 Strategies to Increase Agriculture Production

To draw out the perception of the local people, the household survey questionnaires were administered to the people. From the above analysis it is

clear that the food insecurity is highly rooted in the area and the problem of food crisis does not seem to be solved at hand. There is a debate in development literature that the local problems can properly be solved for long term with the help of local people's knowledge. Considering the theme of 'bottom up approach' it was tried to sought what sorts of strategies might be appropriate and long term to increase food production in order to minimize the food insecurity of the area. The people were given some alternatives and their perceptions toward those were taken. The table 4.13 gives the detail.

Table 4.13: Strategies to increase food production

Alternatives	**Percentage**	**Prioritizing Percentage**
Use of indigenous knowledge	35	30
Irrigation facility	97	98
Modern seeds/ fertilizer	78	88
Modern agriculture farming education	28	30
Supervision of agricultural experts	65	65

Source: Field Survey, 2011

According to the table above, the majority of the people revealed irrigation facility as the most important factor to increase food production followed by modern seeds/fertilizers. The area is lacking from the supervision of agricultural experts because of the marginalized and far away from the head quarter. Therefore, people expect if the agricultural worker would come to help them the production could be increased to some extent. Though they have less land holding but if the irrigation facility is available and they were provided other services like high yielding varieties of seeds, modern farming education, knowledge on multi cropping, the production could increases to some extent. Some of them regarded indigenous knowledge as one of the factors in solving the problem because the local people are the master of their locality. They have better understanding about the local environment, crops, soil etc. Modern agriculture farming education was also found an alternative. If the farmers were given advanced farming skill they are able to increase food production.

Informal talking with the people of the area reveals that only if the irrigation facility is available more than half of the families will produce 2-3 months extra food. The bare land of upper side of the village clearly showed the lack of irrigation.

4.7.3 Food Security and the Role of Government

Food insecurity situation of the region is alarming. Rural development is impossible without addressing the basic need of the people. The theme related to food security aspect of rural area of Nepal appears to be one of the highly chattered and yet poorly analyzed subject in the development literature in Nepal.

Not surprisingly, many I/NGOs are working in various sectors for rural development in developing countries like Nepal since some decades but have been blamed as lack of long term vision and policy performance. In this context it is clear that outer support is not efficient and people are arguing about indigenous knowledge as a better curative weapon than those I/NGOs of underdevelopment disease. The researcher wanted to find out what the people of this area suppose to be the best way to get rid of food insecurity situation. This was done with key informants who were consisted of teachers, political leaders, leader farmers, NGO activists and social workers in a common place near to the village of ward no 4.

The findings of this discussion revealed that to get rid of the food insecurity situation all the people have to involve in income generation activities such as off season vegetable farming, goat keeping, poultry farming. In those dry lands where food grains cannot be produced, fruits like apple, walnut, banana can be produced. Where from the people can increase their cash income and can afford to food items. The government should provide provision of transport facility, irrigation facility and easy market access which is far beyond the local people's capacity. An agriculture centre should be established to train, enhance their knowledge and skill and to provide suggestion and support as they require. To make agriculture as a profession the farmers should be able to identify crop disease, knowledge of experimenting soil, use of fertilizer, pesticides and seeds.

These services should be available at local markets in an affordable price. With this farmers will be capable to increase the production and the income. Further government has to make provision of establishing small cottage industries with the optimum use of local skill, knowledge and resources that can create employment opportunities locally to control the traditional trend of migration and the dependant situation of the people. Government should establish cooperative shops and food depot in traditionally food insecure areas.

4.7.4 Indigenous Knowledge and Food Security

It is highly appreciated by some development experts that the combination of indigenous knowledge and scientific knowledge is far practicable in solving the local problems. To draw out the indigenous knowledge to mitigate with the food insecurity and to highlight the local people's perception towards food insecurity, key informants were asked to express their perception. The topic was discussed in group discussion and it was discussed with other sampled households in an informal chatting.

