

CHAPTER - ONE

INTRODUCTION

1.1 Background of the Study

Food crisis is the world wide problem. In many countries food crisis has been burning problem from the years of ago due to the lack of technical knowledge, imperfect market condition, improper distribution of food grains, poverty, inequality, weak education and health condition, lack of social overhead capital etc. And many institutions and agencies have established to solve the problem of food crisis and establish food security in the world. National and international institutions such as Food and Agriculture Organization (FAO) and World Food Programme are working for the world wide food security.

FAO defines food security as food security means the availability and accessibility of safe and nutritious food for all people to maintain healthy and active life. Individual food security refers to access to adequate, safe and nutritious food to maintain a healthy life without undue risk of losing access. And national food security refers to a nation's capacity to ensure household food security individual food security without undue departure from other policy goals¹.

World Bank (1996) has been defined food security as the access by all people at all the time to enough food for an active and healthy life. Food security has the following components. I) Availability of food: The precondition of the access to food is the availability of food is the

¹ FAO (2000) "Two state of food & Agriculture Page 204.

availability of surrounding the people. This is more important in a country like Nepal with rugged topography and lack of market. II) Access to food: Physical availability of food is a necessary but not sufficient condition for ending hunger. People require assured access to food. The route to that access may consist of income, work opportunities the ability to acquire food through production exchange or social programmes. III) Access to food by all people: Food security at the national or regional level does not necessarily indicate food security at the local or personal level. The end of a food security is the food securities at the household level and than at the individual level. IV) Access to food at all times: Food security may be chronic as well as transitory but transitory food insecurity has its chain effect. So both chronic and transitory food insecurity problems are necessary to be solved as far as possible. V) Access to enough food for an active and healthy life: Food both quantitatively and qualitatively to meet the nutritional requirements. Adequate food supply is not only the condition for insuring as active and healthy life. Unless there are access to proper health care, water supply and other basic services, adequate amount of food between the women and man and among the girl and boy, children of family, the girl and boy, the food will not be effectively utilized.

Thus the aspect of food security includes availability of staple food, stability of supply, access at all time access for all people qualitative food and proper utilization of available food without departure of other policy goals.

Nepal is one of the poorest country in the world. There are around 2,58,87,000 peoples in the country; among them 31 percent peoples live

below the poverty line.² The population growth of Nepal is 2.25 percent, which is very high growth rate of the world. Nepal being a land lock country has been suffering from many obstacles to over all development of the country from neighbourhood countries. The human development index (HDI) of Nepal is 0.523, this is the lowest in among the South Asian countries. The position of Nepal according to HDI is 138 in the world.³

In addition, Nepal is an agriculture country, where 65 percent peoples are involved directly or indirectly in the agriculture occupation. The agriculture sector supports highly to the national income also, in total of Gross Domestic Product (GDP) more then 32 percent share is covered by agriculture sector. During the Tenth Plan average agriculture production growth rate was around 5.5 percent. Paddy, maize, millet, wheat and barley are the major cereal crops of Nepal. Pulse, fruits horticulture crops, livestock, cash crops, fishery, poultry farming are also in assistance in the country. Production of cereal crops are not sufficient in comparison to its requirement that means Nepal is not in the position of self sufficiency in terms of cereal crop production. Though much of the peoples are engaged in the agriculture occupation there is 3.3 percent unemployment and many peoples are underemployment and distinguish unemployment. Nepal has variety of geographical regions, in some region specially in mountain and hill there are not well agriculturally productive land. So in these regions people produce food grains less than the requirement. There are poor situation of socio-economic infrastructures in the rural areas in Nepal. Therefore the people of rural areas especially of mountain and hill regions have been confronting the food deficit problem. The food

² Central Bureau of Statistics (2006) Kathmandu Nepal.

³ NPC/GoN(2064 BS) "Three Year Interim Plan" Kathmandu Nepal.

deficiency is an indicator of food insecurity as well, hence the people of mountain and hills are specially food insecure. It assumes that the education status and health condition of the country also supports to increase the food insecurity in Nepal, transportation facility, irrigation facility and market facility of Nepal is also very backward hence these causes also increase the food insecurity in the Nepal.

To fill the gap between food requirement and available within the country, government of Nepal (GoN) has been taking some steps through the government agencies and foreign assistance like Nepal Food Corporation, assistance of Japan, France, India etc. the private traders are also agent of food supply to cope the food security in the remote as well as facilitated areas of Nepal. In remote 30 districts GoN is supporting for food supply by giving the special subsidy through NFC.

1.2 Statement of the Problem

Nepal being a least developed country, has suffered from many difficulties such as poverty, unemployment, low income, high population growth, low economic growth, low development of socio-economic infrastructure etc. Majority people of the countries have no sufficient, safe, nutritious food for healthy and active life. Hence the major problems of Nepal and Nepalese are the food insecurity. Due to the lack of agricultural development, Nepal produces less food grains in comparisons to requirement. Besides agricultural there is not also developed the other sectors of the economy as well. So the lacks of income and food production, Nepalese people are living under nutrition. Moreover the distribution of available food grains in the country is not also scientific and systematic. Thus rural people specially, who are living in mountain and hill regions are suffering from deficiency of food grains and food

security. Though there is sufficiency of food grains in terai as well as city areas of the country there are also the problems of food deficiency and food security because of the inefficient distribution and lack of purchasing power of people. The purchasing power of the country is in declining day to day with the high inflation in the country.

1.3 Objectives of the Study

The study has following objectives;

- a) To reflect the food security situation in Nepal.
- b) To analyze the trend of food supply of the country.

1.4 Significance of the Study

Nepal government has been launching many programmes to increase the agricultural production and reduce food deficiency of the country since the first five year plan. And Nepal has done many efforts to eradicate poverty with the various plan documents. Such as from the Eight Plan food security and nutrition policy had published assuming food security and nutrition are indicators of development status of a country. Similarly in the Ninth Plan had launched many policies and programmes. Further more the Interim constitution of Nepal 2063 has taken food security as human rights and the Interim Plan 2064/65-2066/67 has set many plans and programme to ensure food security in Nepal. This research also supports to make and launch further plans and programmes. Many non government organizations (NOGs) and international non governments Organizations (INGOs) also are working to reduce the food insecurity of the poor peoples. For examples SAARC food security reserve, FAO, WFP and others are playing most important role on the alleviating poverty and building sustainable food security. In this process many

research works have been done by experts and institutions in the field of poverty alleviation and food security. This research work also a brick in this area, which helps to know the trend of food production in Nepal, import export of food grains from the other countries and over all food security situation in Nepal.

1.5 Limitations of the Study

The study has following limitations;

- 1) This study is based on secondary data information and only the data has taken from 1996/97 to 2005/06 to analyze the trend of food supply.
- 2) The supply and minimum requirement aspect of food grains has been considered but without in depth inquiry.

1.6 Organization of the Study

This study is divided into six chapters. The first chapter consists of the description of general background, objective, significance and limitation of the study. The second chapter comprises of the review of literature, the work done earlier in this field. The third chapter devotes to research methodology. Forth chapter of this study analyzes the trend of food supply. The fifth chapter of this study describes the food security situation of Nepal. And the sixth chapter constitutes the conclusion and recommendation.

CHAPTER TWO

LITERATURE REVIEW

This chapter gives the knowledge of works which have been done in the area of the food security in the world as well as in Nepal .The literatures have been reviewed in the international and national perspective as follows.

2.1 International Perspective

Food and Agriculture Organization, (2006) presented the efforts towards food security and possible food demand and supply of world in the future. The effort to reduce food insecurity was started in 1974 by the World Food Conference (WFC). The WFC proclaimed that every person has the inalienable right to be free from hunger and malnutrition. This goal was not achieved after more than two decades mainly in developing countries without sufficient food. A new attempt was made at the World Food Summit.

To renew the commitment at the highest political level to eliminate hunger and malnutrition and to achieve sustainable food security for all people a great conference was held in Rome in 1996. The summit adopted the “Rome Declaration on world food security” and seven commitments as a plan of action. The preliminary aim was to halve the number of undernourished people by no later than 2015. In addition, world food production should increase by more than 75 percent in the next 30 years to feed about 8000 million people by 2025, to meet the target of halving malnutrition in developing countries by 2015. This number needs to be cut by at least 20 million in a year, more than twice

as fast as the current reduction of about 8 million a year. With a growing world population, these situations will worsen unless very determined and well targeted actions are taken to improve food security.

