Assessment of Food Security and Nutrition Situation in Nepal

(An input for the preparation of NMTPF for FAO in Nepal)

Food and Agriculture Organization of the United Nations
UN Complex, Pulchowk, Nepal
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Acronyms

AEC	Agro Enterprise Centre
APP	Agriculture Perspective Plan
APPSP	Agriculture Perspective Plan Support Programme
CBO	Community Based Organization
CBS	Central Bureau of Statistics
CFSVA	Comprehensive Food Security and Vulnerability Analysis
DDC	District Development Committees
DFID	Department for International Development, government of UK
DFTQC	Department of Food Technology and Quality Control
DLS	Department of Livestock Services
DoA	Department of Agriculture
DRM	Disaster Risk Management
FAO	Food and Agriculture Organization of the United Nations
FCHV	Female Community Health Volunteers
FFE	Food for Education
FFW	Food for Work
FSN	Food Safety N-et
GDP	Gross Domestic Product
GIP	Girls Incentive Programme
GoN	Government of Nepal
HDI	Human Development Index
HDR	Human Development Report
HFA	Hyogo Framework for Action
HHs	House hold(s)
HIV/AIDS	Human Immune Virus/ Acquired Immune Deficiency Syndrome
IDA	Iron Deficiency Anaemia
IDD	Iodine Deficiency Disease
IMCI	Integrated Management of Childhood Illness
INGO	International Non-governmental Organizations
ISDR	United Nations International Strategy of Disaster Risk Reduction
LBW	Low Birth Weight
MDG	Millennium Development Goal
MoAC	Ministry of Agriculture and Cooperatives
MoCS	Ministry of Commerce and Supply
MoCW	Ministry of Children and Women
MoE	Ministry of Education
MoHA	Ministry of Home Affairs
MOHP	Ministry of Health and Population
MoLD	Ministry of Local Development
NDMA	National disaster Management Authority

NDRI	National Development Research Institute
NFC	Nepal Food Corporation
NGO	Non-governmental Organizations
NLSS	Nepal Living Standards Survey
NMTPF	National Medium-Term Priority Framework
NPC	National Planning Commission of Nepal
NRs	Nepalese Rupees
NSDRM	National Strategy for Disaster Risk Management
NVDM	National Council for Disaster Management
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
PEM	Protein Energy Malnutrition
PRSP	Poverty Reduction Strategy Paper
RCIW	Rural Community Infrastructure Works
SAARC	South Asian Association of Regional Cooperation
TYIP	Three Year Interim Plan
U5MR	Under Five Year Mortality Rate of Children
UNCT	United Nations Country Team
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
VAD	Vitamin A Deficiency Disease
VDC	Village Development Committees
WB	World Bank
WFP	World Food Programme of United Nations

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Assessment of Food Security and Nutrition Situation in Nepal[1]

I. INTRODUCTION

This study was carried out as a part of the National Medium-Term Priority Framework (NMTPF) formulation exercise in Nepal. The findings of this study served as an input for the situation analysis and preparation NMTPF (2010/11 – 2014/15).

FAO's food security and nutrition development programme follows holistic approach covering wide array of interventions such as support to policy development, vulnerability assessment, improvement of food safety system (covering laboratory test support and food safety legislations) and building up capacity of the Government as well as civil society organizations.

Major objective of the study is to develop understanding of major issues and opportunities facing the agriculture and rural development sectors from the perspective of maintaining food security and nutrition in the country. Specific objectives related to this are as follows:

- To analyze strengths and weaknesses of the existing agricultural policies and programmes; and
- To provide recommendations to address the gaps identified.

Desk review and interactions were carried out with key personnel (See Annex 1 for details on the study methodology followed).

Nepal is a food deficit, land locked and least developed country, having a population of more than 27 million people. Around 31 percent people in the country live below poverty level. Around 49.3 percent of under-five children are chronically malnourished. Globally, Nepal ranks 144th out of 182 countries in terms of its Human Development Index (UNDP, 2009).

Box 1: Nepal HDI trend

Year	HDI
1980	0.309
1990	0.407
2000	0.5000
2005	0.537
2006	0.547
2007	0.553

Source: HDR, 2009

Annual population growth rate of the country is 2.2 percent. It is estimated that the country's population in 2025 will reach 40.5 million, with anticipated difficulties of fulfilling the food requirements (Nutrition Country Profile, 1998 and FAOSTAT, 2006).

The country is disaster prone. It is frequently exposed to varieties of human made and natural disasters. It is also likely to face strong effects of climate change.

[1] This report is prepared by Mr. Shingha Bahadur Khadka, FAO Consultant for the NMTPF Formulation Team. Technical support was also provided by Mr. Cyridion Ahimana, Nutrition Consultant, FAO - Food Security and Nutrition.

According to Nepal Demographic and Health Survey (NDHS) 2006, around 84 percent people residing in the rural areas live with limited education and skills and a little chance of opportunities for non-agricultural employment (GON, New ERA, et.al, 2007).

The geography, political situation and cultural practices in the country are diverse. People's access to health facilities, schooling, employment opportunities and hygiene and care practices is limited. After 10 years of armed conflict (1996 -2006), the country is under a transitional period of establishing constitutional democracy after signing of a peace accord in November 2006 and the Constituent Assembly election held in April 2008. The decade long insurgency caused a loss of 13,347 lives in the country (UNDP, 2009 a). During this period, various infrastructures were destroyed including severe social and psychological damages.