In the group discussion the perception or understanding between the relation of indigenous knowledge and food security was found somewhat similar. Some participants said food insecurity problem cannot be eradicated through the use of indigenous knowledge because indigenous knowledge is traditional. So, the scientific knowledge is far better to solve the problem. While some other said they are agree with this because the local farmers are well aware/knowledgeable about the quality of soil, environment and can decide what sorts of crops can be grown on what type of soil and what type of environment. In this context researcher's observation, among the people involved in the discussion, found that the participants who were illiterate and have little knowledge on farming said indigenous knowledge is insufficient where as those participants who were somewhat literate and were aware on agriculture replied that there should be combination of both knowledge to reduce the food insecurity situation.

CHAPTER FIVE

SUMMARY AND CONCLUSION

5.1 Background

In this chapter the researcher has concluded the whole delineate through the major findings, has made some conclusions and provided recommendation for the academic purposes.

5.2 Summary

The study has been carried out from the dependency perspective to find out the dependant and dominant relationship in terms of food insecurity between research site and District Head Quarter (DHQ) in one hand and on the other hand it has analyzed the relationship between local elites and poor.

In this context, the relation between the district headquarter and the study area was found far beyond the imagination because there is no significant relationship between DHQ and research site. The study area is very far (85 km) from the DHQ and the participants said that they very often go in DHQ only for governmental work. They are comparatively close to the Bitthad bazaar of Bajhang district where they go for shopping. However, for some official work and at times of food distribution they go to the DHQ. This indicated the dependant position of periphery to the DHQ. Some of the farmers said that they go to the District Agriculture Development Office (DADO) for new variety of seeds and for agricultural expert's help.

The relationship between village elite and the poor was found, simply, a dominant and dependant. The poor often go with the village elite to take debt at times of food shortage and other crisis. This relation, especially, happens at times when the family members are out of home in search of job. The majority of household were found to be sufficient food for only 4-6 months (field survey 2011). So, the food assistant within village was very rare. Only a mere portion, seven households, have food self sufficient for 7-9 months. In this situation

neither they were able to help by providing food assistant as a form of barter nor were able to sell food grain. But money lending on debt has often been practiced. The people, who earn 30 thousand or above in a year, help other's either a form of credit or debt. The receiver has to work in their farm to pay the interest if the lender wishes otherwise they have to pay the money with interest. So, the poor has to be dependant to the elites for emergency support. Furthermore, the people who hold more than 12 ropani of dry land have food self sufficient for 7-9 months where as land holding less than 5 ropani have food self sufficiency only for up to 3 months. However, no household was found to be food self sufficient for the whole year.

Food security assessment is the central theme of the research. Many literatures reviewed prior to the study revealed that the food insecurity is most prevalent in Far Western region and this problem is increasing drastically. This is supported by the research output stated on WFP (2009). The research report shows that over the past 5 years, overall cereal production has increased by only 5 percent, whereas the consumption requirement has increased by more than 20 percent.

Food security situation of Nepal has been decreasing considerably. The present study found that the food insecurity in the study area is more severe. Household food availability is not sufficient for the whole year with their production. The food produced by fewer households (12 percent) is only sufficient for maximum 7-9 months where as the maximum households has food self sufficiency only for 4-6 months. The average income for households stands at Rs. 16684.

Nepal confronts a serious food security challenges. The population is growing at a high rate; the agricultural productivity performance is poor and less than the population growth rate; the cultivated land distribution is highly skewed; the distribution of income is worsening. All of these indicate that the food security situation is worsening over time.

My research shows that the average land holding of the people is 0.522 hectare of dry land and 0.122 hectare of wet land which is considerably low of national average land holding that is 0.8 hectare (NLSS, 2003/04). This shows the

decreasing farming system and the production which is one of the indicators of food insecurity. This has made clearer by the report of NLSS 2003/4. The report states that majority of households in Nepal are farm households. About 80 percent of the total households are agricultural households. Size of land holding is decreasing significantly causing food insecurity at household level. This can be made clear by the data provided by WFP (2006) which shows that the size of land holdings ranges from 0.01 hectares to 7 hectares- with an average of 0.6 hectare.

