

CHAPTER- I

INTRODUCTION

1.1 Background of the Study

Food security is a situation that 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 preferences for an active and healthy life. (World Food Summit, 2001).

The impacts of food security on socio-economic status of an individual or household mainly rely on the consumption, the demand side and the issues of access by vulnerable people to food. The accessibility and availability of food in the desired quantity and quality throughout a given year remains a dream for many people around the world (Sen, 1995). Instead, food insecurity is more common and is a defining characteristic of many developing countries. The socio-economic aspects of food insecurity in the developing countries continue to struggle with hunger, frequent famines and associated consequences such as loss of lives, saving and wealth, sickness, and hopelessness. The impacts of food security affecting in the socioeconomic aspects are food shortage; lack of land and other resources such as livestock, money and good shelter needed to facilitate farming activities; limited access to land ownership, low educational standards and limited access to valuable assets by female population as the male populations are more advantaged on property control and better access to education and poor pricing of the producing foods in the local markets.

Food insecurity, defined as insufficient quality or quantity of nutritionally adequate foods, reductions of food intake, or feelings of uncertainty, anxiety, or shame over foods is a leading cause of global mortality and morbidity. Food insecurity exists when people do not have adequate physical, social and economic access to food. In Nepal, food insecurity remains a fundamental challenge and the issue of food insecurity has high importance in development policies. There is a slight improvement in Nepal in total food production since late 1990s and “the aggregate supply is regarded as adequate to fulfill the requirement of the country population” (CBS,

2011). In spite of this growing abundance of food in the country, about 47% of population consumes less than the dietary requirements and 48% of the children are undernourished (FAO, 2014). This disparity indicates merely increase in food supply is not sufficient to make all people food secure. In order to understand the food security status and factors affecting access to food at the household level, a detail study at that level is necessary. The criteria that one might know they are under the food security problems are physical unavailability foods, inadequate physical access to food, economic inefficiency, insufficient nutrient intake and food utilization as well as stability on these problems over time.

The district like Khotang in Province 1 of Nepal is suffering from the food insecure situation. This region is characterized by poor access to markets, limited economic opportunities and minimal provision of basic government services, leading to low health and education indicators. Poverty rates are highest in the region where the population has limited access to paved roads, health and education facilities, and market centers. Lower castes represent the poorest segment of the population in the hills, followed by other Ethnic castes. The mid hills and mountain ranges are still suffering from food deficits. The rough terrain, poor water and irrigation supply and lack of access to agriculture inputs and services have forced many people to leave their land barren, losing their livelihoods in the process.

According to the census, 2011 the total population of Khotang is 206,312 of which male comprised 109,220 and female comprised 97,092. Total households are 42,664. The major inhabitants in Khotang are Rai 38.74%, Chhetri 22.17%, Brahman 8.58%, Newar 5.35%, Magar 4.27%, Dalits 9.45%, Tamang 4%, Gurung 1.27%, Sunuwar 0.27%, Sherpa 0.27%, Madhesi 1.28%, Majhi 0.36% and others 3.41%.

The total households of the study area (Old structure ward no 1,5,6,7 & 8) is 607 and population is 2995 where male 1407 and female 1588. Likewise, among the cultivable land of study area, the irrigated land (Khet) is 702 Ropani and non-irrigated land (Pakho) is 1387 Ropani (SuDECC, household survey report 2011). The rural municipality can enhance the food security status in their local tiers. The food security is divided into three components: food availability, accessibility and absorption. This study has focused on these three components socio-economic aspects.

Hence, this study seeks to understand the relationship between household socio-

economic characteristics, aspects and food security status in Ainselukharka, Khotang.

1.2 Statement of the Problem

Food insecurity is one of the major problems of the rural community. Community peoples are suffered from more food vulnerability due to the low production & having their traditional occupation as a way of livelihood. Their traditional occupation had faced different challenges due to modernization & globalization. Communities have been affected by the low production, lack of improved agriculture technology, road accessibility, and market facility and have experienced of rapid socio-economic, cultural changes over generation. Their way of earning livelihood differ by the development activities & these changes have been enumerated with case material from the survey.

There was also some mismatch between agricultural land patterns and the value of output due to variations in level of farming technology and farm management, commercial agriculture and physical resources. The households of study area are economically poor and vulnerable. More than 85.0 percent hhs derive income from temporary non-farm sources (e.g. wage earning and remittance) followed by the sale of live animals permanent non-farm income such as employment, services and business and sale of the livestock products). Very few HHs reported to have generated income from the sale of the staple food crops and high value agricultural commodities (HVCs) such as fruits and vegetables.

The HHs were able to produce sufficient food even during the months of the crop harvest. Almost all the HHs was not in position to produce adequate quantities of food for their families throughout the year. Nearly half of the HHs (40.2 percent) had food sufficiency for 2-3 months followed by 3-6 months (26.5 percent) and up to 1 month (21.1 percent). Very few HHs was food sufficient for above six months. Brahmin, Chhetri are relatively better off- in terms of HHs food sufficiency followed by Janajati and Dalit.

Nearly 85 percent or more people of the total population of the study area are engaged in or depend on agricultural occupations as per the agriculture and livestock extension services under office of the rural municipality. On the one hand, local economy is affected due to lack of awareness, unscientific and unsystematic farming system,

deforestation, unplanned construction and utility of physical infrastructures. And on the other hand, unfavorable geographical situation have also affected to agriculture system, forests & animal husbandry. After intervention by the food security programs from Sabal Program in the study area through community awareness, improve seeds, improve agro farming system, construction of agro production related physical infrastructure, income generation activities, vocational training, formation of farmer groups & their linkage with GOs/NGOs, the socio-economic status of community people has been changed.

In this context, it has become necessary to know about the food security and causes food insecurity in rural communities. So this study has been undertaken to explore the problems and analyse socio-economic impact after the intervention of Food Security program. This research was raised the following issues or questions.

- a. What were the major interventions of the food security program?
- b. What is the socioeconomic status of food security situation after intervention?

1.3 Objectives of the Study

The general objective of this study is to assess the socio-economic impact of food security program in the study area. The specific objectives of this study are as follows

- a) To assess program activities in study area before the major intervention.
- b) To assess the socioeconomic status of food security situation after program intervention in study area.

1.4 Limitations of the Study

This present study was be based and limited on project implemented area only on old structure ward no. 1, 5, 6, 7 & 8 of the then Ainselukharka VDC (now Ainselukharka Ward) where USAID/Sabal had implemented different food security related activities. The study will be very specific like that of case studies. The limitation of this study will be as following;

1. The study was concentrated in the Ainselukharka Ward; therefore the generalization of this study may or may not be applicable to the all other parts of Nepal.

2. This study was completed within the given tentative time frame.
3. Simple statistical tools was used to analyze the data obtained.
4. Electronic devices (Computer, Calculator, and Telephone) was used for the processing of data.
5. The questionnaires & the interviews was focused on the intervention & impact study of food security project at respected communities.
6. One individual was selected for the interview or questionnaire among the selected households by using the random sampling method.
7. 20% households was randomly selected for the households' interview among the whole households of five old wards of Ainselukharka.
8. Some key informant interview & focus group discussion was held outside from the study area to achieve more & reliable information for the study. Like as; AKC, NARC, Adjoining wards respondents, Food Security related program implementing INGOs & NGOs.

1.5 Organization of the Study

The presentation of the study has been divided in five chapters. In the first chapter there is a description of background of the study that is focused on the geography, demography, religious and socio- cultural role and its overall impact in family, community and society. In the same way chapter two describes the literatures that were reviewed. Chapter three deals with the methodology applied for the research work. Analysis and interpretation of the study has been described in chapter four. And chapter five presents summary, finding, conclusion and recommendations of the whole study.

CHAPTER - II

LITERATURE REVIEW

The chapter deals with the review of available literature about assessing the impacts of food security program on socioeconomic aspects. There are lots of researches, which have been published by different organization and scholars in this field. The study tries to review the literature that is fair and recent ones. In this review the focus is organized in the food security aspects.

2.1 Theoretical Review

2.1.1 Concept of Food Security

The concept of food security has evolved through time. The starting point of 'Food Security' was food availability to balance unequal food distribution regionally and nationally. However, it was rapidly accepted that availability, though a necessary element, is not sufficient for food security, because food may be physically existent but inaccessible for those most in need. Until the end of 1970s food security meant more generally the ability of a nation to meet the aggregate food needs in a constant manner.

The World Food Conference 1974 emphasized to produce enough food, make the supply reliable and stabilize food prices so as to meet the food security. Accordingly, technologies like green revolution that would help to increase agricultural production were promoted for food security in developing countries. In the 1980s, Nobel laureate Amartya Kumar 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 the availability of food was taken to be the overriding determinant of the hunger and famine (Sen, 1981).

The World Bank's 1986 report entitled 'Poverty and Hunger,' defines food security as "access of all people at all times to enough food for an active, healthy life. However, the United Nations Food and Agricultural Organization (FAO) definition of food security is taken as comprehensive one that reads as follows:

“Food security exists when all people, at all times, have physical and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (FAO World Food Summit 1996). This definition clearly integrates four interrelated factors- availability of food, access to food, biological utilization of food and stability of these. (Acharya, 2009)

The widely accepted and used definition for food to be secure, a sufficient nutritious food needs to be available and accessible at all times, as well as properly utilized. Availability, accessibility, utilization and stability are the key pillars of food security. Any degrees of variation in any of the pillar or other factors that affect service function of the individual pillars directly affect food security. Some of the key factors that affect food security are climatic hazards, shocks or epidemics affecting performance of livestock or crops or water supply system. (WFP, 2010)

Food insecurity is also evaluated in terms of coping strategies adopted by the community. Like education, health, and public security, food security is a fundamental right and government responsibility. Food security can be expressed at the global, regional, national, and local level. However, for the general public, food security at levels higher than the household is meaningless. Additionally, all members of the household, including women, children, and the elderly, must have access to food in a perfectly food secure situation. More specifically, the definition introduces following dimensions of food security: (Acharya, 2009)

2.1.2 Dimension of Food Security

a. Physical Availability of Food

It refers to the possibility for adequately feeding oneself (individual, household or other units under consideration) either directly producing from their own productive resources that are under their control or through distribution, processing and marketing systems that can move food from the site of production to where it is needed. Hence, for adequate availability of required food items, proper policies are needed for the production, distribution, processing and marketing of food.

b. Economic and Physical Access to Food

It refers to economic and physical access to food or in other words, the purchasing power of the people. Access analysis includes food prices in relation to wage rates,

income opportunities, and social network providing food during distress, traditional safety nets etc. Sen (1991) 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.

c. Acceptability & Utilization

Food is not only a basic requirement of life but also has socio-cultural values for people. Food provision therefore should be in accordance to the socio-cultural and nutritional requirements as well as taste and preferences of the population under consideration. Utilization refers to proper use of food items for bodily nutrition. It is understood as the way body makes use of most of the nutrients in the food consumed. This dimension is primarily determined by the peoples' health status. General hygiene and sanitation, water quality, health care practices and food safety and quality are determinants of food utilization by the body in right manner. Besides, proper care, healthy feeding practices, food preparation techniques, diversity of the food items etc. are also other important factors governing good biological utilization of food and overall nutritional status of individuals

d. Stability

The concept of food security incorporates dimension of sustainable food system (production, distribution, consumption, and waste management) at all levels – from household to national and international levels. By stability, it means food system should be able to meet the basic food needs of the present generation without compromising the ability of the future generation to meet food security from available resources.

The Sustainability/stability of these three pillars determines the strength of food security. Food security involves the stability of food supplies (availability), access to that food and utilization of the food consumed. The combination and interactions among these elements represent household food security. Anything s that interrupts food supply and access interferes with the utilization of food will lead to food

insecure. In many countries, health problems related to dietary excess are an ever increasing threat, in fact, malnutrition and food borne diarrhea are become double burden (FAO, 2008).

2.1.3 A conceptual Framework for Analyzing Food Security

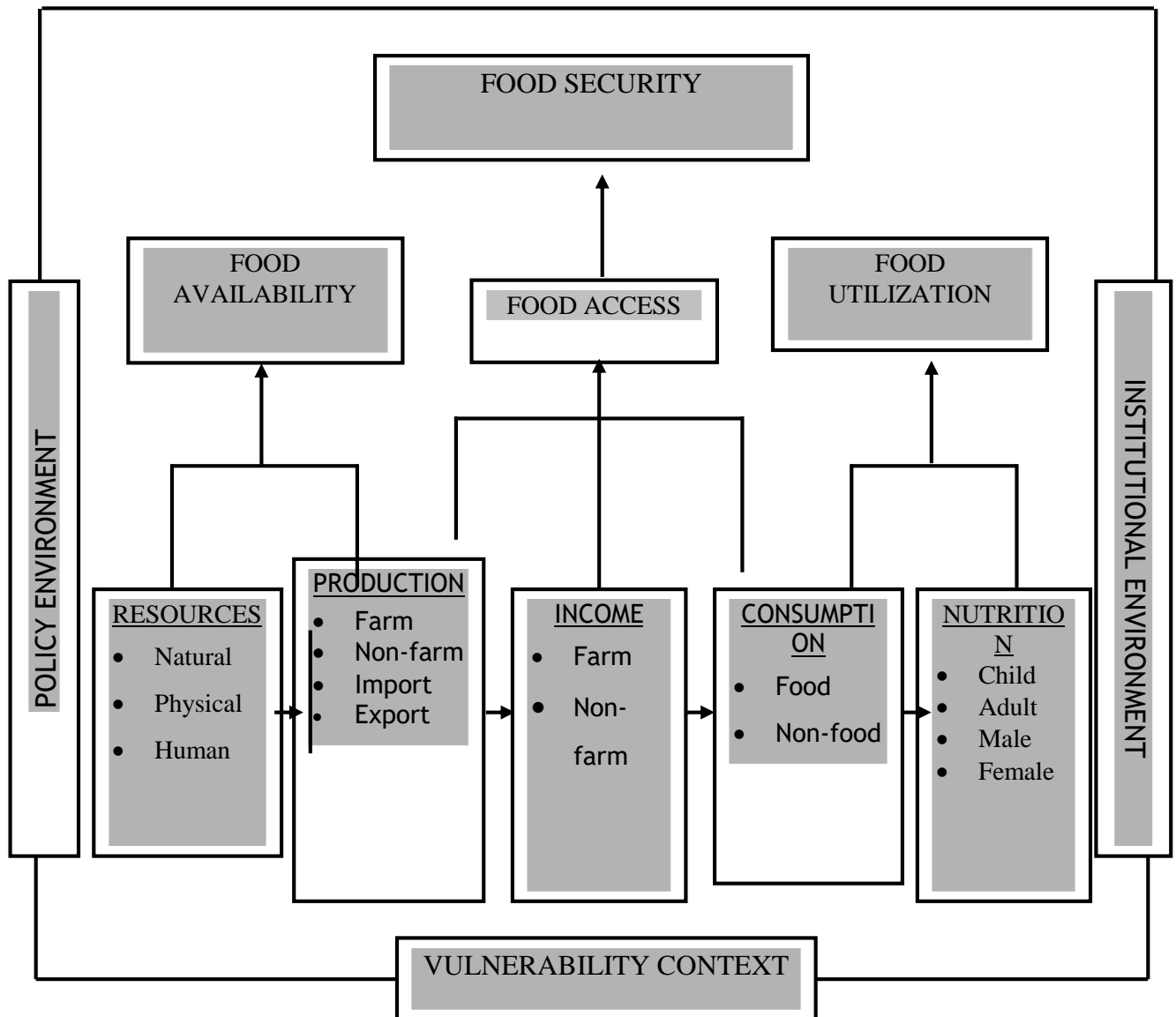
A globally accepted definition of food security is the one adopted by the World Food Summit (WFS) held in Rome in November 1996, i.e. ‘Food security exists when all people at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life’ (WFS 1996).