II. SITUATION ANALYSIS

2.1 Economy and Poverty Situation

Nepalese economy dominated by agriculture, 65.6 % of total population is directly or indirectly depend on agriculture. Since last couple of years, population dependent on agriculture have been decreased (Sanjel, 2005). Past economic growth, was primarily in non-agricultural sectors, which grew 6 % while agricultural growth was only 2.3% per annum (NPC, 2003). Apart from the small holding, other sources of income are livestock, wages, migration, etc. Of total income, 48 % from farm, 28 % from off-farm, 11 % from foreign remittance and 13 % from other source (WFP & MoAC, 2009). Nearly 50 % of the small and marginal farmers and majority of the landless agricultural workers live below the poverty line. Chronic poverty and deep-rooted social divisions and discrimination in terms of caste, ethnicity, gender, culture and religion creates much vulnerability to poverty, food insecurity and malnutrition.

Table 1: Poverty incidence

Area	Poverty head count (%)		
	2003/04	1995/96	% change
Nepal	30.8	41.8	-26
Urban	9.6	21.6	-56
Rural	34.6	43.3	-20
Development region			
Eastern	29.3	38.9	-25
Central	27.1	32.5	-17
Western	27.1	38.6	-30
Mid Western	44.8	59.9	-25
Far Western	41	63.9	-36
Ecological belt			
Mountain	32.6	57	-43
Hill	34.5	40.7	-15
Tarai	27.6	40.3	-32
Caste and ethnicity			
Brahman/ Chhetri	18.4	34.1	
Dalits	45.5	57.8	
Newar	14	19.3	
Hill Janajati	44	48.7	
Terai Janajati	35.4	53.4	
Muslim	41.3	43.7	
Terai middle caste	21.3	28.7	
Others	31.3	46.1	

Source: CBS 2005

Country poverty is root cause for food insecurity, undernutrition, social, education, healthcare and employment deprivations. Low productivity in agriculture is a major contributor to poverty and food insecurity. Country's poverty is decreased by 26 % during 1995/96–2003/04, with wide variations in areas, gender, caste and ethnicity (Table 1) (UNDP, 2009a).

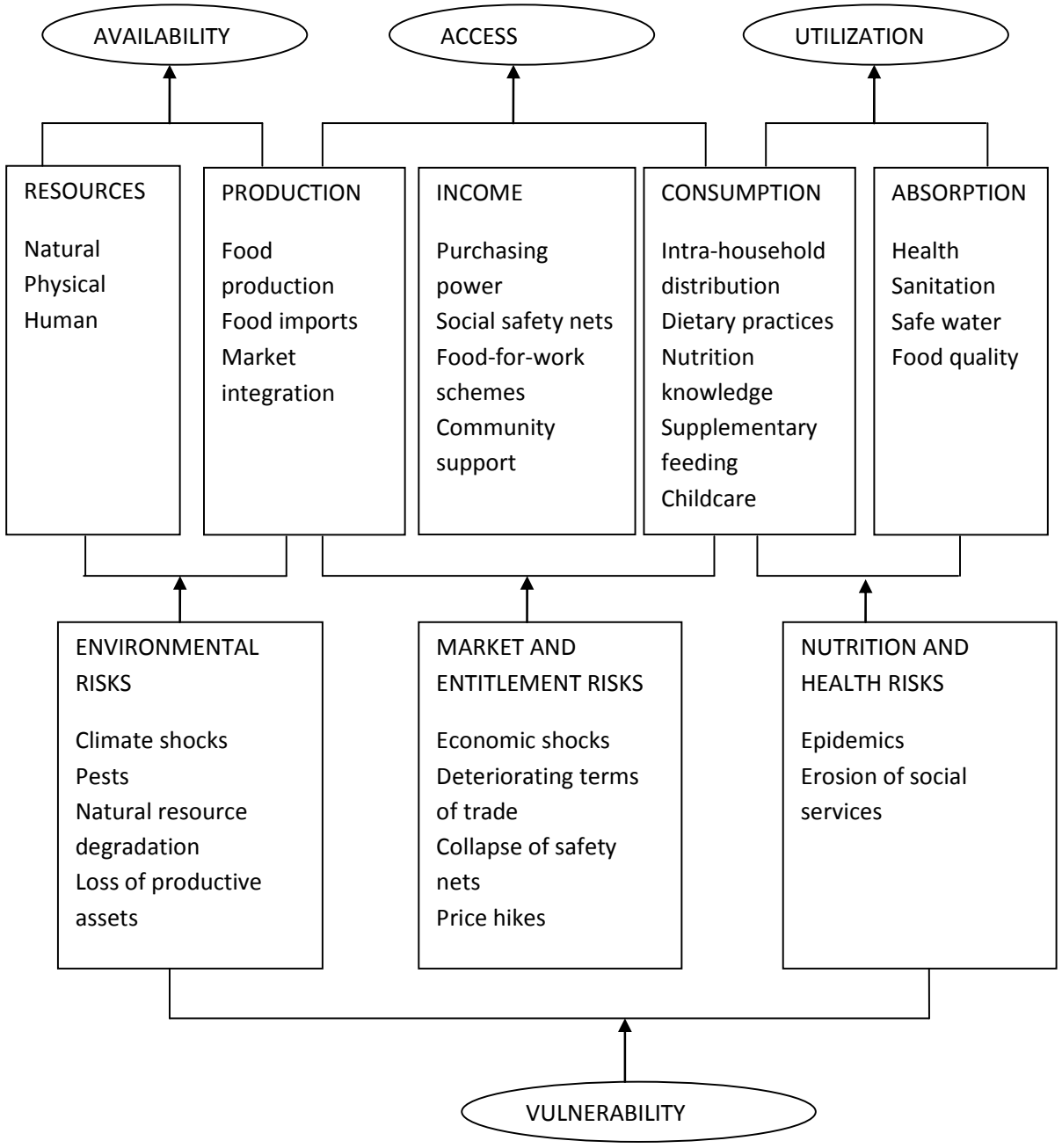
Poverty is worst in the remote hills and mountains of Far and Mid West Nepal, about 70 % of the population lives below nation poverty line and local production is generally sufficient for only three to six months (CBS, WFP and WB, 2006). The Tenth Five year plan cited the causes of the high poverty to be related to inequalities relating to region, gender, ethnicity and caste, as well as poor governance, failure of delivery of social services. In one hand, price of food commodities are hiking, other hand, income of miserable people is stagnant, rather decreasing. According to NLSS 2004, average income of each household is Rs 80, 111. Due to insufficient food production and limitation of agricultural income, farmers are compelled to do other activities for livelihoods. However, due to low wage and seasonal engagement, incomes from those activities are not sufficient to maintain the needs.