Irrigation facility is one of the essential factors of food production but this area lacks with this facility. The people urged that if the problem is solved more than half of the total land area will get year round irrigation facility and it will help decrease food insecurity to some extent and enable the people by creating job opportunities a well.

The study area of this research is very far from the district headquarter of Baitadi. It is close connected with Bajhang district. The data shows that market facility is not available in this area. Due to the long distance of getting to the district headquarter people cannot easily get there. The main market of this area is Bitthad Bazaar of Bajhang district which is eight hours far on walking. This is similar to the finding of CFSVA (WFP, 2005) study where it reads 27 percent HH has to walk eight hours on foot to get to the nearest motor way and they have to walk four hours to get to the nearest market (WFP, 2005) and is same to another study of WFP. According to it, household has indicated that they regularly travel on foot for days to reach the nearest food markets (WFP, 2009). Therefore my research shows that the food insecurity is prevalent due to the unavailability of market access because in one hand the production is less and on the other hand they cannot get food items as they required.

Seasonal migration is the result of food insecurity. The out migration of healthy persons and land owners, lack of inputs, lack of marketing opportunities, lack of irrigation and the like led to a decline in production. Labor migration is a preferred livelihood strategy among household. This is supported by the report of WFP

(2006) which states that the most common destination for migrants was reported to be India (39 percent of household having one or more members). The prime cause of this migration was found the lack of food availability. On the other hand, due to the out migration there is also an adverse impact on food production.

The research shows that the overwhelming majority of the respondents expressed labor work; taking debt, selling livestock and migration to India are the main alternative coping strategies.

The government has been providing food to those areas which are facing food insecurity but this subsidiary work of government is blamed of being an uneven and not sufficient but my research shows that the government does not provide food in this area at the time of food insecurity. This means the government of Nepal is unable to address the problem of food insecurity in particular area. This is very similar to the figure presented by WFP (2009) research where it says the Nepal food Corporation (NFC) provides subsidies rice to 30 districts across Nepal; this will likely total around 17,000 mt during 2008/09. NFC's distribution amounts to only 5-6 percent of the total deficits.

Local people have mixed perception toward the knowledge of increasing production rate. Some of them emphasized on the use of scientific knowledge and others emphasized indigenous knowledge. Though, the perception or understanding between the use of indigenous knowledge and food security was found somewhat similar. This means that, using indigenous knowledge is more useful to prevent food insecurity. Thus, the research shows that in present condition, Kuwakot VDC of Baitadi district is now suffering from food insecurity.

5.3 Major Findings

- The relation between the district headquarter and the study area has been found far beyond the imagination. People often go there for government official work, agricultural concern and such other works. This shows the dependency of periphery (Kuwakot) to core (DHQ).

- The relationship between village elites and the poor was found, simply, a dominant and dependant. The poor often go with the village elite to take debt at times of food shortage and other crisis.
- The average land holding of the households has been found 0.6 hectare whereas the national average is 0.8 hectare. The average food self sufficiency of the household is only 4 to 6 months.
- Lack of irrigation, low productive land, natural disaster, crop disease and traditional farming system were the prime factors behind the existing food insecurity.
- Migration to India for labor work, low educational attainment, and land selling were seen as the impact of food insecurity which denotes the emerging crisis in the future concerned with food security.
- Governmental role toward the food security seems not sufficient, it is better to say passive.

5.4 Conclusion

Long-term food security in Nepal remains problematic. Agricultural production has not kept pace with the growth in population, and average yields are low compared to neighboring countries. There is an urgent need for extension of irrigation facilities. Increased agricultural production generates strong backward and forward linkages in rural Nepal-leading to a variety of rural non-farm activities that are very promising, based on recent trends.