A close association between poverty and food insecurity becomes obvious once the above definitions of poverty and food security are accepted. Indeed, the WFS noted that poverty is ‘a major cause of food insecurity and sustainable progress in poverty eradication is critical to improve access to food’ (WFS 1996). From this it is also clear that any measure that contributes to improving food security will also contribute to addressing the problem of poverty and vice versa.

The conceptual framework developed from these definitions, and the elements that constitute them are used in the present exercise. This framework addresses important concerns of UNDP and FAO in guiding their missions. 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. These three components are themselves determined, individually or jointly, by a number of factors. The broad conceptual framework adopted for the analysis of food security concerns is presented in Figure 2.1.

All of the factors that influence food availability, food access and food utilization and thereby the food security situation of households and individuals are affected by the policy and institutional environment under which they live, over which they have little control. The vulnerability context of households is influenced by time trends in variables like population growth, resources, technology, shocks resulting from factors like bad health, natural calamities, economic events and conflicts; and seasonality of prices, production, employment, etc., all of which eventually affect individual and household livelihood systems.

Figure 2.1 Conceptual framework for food security analysis



Source: Adopted from UNDP and FAO Main Report, 2008

Food issues intersect in many directions with a host of associated factors. If food were a singular issue, only a matter of production, food security would not be an issue. But like many matters of natural resource management, politics, economics, and social forces play an equally if not larger role in determining how food is produced, distributed, and consumed.

2.2 Empirical Review

The Ministry of Agricultural and Livestock Development (MoALD) estimated the total edible cereal production at 6.08 million mt against the national requirement of 5.2 million mt. Hence, the country has recorded a national level surplus of 0.88 million mt in 2013/14. However, despite aggregate surplus at the national level, the country has not been able to meet the requirements for rice, millet and barley through domestic production. Twenty-five districts (6 in the Sudur Paschim Province, 7 in the Province No-6, 3 in the Province No-5, 2 in the Gandaki Province, 3 in the Province No-3 and 4 in the Province No-1) were reported as food deficit, except Province No-2. In those districts, local production has not met the district's food requirement level based on the production amount, population size and average per capita cereal consumption.

Food security in Nepal depends on land productivity as managed by small holders who face challenges in productivity and sustainability, and the country is prone to natural disasters that can have serious consequences for agricultural production. The study revealed that approximately 27% of rural households are food insecure and have a very poor food consumption pattern. Chronic malnutrition and low weights are common; 49% of children aged 0-59 months are underweight and 46% are stunted. Poverty and or food insecurity problem in Nepal is complex, multidimensional and widespread which is attributable to the product of three factors- (i) unsatisfactory agricultural growth and aggregate outputs in the economy, (ii) historical effect of unequal distribution of productive resources and socio-economic status due to caste, ethnicity and gender related bias (iii) inequities born of recent development initiatives (Pandey, 2000).

Declining poverty improves food security and nutrition but people depending on certain livelihoods remain vulnerable. The relationship between poverty, food insecurity, and nutrition is strong, with poor households often lacking the resources required to access and consume sufficient nutritious food to live a healthy active life. (NPC/CBS, 2013).

Over the past 15 years, Nepal has made significant gains in poverty reduction, from a rate of 40 percent in 1995/96 to 25 percent in 2010/11. This has been matched by a corresponding reduction in the proportion of the population experiencing hunger and

chronic under nutrition. In spite of the progress made, some households are falling behind, and amongst some of the poorest households, there is evidence that vulnerability may have increased in recent years. (NPC/CBS 2013)

Food insecurity of rural households manifests itself in terms of a) insufficient food availability which may be due to lack of access to productive land, small size of land holdings low productivity, bad weather, crop failures and so on b) insufficient access to food due to limited purchasing power and or sometimes limited stocks in the market particularly in remote areas. c) Poor nutrient uptake due to poor health and sanitation condition of the people. (Acharya, 2009)

FAO has profiled seven different groups of people- marginal farmers (cultivating less than 0.5 ha of land), sharecropping tenants, landless laborers, agricultural wage workers, rural service castes, porters and urban poor households as vulnerable groups to food insecurity in Nepal.

Nepal's HDI value for 2012 is 0.463 in the low human development category positioning the country at 157 out of 187 countries and territories. Between 1980 and 2012, Nepal's HDI value increased from 0.234 to 0.463, an increase of 98 percent or average annual increase of about 2.2 percent. (Human Development Report 2013, UNDP).

According to Central Bureau of Statistics, of the total population 36.9% are living under poverty line. According to Nepal Human Development Report, 2014 (GoN and UNDP), Human Development Index (HDI=0.494). Similarly, Human Poverty Index (HPI=29.47). The constitution of Nepal has included food sovereignty as the fundamental right of the people which needs to be implemented by enacting suitable laws. Mainly an agrarian country, Nepal engages above 65% of her economically active population in agriculture. However, the agricultural productions as well as the incomes to afford food materials do not meet the food and nutrition requirements of majority of the population. Hence, structural poverty and chronic food insecurity are still the burning problems being faced by the people of Nepal. In Nepal, the most concerned people whose food security, right to food and food sovereignty is at stake are poor, Dalits, women, ethnic minorities, people living in remote rural areas and urban slums, the wage laborers, disabled and senior citizens. The minors from these groups are also very much insecure from the point of view of food and nutrition

security. (SAAPE, 2013)

It was estimated by USAID/Nepal (2016) that two third of Nepal's population suffers from food insecurity at some point of time during the year. Around 16.4% of total population (3.7 million people, mainly living in 49 hill and mountain districts) was at risk of severe food insecurity in 2009. More than 46% of children below 5 years of age suffer from malnutrition – 45% are underweight and 43% have stunted growth (USAID/Nepal, 2016). Nepal's food insecurity persists mostly in the mountains and the hills.

Nepal predominantly is an agricultural country where agriculture contributes more than 35% share to the gross domestic product by engaging 65.6% of the economically active population of the country. Therefore, farmers comprise the largest socio-economic group of the country. However, the famers are not getting adequate attention for their socio-economic development. The major bottlenecks that need to be responded adequately for the growth and development of agricultural in Nepal are related with the issues of land ownership and tenure rights, inadequate financial resources, access to and control over other natural resources, lack of appropriate policies and financial resources supporting pro-poor and pro-growth agricultural development models. (SAAPE, 2013).

In the Hill ecological zone, households purchase the bulk of food consumed. The average household consumes 40 percent from their own production, 57 percent from purchased food, and 2 percent in-kind. (NPC/CBS, 2013)

A majority of districts are reeling under food deficiency and nearly 41 percent of the population are using less than minimum dietary requirements and this shows the alarming situation. As a result of several past policy and other measures on food security and nutrition, positive outcomes are being noticed in this area. However, to achieve expected results in four pillars of food security: availability, access, utilization and stability contextual reforms are needed. (GoN/NPC. Thirteenth plan; FY 2013/14 - 2015/16: Approach Paper)

Food security and nutrition is one of the most climate-sensitive sectors in Nepal). Climate variability and change could affect food security and nutrition through a combination of reduced food production, higher food prices, and lower food utilization due to increased infections and more intense and frequent climate-related

disasters, which could negatively affect the livelihoods and access to critical health and social facilities. (NPC/CBS, 2013)

Joshi, (2000) has described the special aspects of the socio-economic profile of the rural people are very limited. They have been pursuing their traditional occupation such as Agro Farming, Livestock selling etc. A very low percent of people are carrying on modern technology as the major occupation for the livelihood.

Rural people in Nepal have since long adopted indigenous knowledge and skills to use locally available natural resources to sustain their locally. The indigenous knowledge and skills from the seniors have been transformed to the young generations through apprenticeship.

Nearly two third of the households are vulnerable to food security with highest proportion among the socially disadvantaged groups This is mainly because of fragmented and small land holding size, lack of irrigation facilities, dominance of rain-fed agriculture and poor productivity of the crops followed by lack of improved seeds, poor technical knowledge, marginal land holding and lack of other alternative sources of livelihoods and employment opportunities.

Nepalese agriculture cannot meet the growing food requirements of its exploding population. Rapidly increasing population which puts pressure on limited land resources causes low land productivity. Low production, distribution, poor access to food in remote areas, and low income are key factors causing food insecurity. Past agricultural efforts have not gone far enough. Research, extension, and capacity building programs should be pro-poor and women focused. The government must provide top priority to irrigation and road links in order to increase production, distribution, and access to food. Crop diversification, conservation agriculture, and rural income-generating activities should be the priority in rural areas.

2.3 Status of Food Security in Nepal

Agriculture in Nepal has long been based on subsistence farming, particularly in the hilly regions where peasants derive their living from fragmented plots of land cultivated in difficult conditions. Government programs to introduce irrigation facilities and fertilizers have proved inadequate, their delivery hampered by the mountainous terrain. Population increases and environmental degradation have

ensured that the minimal gains in agricultural production, owing more to the extension of arable land than to improvements in farming practices, have been cancelled out. Once an exporter of rice, Nepal now has a food deficit.

The US government's Global Hunger and Food Security Initiative under its (USAID/Feed the Future Program) states that "two out of every three Nepalese suffer from food insecurity each year" providing an unfortunate, yet true, scenario of the country (USAID/Feed the Future 2013). Globally, Nepal ranks low in terms of food security: according to the Global Food Insecurity Index 2012 Nepal is 79th out of 105 countries. (KC & Sharma, 2013)

Among South Asian countries, Nepal is second last in terms of food security. This situation is compounded by global price hikes in terms of food accessibility and food distribution around the globe. Historically, Nepal has kept pace with food demands due to a largely agriculturally-based economy. However, global economic shifts in recent decades have intensified the influence of newly-appreciated factors on food, such as population growth, migration, diminishing interest in agriculture, introduction of new technologies, livelihoods diversification, and civil unrest. Climate change has also had a dramatic effect on food production as monsoon, upon which so much Nepali agriculture depends, has also been altered.

The situation is high dependence on agriculture as more than 80% households depend on agriculture. This statement is generally made about agriculture in Nepal. But, even though, a large number of people maintain their farming, they also receive a substantial income from non-farm sources, usually from service sector including labor migration, which is used for maintaining a living in the rural areas. If this income had not been received, a large number of farmers would have been food insecure than what is seen now. But high dependence on agriculture is still continuing, as there is no shift of people from farming to industrial sector in Nepal. (Adhikari, 1996)

Low landholding and fragmentation of land is also blamed for growing food insecurity in Nepal. At present, Nepali farmers own, on average, 0.9 ha land. This land is also distributed at an angle, so that a larger proportion of farm households have less than 0.5 ha of land. The data indicate that the bottom 20 percent of households receive only 3.7 percent of the total national income, while the top 10 percent capture close to 50 percent (CBS-2007). This land is also severely fragmented, as the system

is that land is divided equally to all sons. From this year, daughters are also entitled to get equal share (as compared to sons) on parental property, but need to return to parents (or brothers) once they are married. Even though Nepali farmers' average land holding is 0.9 ha, this should not pose a problem in producing more, provided there is good environment like economic incentives, good technology and required infrastructures. The countries having high land scarcity than that of Nepal are food self-sufficient and also exporting more.

The food production in the hilly region is very fluctuating. This correlates to weather patterns. Because of the sloppy nature of land and less availability of plain valley land, it is also difficult to develop irrigation. As a result, much land in the hills is rain-fed. Therefore, there is fluctuation in production of food. This fluctuation has increased in recent years because of disturbance in normal rainfall pattern. This is considered as one of the impacts of climate change. In general, there is also declining trend in production of food. In the last two years, deficit has grown.

The analysis of surplus and deficit in food balance was done using the five major cereals (rice, maize, wheat, millet and barley). But it is also a fact that many more other crops are grown. Other important crops and commodities like livestock products, poultry, fish, vegetables, fruits, buckwheat, beans, oat, tubers (yam, taro, sweet potato etc.), and potato are not included in the food balance sheet. These crops and commodities have been increasingly contributing to food and nutrition security as they are supplying calorie, nutrients and cash income to people but they are not counted in food security calculations.

The act of ensuring food security in Nepal is extremely difficult and full of challenges in today's context. However, this does not mean that reaching out to the poor and food insecure people is impossible. There is a lack of proper intervention on providing food for security

or reducing hunger based on context (e.g., emergency-induced hunger v. structure-based hunger). In most cases, emergency responses have to be fulfilled with food and basic needs.

2.4 Food Security in Khotang

Khotang is still a place with immense potentialities, but now suffers from food

deficits, diseases, and various unfulfilled basic needs. It is a case of failure of government's policy on agriculture and food security. Many of the unintended consequences of the development programs also played an important role in growing food insecurity in this district.