Special Programme for Food Security (SPFS) launched by FAO in 1994, was further strengthened, expanded and its implementation accelerated after the 1996 (WFS). The main objective of the SPFS is to help developing countries, in particular the low-income food deficit countries, to improve food security at household and national level through rapid increase in food production and productivity. It aims to achieve this by reducing year to year variability in food production on an economically and environmentally sustainable basis and by improving peoples access to food.

Food production capacity of the world by an estimation of biophysical limits food production revealed that a much greater number of people than the expected equilibrium population (of about 10000 million) could supply with sufficient food. According to FAO (2000) “for the world as a whole there is enough or more than enough food production potential to meet the growth of effective demand”.

Food demand in developing countries compared with global food prospects the challenge for the developing country is much greater. Based on a projection from 1995 data the global annual demand for cereals will reach 700 million tones, out of that developing countries will need about 600 million tones more cereals in 2020. About 80 percent of this additional food supply will have to come from already cultivated areas, as newly cropped land is likely to supply less than 20 percent of the increase. The cereal demand for 6,300 million people including both food

and feed has been estimated at about 1700 million tones, which amounts to 270kg/capita/year or 2800 kcal/day (IFPRI 1999).

Food production prospects in developing countries, the food production prospects of developing regions with 6700 million people in 2030 are of global concern. The challenge is to feed almost 2000 million more people on the available land base. Data from a detailed study (FAO, 2000) indicate that, for developing countries as a whole food production will increase in the next 15 year by 2.2 percent/year, food demand by 2.2 percent /year and population by 1.4 percent/year. However, there are great regional differences.

Food and Agriculture Organization, (2002) stated the food security as the mixture result of good news and bad news. Good news is that the number of hunger people is declining and bad it is not as equals as projected. The numbers of under nutrition people of the world are 840 million, of whom 799 million live in developing countries. That figure decrease of barely 2.5 million per year over the eight years since 1990/92- 1998/99. It must reduce hunger people by 24 million per year from now to 2015 to meet the goal stated by world food summit.

The World Food Summit (1996) set the goal to reduce the number of hunger people in the world by half before the year 2015. Four year late, that goal was echoed in the first of the millennium development goals (MDG), which set targets of reducing by half both the proportion of people who suffer from hunger and the proportion living on less the US \$1 per day.

Recent calculation by FAO suggest that achieving the WFS goal of reducing the number of undernourished people by half by the year 2015

would yield a value of more than US \$ 120 billion. That figure reflects the economic impact of longer, healthier, more productive lives for several hundred million people freed from hunger. Nobel prize-winning economist Robert Fogel has pointed out that hungry people cannot work their way out of poverty. He estimates that 20 percent of the population in England and France was effectively excluded from the labour force around 1790 because they were too weak and hungry to work. Improved nutrition, he calculates, accounted for about half of the economic growth in Britain and France between 1790 and 1880. Since many developing countries are as poor as Britain were in 1790, his analysis suggests reducing hunger could have a similar impact in developing countries today.

Ratnakar Adhikari (2001) stated that the south Asia is the home to nearly 1.3 billion people. The aggregate household food security index AHFSI has shown that Pakistan is in the category of medium level food secure countries with AHFSI fluctuating between 74 and 80.9. Knowing that in the Pakistan there is a great diversity of food crops grown. Medium level food security is defined as countries with AHFSI more than 75 and 85. Most of the countries of our region fall in this category except Nepal and Bangladesh, which are categorized as low level food security countries. How ever any bad agricultural year can push Pakistan to the list of countries that are food insecure.

The WTO has prescribed a number of measures for its member countries that will make food insecure people further in the developing countries. Many south Asian countries have dismantled public distribution system assuming that market will automatically take care of distribution problem. The practice has shown that free trade cannot guarantee food security at the household level because the main source of income of bulk of the

poor is from the agricultural sector. The trade contributes to food security in a number of ways, through making up the difference between production and consumption needs, reducing supply variability, fostering economic growth, making more efficient use of world resources and permitting global production to take place in those regions most suited for it. But reliance in trade may also bring some risks. These include the risks of deteriorating terms of exchange on world market prices instability of supplies, world's market prices instability and of increasing environmental stress if appropriate policies are not in place.

For the people of low income countries to say the nation that free trade will ensure food security is not only a wrong, but also a ridiculous proposition. The bertton woods institution's refers the free trade in agricultural sector. The alternative view says that to ensure food security, have to ensure the security of the food production communities. Every farming household is a research station, a center alive with knowledge of production, so the starting point of food security must be these farming households. Therefore, the strategic slogan of the popular response to food security is that the security of food producing communities must be ensured to ensure food security. It says that unless the interests of the farming communities, fisher-folk, women and other actor producing food for the community are not defended food security can not ensure for all.

Food and Agriculture Organization (1997) has stated that to escape from the hunger and starvation is possible "by the institutional and technological innovations that are at the heart of modern economic growth. Without these innovations, to be sure, the modern escape from hunger to food security would not have been possible. Economic growth, redistribution of income and price policy is feasible as long-run strategies

to escape from the problems of hunger, malnutrition, starvation, poverty etc.

Several poor countries have used public action to improve their food security. The typical approach reduces the numbers of the population facing hunger by raising the incomes of poor, while simultaneously managing the food economy in ways that minimizing the shocks that might trigger a famine. With such policies, countries in East and Southeast Asia offer evidence that poor countries can escape from hunger in two decades or less that is in the space of a single generation.

To achieve and sustain food security through rapid economic growth, the Asian experience suggests that the agricultural sector must be linked through three elements to food security; poverty alleviation, stability of the food economy, and growth itself. Furthermore, the lesson from East and Southeast Asia for achieving and maintaining food security indicates that a growth process stimulated by a dynamic rural economy in the context of public action to stabilize food price, ensures food security. This approach might not work in other setting, except the free trade, where land holdings are not highly skewed and technologies are available to raise agricultural productivity. Free trade is appropriate foe most goods and services but the historical lessons from the countries of East and Southeast Asia that have emerged from hunger is that free trade in basic food grains overly constrains the public actions needed for governments to intervene on behalf of food security.

Food and Agriculture Organization (1996) has covered the studies of analysis the current situation relatives to the commitment of the 1974 World Food conference, identify the prospects for overall economic growth in the developing countries, especially to 2010, to present the

food supply trends, examine the causes of food insecurity. The World Food Conference of 1974 and the international conference on nutrition of 1992 are the most significant milestones in the United Nations to create a world free from hunger. The World Food Conference solemnly proclaimed that “Every man, women and child has the inalienable right to be free from hunger and malnutrition.” WFP called for developed countries to increase assistance to agriculture especially for least developed countries. WFP has emphasized on participation, the need for specific policies and programmes to improve food consumption pattern, basic health care etc. WFP further emphasized on food and agricultural research. It also emphasized on arrangement of follow-up action such as establish the world food council, committee on world food security as a standing committee of the FAO etc. The report further stated that all the regions except Africa Sub-Saharan have made the progress in food supply since 1961 per capita food supply for developing countries in 1961/32 was 1,960 calorie. But in 1979/81 and 1990/92 it was 2,320 and 2,560 calorie respectively. This shows that the trend of food security situation is positive. Human consumption in developing countries as a whole would continue to grow from 2,500 calorie per day in 1990-92 to just over 2,700 calorie by the year 2010. But the per capita food supply in sub-Saharan African will remain at very low level i.e. 2,170 calorie. Poverty causes under nutrition and food insecurity. But it does not mean that the change in income and food supply is perfectly correlated. Distribution aspect also plays significant role in food security.

FAO (1996) suggested that attention to agricultural sector through targeting investment on agricultural research, rural infrastructure, irrigation, rural health and education etc. will reduce poverty and hence food insecurity problem. Food and nutritional security can be achieved in

alternative ways. It can be achieved by increasing production, net commercial imports, food aid donations or any combination of these that result in a net increase on food supply. Political stability, social justice and equity can ensure the food security and vice versa. Food security is a problem of inadequate access resulting from inadequate purchasing power. So to attack at food insecurity, it is necessary to emphasize on poverty alleviation and generating effective demand by the engine of food production growth. Due to the insufficiency of resource (land and capital) to exploit growing labour force, it must be drawn from agricultural sector into other sector of the economy. Public investment on socio-economic infrastructure must be increased that encourage private investment. It also supports to open market oriented economic system. Politically more viable and often economically more effective from of redistribution of wealth and income is essential.