2.2 Food Security Situation

Food security exists when all people, at all times, have access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. The concept of food security has four pillars (availability, access, utilization and stability). The issue of food security is multidimensional, that varies across countries, social groups and time. These factors can be grouped in three clusters, 1) overall socio-economic, political and natural environment, 2) performance of the food economy, and 3) household level food security influenced by livelihood assets and activities, care practices, and health and sanitation conditions (FAO/FIVIMSFramework

http://www.fivims.org/index.php?option=com_content&task=blogcategory&id=20&Itemid=37)

Diagram: Dimension of food insecurity



Source: FAO and SAARC, 2008

Widespread poverty is the major cause for food insecurity. Food insecurity and hunger remain pervasive in Nepal, not only in food deficit districts but also within marginalized communities in districts with surplus food production. Food and financial crisis is gradually increasing, chronic food insecurity since 1990 in Western hills (Adhikari and Bhole, 1999), and total number of food insecure people are 6.9 million (OCHA, 2008) (Table 3). Most of these people live in the Mid and Far West, many live scattered in small, isolated communities making food assistance interventions difficult. Low food and livestock production, economic recession, price hiking, unemployment and decreased remittance and income, conflict, low development indicators and recurring natural disasters have further exacerbated precarious food security. Feudalism and labor arrangement system are also the reason for food insecurity. Consequences of food insecurity are that poor have already exhausted their saving to buy food, sold the property and increased school dropout. There is a correlation between areas of high poverty and high malnutrition and areas of most impacted by conflict, and those areas of food insecurity and conflict affected fall into the Far and Mid Western hill, and smaller number in Central and Eastern hills (WFP and OCHA, 2007). Nationally, 47 % of the land owning HHs owned only 15 % of the land with an average size of less than 0.5 ha, whereas the top 5 % owned nearly 37 % of land. Most Dalits are landless. A recent rough estimate by WFP stated that the minimum amount of land required for HHs self-sufficiency is approximately 0.54 ha (OCHA, 2008).

Table 2: Scenarios of Food Insecurity

Description	Situation
People need of immediate food assistance	2.5 million
People at risk becoming food insecure due to rising food prices	4.4 million
Average HHs income spent on food (extreme poor in rural areas)	59 % (78%)
Food price increase in last 12 months	30-60 %
Districts food-deficient in 2007 (based on local production)	42 (out of 75)
Estimated (rough) minimum amount of land needed for food self-sufficiency for mountain, hills and Terai	0.64ha, 0.55ha, and 0.45ha
Estimated number of HHs with less than 0.5 ha Mountains (Hills/Terai)	47 % (49.2% / 41.3%)
Land owned by top 5% of landowners	37%
Landless population	24.4 %
WFP's operational cost increase in recent months	26%
NFC's procurement prices increase in recent months	25%

Source: OCHA, 2008

Government of Nepal is attaching a high priority to the improvement of food security and nutrition, including food security monitoring and early warning. However, central issues such as unequal access to food, basic services, economic opportunities and perceived inability of poor, marginalized groups are still remaining unaddressed. The Nepal Government acknowledged the difficulties, in that "adequate attention is not paid to food security at the national level" and that food distribution in areas not connected to road transport is unreliable due to high transportation costs. In addition, the Government found that "in the supply

programs, the public sector has failed to reach the target groups like, women, Dalit, Madhesi, etc. as these groups have not been properly identified for support through the supply system." Food aid and the NFC's distribution of subsidized rice have also been affected by rising prices.

Vulnerability to food insecurity is also on the rise because of climate change. Climate change is making more and more areas (particularly low lying areas) disaster prone, just at a time when population growth is forcing, affecting biodiversity and health, change in monsoon (intensity, onset and retreat), change in hydrological cycle to increase in seasonal flooding, flash floods, erosion and drought. Estimates by the MoAC (2007) show that the average annual per capita food deficits are 37 kg in the Mountains and 23 kg in the Hills and surplus of 24 kg in Terai, but in aggregate the country remains in deficit (FAO and SAARC, 2008). Trend of food production is given in Table 3.