All of Khotang district is hilly (80%) and mountain (20%) areas, and less than a third (29%) of its territory is suitable for cultivation. Of suitable land, nearly 80% is being cultivated, but only 26% is irrigated. The main crops cultivated in Khotang are rice maize, wheat, paddy, millet, oilseed, potato and vegetables. Animal husbandry is focused on buffalo, cattle, goats, sheep, and poultry, and the main livestock products are milk and meat. (District profile: Khotang, 2019)

According to back then Village Development Committee reports, two-thirds of the current Wards of Khotang have been suffered from high to severe impact of the conflict. There was a direct correlation of intensity of conflict with its impact on food security. Therefore, the livelihood systems of these wards were severely and adversely affected. The food stocks at the household level have decreased by half because of the constraints in supply and increase in price.

In recent times, Khotang has earned its improved food producing capacity and food securing mechanisms. On the other hand, it has been able to bring new developments in food production. This transition has been a huge burden on the people of Khotang. The traditional farming system in Khotang has been characterized by wide diversity and adaptability to the agro-climatic conditions, which also varies from one small unit to another. Because of the need to adapt to the very diverse agro-climatic regions, farmers have developed a wide diversity in crop-growing practices, crops, and in social practices, including food culture, exchange practices and social relations. (District profile: Khotang, 2019)

In 22 of Khotang's 79 Wards the recurrence of acute food security crises from 2008 through 2011 was moderate, while in other Wards the recurrence was low. Wards with moderate recurrence of acute food crises are clustered in the northern and eastern parts of the district. Total 53,800 mt of food required for the district, only 45,112 mt were produced in the district and 8688 mt food is deficit in 2075/76.

Food deficit is the serious problem of the hilly region of Nepal. Major food grains such as paddy, maize, wheat and millet were grown in the study area. Many cash

crops like ginger, potato, milk and vegetable were production in the area. Before intervention farmers were applied traditional method of cultivation. There was no use of modern agriculture equipment, technology and irrigation facilities. Most of the land were terrace type. Very few households were in the position of food surplus and they sold their food grain to others. Especially the households from Dalit and Janajati community from this study area were thriving in hunger. Thus the study area was facing the problem of food deficit.

After the food security program intervention, most of the household's food availability is changed compared with before the days in the study site. The present scenario of food security situation and their socio-economic status shows and suggests for the regular application of improved agriculture technology, application of improved seeds and appropriate cash crop having quick return. The situation also suggests for the modernization and diversification of crops. Some of the reflections were presented in the case studies.

2.5 Brief Information about Other Organizations

During the study period researcher had found that some social service oriented partners organizations making seeds/improved technology available at the plantation season to uplift the food security status of study area. These organizations which were mobilized to improve the food security status of the community were as follows;

Table no. 2.1: Existing Organization Working at study area for Food Security

S.No	Name of Organization	Supporting Core Areas	Supported Technology
1	Rural Municipality Agriculture extension Program	Food Security, Sanitation	Training, material, seeds
2	USAID/Sabal	Enhanced Homestead Food Production, Income Generation, Food security	Training, material and seeds

CHAPTER - III

RESEARCH METHODOLOGY

This chapter deals with the research methodology applied in the study. This is purely academic research based on social science. For any kind of research, it is necessary to adopt some kinds of specific methods for the collection of data and required information to undertake a successful research. This chapter discusses with the research methodology adopted for this study.

3.1 Research Design

The study was micro level study on socio-economic impact of food security program. With the view of achieving research objectives, the design of this study was based on both descriptive and exploratory ways with the help of proposed research tools and technique. The study had explored and described the major intervention and impacts of food security program on socio-economic aspects of implemented food security at Ainselukharka, Khotang. It was also explore both prospects and challenges of the food security program from where community members were benefited. Data had been taken from survey method. Primary and secondary data was collected, analyzed and interpreted for the final presentation of the research report. So the study was descriptive and analytical in nature.

3.2 Sources of Data Collection

Research is not an easy task. It needs various tools and methods for the better result. Considering the same principle various methods were used to collect data from ward no one, two, five, six, seven and eight of Ainselukharka Ward.

Basically this study was intended to be more empirical with relevant data collected from the field. Structured and unstructured questions, field observation, personal interview, key informant interview, case study were the tools used for this purpose. Secondary data were collected from relevant publication including books, magazines, newspapers, journals, even unpublished documents web sites too.

3.3 Rationale for Selection of the Study Site

Ainselukharka ward of Khotang district is the selected study area where different donor agencies had supported to implement the food security program due to the more vulnerability and conflict affected area where several castes peoples were living form many years ago. The proposed study area is located in a remote area of Khotang District. Where any types of research work on food security related issues has not been done till now. In the present contest, many NGOs, INGOs and Rural Government are also supporting for the food security and livelihood sector for the community.

The modern/improved development activities bring the changes in the traditional occupation and status of many communities. Therefore, this research study was interested to know the major intervention and socio-economic impacts of respected study areas community comparatively who had traditional cooping and livelihood strategies before and presently, adopt modern and improved strategies.

3.4 Population & Sample Size

The total number of households in study area is 607 from five wards. Therefore, the universe considered for this study was 607 household populations from ward no. 1, 5, 6, 7 & 8 of Ainselukharka Wars where food security program had been implemented before to improve the food security status of the community. The 20% households (121 households) were selected from random sampling using random number table to collect information among the total number.

Therefore, these 20% households will represent whole universe for analyzing the purpose of the study. All of the respondents were from program implementing respected community members. Most of the interviews were done with the family head of house as well as were also done with the housewife and other family member who are available at that time.

Table no. 3.1: Households Sampling Data of the Respondents from Study Area

Ward no.	Total no. of HHs in Study Area	Respondents	
		Selected Sample size	Percentage
1	105	21	20
5	136	27	20
6	85	17	20
7	156	31	20
8	125	25	20
Total	607	121	

3.5 Data Collection Tools & Techniques

All of the respondents were from program implemented respected community members. Most of the interviews were done with the family head of house as well as with the housewife and other family member who were available at that time. Key informant interview (KII), direct observation (DO) and case studies were conducted from the study area to gather more information for the study. The respondent for Key informants interview were selected on the basis of some basic criteria such as; district level government responsible authorities, RM agriculture staff, agriculture programs implementing I/NGOs of district level staff member, donor staff, selected political leaders of the village.

This research has been conducted by employing various methods for data collection. Both primary as well as secondary data has been collected. The researcher collected the primary data from the respondents by conducting interviews and informal group discussion during the meeting carried out with the community people.

3.5.1 Household Questionnaire for Survey

The major method to collect the data of this study was interview. The interview of the respondents was taken through structured questionnaire to the household respondent. Interview with the family head as well as other available member of the household were conducted as per the survey questionnaire (in annex). A structured schedule was used for collecting data in the present study. The questionnaire has structured into five specific sectors. First part was structured to take detail information about

respondents household. Second, food sufficiency and major intervention of food security project. Third, productivity and effectiveness of the project. Forth, technical support and last part is structured about constraints and their management. These sectors have again small details.

3.5.2 Observation

Nearly two weeks' time was spent in the research area as field observation and questionnaire survey. During the study period and field visit to the community, most of the household were using improved farming system, improved varieties of crops in their farm. In the households visited, the main people of the family, housewife were interviewed. The major intervention, positive and negatives impacts of the food security project were discussed with the family members during the visit. A special attention was paid on those families who were involved in income generating activities, and families having access on improved agriculture technology.

While interviewing with the respondents, the researcher observed and recorded the activities/status of the family members, respondents and other people of the society. The way of working of respondent, livelihood status, traditional/modern occupation, farming system, family structure, adopted improved technologies and other related information to observed, evaluated and obtained through this technique. More reliable and qualitative information through direct observation checklist was obtained and used as a qualitative data for this study. Such observations have helped to make the judgments on the information provided by the household respondents and other key informants.

3.5.3 Key Informant Interview

To gather more and qualitative information Key Informant Interview schedule was developed and used as a data collection tools for this study. Specially, this technique has been used only for informants of district level responsible authorities - Palika, Agriculture extension officer, ward representative, district level I/NGOs senior level staff member, and local political leader of this study area to collect additional information thought interview about the major intervention and socio-economic impact of food security programs implemented in Ainselukharka Ward. The questions were asked in interview to collect additional qualitative information too. The interview was taken as a cross checking for data obtained from sample survey. The

data related to some issues about food security program implementation strategy, implemented activities, and effectiveness of program, prospects, faced problems and suggestion for the better improvement in the days to come.

3.5.4 Case Study

Case studies were taken to know about their traditional occupation, past status, their perception, involvement on new activities, major achievement and the challenging factors to their survival and their improvement on social-economic status. During the fieldwork, researcher collected a case study/success story in Ainselukharka Ward where the participants were different socio-economic status and food availability ranks from before and after the program benefited community member. Participants were from different sex and all the age group. Social inclusion was sensitively followed. To gather more reliable information for case study template was designed and used as a data collection tools for this study.

3.5.5 Secondary Data Collection

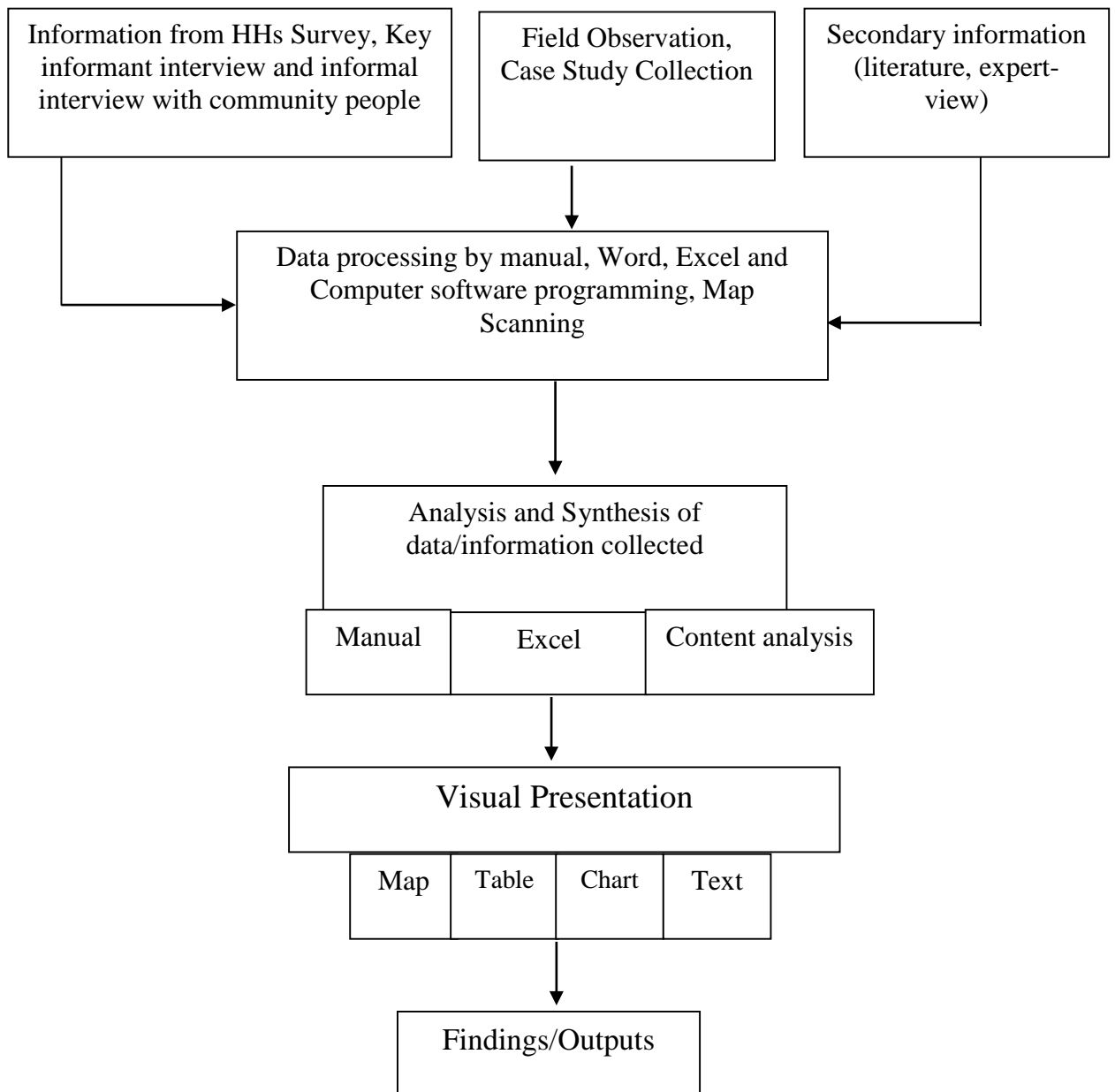
Most of the secondary data relevant with this study were collected with different governmental and non-governmental organizations working in the food security related field in Nepal. The literature review included reports, articles and books published through different organization related to food security as well as daily newspaper and websites. Discussion with the key persons of the organizations was also made during the literature collection and before visiting the study area for field survey.

3.6 Data Analysis

Data generated during fieldwork as well as the data collected from secondary sources has been scrutinized, classified and tabulated according to demand of issues discussed in different chapters. Basic statistical tool and methods have been utilized to analyze results and interpret the concepts, results and discussions. Qualitative data has been analyzed using simple statistical tools like frequencies and percentage distribution. Qualitative data has been analyzed descriptively and to extend possible with the use of table and distribution. Based on the finding of analysis, careful interpretations of the findings were made.

During the analysis the collected data from primary and secondary sources, MS-Word, MS-Excel, used for statistical analysis. Various tables, charts, figures diagrams and maps were created by using computer software programs and cartographic techniques. Qualitative information provides depth and detail understanding of respondent's experience and attitude which are presented in the box form.

Figure No. 3.1: Schematic Framework for Data Analysis



CHAPTER-IV

DEMOGRAPHIC CHARACTERISTICS OF STUDY POULATION

4.1 Brief Description of Khotang District

Khotang District is one of the remote hilly districts of Sagarmatha Zone of Province 1 in Nepal. This district is surrounded by Bhojpur district in eastern part, Okhaldhunga district in west and Udaypur district in north and Solukhumbhu district in South side. Its district headquarter is Diktel Bazaar which is located almost in center of the district. This district is divided into 8 Rural Municipalities and 2 Municipalities.