2.2 National Perspective

Hiramani Ghimire, (2004) has analyzed the Nepalese agriculture sector and food security, agreement on agriculture, trade related aspects of intellectual property rights standards and technical regulation in the WTO. Ghimire stated that agricultural land households represent 83 percent of the total household in the country. Of the total households engaged in agriculture, 48 percent are in the hills, 42 percent in the terai and 10 percent in mountain. Average sized of the farmland in Nepal was 1.09 hectares. Agriculture in Nepal is basically a livelihood activity, and not a commercial activity. With high employment of women, this sector bears even more significant in terms of providing livelihoods to the people. In the absence of other employment opportunities for a large section of the population the agriculture sector plays an important role in

Nepal's attempt to alleviate poverty and raise living standards. In this context any adverse effect on the agriculture sector will be devastating for a large section of society.

Ghimire stated that, Nepal has food surplus at the country level food availability has not been the same across different ecological zones. Irrespective of the national food availability situation the hills and mountain have generally been vulnerable to food shortages. In the case of Nepal, food security is mainly a problem at the household level as 42 percent of the population live below the poverty line and are not able to produce or purchase the required food. Out of total household of Nepal, 51 percent of the households felt that their consumption of food was less than adequate, 47 percent of the households said that their food consumption was just adequate and a mere 2 percent said that it was more than required.

Nepal's food insecurity problems is at the household level and is mainly due to the unavailability of food grain in many hills and mountain districts due to various reasons and inability of the households to produce or purchase adequate food items due to lack of resources poverty.

Agreement on agriculture (AoA) with the World Trade Organization, Nepal should follow the provision of WTO. World Trade Organization is about liberalization and opening of markets both for import and export, Nepal's interest will be to protect the interest of the farmers while providing market access to agricultural products from other countries. In this regard, the analysis of the impact on the agriculture sector and policy options available to Nepal, given Nepal's commitments in the WTO, needs to be divided into two parts. One covering opening of market access in the other on domestic market and the other on domestic support

to the agriculture sector to protect the interest of farmer and increase their competitiveness to take advantage of the market access opportunities in international markets.

Intellectual property rights (IPRTs) belong to the core mandate of the world trade organization. The agreement on trade related aspects of intellectual property rights governs them. Trade related intellectual property rights set out the minimum standards of protection countries are allowed to provide higher degrees of protection. However the two fundamental principles of the WTO, national treatment and most favored nations treatment must be respected. Nepal being a member of WTO has followed provisions of the IPRs and, Nepal has approved legislation copyrights Act, 2002, administration of justice Act 1991, patent, design and trademark Act 1965, appellate court rules 1972, and summary procedures Act.

Fatta Bahadur Lungeli Mager, (2003) has analyzed the food security situation in Nepal, from the ecological belt wise and institutional efforts to cope the food insecurity. Mager has stated that the food insecurity problem is not only of Nepal, this is the problem of many developing countries as well as developed countries too. Knowing that Nepal is characterized by the geographical variety, in the northern part of the country there is mountain and hills, which is characterized by rugged topography. The arable land is limited to the terai, valley, and bottoms of the hill. Due to geographical problem and lack of capital, irrigation facilities are very weak. Most of the farmers apply traditional technology, so food grain production is inadequate in the mountain and hill districts. Industrial development is very poor, actually industrial development is in its infant stage. There is existence of disguised unemployment in the rural areas, so employment opportunities and hence the purchasing power of

the people is very poor. In this way people living in mountain and hill districts are food insecure. Mager further stated that to solved the problem of food insecurity in mountain and hill districts national as well as international institutions including NGO & INGO have been exercising directly or indirectly since the past. Nepal Food Corporation (NFC) is the government's organization, which has been performing the task of food grain supply and distribution from the food surplus districts of terai to the food deficit districts in hill and mountain. NFC has been distributing food grains providing subsidy in the remote districts. Similarly, to attack on the food insecurity problem, poverty alleviation programme, income generating programme, and the basic needs programme etc. have been taken in the country. Not only the organized sector but also the non organized sectors have been playing important role on the food security International organization have also important role to solve the problem of food insecurity in food deficit districts in Nepal.

Mager has suggested that to solve the food inadequacy and food insecurity problem. Nepal needs to increase output, income and employment opportunities with reducing the inequality. Further more Nepal government should make an efficient distribution, its net work should be established and expanded, construction of road and other food distribution infrastructure is needed as soon as possible.

Bishwa Nath Tiwari, (2002) has analyzed the food deficit country in Nepal mainly since the decade of 1990s because of the rapid growth of population, the crop productivity, and lack of additional arable land for cultivation. From the perspective of food availability or food self-sufficiency, the situation of food availability is worsened in the country and has been worsening year after years. Although the process was somewhat halted in the second half of the 1990s with the implementation

of the APP. In the context of rugged topography of Nepal, food availability is also an important aspect especially in the mountain where there is lack of road and other facilities. Thus, one may have income but has to die of starvation in some period such as during monsoon in some parts of mountain. Even if food is available nearby, the households lack access to food because of the lack of income. In spite of the past development efforts, more than 38 percent of the population are still below the poverty line, and there is unequal distribution of income and assets giving rise to lack of access to food. Taking about the food utilization dimension in Nepal because of the lack of proper drinking water, hygiene and sanitation, and gender discrimination, the food at individual level has not been properly utilized. Thus, there is intra-household food insecurity. The children and women are mainly the major victims of such insecurity. On the whole, the food insecurity situation of Nepal in terms of availability requires serious attentions to improve in respect of the three dimensions. Poor are vulnerable to food insecurity because of the different risks and hazards that take place each year in some or the other parts of the country. These include natural risks such as floods and landslide, and draught, economic risks such as change in prices and economic policies, social and political risk such as frequent change in governments and Maoist insurgency, and many other risks. These risks have higher incidence on the poor as compared to the rich because the poorer have lack of income and capital and diversification in their capital.

Tiwari has recommended that a disaster planning be formulated and implemented with a great emphasis on the risk reduction and mitigation measures. Moreover, there is a need for an early warning system of risks and hazards. Under the poverty alleviation programmes of the

government, the government has to under take labour intensive infrastructures such as construction of roads, which improve income of the poor on the one hand and enhances coping capacity of people of the remote areas on the other.

Prativa Shrestha, (2000) has analyzed the status of intra- household resource dynamics and resultant food security situation from gender perspective and rural household food security situation and the various survival strategies used by households, mainly by woman. Shrestha's research has covered demographic, literacy and education attainment, economic dimension, household income, access and control over family resources, decision making pattern, food security, and household's status and food security. Shrestha has stated that female illiteracy rate was quite high compared to male illiterates indicating that the trend was very much in line with national situation. As education provides a window of opportunity for making informed decisions, high illiteracy in the case of female population implies that their decision –making capacity was still very weak. Comparatively, higher level of education and opportunity to move away from households had availed higher level of employment opportunity for them also, it also meant woman had to assume the increased workload at home and traditional agriculture and allied work. Although female contribution is much higher in productive (agriculture) than those of males, they do not have control over it. Land ownership with male must have allowed them to enjoy full control over these productive resources. Woman get less priority in receiving the required amount of daily intake of food despite the fact that they are the main producer of food and also the initiators in making decision about sharing and distribution of cooked food to the family members. This situation might have further been vulnerable in situation of food insufficiency. It

may also be concluded the frequency of daily intake and the income level of the household is not significant; none of these households were taking any high calorie food except during festivals and social celebrations. Also it was observed that higher the economic status of a family, higher the inclination of a family to show gender bias in food allocation and distribution practices.

Shrestha has suggested that women's indigenous knowledge in food production, gathering, marketing and producing must be reinforced. The Mechanisms of access to agricultural inputs (i.e. seeds, organic fertilizers herbal pesticides and appropriate tools), extension service and training should be made available and targeted to women farmers specifically. The macro-level economic policies and programmes of the government that have been adopted to make favorable economic development of the people have created adverse effect at the micro level e.g. increased poverty, feminization of poverty, increase in price etc. therefore, the effect of macro interventions on micro level must be studied and considered for corrective measures.