The analysis in preceding sections clearly spells out that poverty and food insecurity are closely associated. The main causes of food insecurity and vulnerability in the study area is rotted in asset constraints, risks associated with unexpected incidents and socio-political elements. The majority of the households in the study area are found to be facing including very limited assets base (especially cultivable land), limited opportunities of incomes, low education and skills and poor health and nutrition conditions. Most of the households are marginal cultivators owing less than 0.25 ha of land. Agriculture production is very low due to recurrent problems of natural calamities, lack of adequate

support, services and use of traditional farm technologies. Consequently, majority of the households can produce enough food to cover their household's needs for not more than one quarter of the year.

The households facing food deficiency adopt combination of different coping strategies like changing consumption behavior, working as causal labor, migrating out of the district or country, collection of wild food, looking for the food for work opportunities, sale of small livestock and so on. Seasonal migration to India in search of labor jobs was found to be one of the most prevalent forms of coping strategies adopted by the food unsecured households in this area.

The major livelihood strategy of the rural households constitutes farming which has number of risks including natural calamities, lack of irrigation facilities, insect/pest infection, lack of adequate knowledge and skill, poor extension support services, inadequate technology, lack of improved seeds/breeds etc. Similarly, the causal wage works and migration strategies are also not free from risks as there are limited opportunities available in the villages and migration involves costs for which the poor households fall into the debt trap. Possibilities of cottage industries in the study area are constrained by inability of poor households to investment, lack of technology and raw material.

In order to reduce vulnerability to food insecurity of the rural households, some of them include emphasis on increasing local food production and productivity through the provisions of improved cultivation practices, irrigation facilities and improved technology. Secondly, provision of the off-farm income opportunities for resource poor households is necessary. Similarly, program directed to enhance human capital (health, nutrition, education, skill and empowerment) are immensely important in the study area.

The 'food for work' program and government subsidized food supply has affected people because; some of them opined that these schemes are not effective in solving their problems. Rather, there is growing problems of dependency syndrome among rural households.

5.5 Recommendations

The main objective of this study in one hand was to fulfill the academic requirement and on the other hand to find out the food insecurity situation, its impact, causes of food insecurity and to highlight the people's perception towards food insecurity and alternative coping mechanism that should be carried out from the concerned sectors to mitigate with the situation. The recommendations are for the academic purpose only.

- It is advisable to carry out further research in the field of intra household food security through gender perspective to find out the position of women and their control over household food distribution and utilization.
- It has been felt most necessary to be carried out a research on the association between food security, education enrollment and out-migration.

References

Adhikari, J. 2008 a. *Food Crisis in Karnali: A Historical and Politico-economic Perspective.* Kathmandu: Martin Chautari.

2008 b. *Changing Livelihoods: Essays on Nepal's Development Since 1990.* Kathmandu: Martin Chautari.

Amani, H., K. R. Pandey and G. R. Dutta. 1988. Effects of Market Liberalization of Food Security in Tanzania. In *Southern Africa: Food Security Policy Options proceedings of the Third Annual Conference on Food Security Research in Southern Africa.* M. Rukuni and R. H.Bernsten (eds**),** 1-14 Nov, 1087.

Amin, Samir. 1990. *Delinking: Towards a Polycentric World.* Delhi: Oxford University Press.

Badiane, O. 1988. *National Food Security and Regional Integration in West Africa.* Wissenschaftsverlog Vauk, Kiel.

Bongartz H. and Dev Raj Dahal. 2008. *Development Studies: Self-help Organization, NGOs and Civil Society.* 2nd eds., Kathmandu: NEFAS.

Baran, Paul A. 1973. *The Political Economy of Growth.* Pelican Books.

Buchanan-Smith, M., J. bailey and S. Maxwell. 1990. *Famine in Sudan: A Symposium Held at the Institute of Development Studies.* University of Sussex. In Disaster, Vol 15 no 2.

CARE. 1988. *Project Food Aid: A Classification of its Usases as a Development Resource.* New York: CARE.

CBS. 2001. *Preliminary Results of Population Census 2001.* Kathmandu: CBS.