4.2 Brief Description of Study Site

4.2.1 Background

The Ainselukharka ward for the research study was one of the remote and under developed wards among 79 wards in Khotang district that was about 30 km far from the district headquarters at southern part. The geographical location of this ward was slope and most of the settlements are scattered. According to the Census 2011, the total households of this ward was 652 and total population was 2995 where male were 1407 and female were 1588. The absentee household was 227 in the ward. The average household size of the ward was 4.84. The major natural resources in the ward are land, forest, and water among them land was the major.

Figure No. 4.1: Location of Khotang District in Nepal.

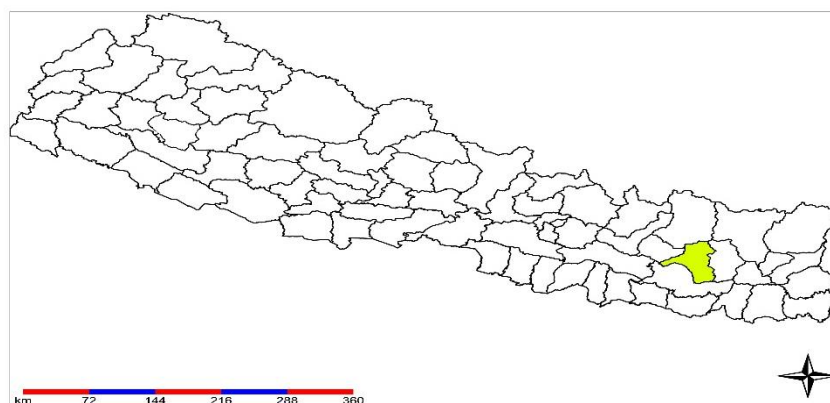


Figure No. 4.2: Location of Study Area in Khotang District.



According to the ward record, more than 85 percent of the population is engaged in subsistence agriculture and livestock rising. The rest 15 percent of the population is engaged either in government jobs, school teachers, overseas jobs, business and study. Since land is the major resource they exploit, most of it is used as either *khet* or *bari* or public land. Food grains like paddy, wheat and maize are cultivated in the *khet* whereas maize, mustard, vegetable and beans are cultivated in the *bari* as major crops. Most of the public land is either used for grazing or community forest from which the community people to get fodder, firewood, grass etc.

Almost all households have access on involvement in food security program supported by USAID/Sabal which was implemented by different partner organizations due to the vulnerability caused by ongoing conflict, natural disaster, low productivity and income. The production status of this ward is low due to the lack of irrigation facility, improved seed and technology support, affected by seasonal disaster, fertile soil erosion and land slide.

4.2.2 Ethnic Composition and Populations

The study area is old structure ward no. 1, 25, 6, 7 & 8 of the Ainselukharka Ward. The total household is 607 and the population is 3393 where male 1695 and female 1698. In the study area the people have mixed casts and religious group, as they are situated for a long generation. The majority of the Brahmin/Chhetri and Hindu

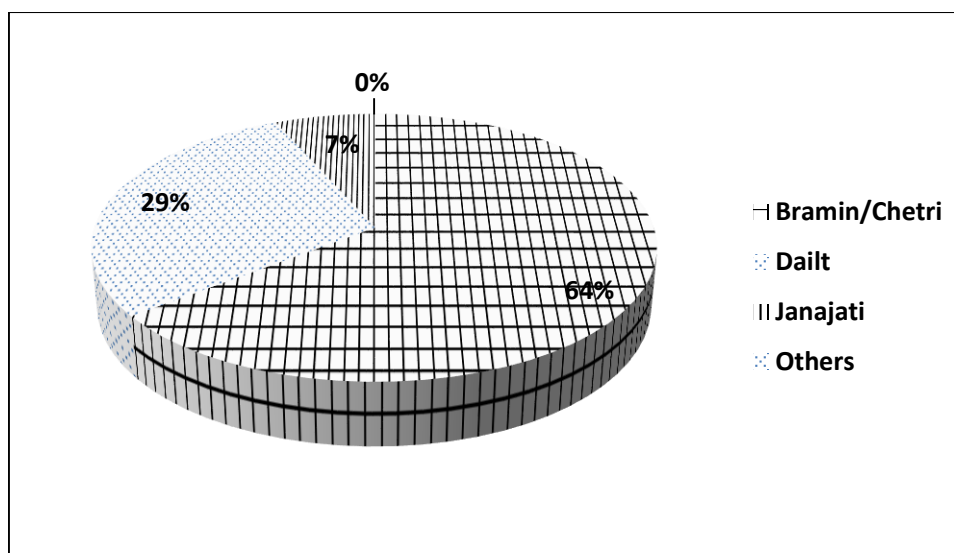
religions were found in this study area. For the consistency of the data, palika profile and the household survey report were used as a secondary resource for this study. The distribution of the household composition, number and percentage of caste wise distribution and religious distribution is presented in the table and figure below.

Table No. 4.1: Caste Wise Number and Percentage of Sampled HHs in Study Area

S.No	Castes	No. and % of Respondents	
		No. of HHs	Percentage
1	Brahmin/Chhetri	78	64
2	Dailt	35	29
3	Janajati	8	7
4	Others	0	0
Grand Total		121	121

Source: Field Survey, 2019

Figure No. 4.3: Caste Wise Composition of Sampled HHs in Study Area



Source: Field Survey, 2019

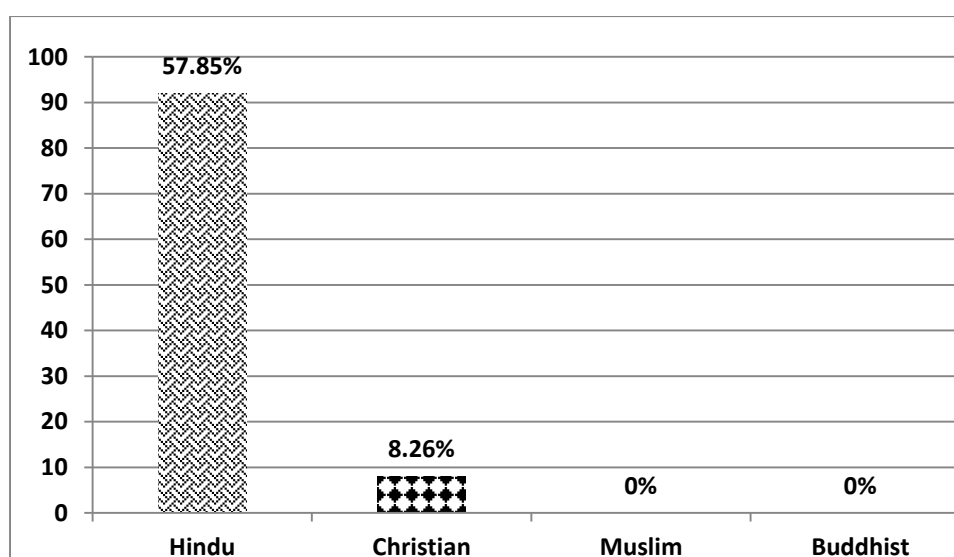
Above table and graph shows that this settlement is made up of different caste and ethnic groups of people who were staying with kind cooperation and relation in this study area for better opportunities and facilities. Among total sample HHs (121), majority of the Brahmin/Chhetri (64%), Dalit (29%) and Janajati (7%) was found in this study area.

Table No. 4.2 Religion Wise Number and Percentage of Sampled HHs in Study Area

S.No	Religion	Respondents	
		No. of HHs	Percentage
1	Hindu	70	57.85
2	Christian	10	8.26
3	Kirant	41	33.88
4	Buddhist	0	0
Total		121	100

Source: Field Survey, 2019

Figure No. 4.4 Religion Wise Composition of Sampled HHs in Study Area



The above table and graphs shows that only two types of religious people are staying in this study area. Majority of people of this settlement are Hindu (57.85%), Kirant (33.88%) followed by Christian (8%).

4.3 Socio-Economic Characteristics of Sample Households

4.3.1 Age wise population composition of sample HHs

The age composition is the basic components of the demography. The analysis of the age composition of the respondents is one of the essential parts of any research work. So, it plays an important role in the population analysis. Similarly, other population parameters such as occupation, education are also influenced by age composition. It

also represents the family structure of the ward. In this study, total number of population in sampled households is found 686 persons. The following table shows the total number and percentage of household population of study area which was categorized into different age groups.

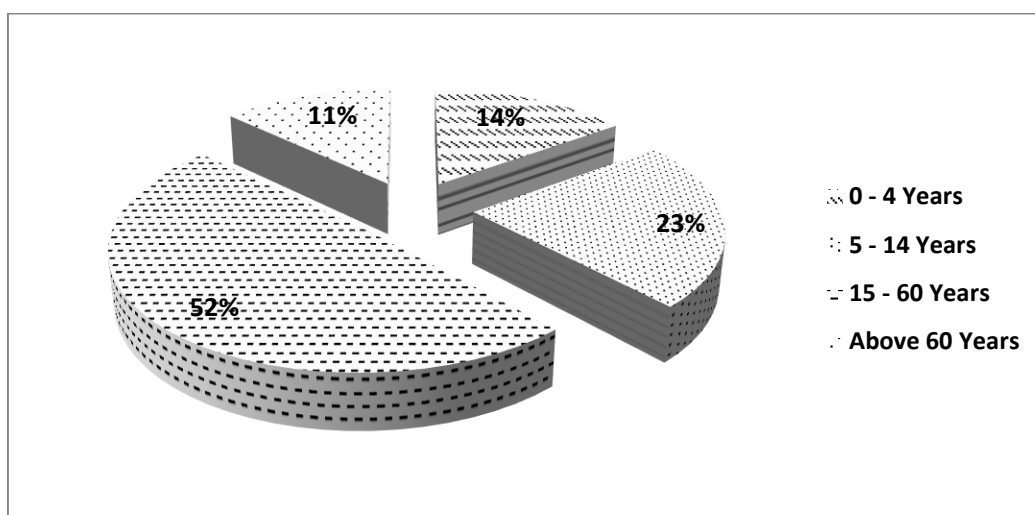
Table No. 4.3 Age Wise Composition of Sampled HHs Population

S.No	Age Group	Population	
		No. of population	Percentage
1	0 - 4 Years	84	14
2	5 - 14 Years	139	23
3	15 - 60 Years	317	52
4	Above 60 Years	67	11
Total		607	100

Source: Field Survey, 2019

$$\begin{aligned}
 & \text{Total number of people living in household} \\
 \text{Average Family size} &= \frac{\text{Total number of people living in household}}{\text{Total sampled households}} \\
 &= \frac{607}{121} \\
 &= \mathbf{5 \text{ Persons (Average Family Size)}}
 \end{aligned}$$

Figure No. 4.5 Age Wise Composition of Sampled HHs Population



The economically active population of the age 15-60 years for male and female is high which is clearly shown in table no. 5.1. In this table out of the total respondents HHs population, 14% populations of respondents are 0-4 years, almost are under child groups. 23% populations of respondents are 5-14 years, most of these groups are school children, 52% of populations of respond are 15-60 years, most of these groups are economically active and 11% populations of respond are above 60 years, most of them were mobilized as a household's and children's care taker.

4.3.2 Gender wise Composition of Sampled HHs Population

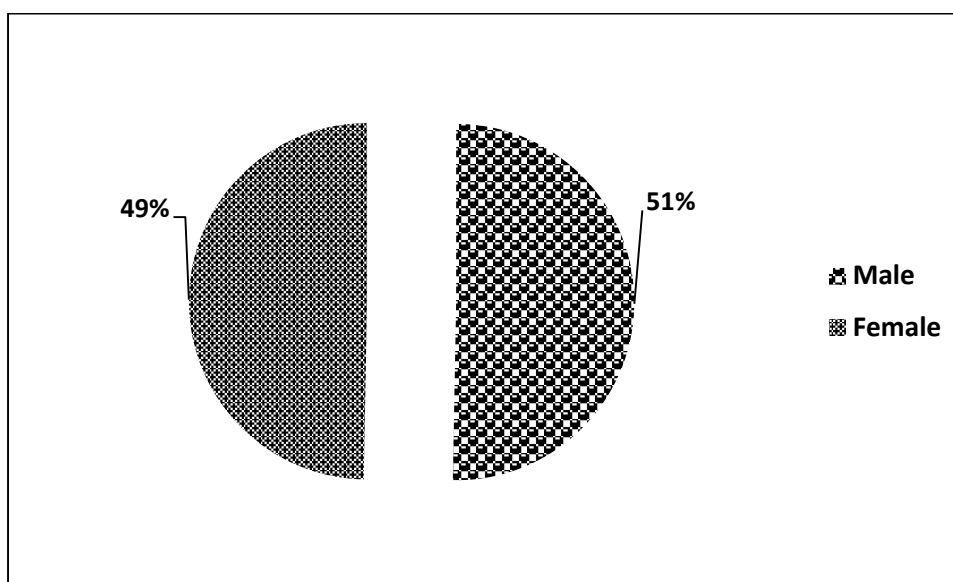
The sex composition is another basic component of the demography. The analysis of the sex composition of the respondents is one of the essential parts of any research work. The following table shows the gender wise representation of the total household respondent's in study area.

Table No. 4.4 Gender Wise Composition of Sampled HHs Population

S.No	Gender	Total Number	
		No. of population	Percentage
1	Male	300	49
2	Female	307	51
Total		607	100

Source: Field Survey, 2019

Figure No. 4.6 Gender Wise Composition of Sampled HHs Population



Source: Field Survey, 2019

The above table shows that out of the total population male population is slightly more than female population. Out of the total population, 51 percent population is female and 49 percent population is male in the study area.