Table 3: Food Production Scenario for 2001-2008

Fiscal Year	Population (million)	Edible production ('000 MT)	Requirement ('000 MT)	Balance (+) / deficit (-) ('000 MT)
2001/02 (10th plan base year)	23.4	4543	4463	80
2002/03	23.9	4641	4565	75
2003/04	24.5	4884	4671	213
2004/05	24.9	4942	4780	163
2005/06	25.6	4869	4891	-21
2006/07	26.4	4815	4995	-180
2007/08	27.1	5195	5173	22

Source: Chapagain and Thapa, 2009

2.2.1 Food Availability

Availability is affected by insufficient agricultural productivity, inadequate rural infrastructure, and seasonal food shortages. In aggregate and percentage terms, the deficit is usually 3-5% of total utilization in cereal equivalent. Situation of food availability and access are very unevenly distributed over the country, and areas with the lowest production and greatest deficit per capita also tend to be the ones with low incomes, highest rates of poverty and malnutrition, and they are often the most remote and inaccessible. Since 1990, at national level, overall food production is deficit and Nepal has been a net cereal importer for most years during the last two decades (FAO, 2008). During the mid 1990's Nepal has national food deficit of 14.3% however this varied greatly by region with a 79% in the mountains and a 36% in the Hills, with the Terai region being the only area to produce a surplus, 7 % (Gill, et al, 2003). The 1995-97 periods saw a dramatic increase in food insecurity and deprivation up to 26 % of the

Box 2: Food deficit for 2009

Crop	Deficit (Mt)
Paddy	150,000
Wheat and barley	130,000
Maize	120,000
Total	**400,000**

Source: WFP Food security bulletin -24, August 2009

population, with a wide geographic distribution, potentially related to political turmoil (FAO, 2003). An estimate by MoAC indicates a food grain shortage of 400, 000 Mt for 2009 (Box 2). This year, 2009, rice production has been decreased by 20 % in eastern region (Kantipur daily news, 28 November 2009). Famine has heavily affected in the country, one case study, impact of famine, of Chitwan is given in Box 3. Poor (45 %) and very poor (60 %) have food insufficiency for six months or more (WFP & NDRI, 2008). Dalit were worst affected and most critical months for food insecurity are March, April, July, August and September (50 % food insecurity in July - September) (WFP Food Security Bulletin – 21, 2008 November) due to severe flood, road obstruction, rise in food prices, and decreased production. In general, food security situation will be high in November – December due to harvesting of the paddy crops. Total cultivated agricultural land is 21 % of total land (3.09 million ha) and year round irrigation is 38 % (62 % rain fed) and cropping intensity is 1.8. Agriculture production is generally poor in the hills and mountain of the Mid and Far Western region of Nepal.

Box 3: Famine invites suicide

In Siddi - 8, Chitwan, one suicide case was happened as a result of famine and food crisis in 2008. So many agitations, riots, demonstration, etc have been observed frequently in Mid and Far Western region while due to unfair distribution of food by NFC. Because people have to walk 1 – 2 to reach district head quarter to buy food (average 5 kg/family), but frequently rice finishes after distributing to few persons. As a protest of such cases, heavy demonstration was outbreak on 22 November 2009 in district head quarter of Bajura.

Source: Kantipur daily, 15 November 2009 (for suicide) and FM news on 23 November 2009

The Hill and Mountain regions are particularly food deficit and more vulnerable to drought (Table 4). The low production is largely due to the predominance of rain fed agriculture, traditional farming practices, limited agri-input, inadequate technical advice for farmers due to poor extension services, poverty and limited availability of credit, and frequent droughts and floods. In addition, the conflict has reduced farmers' access to production inputs and markets and reduced the motivation of farmers, producers and traders to expand their activities. The lack of growth in crop production greatly limits the potential for crop diversification which leads to nutritionally unbalanced and poorly diversified HH food consumption patterns. Only around 40 % of rural households produce enough food to meet their year round needs. A 3.4 million land holdings produce barely enough food to meet six months of household food needs. Average farm size is less than 0.8 ha and the parcels are scattered rendering difficulty for commercialization and management care. Reduction in % of agricultural household from 83 % (1995) to 78 % (2003/04) and significantly in average size of land holding (CBS 2004). Of the hill Dalits, 44.6 % are marginal farmers (with 0.18 to 0.40 ha farm size) and 44 % of the Terai Dalits are landless and among religious groups, 40.4 % of Muslims are landless.

Table 4: Estimated Ecological Food Security Situation For 2008/2009

Ecological Belt	Net Edible Production (mt.)	Requirement (mt.)	Balance (+)/ deficit (-) (mt.)
Eastern region			
Mountain	112576	83821	28755
Hills	435142	370601	64541
Terai	810076	709845	100231
Sub Total	**1357794**	**1164267**	**193527**
Central region			
Mountain	112321	120727	-8406
Hills	510460	896964	-386504
Terai	887438	874908	12531
Sub Total	**1510219**	**1892599**	**-382379**
Western region			
Mountain	2178	5848	-3670
Hills	762084	630208	131876
Terai	503903	394801	109103
Sub Total	**1268165**	**1030857**	**237309**
Mid-western			
Mountain	31647	67783	-36136
Hills	294189	344058	-49869
Terai	331535	277899	53636
Sub Total	**657371**	**689740**	**-32369**
Far-western region			
Mountain	37788	87522	-49734
Hills	78880	184535	-105655
Terai	250183	243796	6387
Sub Total	**366851**	**515853**	**-149002**
Country			
Mountain	296510	365701	-69191
Hills	2080755	2426366	-345611
Terai	2783135	2501249	281888
Country Total	5160400	5293316	-132914

Source: MoAC

The agricultural growth is weak in Nepal compared to other countries in Central Asia, and in recent years, the rate has slowed (MoAC, WFP and FAO, 2009), for example between 1961-63 and 1997- 99 paddy yields in Nepal grew at an annual average rate of 0.6 % compared to 1.41% and 1.43 % in Bangladesh and India respectively (FAO and SAARC, 2008). The share

of agriculture in total GDP fell by only 5 % over a period of about 15 years, from 44 % in 1990-92 to 39 % in 2003-05 (FAO and WFP, 2007). The average growth rate of agricultural GDP during the 2000/01 to 2005/06 was 2.8 %, only slightly above the population growth rate (2.25 %). According to a detail report on agriculture policy and strategies for poverty alleviation and food security, agriculture poor performance reflects two closely related problems (FAO and UNDP, 2003). First, little arable land that is not presently farmed, so any expansion of cultivated area is either at the expense of forests, or onto low potential marginal lands, in addition to severe soil erosion, the result is shrinking average farm size and increasing fragmentation, leading to growing poverty.