2005. *Poverty Trends in Nepal (1995-96 and 2003-4).* Kathmandu: CBS.

2007. *Nepal in Figure 2007.* Kathmandu: CBS.

Chattyal, D. B. 2067. Sudurpashiamka Pahadi Jillama Khaddnya Sankat. *Nagrik Daily*, 2 Baishak 2067.

Clay, E. 1981. Food Policy Issues in Low Income Countries: An Overview. in *Food Policy Issues in low Income Countries.* World Bank Staff Working Paper no 4733, World Bank, Washington DC, August.

District Profile. Baitadi. 2063. Government of Nepal. Kathmandu: CBS.

FAO. 1979. *The Struggle for Food Security*. Rome: Food Agriculture Organization.

2003. *Nepal: Agricultural Policy and Strategies for Poverty Alleviation And Food Security*. Kathmandu: Food and Agriculture Organization (FAO).

FNGO. 2062. *District Profile of Baitadi.* Kathmandu: Federation of Non Governmental Organization Nepal.

The Panos Institute. (n. d.) *Food for all. Can hunger be halved.* 2001. London: The Panos Institute 9 White Lion Street.

Foster, Phillips and Howard D. Learhers. 1999. *The World Food Problem: Tackling the Causes of Under Nutrition in the Third World*. 2nd ed., Lynne Rienner Publishers, UK: Colorado.

Frank, A. G. 1975. *On Capitalist Underdevelopment*. Bombay: Oxford University Press.

Ghimire, Hiramani and Navin Dahal. 2004. *Nepal in the WTO: Livelihood and Food Security Perspectives*. Kathmandu: Action Aid Nepal.

Government of Nepal, UN World Food Programme and Food and Agriculture Organization. 2011. *Framework Document for institutionalizing National Food Security Monitoring in Nepal.*

Hopkins, R. F. 1986. Food security, policy options and the evolution of state responsibility, in Tullis, F. L. and Hollist W. L. (eds), *Food, the State and International Political Economy: Dilemmas of Developing Countries.* London: University of Nebraska Press.

Himalayan News Service. (2011). *The Himalayan Times*. May 13, 2011.

IFPRI. 1995. *Women: The key To Food Security.* The International Food Policy Research Institute, Washington D.C.

*Interim Constitution of Nepal***.** 2063. Kathmandu: Jana : Intensive Study and research Centre.

Deuja, J. 2066. *Naya Sambidhanma Khaddya Adhikar***.** *Kantipur*. 30 Ashwin, 2066.

Koirala, Govinda P. and Ganesh B. Thapa. 1997 *Food Security Challenges Where Does Nepal Stand?.* WINROCK: Winrock International Policy Analysis in Agriculture and Related Resource Management.

Kantipur Correspondent. 2009. *SAARC Kshetrako Khaddya Surakshya Jokhimma.* Kantipur. September, 2009.

(2009), *Krishiyogya Jamin Samrakshan Nagare Khaddya Sankat Badhne.* Kantipur. 16 Saun 2066, p. 17.

Lungelimagar, F. B. 2003. *An Analysis of food Security Situation in Nepal.* An unpublished MA Dissertation, Central Department of Economics, TU.

Nepalgunj Bureau. 2066. *Madhyapashami Pahad ma Paranirvarta Badhdo: Kisan le Bali Lagauna Chhade*. *Kantipur*. 4 saun 2066.

Newman, F. Lucile. 1992. *Hunger in History: Food Shortage, Poverty and Deprivation.* 238 Main Street, Suite 501 Cambridge, USA: Black well Publishers.

Oxford Advanced Learner's Dictionary. 1993. Edited by A p Cowie, Indian Edition, Calcutta, Oxford university press: Delhi.

Sen, A. K. 1981. *Poverty and Feminine's: An Essay on Entitlement and Deprivation.* Oxford: Clarendon Press.