4.3.3. Marital Status of the Sample HHs Population

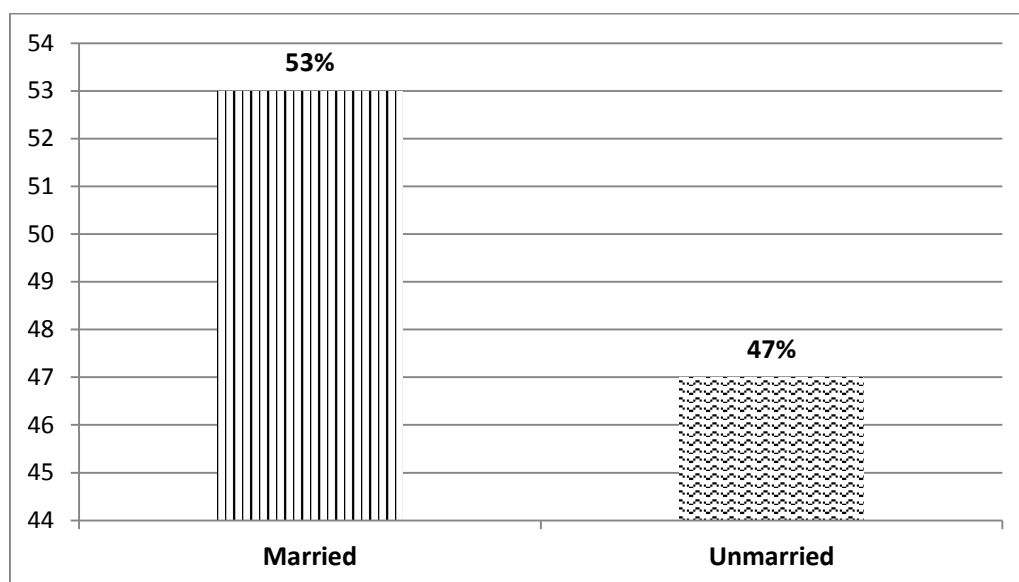
The marital composition is another basic component of the demography. The analysis of the marital composition of the respondents is one of the essential parts of any research work. The following table shows the marital status of the total household population in the study area.

Table No. 4.5 Marital Status of the Sampled HHs Populations

S.No	Marital Status	Total Number	
		No. of population	Percentage
1	Married	322	53
2	Unmarried	285	47
Total		607	100

Source: Field Survey, 2019

Figure No. 4.7 Marital Status of the Sample HHs Populations



Source: *Field Survey, 2019*

The above table shows that out of the total population, 53 percent population were married and 47 percent population were unmarried found in the study area.

4.3.4 Educational Status of the Sampled HHs Population

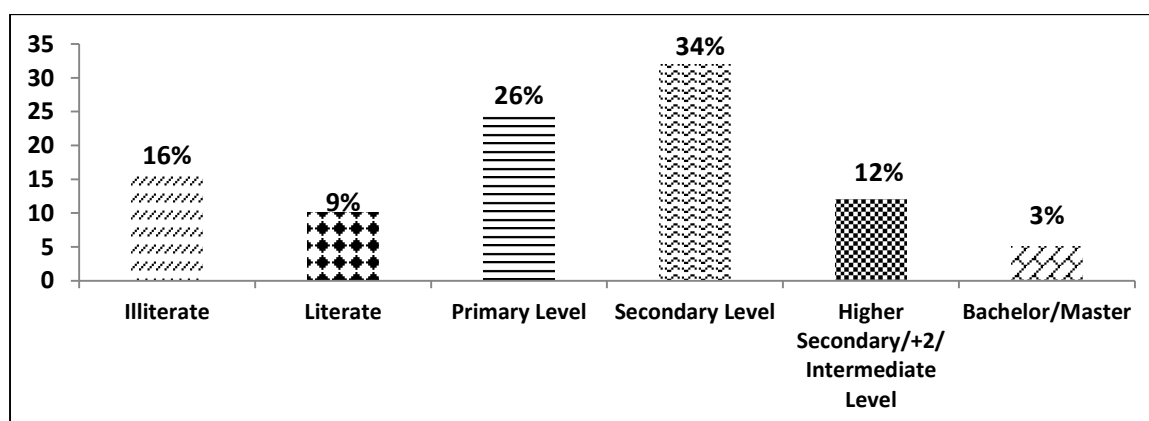
Among the various components education was the key indicator of the human development. It plays an important role in the efforts of any endeavor to uplift a society from repression. Education is a principal mechanism of fulfilling the minimum learning needs of the people needed for effective participation in the economics, social, political and other activities. Generally, quality education is a backbone of nation and plays an important role in helping rise the livelihood of people. Educational status of the people of sample household population is shown in the table below.

Table No. 4.6 Educational Status of the Sampled HHs Population

S.No	Level of Qualification	Population	
		No. of population	Percentage
1	Illiterate	98	16
2	Literate	54	9
3	Primary Level	158	26
4	Secondary Level	207	34
5	Higher Secondary/+2/ Intermediate Level	71	12
6	Bachelor/Master	19	3
Total		607	100

Source: Field Survey, 2019

Figure No. 4.8 Educational Status of the Sampled HHs Population



Source: Field Survey, 2019

Above table and figure no. 4.8 shows the educational status of sample HHs population of old structures wards no. 1, 5, 6, 7 and 8 of Ainselukharka Ward. Most of the people are literate but a large number of people (16%) are still illiterate. Higher level educational status of community people were poor than medium level. This study area does not have higher level education facilities but they have got the educational

facilities from outside this settlement. Out of total population only 3% were having Bachelor or Master level education, 12% having Higher Secondary level, the highest percentage (34%) of education were from secondary level, Primary level were 26%, literate level were 9% and remaining 16% were illiterate. It shows that still either formal or non-formal educational classes need to be conducted to reduce the illiteracy level from the community. It was also possible to conduct reflect classes which run as per the voice and the choice of the community people.

4.3.5 Occupational Status of total Population of Study Area

Occupation is one of the important indicators of the economic status of the people. It also determined the household's wealth, well-being and social stigma in the society and plays a vital role of food security status. But in the study area, the major occupation of community people was agriculture. Some of them, low number of people having opportunities to hold another types of occupation. The following table shows the occupational status of sample household population in study area.

Table No. 4.7 Occupational Status of Sampled HHs Population

S.No	Types of occupation	Total Population	
		No. of population	Percentage
1	Agriculture	261	43
2	Jobs	77	13
3	Pension	42	7
4	Wage labor	193	32
5	Business	13	2
6	Small Child	21	3
Total		607	100

Source: Field Survey, 2019

The above table shows that out of total population, 43% population are involved on agriculture, 13% are involved on jobs inside the country, 7% having pension facility, 32% were from wage labor, 2% were from small business and remaining 3% were

from children. This data shows that the highest population is having agriculture and second is having study. This data shows that it is necessary to create jobs opportunity at local level where community people can involve easily. There was need to establish small scale industries, giving them knowledge, awareness and education, which can be way if income generation activities at local level for the people.

4.3.6. Land Occupying Pattern of Sample HHs of Study Area

Land is the basic asset of people where people set up a house for shelter. According to the respondent of study area, they had covered the low productive land for their agriculture production. The following table shows the land ownership pattern in the study area.

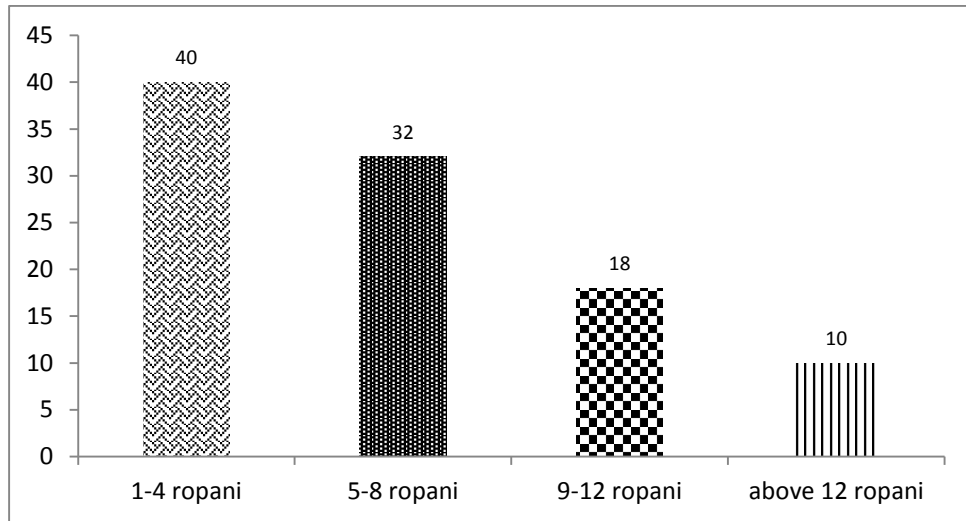
Table No. 4.8 Land Occupying Pattern for the Agriculture Production by Sampled HHs

S.No	Land Size	Respondent HHs	
		No. of HHs	Percentage
1	1 - 4 Ropani	48	40
2	5 - 8 Ropani	39	32
3	9 - 12 Ropani	22	18
3	Above 12 Ropani	12	10
	Total	121	100

Source: Field Survey, 2019.

** 1 Ropani is @ 12 mana wheat seed covered land.*

Figure No. 4.9 Land Occupying Pattern for the Agriculture Production by Sample HHs



Source: *Field Survey, 2019*

The above table and figure shows that out of total sampled HHs, only few household (10%) were having land access on above 12 ropani land, but majority of households (40%) have only 1-4 ropani land which creates food deficiency almost time of the annual basis. Among total household 18% were having land access on 9-12 ropani, 32% HHs were having -8 ropani land access and no one household was found land less. Most of the household food availability status determined the land holding pattern and their own production. This data shows that majority of the households were under vulnerability. Community people were needs additional support from the respective stakeholders.

CHAPTER - V

MAJOR INFLUENCING FACTORS AND PATTERNS BEFORE INTERVENTION OF FOOD SECURITY PROGRAM IN STUDY AREA

5.1 Major Influencing Factors and Patterns Before Intervention of Food Security Program in Study Area

The influencing factor that are responsible for food security program are educational level, age of the household head, household with higher female education level, larger farm size with higher ratio of irrigated land, better access to market, roads, cooperatives, better asset and remittance recipient household. The twist turn in food security problem can be interrelated with the major factor like food availability, food access and food utilization. In the similar manner, the food security status of study area household or individual is also determined by their awareness level on agriculture, community assets, technology transfer system and logistic factors.

The food security problems can be simplified by focusing on three distinct but interrelated dimensions: aggregate food availability, household food access, and individual food utilization. Vulnerability is a forward-looking concept for assessing community and household exposure and sensitivity to future shocks. Ultimately, it was found that the vulnerability of a household or community was depends on its ability to cope with exposure to the risks associated with shocks such as drought, flood, crop blight or infestation, economic fluctuation, low level of knowledge, lacking of proper infrastructure facilities and technologies.

In the study area, people were facing these problems before the program implementation. But, after the program implementation, sectors of intervention were made to enhance the capacity of the food shortage households as well as community peoples. The sectors of interventions included in the study area for the community people were education, vocational training and orientation, technical assistance and job creation. Thus, these interventions play vital role in developing the livelihood capacity of local community people of Ainselukharka through the community based

participatory actions.

The community peoples of Ainselukharka or the study area people later were also familiar to focus on the aspects of how their households may deal with risk and to develop intervention strategies or coping capacity. The determinants of coping capacity which the community peoples of Ainselukharka applied include the levels of their household's natural, physical, economic, human, social and political assets; the levels of their production, income and consumption; and their ability to diversify its income sources and consumption to mitigate the effects of the risks whenever it may face at any moment.

The study area people were facing food insecurity situation before the program was carried out there. After the program was carried out, the community peoples who suffered from extreme poverty were enhanced. The drastic change after program carried out were basically on: (1) Awareness level raising (2) Community asset forming (3) Skill transfer (4) Ownership (5) Income generation

5.1.1 Awareness level raising:

Awareness level raising of the community people of the study area were enhanced by significantly by group discussions, orientation, training, demonstration and practical field exercise.

In the study area, previously there was a lack of adequate training, information and fundamental awareness on socio-economic issues at household level. But after the food security program was carried out in the study area, the community people realized and felt about its utmost need in their daily life surviving. This actually becomes real when the community people acknowledged its need for scale up by revisiting to the implementor of food security program or Sabal program. The food security program in the study area has really developed agriculture and livelihood capacity building for the beneficiaries. All 121 sampled household were capacitated on socioeconomic aspects of food security which helps them to empower their knowledge, attitude and practices on social issues and agriculture development for food availability at their household as well as community level.

Participatory Learning Center (PLC) was one of the vital means to raise the level of awareness level of the community to analyze the socio-economic and food security

issues and try to find out the problem themselves. PLC has contributed the participants in raising their awareness on importance of hygiene in their daily and family life as well. Issue based discussions were carried out in the classes. After identifying the issues, assessment of the resources to address them were carried out. PLC in many cases are being used as an effective tool in reducing the social evil such as gambling and alcoholism, domestic violence. Likewise, PLC has also been proved to be an effective forum to disseminate the improved technology and other important information in their community. Basically, this awareness sector focuses on:

- (i) Discussion: Discussion were done with community people at meeting on what the community people's status of food sufficiency, their agro-production and income status.
- (ii) Group Discussion: Each households members were proactively participated in group discussion regarding the reasons behind the level of production and income so that they can manage the sufficient food production after the food security program's implementation. The community people have actively participated in the group discussion session which was facilitated by their village model farmer.
- (iii) Orientation on agriculture and production: Village model farmer also have oriented the beneficiaries on utility of food, cash, agriculture farming and animal husbandry. It was found that majority of the house have been aware in these issues.
- (iv) Agriculture/capacity development training: Such type of capacity building activities was organized by food security program implementation local NGO in consultation with Agriculture Knowledge Center and Agriculture Coordinator of Ainselukharka Rural Municipality. The awareness level in 90 percent participants such as using improved farming available at farming season, doing irrigation facility, collection center of all the food production and access to local markets were raised when they are at the end of training session.
- (v) Demonstration on agriculture activities: The activities such as enhanced kitchen gardening, farming on lease land, seed bank, seed bank building, plastic pond, plastic tunnel, irrigation canal and backyard poultry and goat

keeping which the community people made in their societal level were demonstrated in agriculture demonstration/exhibition program conducted by Ward Office and Rural Municipality Office. Through such activity, the motivation level of the community people has been raised to adopt the improved system of farming in their society.