Livestock contributes about 30 % to agricultural GDP and projected to rise to 45 % by 2015. According to NLSS (2004), livestock accounts for about 20 % of total agricultural income, after crops (50 %). It is also a major household asset used to mitigate short-term shocks. Income from livestock production grew by 2.4 % per year on average between 1996 and 2004 (FAO, 2008).

2.2.2 Food Access

Physical and financial causes affect food access and it is restricted due to scarce non-agricultural income possibilities, limited access to productive resources, lack of functioning services and substandard managerial and organizational capacity. This is a measure of a household's entitlement to food. Report released by WFP notes both supply reduction and sharp price increases for basic foods and related commodities. For example, that in the six months to April 2008, supply of coarse rice fell by 30 %, while its price rose by the same proportion; supply of cooking oil fell by 20 % and its price rose by 23 %. Such developments have led to people buying smaller quantities and cheaper food items and buying more on credit, reduced food intake, particularly by groups defined as poor and extreme poor (WFP and NDRI 2008). This is due to problem of **e**conomic access (income, price of agri-input and food, food production, government policies, trade agreements and disaster) and physical access (access to road and market and barrier to them). A 2008 WFP’s study shows that 75 % of surveyed HHs did not have sufficient access to food, and more than 95 % of very poor HHs had insufficient access to food.

2.2.3 Food Utilization

Proper food utilization requires proper food handling, adequate education on health and nutrition, child care, hygiene and sanitation, health care, etc. A total of 55% to 85% of drinking water sources are micro-biologically contaminated (OCHA, 2008). It is primarily hampered by the high prevalence of seasonal (anaemia, diarrhoea, ARI, malaria) and poor quantity, quality and variety of the diet, especially for children. A number of issues are emerging on the food utilization, particularly that of HIV/AIDS that affects the body's ability to utilize food. It has two facets (FAO & SAARC, 2008), one, food handling, which is important

because it can affect both food safety (poor methods of storing and handling of food can result in contamination or infection) and nutritional value (over cooking, exposed to light, inappropriately washing, trimming, etc.) resulting to loss of quality and quantity. Second, biological utilization, determines by a wide range of factors, such as dietary balance (without which some nutrients can be wasted) and state of health (diarrhoeal disease, parasite infestation).

2.2.4 Stability/Vulnerability to Food

HHs and individuals must have access to food at all times, either fresh or processed. However, sometimes they can be affected by external shocks (droughts, floods, conflict, poor political and economic governance and climatic crisis or seasonal food insecurity) and internal shocks (loss of income, illness). Vulnerability to food insecurity can be either chronic or transient (FAO & SAARC, 2008). There are four basic reasons why people can be vulnerable to chronic food insecurity (Swindale, 2004):

- Physiological vulnerability to malnutrition - affects certain age groups (children and elderly), pregnant and lactating mother and sick and convalescent individuals;
- Economic vulnerability - affects poor areas, groups, HHs or individuals, by facing livelihood threat or loss, high dependency ratio, lost productive members and living in environmentally marginal regions;
- Social vulnerability - affects unsupported old people, widows, orphans, minor and physically challenged people, socially excluded, female headed households, chronically ill, HIV/AIDS affected; etc. and
- Political vulnerability - affects refugees, internally displaced persons, communities exposed to violence or conflict or discrimination on religion, ethnicity and caste.

Box 4: Malnutrition indicators

Stunting - stunting or height-for-age of children below five year age, is a measure of chronic malnutrition. Stunting develops over a period of time as a result of inadequate nutrition, repeated infections or both. **Wasti** - wasting or weight-for height for children under five year age, is a measurement of acute malnutrition. It is a result of recent rapid weight loss or a failure to gain weight, due to insufficient food intake, infection or both. **Underweight -** underweight or weight-for age, reflects chronic malnutrition for children under five year age. This measurement attempts to capture wasting and stunting in a single measurement of malnutrition.