Ratnakar Adhikari, (2000) has analyzed that the role of indigenous knowledge and technology on food security in Nepal, impact of WTO agreements on food security, role of woman in food security and food security situation in Nepal. Adhikari has stated that those farmers who are based on indigenous agriculture are managing the crops and lands in order to get diverse and self reliant production process. Farmers are placed primary importance on maximizing food security by producing subsistence crops and livestock. For this reason, they grow mostly local varieties of crops and local breeds of animals to get stable production, and local crop varieties have good storage capability. The diversity farming reduce the risk of complete crop failure and distribute labour,

equipment, and other production input throughout the year to reduce dependency on outside products. Diversified system such as multiple cropping and inter-cropping are common practices in the field to keep ground covered for most of the risk of erosion, secure food availability and diversify dietary pattern as well as maintain a broad genetic pool, health care, food storage etc. As a result of farm diversification sustainability of the farming systems is facilitated. Nevertheless, unfavorable policies and strategies, weak institutional arrangement, and more importantly, profit oriented technological interventions are severely threatening the self-reliant sustainable agricultural practices and food security in the world.

The question of food security which bears highest importance for developing nations has not got the place it deserves even after the establishment of the WTO. It is not included as a significant area to be considered in international trade talks. Because of their weak economy and the lack of bargaining power, the developing countries have not been able to exert influence on international trade talks. It is therefore, necessary for them to try to turn the international trade talks to their advantage by taking a concrete stand on the question of food security.

Though, Nepal has taken planned development investments and efforts the critical indicator of national development did not show any positive change so much that large percentage of Nepalese population. 42 percent still lives below poverty level consuming less than minimum calorie requirement and 53 percent of the children suffer from chronic under nutrition due to poor dietary intake and environment.

Political instability malfunctioning of bureaucratic system, wrong policies, lack of responsibility and commitment among both the

government and non government organizations etc. are the responsible for the present plight. A long term vision and well thought out plans effectively transformed into implement able programmes are expected to bring about desired result visible in food self sufficiency, availability and accessibility of food and their reflection in improved health and nutrition of Nepalese people.

Above literatures reviewed has cleared that the food security is world wide issue and many international as well as national efforts are being to solve the food insecurity problem. Basically the UN's branches like FAO, WFP, and WTO etc are working world widely specially in food crisis. Different approaches have presented to remove the food crisis. In Nepal also there are various efforts have been working for years of ago. Many individual research experts also are searching the cause and solving strategies of food security in the Nepal. It covers various sectors of the food security but there is not any research relates to the trend of food supply in Nepal and the current food security situation in Nepal. Hence this study has been done to cover these areas and the research is an important brick in the area of food security in Nepal.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Definition of Term Used in this Study

- a. **Food security:** Access by all the people at all time to enough food for an active, healthy life, but this study looks national level or ecological belt wise food security. National food security refers to the quantity of food available within a country (total food production within a country plus the amount of food imported minus the amount of food exported) and whether this is sufficient to allow food security in each household within that country. To achieve national food security, a country, can attempt to strive to be self-sufficient in food (producing enough the feed its entire populations), import food from abroad, paying for this from export generated income, or combine the two approaches above.
- b. **Food Supply:** In this study the food supply refers the domestic food grain production or all the cereals production within the Nepal, net import, food grain supply by the Nepal Food Corporation and international assistance.
- c. **Total Output:** Output of cereals produced by the nation
- d. **Net import:** Import minus export if the net import became zero it indicates nation is able to produce food crops in equal to demand of that nation. If net import has positive value it indicates nation is able to produce less than its requirement of that nation. If net import has negative value, it indicates nation is not able to produce less then its requirement.
- e. **Public Intervention:** The ministry of industry, commerce and supplies (MOICS) is the lead government agency responsible for

the management of food supply in Nepal. In remote areas only, the government plays an essential role in providing food and supporting food security through the Nepal Food Corporation (NFC) so, purchases and distribution of food by NFC also taken to analyze food supply.

f. International Assistance: Food grain Aids received from other countries also taken to study trend of food supply.

3.2 Research Design

Food crisis is an alarming phenomenon today in the world. Unbridled sky rocketing prices of foods the world over have further aggravated the vulnerability of the destitute to excruciating disaster, coupled with rapidly increasing price of energy, which have also contributed nothing less to this global predicament. In this global atmosphere, Nepal also is not far from the problem of food crisis. So, to analyze the food security situation and the trend of food supply or availability of food in the country this is the major determinant of food security situation. Hence, this study takes these components too. Different Techniques are used to achieve the objectives of the study, a study on food security situation of Nepal. This study covers wide areas such as over all food security situation of Nepal and trend of food supply of Nepal hence it is impossible to collect the primary data and analyze them. So this is the descriptive and trend analysis of the food security of Nepal.

3.3 Sources of Data

The study is based on secondary data information. For examples the data's of Ministry of Agriculture and Co-operation (MAOC), National Planning Commission (NPC), Ministry of Finance (MOF), Department of

Agriculture Marketing Development Directorate (DAMD/MAOC), Central Bureau of Statistics (CBS), Ministry of Industry and Commerce (MOIC), World Food Programme (WFP), Food and Agricultural Organization (FAO) and other Food related Bulletins and news papers. Basically the data related to trend of food supply is taken from the Department of Agricultural Marketing Directorate and Nepal Food Corporation. And for the food security situation data of CBS, MoF, WFP, and previously mentioned sources is taken.

3.4 Tool of Data Analysis

Different tools and techniques are used to achieve the objectives of this study according to the situations. Basically, tables, graphs, average percentage are used in this study.

3.5 Process of Data Analysis

Four different sources of data has been used to analyze the trend of food supply of Nepal. Total domestic production basically cereals crops productions, net import, Public intervention and International food aids are use to analyze the trend. The total domestic production of cereals are compared with its requirement also it helps us to know whether our country's domestic production has been meeting the requirement or not. The study focuses on the trend to domestic food supply. The net import is analyzed how much Nepal is importing to fulfill the demand of the country this depict that the trend of food supply from foreign country. The public intervention food supplies by the Nepal food corporation shows the trend of domestic food distribution aspects and the international assistance also depicts the trend of food supply from foreign countries.

The objective of food security situation in Nepal analyze with the help of social development indicator, land distribution, food supply, ecological belt wise food availability and requirement of cereals, consumption status, employment status, income distribution etc are used. All these data are presented in the Tables, graphs and some data are presented in average and some are in percentage also, all these analysis will depict the food security situation of Nepal.

CHAPTER FOUR

TRENDS OF FOOD SUPPLY IN NEPAL

This chapter discusses the trend of food supply in Nepal, analyzes the trend of domestic food production, net import (import minus export) of food grains and international food assistance. The domestic food production is analyzed only through the cereal crops production, similarly export and import is analyzed with the net import and international food assistance is analyzed with the institutional as well as country wise food laid.

As already stated, the analysis of the trend of food supply has many dimensions such as domestic food production, net import, private sectors involvement in food supply. The analysis also includes estimation of food requirement.

4.1 Domestic Food Production

Cereal crops are the dominant component of agricultural production in Nepal, with paddy, maize, wheat, millet and barley being the major crops of the country. The target proportion of household cultivate mainly paddy (7.6 percent), followed by wheat and summer maize (6.3 percent each) and millet (3.9 percent)⁴.

⁴ WFP(2007)'' Food and Agriculture Market in Nepal.