- (vi) Internal/external cross visit: Such type of visit among all the 121 sampled HHs farmers were done in the study area by making four groups. Each group have visited at all the improved farming sites within their ward and adjoining municipality of the district. This type of activity raise their innovation level of doing more improvement in improved farming in the study area.

5.1.2 Community Assets Creation:

Community asset forming were done by constructing rural roads, irrigation canal, plastic ponds, nursery establishment, improved compost pit making, seed bank establishment, agriculture group formation, cooperative formation and its local registration.

In the study area, year-round irrigation services before the program intervention were limited and moreover, the existing irrigation systems are becoming available due to the proper program support through community assets creation sector. Problems also exist regarding the collection of maintenance fund as most farmers are reluctant to pay irrigation fees because of the irregularity of the irrigation services. Seeing these situation, Rural Municipality Office has supported from their matching fund to construct irrigation canal which was later utilized by 98 household where as 23 household has their own natural source of irrigation. Likewise, plastic pond, nursery establishment, improved compost pit making, seed bank establishment were done by all 121 households which was seen during the observation.

Similarly, agriculture group and cooperative formed and registered in the government agencies to sustain the program and long-term benefit to the community people. Out of 121 households, 48 household's poor farmers of the study area have access to leasehold land. Each family obtained access to land ranging from one ropani to three ropani for the period of 1-3 years.

5.1.3 Skill Transfer:

Community people of the study area has used improved seeds including both cereal and vegetables in spite of traditional style of farming. After the food security program implementation in the study area, their skill was enhanced in the ways like how to handle agriculture machineries such as hand tractor and so on, using certified pesticides, improved seed, cereals and high value vegetables farming, cash crop, improved goat keeping and their connection with local stakeholders was also made more.

While government program and other line agencies were also actively providing technological extension services, the food security program was supportive to address the needs of poor and marginal groups living in the remote area like in Ainselukharka with the services made inclusive with equal treatment to all. It was found a good practice to increase the agriculture production, productivity, income generation and sustainability that ultimately supported to raise the status of food security of household and community of the study area.

5.1.4 Ownership:

The systematic cropping or use of improved seeds, vegetables, cereals significantly improved the food security status and dietary diversity of vulnerable peoples especially women's of Ainselukharka. Consequently, their ownership in household, improved agriculture cultivation, improved goat keeping and their wealth status were improved. All 121 household were using improved agriculture farming and improved goat keeping.

In the study area, 96 percent of the women farmer workloads decreased due to the food security program in their society. Their nutrition status along with agriculture education and income allowed them to save their earnings and encouraged some of them to open bank accounts in their own names. Their husband helped them household works whereas the women who took their ownership in their food security business were involved in meetings, orientation and agriculture production trainings.

5.1.5 Income generation:

The risk for food security increases when money to buy food is limited. In the study

area, 73 household have been able to commercialize their production to rural local market (*Hat Bazar*) whereas 48 low-income households were limited by common barriers such as their family members lack of managing and marketing capacity.

Both the groups have done their preferences in two types of marketing practice for their income generation. 38 percent farmers in the study area preferred broker service to access the local rural market or district headquarter market whereas 62 percent self-carry or transport their agricultural and animal husbandry items to the nearest rural local markets for their income generation. The potential income generating activities carried out by the community peoples of Ainselukharka were food drying, processing and preservation; preparation and marketing of dairy products; seasonal and high value off-seasonal vegetable cultivation, improved agricultural production; establishment of livestock and poultry keeping and cash crop cultivation.

5.2 Food Availability Pattern before the Program Intervention

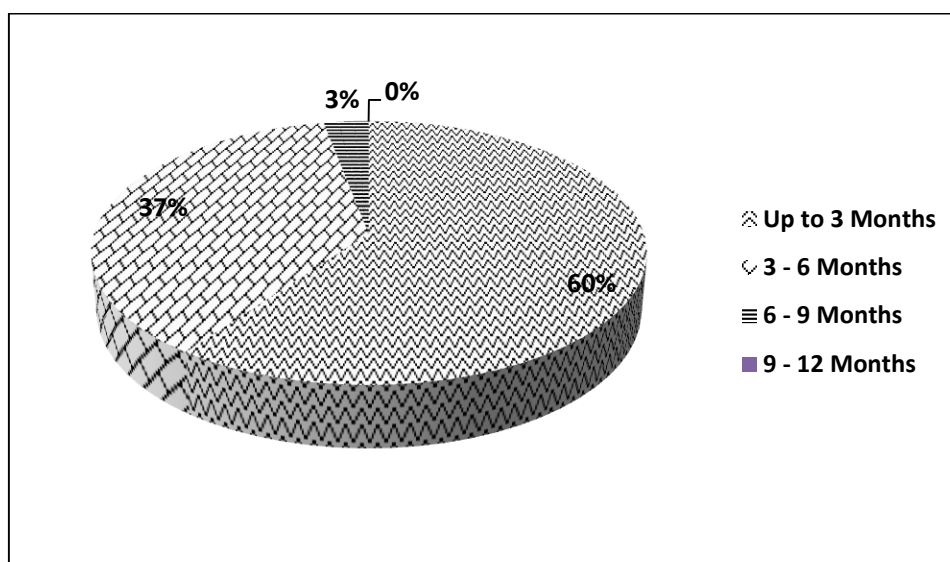
Due to the low productivity of land/crops, unavailability of improved and high yielding varieties seed, poor utilization and unmanaged use of fertilizers, lack of irrigation facilities, lack of improved agriculture technology and technical support, people from study area had facing the problem of food deficiency form the beginning to program implementing period. Researcher had tried to explore the pattern of food availability before the program period. This table shows the food availability pattern for the whole year from own production before implementation of the food security program in the study area.

Table No. 5.1 Food Availability Pattern before the Program Intervention

S.No	Food Available Months	No. of Respondent HHs	
		No. of HHs	Percentage
1	Up to 3 Months	72	60
2	3 - 6 Months	45	37
3	6 - 9 Months	4	3
4	9 - 12 Months	0	0
Total		121	100

Sources: Field Survey, 2019

Figure No. 5.1 Food Availability Pattern before the Program Intervention



Sources: Field Survey, 2019

Above table and figure shows that out of total sampled HHs, majority of the household (60%) were having access for up to 3 months, which is very poor scenario from the prospective of food security. Among total household 37% were having access for 3 to 6 months, only 3% HHs were having for 6-9 months and no one household have access for 9 to 12 months food availability for a whole year from their own production. This data shows that majority of the households were under vulnerability. Community people were needs additional support from the respected stakeholders.

It clearly shows that the agriculture pattern was undeveloped, traditional and less productivity in the study area. According to the above data, study area needs improvement in agriculture sector by giving productive training, inputs and improved technologies of agriculture.

5.3 Common Coping Strategies of Sample HHs

This study was carried out to find out the common coping strategies adopted by households. To know the coping strategy of the respondent, researcher designed the following options and visited the study area. The study found that the majority of the respondent's household used multiple options for the coping strategy for their household. They are handling multiple options because single option is not sufficient for the coping of the households. They are facing low production from their own land

which was not sufficient for round the year period. Researcher has scheduled the following coping options for the collection of data;

- | | |
|----------------------------------|-----------------------------------|
| 1. Collection of Wild Food/NTFPs | 2. Loan for Food |
| 3. Casual Labor | 4. Sale of Agriculture Products |
| 5. Use of Saving | 6. Job/Service within the Country |
| 7. Sale of Livestock | 8. Temporary migration to India |
| 9. Occupational Work | 10. Business |
| 11. Pension | 12. Foreign Remittance |

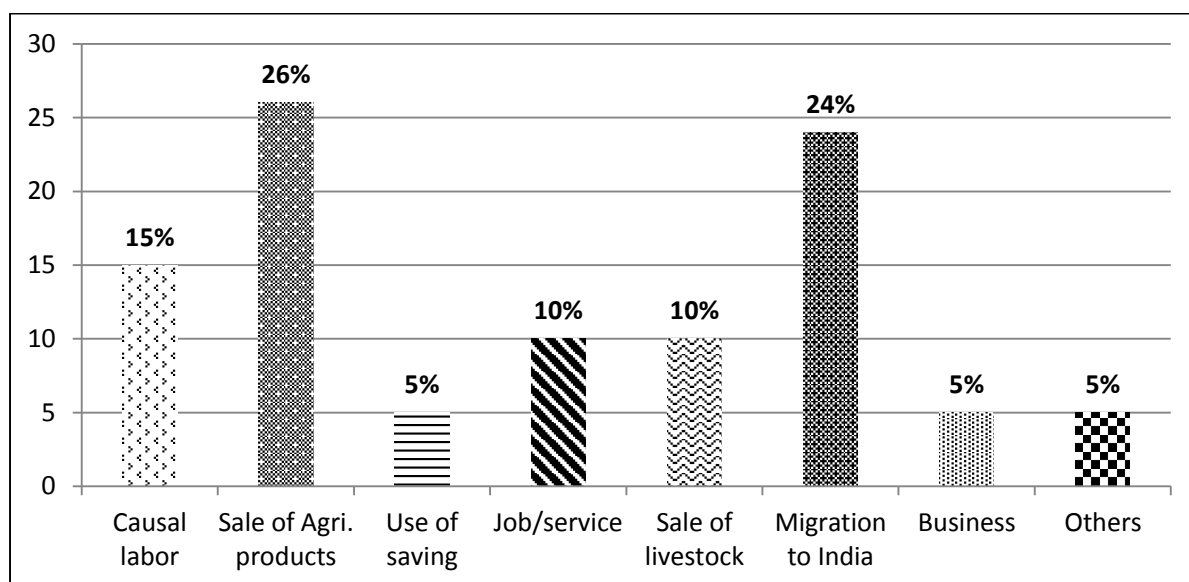
Among the scheduled options, application of the multiple coping strategies by the majority of the sampled household was found from the study was as per the following ranking;

Table No. 5.2 Common Coping Strategies of Sampled HHs

S.No	No. of adopted extra coping Strategy	No. of Respondent HHs	
		No. of HHs	Percentage
1	Causal labor	18	15
2	Sale of Agri. products	32	26
3	Use of saving	6	5
4	Job/service	12	10
5	Sale of livestock	12	10
6	Migration to India	29	24
7	Business	6	5
8	Others	6	5
Total		121	100

Source: Field Survey, 2019

Figure No. 5.2 Common Coping Strategies of Sampled HHs



Source: *Field Survey, 2019*

Above table and figure shows that household members has applied multiple options for their household coping. This study shows that single option is not sufficient for the rural people who are having unproductive land, low production, and low income status and having large scale family size. Out of total population 26% households were applying sale of agriculture products, 24 % hhs use temporary migration abroad and 15% HHs use causal labor coping strategy. The level of percentage and the number of options were depending according to the family size and the educational status. Study shows that those household who adopt more option their income and food availability is higher than less options adopting house. Single options household was not found during the study. Single option was also very difficult and painful for the coping to household.

CHAPTER - VI

SOCIOECONOMIC STATUS OF COMMUNITY PEOPLE AFTER INTERVENTION OF FOOD SECURITY PROGRAM IN STUDY AREA

6.1 Socioeconomic Status of Community People after Intervention of Food Security Program in Study Area

Socioeconomic status of community refers not just income but also educational attainment, financial security and subjective perception of social status and social class. The community people of Ainselukharka ward after implementation of food security program reduce the unemployment problem which leads to poverty, low quality of life and social and economic suffering. It was found that changes were happened and the level of awareness were raised, infrastructures facilities were developed at community level, change in agriculture technology was adopted by household and commuting people.

The improved technology such as irrigation facility, improved seeds, fertilizers and improved farming machinery were applied. It helped to determine the level of agricultural productivity, which affect poverty and food security of Ainselukharka where agriculture was applied as a main source of livelihoods. Their socioeconomic status could be understood from the five undermentioned impacts. (1) Increment in the production and income (2) Pattern of seed using process (3) Sources of seed used (4) Pattern of production and income (5) Status of annual income increment.

Increment in the production and income: In the study area, some of the respondents has applied different improved variety of crops whereas some were farming off-seasonal crops to earn additional income. Similarly different community based organizations and line agencies were seen assisting logistics and technical support to the community people as well. Hence, the respondent adopting traditional seeds and farming system before implementation period have changed into seed selecting pattern for farming after the program intervention were carried out there. Some changing in cropping pattern such as paddy followed by paddy and again paddy were replaced by paddy followed by wheat and again paddy. Similarly, maize

followed by mustard and again maize were replaced by maize followed by been or potato followed by offseason vegetable and again maize.

From increment in the production and income point of view the household have been able to enhance their food security by additional 2-3 months. Households also have reported that they have been able to increase production by at least 25-60 percent compared to traditional cultivation practice from their land before the intervention was carried out there.

Pattern of seed using process: It was observed that community people start to replace traditional and low yielding variety seeds to improved high yielding seeds. The following table shows the seed using pattern of the respondents.

Table No. 6.1 Types of Seed Using Pattern by Sampled HHs

S.No	Options of Seed Used	No of sample HHs	
		No. of HHs	%
1	Foundation Seed	0	0
2	Certified - 1 and Own HHs	6	5
3	Certified - 2 and Own HHs	39	32
4	Certified - 3 and Own HHs	57	47
5	Only Own HHs	19	16
Total		121	100

Source: Field Survey, 2019

Certified seed was also a second generation seed of foundation seed. Only 5% households have access on certified -1 and their self-stored improved seed. Majority of the household have access on certified -2, certified - 3 and their self-stored seeds. Among them 32% households used certified - 2 and self-stored improved seed, 47% households used certified - 3 and self-stored seed. 16% of them had not access on improved seed. They are using their self-produced traditional seeds. This figure shows that it is also necessary to make aware of community people about the improved seeds and need to make proper access on improved high yielding seeds. That was found as

main tools to improve of food security.

Sources of seed used: The analysis of the used seed sources by the respondent is one of the important aspects in the analysis of food availability status of household. The seed source information have been find out by the household survey form and checklist. The following table shows the status of household mentioning sees sources.