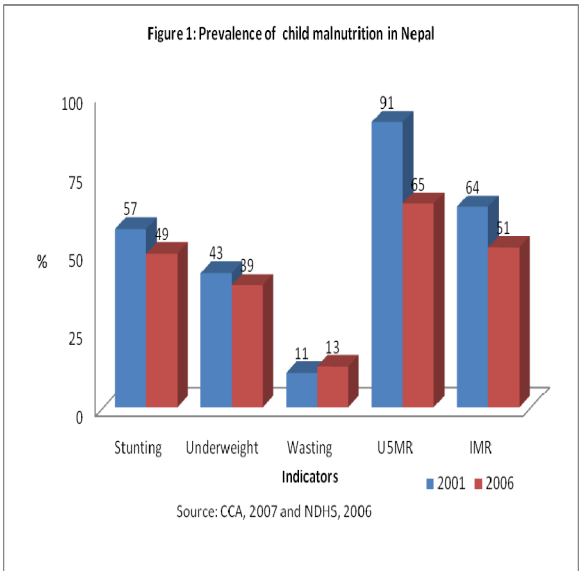
2.3 Nutritional Situation

2.3.1 Nutrition Status

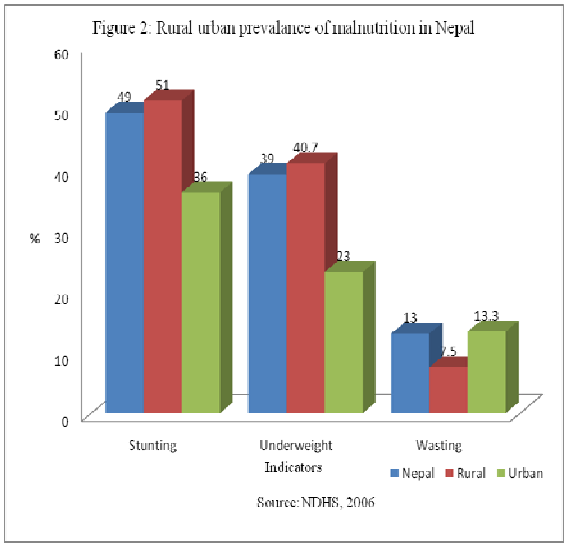
The nutritional status of young children and women of reproductive age reflects household, community, and national development. Nutrition status of the population reflects history to date, future potential and health status. Malnutrition impairs an individual's ability to function resulting in poor work performance, reduced learning capacity and inadequately developed

life skills thereby negatively affecting the quality of life and the socio-economic development of the country.

Malnutrition in Nepal is among the highest in the world (CBS, WFP and WB**,** a?), and Nepal ranks 3rd in terms of poor nutrition among the 12 countries of South Asia (WHO, 1988-2004 and NNSP and MOHP, 2004). Globally, malnutrition contributes to around half of all child deaths and 56 % in Nepal, and mmalnutrition is associated with many of the risk factors for maternal death (STHP, 1997-2017). According to NDHS (2006), most common forms of malnutrition are protein energy malnutrition (PEM), iodine deficiency disorders (IDD), vitamin A deficiency (VAD), and iron deficiency anemia (IDA) (GON, New ERA et.al, 2006). Major six nutritional issues in Nepal include high prevalence of low birth weight, childhood undernutrition, chronic energy deficiency in mothers, vitamin A deficiency, iodine deficiency disorders, and iron deficiency anaemia (Pokharel, et.al. 2009). There are different indicators (Box 4) of malnutrition and varieties of cause, and not evenly spread throughout the country. Besides poverty and ability of HHs to access sufficient food, many other factors determine the nutritional status of a child.



In Nepal, 49.3 % are stunting (20 % are severely stunted), 12.6 % are wasting (3 % are severely wasted) and 38.6 % are underweight (11 % are severely underweight and 24 % of women are underweight (GON, New ERA, et.al, 2007). Wasting in Nepal is on the border of emergency thresholds (WHO Emergency thresholds is 15 %). Nutritional status is improving except wasting (Figure 1). The rate for rural malnutrition is much greater than urban (Figure 2). Similarly, prevalence rates for all indicators are higher in the mountains than in the hills and the Terai (Table 5 - 7). Malnutrition situation is double in Mountain and Hills of Far and Mid Western region and 48 % - 75 % of local population have been affected from malnutrition. Up to 30% of people living in Hill and Mountain areas of Far- and Mid-Western region have an estimated daily energy intake of less than 1,600 kilocalories (OCHA, 2008). According to NDHs 2006, prevalence of diarrhoea in under-fives was 11.9 % (20 % in 2001) and ARI 5.3 % (22.8 % in 2001) (UNICEF, 2009). According to WFP CFSVA (September 2007), more than half of rural community do not have access to health facilities,



66 % of HHs does not have toilet facility, 44 % of rural HHs use public tap as a source of water, and main source of water for 11 % HHs is unsafe well and river/stream, and cause of high mortality rate among underweight children is lack of safe drinking water and toilet facilities.

Table 5: Ecological Prevalence of Anemia (Hemoglobin Level) in Children (% of 6-59 Months Children)

Ecological Zone	Mild (10.0–10.9 g/dl)	Moderate (7.0 –9.9 g/dl)	Severe (<7.0 g/dl)	Any Anemia (<11.0 g/dl)
Mountain	23.0	21.3	0.9	45.2
Hill	22.6	14.0	0.3	36.9
Terai	29.5	28.2	0.9	58.5

Source: NDHS 2006

Table 6: Ecological Prevalence of Anemia (Hemoglobin Level) in Women (% of 15-49 Years Women)

Ecological Zone	Mild Not Pregnant - 10.0–11.9 g/dl) Pregnant - 10.0–10.9 g/dl)	Moderate Not Preg. - 7.0- 7.9 g/dl) Pregnant - 7.0- 7.9 g/dl)	Severe Not Preg < 7.0 g/dl Pregnant -< 7.0 g/dl)	Any anemia Not Preg < 12.0 g/dl Pregnant < 11.0 g/dl
Mountain	17.0	3.9	0.5	21.5
Hill	16.6	3.9	0.2	20.7
Terai	42.1	8.7	0.6	51.4

Source: NDHS 2006

Table 7: Ecological Zone Wise Nutritional Status of Children (Under Five Years)

Ecological zone	Stunting (ht for age) % below -2SD[2]	Wasting (wt for ht) % below -2SD	Underweight (wt for age) % below -2SD
Mountain	62.3	9.4	42.4
Hill	50.3	8.4	33.2
Terai	46.3	16.6	42.3