Table 1**Edible Cereal Grain Production and Requirement in Nepal****1996/97 to 2005/06****(in Mt.)**

Crop production	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Rice	2002747	2035725	2074193	2259393	2356646	2294205	2271914	2455971	2358540	2314065
Maize	894779	940767	920094	1007178	1001478	999831	1059751	1082455	1186840	1097612
Wheat	827438	806849	855647	934559	914885	1008827	1069257	1105087	1151282	1211445
Millet	236982	233764	238968	242331	231915	231714	231931	232373	237778	238651
Barley	10641	10244	8710	8478	8255	8472	8613	8485	8113	7667
Total	3972587	4027348	4097612	4451939	4513179	4543049	4641466	4884371	4942553	4869440
Requirement	4079135	4178077	4279491	4383443	4430128	4463027	4565820	4671344	4779710	4890993
Balance	-106548	-150729	-181879	68496	83051	80022	75646	213027	162843	-21553

Source: Agricultural Marketing Information Bulletin (2007) MAC / DAMDD / GoN

Table 1 shows that the trend of domestic production of food (cereal) crops production, the trend of food crops requirement and balance of food crops. The production of rice, maize and wheat are steadily increasing, the production of millet is quite stable and the production of barley is steadily decreasing from the year 1996/97 to 2005/06. If it consider the trend of total food crops production that has been increasing and it is almost able to meet the requirement of the food grains. The figures of total food crops production from 1996/97 to 2005/06 are 3972587, 4027348, 4097672, 4451939, 4513179, 4543049, 4641464, 4884371, 4942553 and 4869440 Metric ton respectively. Table 1 further shows that besides the fiscal year 1996/97, 1997/98, 1998/99 and 2005/06 all the years the total cereal crops production is able to meet its requirement and the food crops production or supply of the nation can able meet its demand.

4.2 Net Import

Net import being a crucial indicator of food supply has greater importance to know the food security situation of a country. Net import means import minus export, indicated the food sufficiency or deficiency, it depends on the value of net import whether the value of net import is equal, greater or smaller to zero. It indicates, balance, deficiency and sufficiently respectively.

The true value of exports and imports in Nepal is unclear. Due to the porous border, preferential market access and the pegged exchange rate, official data often doesn't reliably reflect actual values and volume. Though the exact volume of export and import so deficit to determines. Department of agriculture marketing Development, Directorate (MOAC) displays the data. Among the data, this studies that taken the trade data of only three crops, i.e. rice, wheat and pulse.

Table 2**Net Import of Food Commodities 1996/97 to 2005/06**

(in' 000Rs).

Fiscal year	Commodities		
	Rice	Wheat	Pulse
1996/97	379000	300	-889200
1997/98	160300	-5800	-875500
1998/99	1813000	-3200	-964300
1999/00	2977700	309500	-794700
2000/01	410500	-60800	-1006500
2001/02	226500	-41200	-714300
2002/03	782900	214800	-556000
2003/04	555500	238100	-240400
2004/05	445900	1200	-183700
2005/06	2157400	48800	-261200

Note: Figures for 2005/06 are provisional

Source: Agricultural Marketing Information Bulletin (Special Issue 2007)

Food commodities are exported to India and imported from India and overseas as well. Table 2 includes all the information with India and other than India too. Table 2 shows that net import of rice has been increasing with fluctuating manner from the year 1996/97 to 23005/06 and the net imports of pulse and wheat are quite fluctuating as compared to rice. From the year 1996/97 to 2000/01 the net import of pulse in decreased and after 2000/01 to 2005/06 it is increased. The value of net import is negative as well as positive, negative value indicates import value is

smaller than export value and vice versa. The net import of pulse has all negative value but it has been decreasing which indicates net import of pulse has been also increasing. The net import of wheat also has been fluctuating in this period of 1996/97 to 2005/06.

Table 2 further shows that net import value of rice is high in comparison to the values of wheat and pulse. This indicates that larger quantity of rice has been importing from the abroad. This further reflects the decline in supply of food grain from terai districts in Nepal.

4.3 Public Sector Intervention in Food Supply

The Ministry of Industry, Commerce and Supplies (MOICS) is the lead government agency responsible for the management of food supply in Nepal. In remote areas, only the government plays an essential role in providing food and supporting food security, through the Nepal Food Corporation (NFC). Which is a government's most important organization having the responsibility of food distributions and improving food security problem in the country. The main function of the corporation is to purchase of major food grains like, rice, wheat, maize from surplus regions and fill the supply gaps in deficit regions.

NFC procured almost all the food grains from the rice exporting companies (RECs) under levy. But with the gradual decline in rice export, there was proportional decline in levy procurements and therefore it started to procure from the local market at the increasing proportion. At present it procures most of its grains from the open market.

The procured food grains, all stored in NFC warehouses. These NFC warehouses are purpose built for food grain storage on the three tier basis one is situated in food grain collection in terai, other is situated in the hill

and the third is situated in the various food distribution centers in the deficit hills, and mountains. Movement of food grains from the procurement areas in the terai to the distribution centers in the hills and mountains is difficult due to inaccessibility of the majority of these centers by road. For this reason, food grains are moved to the deficit areas during the dry seasons by the transportation of aircraft, truck, pack animals and porter. NFC's selling prices are fixed by the government. The purchases and distribution trend of food grains are as follows.

Table 3
Purchases of Food Grains by NFC 1996/97 to 2005/06

(In Mt).

Fiscal Year	Rice		Wheat	Paddy	Total
	Internal	External			
1996/97	17912	5754	12496	31442	67604
1997/98	1715			16628	18343
1998/99	19442	14517		4771	38730
1999/00	22789	5975		10550	39314
2000/01	2138			5478	7616
2001/02	9629			2776	12405
2002/03	15068			19	15087
2003/04	16499		54	859	17404
2004/05	8237		43	848	9128
2005/06	11452			265	11717

Source: Nepal Food Corporation, Central Office

Table 4**Distribution of Food Grains by NFC 1996/97 to 2005/06**

(in Mt.)

Fiscal Year	Rice	Wheat	Other	Total
1996/97	50737	89	2732	53555
1997/98	29463	799	4221	34683
1998/89	27072	7066	8652	42790
1999/00	23051	1671	3973	28695
2000/01	18240	7	306	18553
2001/02	21731	1997	443	24171
2002/03	17541			17541
2003/04	13573	7975		21548
2004/05	14003	2	15	14022
2005/06	16128	43		16171

Source: NFC, Central Office

Tables 3 and 4 show the trend of food supply done by NFC. The trend exhibits that the purchases, sales and distribution of food grains which has been quite fluctuative some year the purchase and distribution of food grains are very high and some year it's quite low. For example in the fiscal years 1996/97 and 1999/00 the purchases of food grains are 67604 and 39314 metric tons respectively, which is very high and in the fiscal years 2000/01 and 2004/05 the purchases of food grains are 7616 and 9128 metric tons respectively which is very low. Similarly the sales and distribution of the food grains in the fiscal years 1996/97 and 1998/99 are 53555 and 42790 metric tons respectively which is more and in the fiscal

years 2004/05 and 2005/06 the sales and distribution of food grains are 14002 and 16171 metric tons respectively

The fluctuations in the sales and distribution and in purchases are the results of Nepalese agricultural production. Because if the domestic food crops production became willing that year the activities of NFC has declined and if the domestic food production reduced the food supply activities of NFC has increased.

4.4 International Assistance

To supply of food grains in Nepal, not only the internal efforts have been exercising but also the international institutions and foreign countries are also have been playing important role. SAARC food security reserve, FAO, WFP GTZ etc. have been playing most important hole on the alleviating poverty and building sustainable food security.

All the SAARC member countries agreed to establish the SAARC food security reserve, to cope the food insecurity problem arises in the member management. Under the food for work projects, food deficit households have been receiving food grains in exchange for labour. The WFP provided rice and VDC provided the cash. Under community self-help user groups (UGs) consisting of worker from food deficit families implemented FfW projects, owned the structure and are responsible for their constructions and maintenance. Rural Community Infrastructure Work (RCIW) has offered training, provided food, tools, materials, and cash. Under food and cash for work, user groups have been remunerated with food and cash and provided technical and construction material. Under assistance at all levels RCIW staff professionals assisted UGS, VDCs and DDCs to plan construct maintain and operate FfW projects.

Further more, foreign countries also have been assisting to fulfill the food deficit in the Nepal. Japan and France have been assisting for food grains to Nepal. Table 5 shows the food grains aid from the Japan and France as following.

Table 5

Food Grains Aid Received from Foreign Countries 1996/97 to 2005/06

(in Mt.)

Fiscal Year	Country	Food grains	Quantity
1996/97	France	Wheat	3919
1997/98	France	Wheat	3933
1998/99			
1999/00	Japan	Wheat	24299
	France	Wheat	3970
2000/01	Japan	Rice	9267
2001/02			
2002/03			
2003/04	France	Wheat	7952
2004/05	Japan	Rice	9700
2005/06	Japan	Rice	8282

Source: Nepal Ford Corporation Central Office.