Table No. 6.2 Sources of Seed Used by Sample Households

S.No	Sources of Seeds	No. of sample respondents	
		No. of HHs	%
1	Agriculture extensions + Own HHs	19	16
2	Agro-vet + Own HHs	22	18
3	NARC + Own HHs	24	20
4	Neighbor's + Own HHs	39	32
5	Only Own HHs	17	14
Total		121	100

Source: Field Survey, 2019

Pattern of production and income: Food security program had trained to the farmers in new farming techniques, distributing improved high yielding seeds, and seed storage bins. Community Seed bank is established and building was constructed in the ward that helped farmers to manage and store improved seeds from season to season, enabling them to grow larger crops even in the face of climate variation. Most of the households select the best seed stock for next year.

After gaining knowledge from program intervention about the importance of production, multiplying, and post-harvest handling their seed they started seeds to plant for the next season. The result of this practice shows the status of the production and income an annual basis of household which has slightly increased. Most of the respondents have cultivating food and cash crops like as; Paddy, maize, wheat, millet and barley and off seasons fresh vegetable as a high value crops.

The combined effects of activities on agriculture activities on agriculture inputs such as micro-irrigation system, improve seed distribution, seed multiplication,

establishment of seed bank and improve farming system resulted by up to 50 percent increase in production as well as crop diversification.

Table No. 6.3 Production Increment Status Compared to before Intervention of Sampled HHs

S.No	Main Crops	Production Increment Percentage
1	Paddy	25
2	Maize	50
3	Wheat	30
4	Vegetables	30

Source: Field Survey, 2019

Status of annual income increment: In the study area the status of annual income of the household was shifted toward increment. This was possible mainly due to application of good quality seed selection from responsible sources and using improved agricultural technology. The status of the annual income is shown in the below table.

Table No. 6.4 Annual Income Increment Status of Sampled HHs

S.No	Level of Increment (in 1000)	No of respondents	
		No.	Percentage
1	Up to 20	42	35
2	20 to 30	29	24
3	30 to 40	21	17
4	40 to 50	17	14
5	50 Over	12	10
Total		121	100

Source: Field Survey, 2019

6.2 Comparative Analysis of Food Availability (Before and After Program Intervention)

After intervention through the food security program, changes are seen at household food production and income status was found increased due to the raised knowledge

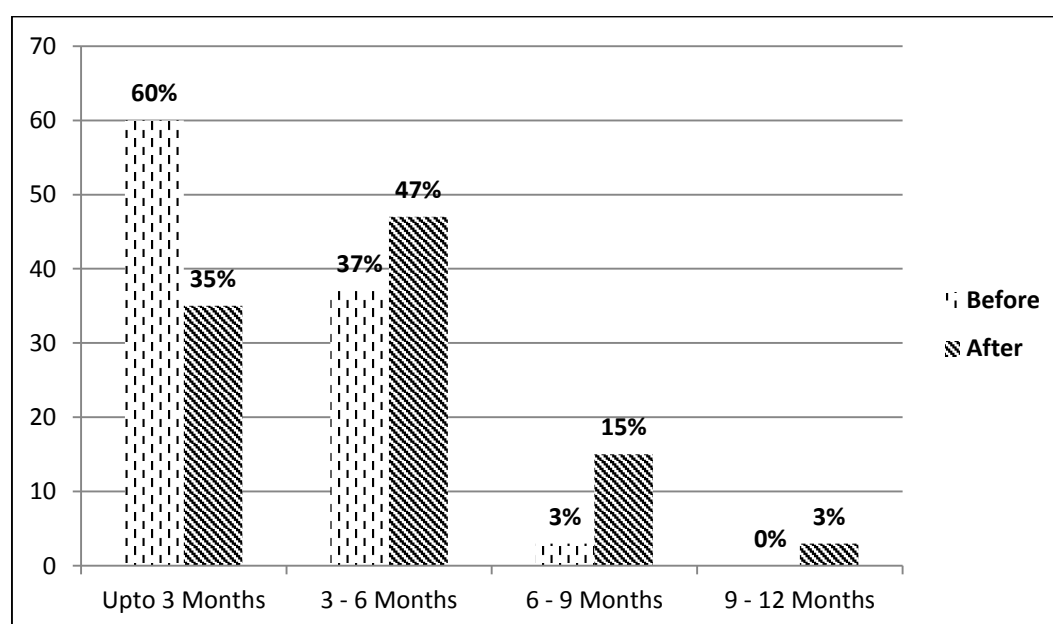
in improved farming system and application of the gained knowledge, proper utilization of community assets, application of the improved technology as well as support of logistic. Similarly, lease holding farmers have taken 2-3 crops which ultimately have contributed to support their additional food security by 3-4 months depending on the family size. The status of changing pattern on food availability before and after the project intervention is comparatively analyzed in the table below.

Table No. 6.5 Changed Food Availability Pattern before and after the Program Intervention

S.No	Available Months	Increment Status (in %)	
		Before	After
1	Up to 3 Months	60	35
2	3 - 6 Months	37	47
3	6 - 9 Months	3	15
4	9 - 12 Months	0	3
Total		100	100

Source: Field Survey, 2019

Figure No. 6.1 Changed Food Availability Pattern before and after Program Intervention



Source: Field Survey, 2019

The above figure shows the level of food availability is comparatively increased than

before. The 3-6 month hhs was 37% before but later it was increased to 47% that was shifted from up to 3 month hhs. The percentage was found decreased from 60 to 35 from up to 3 month hhs. Same as food availability level of remaining HHs is found changed due to the effectiveness of food security intervention and the status of the household's food security was increased.

6.3 Reasons Behind this Status

The reason behind the increment in production and their income was basically due to efforts of improved farming through food security interventions such as awareness, community assets, skill transfer, logistic/technical support and farmers linkage development with local and district level stakeholders.

The status of the study area's increment production and income was found from household survey data, key informant and observation.

The major reason behind the status was due to awareness level raised through participatory learning centers, technical training and cross farm visit. The application of improved varieties of seed on farm, construction irrigation canals, systematic cropping pattern, improved farming system, nursery management, plantation and usage of compost fertilizer as per the needs of the crops are also the equal reason for it.

Besides these, the farming of high yielding crops/vegetables which occupy few land, application offseason high value vegetable crop also made their earning money at their local level market of their society. All the societal class, groups were properly and timely provided consultation and technical assistance from agriculture technical person for improved farming system. Village model farmers group and cooperative has been also established. And most importantly, community seed bank establishment, construction of seed bank building and market linkage intervention were done for the income generation of community people. Many local people of study area that is Ainselukharka ward got an opportunity to run the program, local job creation from cash for work, ponds seed bank building construction and so on.

CHAPTER - VII

SUMMARY OF MAJOR FINDINGS AND CONCLUSION

7.1 Summary and Major Findings

This study has been conducted in Ainselukharka, Khotang in order to analyse impacts of food security program on socioeconomic aspects. The program intervention aspects were assisted by Sabal Program and other local organization. The study has adopted the survey method like: household survey, key informant interview, field observation, case study collection and secondary data observation. The interview has taken with 121 persons from study area, 14 persons were for key informant interview from stakeholders and 1 case study was collected during the field visit.

Thus, related data were collected and those data were analyzed through the different analytical table, mathematical ratios, graph, chart etc. Then, as a result of survey and its analyzing undertaking, the following summary of main findings, conclusions and recommendations have been presented.

The major findings of this study are summarized as follows;

1. Among the 121 sample household respondents, 64% Brahmin/Chhetri, 29% Dalits and 7% Janjati were interviewed. Out of them, 57.85% were Hindu and 33.88% were Kirati religion.
2. Among the 121 household, the total population was found 607. Out of them 49% were male and 51 % were female. The data shows that the average family size of the study area is 5 persons per household.
3. Among 607 total population from 121 sample households, 14% were 0-4 years, 23% were 5-14 years, 52% were 15 -60 years and 11% were above 60 years. Out of them 53% were married and 47% were unmarried.
4. Among total population from sample households, 16% were illiterate, 34% having secondary level, 12% having higher or +2 level and only 3% were having Bachelor/Master level education.
5. From the analysis, it was found that majority of the population are having agriculture occupation. Out of total, 43% were applying agriculture, 32% wage

labor, 13% having jobs, 7% having pensioned and 3% small children.

6. Food availability pattern for a whole year from own production before implementation of the program was found that 60% were having access for up to 3 months, 37% having 3-6 months, 3% having 6-9 months and no one household was found for 9-12 months. This result shows that vulnerability was serious before the program intervention in the study area.
7. No households are landless, 40% household have 1-4 ropani land, 32% household's occupying 5-8 ropani, 18% occupying 9-12 ropani and 10% having above 12 ropani land owned. It shows that land availability was high but productivity was low due to unmanaged agro farming system.
8. 100% sampled households having opportunity to involve on the program activities.
9. In exchange with their daily labor on the program activities they have provision to receive 2 kg. Rice, 250 grams pulse and Rs. 90.00 cash and for total 80 working man-day's they received 160 Kg rice, 20 kg pulse and Rs.7,200.00 cash from each phase. This is highly useful and supportive for a period of hunger months (February/March and June/July).
10. Improved varieties of crop like: Paddy - Radha 4, Khumal -4, Bindesory, Maize - Deuti, Manakamana, Shitala, Arun, Wheat - Annapurna - 4, Gautam, WK-1204, Off seasonal fresh vegetable seed – Tomato, Cauliflower, Cabbage, Cucumber, Radish, Pea, Beans, and Cash Crops - Ginger, calcosia etc. were introduced with the close coordination with AKC and RM for their increase production, productivity, income and improve status of food security.
11. Sampled households were found multiple coping strategies. Among total sample HHs, 15% were applied casual labor, 26% applied sale of agriculture products, 24% applied migration to abroad, 10% applied job/service, only 10% were applying sale of livestock products and no one households were found single option for their coping due to the family size, various basic needs, low production and income.
12. Most of them households having access on improved seed after intervention. Respondents were using improved as well self-produced seed for their farming.

Among them, 5% HHs were using certified - 1 and self-stored, 32% using certified - 2 and self-stored, 47% using certified - 3 and self-stored, 14% were not found for access on improved seed and no one household was found for foundation seed. Data shows that the pattern of using improved seeds was increasing smoothly.

13. Out of total sample household, only 14% households were using their self-produced and stored seed, 32% used from their neighbor and self-produced, 20% used NARC and self-produced, 18% used agro-vet and self-produced and 16% used seeds from the then DADO and self-produced. This data shows that the seed source selection pattern is also increased.
14. After the program intervention, the annual income status of sample household was found increased. Result shows that 35% HHs having 10-20 thousands, 24% HHs having 20-30 thousand, 17% HHs having 30-40 thousand, 14% HHs having 40-50 thousand and 10% household having access above 50 thousand annual income increment compared with previous year. The income status shows increasing level of income of the community people.
15. After selection appropriate sources and seed for farming, the annual production status of the crops was increased as compared with previous period. Result shows that 25% increment on paddy, 50% on maize, 30% wheat and 30% was found on cash crops. The result of increment level was behind agriculture transformation through program support.
16. Food availability pattern for the whole year after the food security program intervention was found increased as compared with before the intervention period. Result shows that HHs percentage of having up to 3 months were strongly decreased from 60% to 35%. The variant households were shift on 3-6 months as a result of intervention. Similarly, food access for 3-6 months HHs before the program interventions were increased 37% to 47%, 6-9 months were increased 3% to 15% and 9-12 months were also 0% to 3%. Result shows that the level of increment percentage of households was strongly grow up their access after the program intervention.
17. Formed groups and cooperative are functioning satisfactorily.

18. User committees have their management rules and plan for the sustainability of the community assets.
19. Due to the PLC, social and gender inclusion and women participation in community development activities has been increased drastically.
20. 90% respondent felt that they were having opportunity to enhance their capacity through training, orientation and cross visit.
21. Community assets creation works has handled by user committee
22. Among the respondent, 70% thought that the role of community assets creating sector was effective and 20% felt its role were less effective for them.

7.2 Conclusion

The main causes of food insecurity and vulnerability in the study area are rooted in asset constraints, risks associated with unexpected incidences and socio-political and cultural elements. The majority of the households in the study area were found to be facing similar constraints 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 owning less than 0.5 ha of land. Agricultural production is very low due to recurrent problems of natural calamities, lack of adequate support services and use of traditional farm technologies.

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 casual labor, migrating out of the district or country, collection of wild foods, looking for the 'food for work' opportunities, sale of small livestock and poultry 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 insecure households. Rural households face number of risk factors with respect to their livelihoods.

In the study area, most of the households were facing food scarcity before the program intervention. The problem of food stuff in study area arises due to various

reasons such as, traditional farming and local seed, low level knowledge on high yielding improved seeds, unproductive size of land holding, low productivity, lack of agricultural credit, lack of market facilities, insufficient irrigation facility, poor access with stakeholders, poor awareness and other basic infrastructure etc.

Regarding after program implementation, intervention was made according to the demand and the latest scenario of the community. Program activities were accomplished as per level of the household food security status. It was found that through awareness sector, community assets creation, technology transfer and short term logistic support has made to enhance the food availability through high production and income of the community people. The main abstracting part of production and income are lacking of proper knowledge on improved agriculture, poor community assets, application of traditional agriculture technology and unavailability of proper logistic at local level.

Regarding impact of the program intervention, logistic support can hold high level of contribution for the most hunger months when the harvested food was consumed and new is not on the harvesting stage and there is no any option for collection of proper food at household level for their coping. Application of high yielding and improved seeds, transformation of improved agriculture technology like; off season farming, use of poly houses, high value crop farming, farming of early variety and the construction of irrigation facility, preparation of compost are the highly effective prospects to create an opportunities to uplift food availability months from 3 months to 6 months and from 6 to 9 months for the community people of Ainselukharka, Khotang.