Source: NDHS 2006

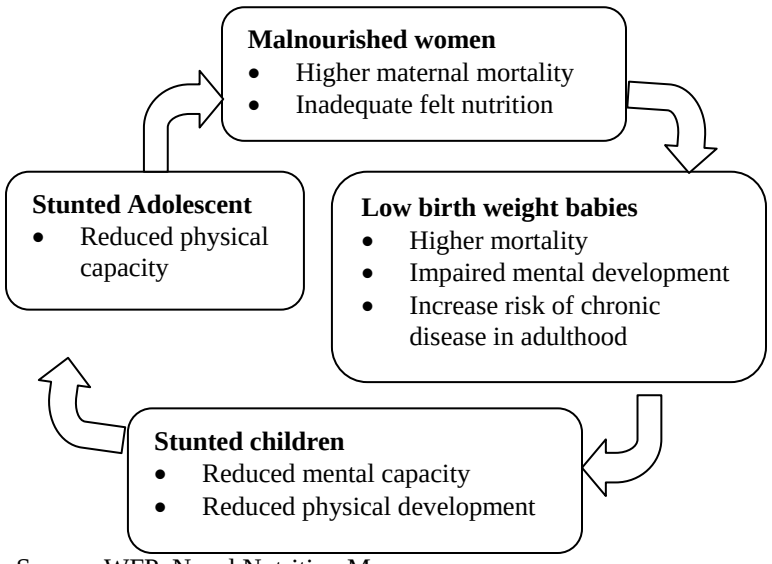
Wide disparities in health outcome indicators across different caste, ethnic groups and gender (Annex 2), girls have higher under five mortality rate (U5MR) than boys. Access to health care, along with the nutritional status of children, tends to worsen among the excluded groups, resulting into their low human development (UNDP, 2009a). Overall, children and women are most vulnerable to malnutrition and hunger especially in poorest because of low dietary intake, infectious diseases, lack of appropriate health care, and inequitable

[2] Includes children who are below -3 standard deviation (SD) from the International Reference Population median

distribution of food within the household and they have much less access to farmland, work opportunities, productive assets, clean water, health services and education. Women's low socio-cultural status has further aggravated malnutrition.

Intergenerational cycle of malnutrition (Box 5) puts a heavy burden on the society as a whole and restraining the country in achieving its growth potential.

Box 5: Intergeneration cycle of malnutrition



Source: WFP, Nepal Nutrition Maps

2.3.2 Breastfeeding

In Nepal, 98 % of children having breastfed at some time. The % of children receiving solid or semisolid food increases gradually by age. At 6-7 months of age, about 60 % children are consuming solid or semisolid food and about 75 % of children ages 4-5 months have started consuming solid or semisolid food. The early introduction of water and foods increases the risk of infections, and thus contributes to malnutrition. WHO recommends the introduction of solid food to infants around the age of 6 months.

2.3.3 Micronutrient Deficiencies

Micronutrient deficiency has serious consequences for childhood morbidity and mortality. This is result of inadequate intake of micronutrient rich foods and inadequate utilization of available micronutrients in the diet as a result of infections, parasitic infestations, and other factors. Poor maternal nutrition, anemia and other micronutrient deficiencies, tobacco use among women and passive smoking all contribute to poor maternal health, obstetric problems and poor pregnancy outcomes. According to 1998 Nepal Micronutrient Status Survey, the overall prevalence of sub-clinical VAD is 17 % for women and 32 % for preschool children. The urban-rural difference in vitamin A intake is marked, with rural children much more likely to receive vitamin A supplements than children in urban areas (89 % versus 81 %). Children residing in the Central Mountain are least likely (72 %) to receive vitamin A supplements compared with children in the other sub regions. Iron deficiency anemia is one of the most common nutritional problems in Nepal; 48 % children age 6-59 months are anemic (mild- 26 %, moderate - 22 % and severe - less than 1 %), and 36 % of women age 15-49 are anemic (mild - 29 %, moderate - 6 % and severe - less than 1 %). Women residing in the Terai are much more anemic than women living in the other ecological zones (high in Far Western Terai followed by Mid Western Terai).

2.3.4 Food Habit

Diets are varied, typically high in carbohydrate and low in protein, fat and micronutrient. As a result of culture, women usually receive less quantity and quality food, even leftover food. The prevalence of caste system and social hierarchy are more vulnerable to shocks, crisis and food insecurity. The 16 % of rural HHs have very poor (and 11% have poor) food consumption patterns and consume maize on a daily basis, complemented by rice, barley and tubers, depending on the season (OCHA, 2008). A 2005 nationwide survey found that 30 % of rural sample population consumed a nutrition poor homogenous diet that exposes them to an increased risk of food insecurity.

Intra-household food distribution discriminate against women and girls, this pattern is reflected in general with Terai women being the most likely to have inadequate diets. Women in the Terai have been found to have the highest incidence of low body mass index (BMI) at 40%, almost twice the level of women in the hills (22%). This is partly due to cultural practices that restrict their access to a balanced and adequate diet, particularly around pregnancy (UNCT, 2007).

2.3.5 Root Causes of Malnutrition in Nepal

The root causes of malnutrition are poverty, inadequate food intake, heavy disease, recurring food shortages, limited efforts made to address malnutrition and widespread misconception that malnutrition is only a food issue, in fact, malnutrition is a complex multidimensional problem needing a multisectoral approach (UNCT, 2007). The underlying causes are illnesses, poor dietary intake, lack of sanitation and hygiene, lack of mothers' education, lack of awareness, lack of appropriate education, cultural practices and taboos, women's low social status, poor transport linkages and low levels of agricultural technology, lack of political will to improve the situation and inadequate complementary feeding. They also tend to be greatly indebted, purchase food on credit with high frequency, have children who are severely underweight or stunted, lack sanitation facilities and live in food deficit areas. These problems are due to inappropriate feeding practices, inadequate access to food, inadequate maternal and child care, inadequate health care, and poor hygiene and sanitation practices (Box 6). Similarly, political instability, frequent transfer of health managers, poor accountability of service providers, poor health status of many mothers, lack of community participation in the management of health facilities and harmful socio-cultural practices and behavior. Interventions have so far not been implemented on a sufficient scale to have a large impact on infant mortality, and it is

Box 6: Causes of Child malnutrition

Malnutrition is determined by a set of factors at several levels other than sufficient access to food. The **immediate cause**s of child malnutrition are poor diet and infections, and the interaction of the two. These immediate causes in turn are determined by the **underlying factors**, which can be classified into household food security, care and the health environment. At the root of the problem are the **basic causes**, such as power relationship and socio-economic conditions that are not specific to nutrition but can have powerful impacts.