Shrestha, P. 2000. *Intra Household Resource Dynamics and Rural Household Food Security in Nepal: A Case Study of Matatirtha VDC.* Unpublished MA Dissertation, Central Department of Economics, TU.

RRN. 2009. *Food Security and Vulnerability in Nepal*. Kathmandu: RRN.

Ruccio, David F. and Lawrence H. Simon. 1992. *Perspectives on Underdevelopment:* Frank, The modes of Production School, and Amin, Charles, K. Wilber and Kenneth P. Jamson, eds. *The Political Economy of Development and Underdevelopment*. New York: McGraw-Hill.

Sahi, R. B. 2066. Dedh Darjan Ga Vi Sa ma Khaddya Sankat**.** *Kantipur*. Tuesday, Chaitra 17, 2066.

Seddon, David and Jagannath Adhikari. 2003. *Conflict and Food Security in Nepal: A preliminary Analysis.* Kathmandu: RRN.

Shaha, A. 2066. Bajurama Khaddya Sankat. *Kantipur*. 28 Bhadra 2066. P. 1.

Thapa, N. 2066. Khaddya Asurakshya. *Kantipur.* 15, Kartik 2066 p. 6.

Thapaliya, Y. 2066. Khaddya Surakshyaka Nimti Sarkari Chaso Sakaratmak. *Annapurna Post*. 30 Saun, 2066 p. 7.

Upreti, A. 2067. Nakkali Vokmari. *Kantipur*. Baisak 2067, P. 6.

UNDP. 2004. *Human Development Report*. Kathmandu: (United Nations Development Program) UNDP.

2009. Human Development Report. Kathmandu: UNDP.

Vandana, S. and Gitanjali Bedi. 2002. *Sustainable Agriculture and Food Security: The Impact of Globalization*. New Delhi: Sage publication.

Wallerstein, I. 1977. *Patterns of Development of the Modern World System*. Vol.1, 1977.

www.ifpri.org, accessed on August 27 and 28, 2009.

WFS. 1996. *World Food Summit 13-117 November*. Italy: Rome.

WFP. 2008. *Food Security Bulletin- 21*. November 2008.

2009. *Food security bulletin-22*. January 2009.

2008. *Food Security bulletin -24.* August 2008.

2005. *Nepal: Comprehensive Food Security and Vulnerability Analysis.* Kathmandu: UN-WFP.

2009. *The Cost of Coping, A collision of crisis and the impact of sustained food security deterioration in Nepal.* UN-WFP: Kathmandu

www.wfp.org/nepal. news published on 31 May, 2009, accessed on 1 August 2009, at 1:45 pm.

http://enwikipedia.org/wiki/Dependency_theory. accessed on 28 may 2011.

Annex-I

Household Survey Questionnaire

General Introduction:

Name of the respondent: - ……..
Name of VDC ……
Ward No. ……
Caste ……..
Religion ……
Age: - ……..yrs
Sex: - male (……..)
Female (……..)
Household Size:

Large	Above 10 Person	(……)
Medium	5-10 Person	(……)
Small	Below 5 Person	(……)

Population of the respondent's house hold

S.N.	Male	Female	Total

Occupation: - ……
Educational status of the respondent

SN	Literate	Illiterate	Primary	Secondary	Higher	Remarks
1						

1. What do you understand by the term 'Food'?

2. What is your income in a year?
   ……
3. Do you have your own land?
   Yes …… No ……
4. How much land do you own?
   ……..
5. Is your land irrigative or rain fed?
   - Irrigative (……)
   - Rain fed (……)
6. Are any of your family members involved in government job? If yes, in what post?
   ....
   .....