REFERENCE

- ADB (2010); *The Rise of Asia's Middle Class*. Kathmandu : Asian Development Bank.
- Adhikari, G.P. (2004); *Proposal & Thesis Writing*. Kathmandu : Ratna Pustak Bhandar.
- CBS, (2002). Population Census 2001, National Report, Kathmandu: CBS.
- DADO, (2067). Annual Progress Report. District Agriculture Development Office. Khotang
- Dahal, K. & Shrestha, S.K. (1987). Rural Poverty in Nepal: Issues, Problems and Prospects.
- Dahal, P. Khatiwada, S.P. (2059). Research Methodology. Kathmandu: M.K. Publication & Distributions
- DDC (2016). *District Profile of Khotang*, Khotang: *District Development Committee*.
- DDC. 2067. District Development Plan. District Development Committee. Khotang
- MoAD, FAO, WFP, (2013). Crop Situation Update ; *A joint assessment of the 2013 winter crops including comprehensive data on the 2013/14 overall crop production*
- MoAD, WFP. (2009). *District Level Source Book of Food Security Monitoring*. Kathmandu.
- MoHP (20011). *Nepal Population Report*. Ministry of Health and Population. Kathmandu.
- NPC, GoN. (2013). *Thirteenth Plan (FY 2013/14 - 2015/16)*. *Approach Paper*. Kathmandu.
- Panta, P.R. (2012). *Social Science Research & Thesis Writing*, Sixth Edition. Kathmandu: Buddha Academic Publishers & Distributers Pvt. Ltd.
- Pradhan, P.K. Pardhan, B. (2006). *Environment and Natural Resources*; concept methods, planning and management.

- SAAPE. (2013). *Crises, Vulnerability & Poverty in South*. South Asia Alliance for Poverty Eradication. Kathmandu.
- Sen, A. K. (1981), *Poverty and Famines: An essay on entitlement and deprivation*. Oxford: Clarendon Press.
- Sharma, Dr. P. (2007): *Social Science Research Methodology*; Third Edition Kathmandu, Kriti Prakashan.
- SuDECC (2011). *Household Survey Report. Sustainable Development & Environment Conservation Center*. Khotang.
- Upreti BR, Sharma SR, Paudel SB, editors. 2014. *Food Security in Post Conflict Nepal: Challenges and Opportunities*. Kathmandu: Department of Development Studies, School of Arts, Kathmandu University and Nepal Centre for Contemporary Research (NCCR).
- www.fao.org.np

ANNEXES

Annex-A: Household detail of study area

Ward no.	No. of hhs	Male	Female	Total	Hhs sample size (20%)
1	105	320	316	636	21
5	136	357	349	706	27
6	85	247	246	493	17
7	156	432	407	839	31
8	125	339	380	719	25
Total	607	1695	1698	3393	121

Source: SuDECC, Nepal Household Survey Report 2011.

Annex-B: Check list of household survey interview

Interview Schedule for

(Individual Household's Respondent)

On 'Impacts of Food Security Program on socio-economic aspects in Ainselukharka,
Khotang" in requirement for the partial fulfillment of
Degree on Master of Arts in Sociology and Rural Development

Name of the Respondent:

District:, RM, ward #

Caste:, Religion:, Date:

A. Household Information

a. **Family Structure:**

1) Members as per Age Groups;

i) 0 - 4 Yrs: ii) 5-14 Yrs.:

iii) 15-60 Yrs.: iv) Above 60:

2) Members as per Gender;

i) Male: ii) Female

3) Members as per Marital Status:

i) Married: ii) Unmarried:

4) Members as per academic qualification:

i) Illiterate: ii) Literate: iii) Primary Level:

iv) Secondary Level: v) Higher Secondary/+2/Intermediate Level:

vi) Intermediate/+2, Bachelor, Master:

5) *Members as per Occupation:*

- i) *Agriculture:* ii) *Jobs/Service:*
- iii) *Pension:* iv) *Business:*
- v) *Wage labor:* vi) *Others (Specify):*

B. Regarding Food sufficiency/Major Intervention:

- a) Does the household have own land?
- i) *Yes:* ii) *No:*
- b) If yes, how much land occupied for the agriculture production?
- i) *1 to 4 Ropani:* ii) *5 to 8 Ropani:*
- iii) *9 to 12 Ropani:* iv) *above 12 Ropani:*
- c) Is your own food product sufficient for the whole year before implementation of this project?
- i) *3 Months:* ii) *3 to 6 Months:*
- iii) *6 to 9 Months:* iv) *9 to 12 Months:*
- d) From when food security program implemented in your community?
- Time duration level in years:*
- e) What types of program activities were implemented in your community to improve your food security status?
- Type Project activities*
1.
2.
- f) What is your income source for your HHs daily copping?
1. Collection of Wild Food/NTFPs 2. Loan for Food
2. Casual Labour 4. Sale of Agriculture Products
5. Use of Saving 6. Job/Service within the Country

7. Sale of Livestock

8. Temporary migration to India

9. Occupational Work

10. Business/Trade

11. Pension

12. Foreign Remittance

13. Other (Specify)

g) What are the major infrastructures built in your community with supported by the program? And what are the positive and negative impacts of those facilities?

S.No.	Types of Infrastructure	Positive impact (priority order)	Negative impact (priority order)
1.		1. 2. 3.	1. 2. 3.
2.		1. 2. 3.	1. 2. 3.
3.		1. 2. 3.	1. 2. 3.
4.		1. 2. 3.	1. 2. 3.
5.		1. 2. 3.	1. 2. 3.

h) What types of crops you are farming which helps to increase your production and income supported by food security program?

Types of Crops

1.

2.

3.

4.

5.

6.

- i) Did you assess on improve agriculture technology supported by food security program? If yes, on what types of technology support you assessed?

Types of improved agriculture technologies

1. 2.

- j) What benefits did you get from these improve agriculture technologies support?

1. 2.
 3. 4.
 5. 6.

C. Regarding productivity Increase of Agro-product of the program:

- a) What is the current status of your HHs agro-production and annual cash income?

Crops	Production Status			Annual Income Status (Rs. in 1,000)		Rem.
	same as before	Increased % over the previous year	Decreased % over the previous year	Previous Years	This Years	

- b) What do you think the reasons behind this level of production and income?
1. 2.
- c) Is your own food production sufficient after implementation of this program?
- i) 3 Months: ii) 3 to 6 Months:
 iii) 6 to 9 Months: iv) 9 to 12 Months:

d) In your opinion, what are the recent and long terms benefits of the food security program?

Recent Benefits	Long Term benefits
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.

e) What is the source of water around your community? Is it sufficient for agriculture works?

Source	Availability	Sufficient for
.....

f) Do you get sufficient irrigation facility/seeds/technical support for agriculture works at any time?

.....

g) What types of seeds you using for your farming?

- | | | |
|-----------------|-------------------------------|---------------------|
| 1. Foundation | 2. Certified -1 | 3. Certified-2 |
| 4. Certified -3 | 5. Traditional (Own Products) | 6. Others (Specify) |

h) Where do you get seeds?

- | | |
|--|---------------------------|
| 1. District Agriculture Development Office | 2. Nearest Agro – vet |
| 3. National Agriculture Research Council | 4. From Neighbors |
| 5. Own House | 6. NGOs/INGOs |
| 7. Cooperatives | 8. Others (Specify) |

- i) Is there any organization supporting to make seeds/improved technology available at the plantation season?

Name of Agencies

- j) Are you satisfied with the output of the seed/improved technology support at the production system through supported project activity?

.....

- k) Is there collection center in your VDC or nearest market? If yes what is the purpose of collection center?

.....

- l) Are you sale there your agro products? If sale, what types of products you sale there?

Name of sold agro products :

- m) Did your community prepare any rules/plan for the sustainability for the project activities? If yes, what types of rules/plan were developed?

Developed Rules/Plan

.....

- n) Did you get any facilities/services from agriculture related governmental personnel's and offices? If yes, what types of facilities you received?

.....

D. Regarding Technical Assistance and support:

- a) What type of Capacity strengthening program (for farmers) implemented in your community?

.....

- b) Did you or member of your family participated in such program?

.....

- c) If yes, what benefit do you get as a result/outcome of such program?

Received results/outcomes

d) Did you apply your gained knowledge from project supported training/outside visit on your daily life to increase your income?

.....

e) What were the major problems faced by the community and what is your suggestions for the improvements?

Problems	Suggestions
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.

E. Relating to the constraints and their management:

a) What are the difficulties encountered during the food security project period?

.....

b) How did you manage them?

.....

c) What is your further plan to regulate the food security status of your household?

.....

Thank you for your kind support.

Annex-C: Checklist for Direct Observation

Direct Observation (DO) Checklist

(At HHs,/Community/Ward Level and others)

District *VDC* *ward #* *Cluster* *Date of Observation:*

Direct Observation would primarily be centered on aspects as follows:

<i>S.No</i>	<i>Particular</i>	<i>Status</i>
1.	<ul style="list-style-type: none"> • Major Intervention of project activities; Food and Cash support/Construction of infrastructure/improved seed support / improved technology support/Training and Knowledge sharing. 	
2.	<ul style="list-style-type: none"> • Physical structure/status of community. 	
3.	<ul style="list-style-type: none"> • Personal behavior of respondent/HHs member, community people and others. 	
4.	<ul style="list-style-type: none"> • Physical status of HHs after support of program. 	
5.	<ul style="list-style-type: none"> • Application of their knowledge gained from supporting program. 	
6.	<ul style="list-style-type: none"> • Utility of food, cash and other facilities. 	
7.	<ul style="list-style-type: none"> • Strengthened capacity of HHs member, community people and others. 	
8.	<ul style="list-style-type: none"> • Agriculture farming and animal husbandry pattern. 	
9.	<ul style="list-style-type: none"> • Availability of seeds and other inputs including technical backstopping. 	

10.	• Ongoing cash/cereal crops of the farmers.	
11.	• Market accessibility of HHS/Community and others.	
12.	• Program planning, implementation, mgmt. and M and E Status; On-going other program/activities relate to food security, its integration with other district level program /activities.	
13.	• Plans/Rules formulation and their implementation mechanism for food security improvement activities.	
14.	• Linkage and coordination pattern with other stakeholders.	
15.	• Management plan for the sustainability of the project activity and food availability status.	
16.	• Achievement of the project in reducing the level of poverty (food availability at local level during 4 Hunger Months, frequency of meals increased).	
17.	• <i>Major constraints.</i>	
18.	• <i>Major Improvement.</i>	

Annex-D: Checklist for Key Informant Interview

Key Informant Interview (KII) Checklist

(Concerned stakeholders: Palika/INGO-NGO at District/Ward Level and others)

District *Rural Municipality* *ward #*

Date:

1. *Palika level agriculture extension Officer*

Date:-

Name of the Officials

Designation

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Discussion would primarily be centered on aspects as follows:

<i>S.No</i>	<i>Particular</i>	<i>Status</i>
1.	• <i>Awareness about the Food Security project.</i>	
2.	• <i>Liaison and support mechanism.</i>	
3.	• <i>Support / assistance rendered to activities implementation.</i>	
4.	• <i>Capability strengthening.</i>	
5.	• <i>Training, visits, Demonstration and other technical support rendered to NGOs.</i>	
6.	• <i>Activities monitoring mechanism.</i>	
7.	• <i>Availability of seeds and other inputs including technical backstopping.</i>	
8.	• <i>Visits and meeting frequency with Project NGOs and other concerned stakeholders.</i>	
9.	• <i>Irrigation potentiality in the target area.</i>	

10.	• <i>Availability and reliability of the sources.</i>	
11.	• <i>Potential / prospect and problems of Irrigation development in the target area.</i>	
12.	• <i>Seed /grain bank /Collection Center construction status.</i>	
13.	• <i>Its operation and management mechanisms.</i>	
14.	• <i>Food Security networking functioning at District level.</i>	
15.	• <i>Monitoring support.</i>	
16.	• <i>Suggestions for further improvement and sustainability.</i>	

2. *INGOs/NGOs level Officials including Social Mobilizers (SM):*

Name of the Officials

Designation

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Discussion would primarily be centered on aspects as follows:

<i>S.No</i>	<i>Particular</i>	<i>Status</i>
1.	<ul style="list-style-type: none"> • <i>Program planning, implementation and achievements.</i> 	
2.	<ul style="list-style-type: none"> • <u>Progress status:</u> <ul style="list-style-type: none"> i. <i>Physical- Activities Target and progress.</i> 	
	<ul style="list-style-type: none"> ii. <i>Financial - Activities Allocation and expenditure status.</i> 	
3.	<ul style="list-style-type: none"> • <i>Integration /linkages with Agriculture Knowledge Centre , NARC, DCCs, RM and other concerned stakeholders.</i> 	
4.	<ul style="list-style-type: none"> • <i>Project staffing - Needs and availability.</i> 	
5.	<ul style="list-style-type: none"> • <i>Availed technical supports for capability strengthening, dedication and facilitation for job performance.</i> 	
6.	<ul style="list-style-type: none"> • <i>Functioning of Food Security networking and effectiveness.</i> 	
7.	<ul style="list-style-type: none"> • <i>Monitoring of activities implementation.</i> 	
8.	<ul style="list-style-type: none"> • <i>Problems and difficulties encountered.</i> 	
9.	<ul style="list-style-type: none"> • <i>Issues related with sustainability.</i> 	
10.	<ul style="list-style-type: none"> • <i>Suggestions for improvement.</i> 	

Annex E: Template for Case study

Case study no.....

Photo	Please attach separately photo into this word document of the beneficiaries and program impact related photo.
Name of the person telling their story/Education	
Where they live	
Age and, what is their family situation (do they have children, how is their family size, are they the head of the household, who is employed, what is their income, what is their health status etc)	
Involvement in the project (are they beneficiaries, partners, representatives from the authorities,?)	
<p>What is / was life like for people living in the project area?</p> <p>What problems do / did they face? (for example: low incomes, food insecurity, displaced by conflict, lack of education or opportunities, poor health, risk of recurrent disasters, etc.)</p> <p>What will happen / would have happened to people if the project doesn't receive funding, or if project doesn't work in this area?</p>	
How long has organization had been working there on food security?	

<p>What difference had food security program made to people's lives?</p>	
<p>How have / will specific project activities (e.g. Improved seed, food, cash, technology, training, etc.) helped people?</p> <p>How is life now as a result of each specific activity?</p> <p>Can you provide individual costs of these items (if needed, receive details from programme staff).</p>	
<p>What more do people need, as individuals, families, and communities?</p> <p>What further activities or changes would help to improve their lives? This can help to show that more needs to be done.</p>	
<p>What overall changes have there been of organizations working on food security program at over time? (e.g. improvements in food availability, health, literacy levels, income, availability of infrastructure etc.)</p>	