Table 5 shows that the food grains aid in Nepal from the other countries basically are rice and wheat. The trend shows that the main donor of the rice is Japan and wheat is donated by France. Table 5 indicates that the food supply or the food grain aid is quite fluctuating some year Nepal did not get any food grain aids and some year Nepal got the aid of food grains.

CHAPTER - FIVE

FOOD SECURITY SITUATION IN NEPAL

5.1 Food Security Scenario of Nepal

This chapter displays the food security situations in Nepal. The food security has many dimensions or food security is a complex phenomena. To know the food security situation of a country, it must understand population, production scenario of that country, employment, land distribution population growth population distribution, income level education and road facilities consumption level etc.

Nepal has been confronting food security as a challenge. The population is growing at a high rate, the agricultural productivity is poor and is less than the population growth rate, the distribution of income is worsening, the situation of woman and children is improving only marginally though the mortality rate is declining and life expectancy at birth is increasing. Mainly those hilly and mountainous regions have been producing food grains less than its requirement. Only the terai region has been producing surplus food grain. The frequently happened strict or bandhs in the terai and road excessive areas, natural disaster and frequently rising prices of petroleum products as well as food grains show the food security situation in Nepal. Employment opportunity is also very poor in mountain and hills regions. All these indicate that the food security is becoming more and more acute problem.

Table - 6

Distribution of Agricultural Land Household and Area of Land

Farm size in hectors	No of Agricultural Households (%)	Area of Agricultural Land
under 0.1 hector	7.3	0.5
0.1-0.2	10.1	1.7
0.2-0.5	27.4	11.0
0.5-1	28.1	24.1
1-2	19.1	31.3
2-3	5.3	15.4
3-4	1.5	6.2
4-5	0.4	2.2
5-10	0.7	5.7
10 hector and above	0.1	1.8

Source: Nepal living standard survey Report 2003/04 main finding volume2 CBS / GoN.

Table 6 shows that the cultivated land distribution is highly skewed in Nepal. Only 0.1 percent households have 10 and over hector per household while more than 44 percent households have less than 0.5 hectors per household similarly, 28.1 percent of households have 0.5 to 1 hectors per household.

Table - 7

Distribution of Agricultural Households with Land (Ecological Belt Wise)

(In percent)

Land Size	Mountain	Hill	Terai
Less than 0.1	6.1	6.8	8.1
0.1-0.5	33.1	42.4	33.1
0.5-1	31.2	31.2	24.3
1-2	21.2	15.6	22.4
2 and above	8.4	4.0	12.1

Source: Nepal Living Standard Survey Report 2003/04 main finding volume2 CBS / GoN.

Table 7 shows that distribution of agricultural household with land in the ecological belt wise. In hill region 49 percent household have less than 0.5 hectares, where as only 4 percent land holdings per household. Similarly in terai region more than 41 percent household have less than 0.5 hectares land holding where as only 12.1 percent households have 2 and over hectares land holdings per household.

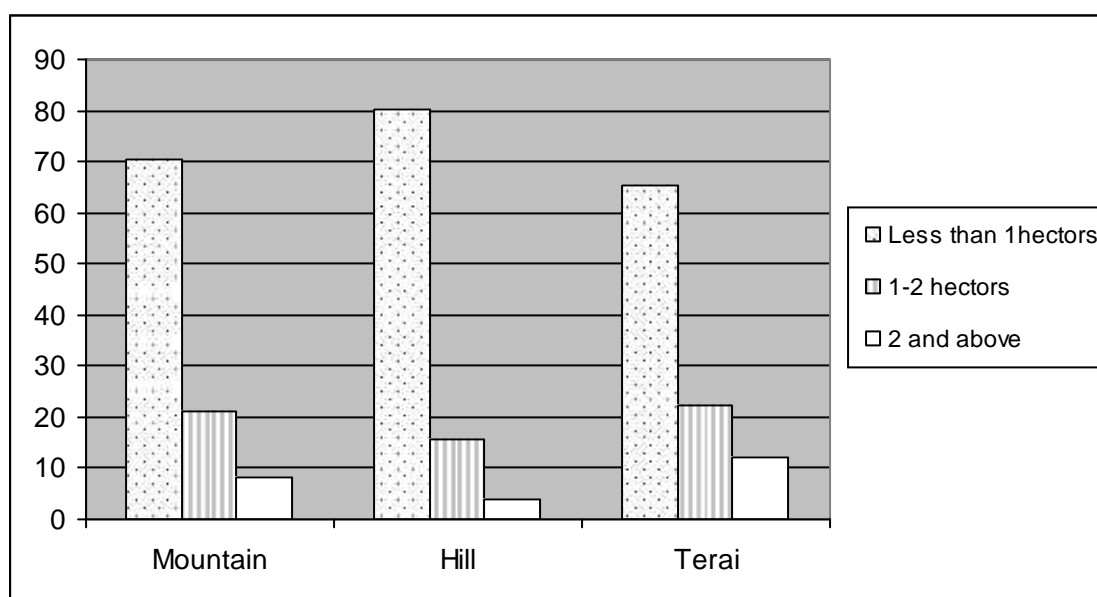
National Planning Commission of Nepal has assumed that the per capita consumption requirement of 2.140 cal/person day in the terai and 2.340 cal/person day in the hill and mountain based on WHO guidelines adjusted for climate and household consumption.⁵ Food require level of food requirement for the existence of well being of the mankind in the

⁵ APO (2000) "Food Security in Asia and the Pacific" Tokyo.

calorie term, without that level well being of the human being is impossible.

Figure 1

Distribution of Agricultural Households with land (Ecological belt wise)



Source: Nepal Living Standard Survey Report 2003/04 main finding volume2 CBS / GoN.

Figure 1 shows that the agricultural household distribution in the different ecological belt. Figure 1 shows 70 percent households have less than 1 hectars of agricultural land in the mountain region while only 8 percent households have 2 and above hectars. Similarly 80 percent households have less than 1 hectars agricultural land in the hill, while only 4 percent of households have 2 and above hectars.

Table – 8

Activity Status and Unemployment Rates during Last 7 Days

(In percent)

		Employed	Unemployed	Not active
Gender	Male	77.3	3.1	19.6
	Female	71.7	2.7	25.6
Regional	Mountain	86.7	1.3	12.0
	Hill	76.0	2.1	21.9
	Terai	71.1	3.8	25.1

Source: Living standard Survey, 2003/04 CBS/GoN

Table 8 shows employment level of Nepalese people. There are more inactive people than the unemployed people in all regions in Nepal. There are high unemployed and not active people in terai as compared to hill and mountain. And male people are more employed than female further more females are more not active than male

Table 9
Food Supply per person

Fiscal Year 2005/06

Commodity	Percent food supply per year (Kg)	Per caput food supply per day calorie
Total	456.96	2783.53
Total of cereals	203.69	1930.01
Potato, rootlet tubers	64.57	171.95
Sugar honey and other confectionary	10.28	97.00
Pulses	10.28	97.00
Vegetables	78.66	60.00
Fruits	19.46	40.00
Milk and Milk products	46.66	101.00
Meat	8.76	35.00
Eggs	1.21	5.00
Fish	1.80	6.32
Oil and oil seeds	3.93	97.00
Spices	0.62	4.00
Liquors	1.71	4.00
Soft drinks	1.25	3.00

Source: Agricultural Marketing Development Directorate (2007) (MOACs) / GoN.

Table 9 shows that over all Nepal's per capita food supply. Supply per day in terms of calorie is sufficient in comparison to requirement as given

by the WHO guidelines. Per capita food supply per day in terms of calorie was 2783.53 calorie during the fiscal year 2005/06 A.D. The table 10 further clarify that cereal commodity has the primary role in food supply. As depicted by table 9. 1930.01 calories out of 2783.58 calories per caput food supply per day was contributes only by the cereal commodity in the fiscal year 2005/06 A.D. Potato, roots and tuber have secondary role in food supply. In the fiscal year 2005/06, potato, roots and tuber have 171.95 calories share out of 2,783,533 calories per caput food supply per day.

Even if table 9 shows the food secure situation in terms of calorie, in reality there is no food secure situation among the people. It is because of the distributional system which is major cause of the food insecurity situation existed in Nepal. People of mountain and hill regions have low employment opportunity and have low level of income or the purchasing power is also very poor. In this way there is food insecure situation in Nepal.