7. For how many months is your own production sufficient for your family?

Months	Food sufficiency
Two	
Three	
Six	
Whole year	
other	

8. Where do you go to buy food items?
   - ●Nearby market (……...)
   - ●District headquarter (……)
   - ●Out of district (……)
9. What do you do if the production does not meet your basic need?
   - ●Labor work (……)
   - ●Out migrate (……)
   - ●Herbal collection (……)
   - ●Cattle farming (……)
   - ●Other (……)
10. Do any members of your family out-migrate? If yes where?
   - ●India (……)
   - ●Gulf countries (……)
   - ●European countries (……)
   - ●USA (……)
   - ●Others (……)
11. What type of work do they do there?
   - ●Students (……)
   - ●Labor work (……)
   - ●Menial work (……)
   - ●Technical work (……)
   - ●Others (……)
12. What type of migration?
   - ●Permanent (……)
   - ●Temporary (……)
   - ●Seasonal (……)
   - ●Monthly (……)
   - ●Others (……)
13. How much food do you produce in a season?

Crops	Qt.	Corps	Qt.
Paddy		Wheat	
Corn		Buck wheat	
Barley		Potato	
Millet		Others	

14. Do your children go to school or involve in farming?

....

15. What do you think are the main causes of food insecurity

causes	Farmers view	Prioritization
●Low productive land		
●traditional farming system		
●natural disaster		
●band/strike lack of transport facility		
●crop disease		
●lack of irrigation		
●fragmentation of land		
●others		

16. Are there any alternative income opportunities available in your area? like

Alternative income opportunities	Farmers view	Prioritization
●Labor work		
●cottage Industries		
●herbal collection		
●cattle farming		
●vegetable farming		
●cash crop		‘
●others		

17. Do you think that the hybrid seeds are helpful in increasing production?
    ●Yes (…….) ●No (…….)
18. Do you want to change the farming system as you have been doing?

....

19. What do you think is the best way to get rid of the food insecurity problem?
....

20. Do you borrow food, money or take debt, credit at the time of food insufficiency?
....

21. What will be the best strategy to increase agriculture production?

Strategies to increase agriculture production	Farmers view	Prioritization
●Use of indigenous knowledge		
●Irrigation facility		
●Modern seeds		
●Modern agriculture farming education		
●Fertilizers help and regular supervision of agricultural experts		
●Others		‘

22. How do you grow your foods?
    - ●Mixed agricultural system
    - ●Annual Ag system
    - ●Seasonal farming
    - ●Others
23. What type of crop do you grow? Please name.
    ……
24. Do you sell your stock production? If yes Where?
    ....

25. How do you store your food?

    ……
26. Does the government provide food items in the times of food crisis? If yes when?
    - ●Frequently
    - ●Often
    - ●As per need

Annex- II

Key Informant Interview Schedule

1. What is the situation of food security of the region?
   ……
2. What are the alternative coping strategies at the time of food insufficiency?
   ……..
3. What do you think are the main causes of food insecurity?

causes	Farmers view	Prioritization
●Low productive land		
●traditional farming system		
●natural disaster		
●band/strike lack of transport facility		
●crop disease		
●lack of irrigation		
●fragmentation of land		
●others		

4. Can alternative income opportunities be available in this area? If yes, what types of?
   ……..
5. What are your views against hybrid seeds?
   ……
6. Whether the traditional agricultural system is appropriate or some modernization in fertilizers, cropping system, technology etc. is needed, what do you think?
   ……
7. What do you think is the best way to get rid of the food insecurity problems?
   ……..
8. What type of organizations has been involved in agriculture development activities in the area? What are your views towards their interventions?
   ……
9. Are there any I/NGOs working in the field of agriculture extension program?
   ……...
10. What should be the best strategy to increase agriculture production?
    ……....
11. What should be done by the government for the improvement of the lives of people of this region?
    ……..
12. Has the government been providing food items in the times of food crisis?
    ……...
13. What should be the government's role to tackle with the problem?
    ……

14. Do the govt. and I/NGOs use the indigenous knowledge in agriculture production system in order to fight with the insecurity problem?
    ……..
15. What are your views of using the indigenous knowledge to solve the problem?
    …….
16. Are the people satisfied with I/NGOs developmental intervention?
    ……..
17. Will you shed some light on the possibility of irrigation facility in the area to increase gross crop production?