In Nepal, six major crops, rice, wheat, maize, barley, millet and potato account nearly 84 percent of the gross cropped areas. The terai knew as the granary of the country account for 53 percent of the countries gross cropped areas. The share of the hill and mountain in gross cropped area was 38 percent and 9 percent respectively.⁶ Besides above crops, cash crops, pulse crops, live stock, fishery and horticulture also have been playing the dominant role in the agricultural production.

⁶APO (2000) "Food Security in Asia and the Pacific" page-231 Tokyo.

Table -10

**Ecological Belt wise Food Availability and Requirement of Cereals in
Nepal, 2005/06**

(in Mt)

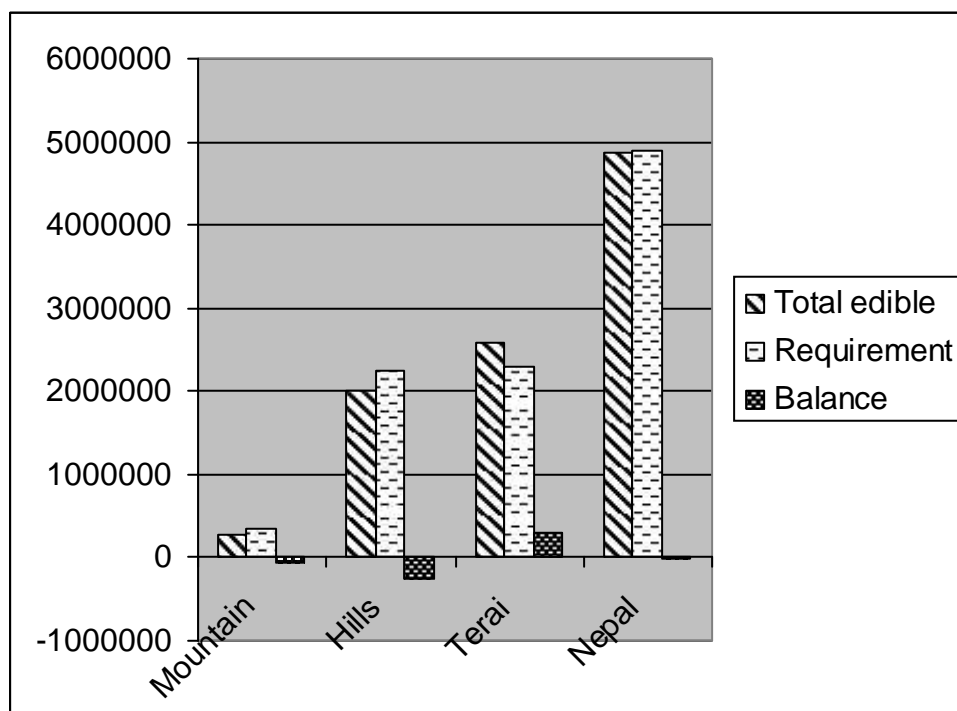
Belts	Total edible	Requirement	Balance
Mountain	279680	346127	-66447
Hills	2003199	2259032	-255833
Terai	2586560	2285834	300726
Nepal	4869440	4890993	-21553

Source: AMIB (Special Issue 2007) DAMDD/GoN

Table 10 shows that there are deficiency of cereal grains in the hill and mountain, Because there are less edible cereal grains than requirement. There is surplus of cereals only in the terai. The overall pictures of edible cereal grains of Nepal have been improving and it is able to meet the requirement of the cereals in Nepal except some year table 1. There can be seen that the edible cereals are successful to meet the requirement from the year 2000/01 to 2005/06. In the year 2005/06 there is deficiency of cereals because the edible cereals is less than the requirement, the total edible cereals in Nepal is 48869440 Mt and the requirement is 4890993 Mt.

Figure - 2

Belt-wise Availability, Requirement and Surplus or Deficit of Edible Cereal 2005/06



Source: AMIB (Special Issue -2007) DAMDD/MOAC/GoN

Figure 2 also shows the food insecure situation in Nepal. Except terai region all the regions had food shortage during the 2005/06. It reflects the food insecure situation in Nepal. Figure 2 shows the relatively high incidence of food deficits in hill.

Table - 11**Distribution of Consumption by Degree of Adequacy**

(In percent)

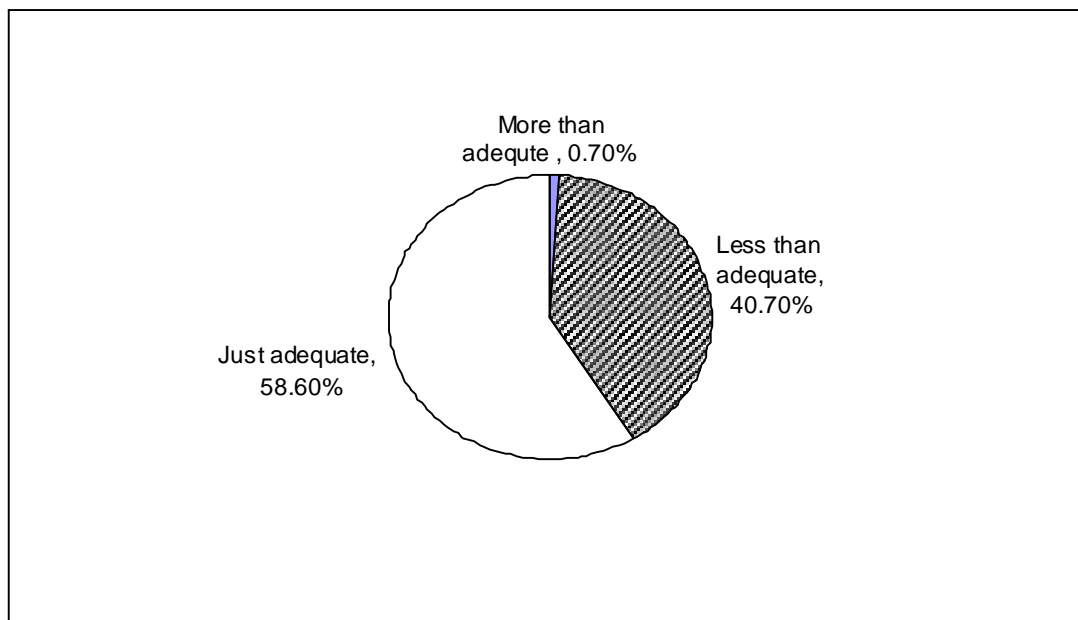
Ecological Belt	Less than adequate	Just adequate	More than adequate
Mountain	51.3	48.2	0.5
Hill	38.6	60.5	0.9
Terai	40.9	58.5	0.6
Nepal	40.6	58.6	0.7

Source: Living standard Survey 2003/04

Table 11 shows that more than 51 percent peoples have been getting less then adequate consumption in the mountain region, 48.2 percent peoples have been getting just adequate consumptions and only the 0.5 percent of peoples has got more then adequate consumption. In the hill and terai regions there are 38.6 and 40.9 percent people who have got less then adequate consumptions respectively, and 60.5 and 58.5 percent of peoples have got just adequate consumption in the hill and terai respectively. The data show that real or vulnerable consumption in food insecurity. There are just 0.94 percent peoples who have got more than adequate consumption in the hill and terai regions respectively.

Figure - 3

Distribution of consumption by the degree of adequacy in Nepal



Source: Living standard survey 2003/04/GoN

Figure 3 shows that, there are more than 40 percent people who have got less than adequate consumption (in food, cloth, health and schooling). 58.6 percent of people in Nepal have got just adequate consumption and there are only 0.7 percent of people who have got more than adequate consumption.

Nepal being a poor country many people of the country has got less than adequate consumption of food, housing clothing, health care and schooling. More than 31 percent of people have got less than adequate food, 40.6 percent of people have got less than adequate housing , 35.6 percent people have got less than adequate clothing 28.3 percent people have got less than adequate health care and 21.4 percent people have got

less than adequate education.⁷ This picture shows the further vulnerability of Nepalese people.

Table-12

National Household Income and Per Capita Income Distribution

Area	Household income (in Rs.)		Per capita income (in Rs.)	
	Mean	Median	Mean	Median
Mountain	62374	49192	12295	9726
Hill	89932	54981	18299	11295
Terai	73545	50300	12975	8774
Urban	157550	105035	32573	22129
Rural	65107	47200	12124	8774
Nepal	80111	51978	15162	9606

Source: Nepal Living Standard Survey Report 2003/04 CBS/GoN

Table 12 shows that the average per capita income of the people of mountain and terai is less than average per capita income of hill and per capita income of urban people have more than the per capita income of rural peoples. There is Rs. 32573 per capita income of urban people and there is Rs. 12124 per capita income of rural people. Table 12 further shows that the average per capita income of Nepalese people has less than \$ 1 per day means Rs. 15,162 per year. There are much income inequality among the Nepalese peoples it can depict by table 12 there is much different between average income of rural and urban people hill and terai people. Further more the mean and median of the different areas is much different it also depicts the income inequality among the people of the same regions too. Such as the mean income of the urban people has Rs.

⁷ Nepal Living Standard Survey 2003/4 CBS/GON

32573 and median is Rs. 22129. Similarly, mean income of hill and terai has Rs. 18299 and Rs. 12975 respectively the median income are Rs. 11295 and 8774 respectively. These data is also helpful to know of the Nepalese people.

The study shows that food security of Nepal is bad because more than 30 percent of people in Nepal are living under food security level this is similar conclusion given by the Fatta Bahadur Mager and he has coded that the causes of food insecurity in Nepal as follows.

1. Poverty is a major cause of food security problem in Nepal. Before 1925 slavery system was common in Nepal. Kamaiya or Bonded labor system was in existence till March 2002. A feudal system of land ownership is still in existence. All these above system are responsible for the problem of food insecurity in Nepal. Further move, remote location small size landholding lack of access to off-farm jobs, low level of education gender discriminations, caste system etc are also major factors to developing poverty index at the household level. Due to the poor situation of the household people are foods insecure.
2. The decreasing per capital food production is another cause of food insecurity. Population growth rate is very high in Nepal. But agricultural growth is relatively low. Due to the higher population growth rate per capital food supply is not increasing. Higher percentage of malnutrition is the sign of food insecurity.
3. Not only the deficit in food production but also the unequal spatial distribution of food that have major impact on people's health. Food production is insufficient in mountain and hill. There is discrimination in fixing the minimum requirement and in distributing food. The minimum requirement and in distributing food. The minimum food

requirement as fixed as 180 kg. 120 kg. and 165 kg. per capita per year for Kathmandu mountain hill and Terai respectively.⁸

4. Although the agriculture sector has required the highest priority in most of the development plans its performance has been dismal.
5. The problem of access of food also needs to be defined in terms of socio-economic position of the households. Within a certain geographical area, food security of people also differs depending upon their economic and social status. Wealth and income distribution pattern is highly skewed in Nepal. A few numbers of people have more shares of national income and vice versa. In Nepal economic position is significantly different by ethnic and caste group and within such group be class in a given location. During the Rana regime (1846-1950), those clans and lineages which had members assigned the role of village chiefs and as agents for revenue collection have possession of more resources and they are relatively food secure. During Rana regime government collected taxes through its village agents called Mukhiya, Jimamawal, Subba, Talukdar, etc. The families whose ancestors were assigned with such roles have tended to continue to control more resources. Similarly as members of the occupational cast were not given responsibilities in administration, revenue collection, or in the military are still unable to increase their access to resources. That means members of the lower caste and those families whose ancestors did not get any gainful role and largely food insure.
6. Accessibility Villagers accessible from motor able road have more opportunities to pursue different livelihood strategies. Small farmers having access of motor able road can follow the strategy of

⁸ Adroit publisher c-8/2(1999) food crisis in Nepal How Mountain farmers cape? Yamuna Vihar. Delhi 11053, Page-23.

modernization and commercialization in agriculture. It helps to expand marketing opportunities. Expansion in marketing opportunities helps to increase economic activities. But there is lack of availability of motorable road. Karnali zone is still far from the access of motor road. There is negligible accessibility of motor road facility. Due to motor road to many villages have been comforting the problem of marketing opportunities and other related problems.

7. The household structure (mainly availability of adults and healthy members) is another important determinant of food security in hill villages. The households having sickness of family, having dominance of younger family have food insecurity problem.
8. The proportion of population experiencing food deficit is especially critical in the hill and mountain of Nepal. The main reasons for the adverse food availability in hill and mountain are high population density and degradation of land and forest resources. In 1991, the Terai contained about 47% of total population and 56% of the cultivated land while the hill contained 45% of the population and only 37% of the cultivated land and the mountain contained 8% of the population and 7% of the cultivated area⁹. These figures show that land scarcity as a source of vulnerability to food shortages in the hills and mountains.
9. Low level of land productivity is another cause of food security problem in Nepal. Land productivity in Nepal has stagnated in spite of increasing use of fertilizer, which indicated land degradation, and over civilization of natural resources. Due to low level of land productivity the major portion of household budget is spent on food stuff alone.

⁹ Adroit Publication C-8/2 (1999): Food crisis in Nepal-How Mountain Farmers cope? Yamuna Vihar Delhi 11053, page-18.

In conclusion, not only single factor but the multiple factors that have been causing the problem of food insecurity in Nepal. Inadequate food production, unequal wealth and income distribution, high population growth, socio-economic position of the household, lack of accessibility of comfortable road, poverty, lack of access to irrigated land etc. all these factors are responsible for the food security problem in Nepal.

CHAPTER SIX

CONCLUSION AND RECOMMENDATION

2.1 Summary and Conclusion

Food security is one of the most important determinants of human development. It is impossible to improve well being of mankind without food security. Food insecurity threatens to the development of the whole economy of a country. Food insecurity problem rooted in any nation is a threat not only to that nation but it is a threat to develop nations as well. Most of the developing countries are suffering from the problem of food insecurity in the world.

Nepal is also suffering from the problem of food insecurity. Geographical variety is the characteristic of Nepal. In the northern part of the country there is mountain and hills which is characterized by rugged topography. So there is not sufficient agricultural land with irrigation facility and most of the farmers apply traditional technology. Therefore food grain production in hill and mountain are inadequate. So the people of these areas are mostly suffering from the food insecurity problem.

The trend of food supply of Nepal shows that only domestic food production can not fulfill the demand of food grains in Nepal. So by importing food grains from other countries, foreign assistance are playing important role to fulfill the demand of Nepal. For the internal food supplies government of Nepal also has been playing crucial role by NFC. Basically, NFC supplies food grains from food sufficiency areas to insufficiency area. The trend also shows that the domestic food production is slowly increasing; it is almost able to meet the requirement.

Poverty, unemployment or under employment, weak transportation facility, lack of education and health facility give more support to the food insecurity problem in Nepal. So, many peoples are living in the position of less than adequate consumption.

6.2 Recommendations

As discussed in the preceding section, it is impossible to achieve human and economic development without sustainable food security among the people. This study recommends the following recommendation to ensure food security in Nepal.

1. Need for Increase in Output

It is impossible to ensure food security in the food deficit area unless the incremental output could not meet the requirement. So it is needed to give more emphasis by government to increase output by providing irrigation facility, supplying agricultural inputs at the reasonable time and place, providing training related to agriculture. And all the individuals also should be careful to produce and consume safe and nutritious food grain.

2. Need for Increase in Income

Income level directly affects the purchasing power of the consumer. So it is needed to pursue the policy of generating income by government among the poor groups. Income largely depends on the level of employment therefore to increase the employment opportunities it is needed to maximize labour intensity in crop production by farmers and in non crop sector as well by the producers and investors. Further more government should emphasize on the development of the cottage and small scale industries.

3 Need for Improve Food Distribution Network

The food distribution network can be improved as following.

- i. Government should take the policy to ensure an equitable distribution of growth among the people in different income groups and living in different ecological belts.
- ii. Increased volume of subsidies food grain availability for the deficit area will not contribute to more equitable consumption unless there is a proportionate increase in the capacity of lower income group to spend on food grain. In such a situation it would be worthwhile to remove subsidized food grain distribution in these areas where private trade can do the marketing. So government should invest subsidy costs in employment generating activities in those areas.
- iii. Development of food distribution infrastructures also largely affects food security. So government should construct agricultural road and rural road as soon as possible.
- iv. It would be much more suitable to create regional food security reserve by NFC because stocks would be essential for emergencies as well. Additional storage facility will have to be created.

4 Need For Expanding Institutional Activities

National as well as international institution's activities have to be expanded and made more effective by the policy makers and experts.

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