Source: UNICEF, 1998

particularly difficult to reach the poorest (UNCT, 2007). The poor nutrition of women has an inter-generational effect, with small women having small babies who are likely to remain stunted as they grow up.

2.3.6 Reason for Food Insecurity

Main reasons for food insecurity are categorised according to four pillars and detail is given in annex 3:

Availability

- Low agricultural production and productivity and hhigh population growth
- Small land holding
- Feudalism and labour management
- Misuse of food commodities
- Dependency syndrome on food aid.

Access

- Unequal food distribution
- Lack of road network and market in remote area
- Lack of emergency backup services
- Poor purchasing capacity of people
- Social and geographical disparities and exclusion.

Utilization

- Lack of awareness on nutrition and food habit
- High levels of malnutrition
- Poor basic services
- High disease incidence.

Stability/Vulnerability to Food

- Low income
- Frequent disaster
- Social conflict
- Poor political and economic governance and other
- No functioning of traditional/indigenous community food safety net.

2.3.7 Coping Mechanism

The hungry poor are especially vulnerable and at high-risk of food insecurity due to their limited ability to hedge against shocks such as droughts, floods and prolonged illness, big family size, and the lack of easy access to credit at reasonable terms. Common coping strategies are migration - earlier or longer-, going abroad, selling of assets, borrowing, buying smaller quantities and cheaper food items, eating less or skipping meals or eating poor quality of foods, taking children out from schools and engaged in cheap wage labor, remittance, labor, etc. Food insecurity is the main reason for migration. In very difficult situations, people have to rely on food aid. In recent years, food aid has been used to address the issue of food access, through specially targeted programmes such as infrastructure development, food for education and health. HHs those are likely to be the most food insecure tends to engage in livelihood activities such as petty trade (15% of HHs), unskilled wage labour (17%), natural resources exploitation and handicrafts (15%) and farming (13%).

Food inadequacy is the highest in the Eastern region (47 %) and the lowest in the Central region (22 %) and it is higher in rural areas than in urban areas (34 % versus 17%). WFP estimates that the recent and ongoing food price increases could potentially raise poverty incidence to 50 %. More than 90 % of HHs external shocks (drought, hailstorms, floods, landslides, employment disruption/strikes, etc.) immediately result in HHs food shortages. In Mountain, Hill and Terai regions, 80 %, 75 % and 60 % of HHs borrowed money at least monthly in the first quarter of the year respectively. According to HHs data of the Nepal Food Security Monitoring System, averages HHs were being charged 14 % interest on loans (MoAC, WFP and FAO, 2009).

III. LEGAL PROVISION FOR FOOD SECURITY AND NUTRITION

According to international law, every human being has rights to be freed from hunger and rights to have safe and nutritious food. Universal declaration on human rights, Conventions on Child Rights and other international legal documents have ensured the rights of food. Nepal does not have a comprehensive food security policy addressing the different dimensions of food security; however, food security and nutrition have been included in different policy document.

3.1 Nepal Interim Constitution (2007)

The interim constitution has recognized food sovereignty as the fundamental human right and guaranteed some important rights which are relevant to ensure the legal entitlement on the food security. It guarantees the right to life (art. 12.1) and rights to employment and social security (article 16). For the first time in Nepal, constitution also guarantees the right to food sovereignty (art. 18.3). Provision of rights of food security for all citizens has been ensured

through the article 16 and 33. Similarly, through article 35, provision to improve the food security situation of marginalised community has been ensured. However, these rights are subject to implementing legislation, unfortunately, such specific laws are not yet made. Recently, in a case, interpreting this right, Supreme Court of Nepal issued an interim order to the GON to immediately supply food stuff in food insecure districts (Adhikari, 2009).

3.2 Three Year Interim Plan (TYIP - 2007 -2010)

Government has approved food security plan as part of TYIP with a vision of safeguarding the right to sustainable food security for all. Plan ensured that food availability is to be met through a policy of food self-sufficiency, which in turn is to be achieved by increasing agricultural productivity via improved research and extension support. Agricultural production is expected to grow by 4.5 % per annum by the end of plan. Production of high value commodities based on comparative and competitive advantage, and provision of additional transport and market infrastructure is meant to help to improve the well being of farmers, especially of those living in the Hills. In addition, there is a separate chapter on Food Security, which indicates the high importance given to food security, focusing to:

- Increase agriculture production and productivity,
- Ensure food security,
- Make the agriculture sector competitive by transforming subsistence agriculture into a commercial one,
- Increase employment opportunities for rural youth, women, Madhesis, persons with disability, Muslims and deprived group, and
- Conserve, promote and use agriculture biodiversity through the development and dissemination of environment friendly technologies.

3.3 Agricultural Development Policies

Government has developed different policy to achieve food security and some of them are:

- Agriculture Perspective Plan (1995-2015)
- Implementation of APP Support Programme (2003-2008)
- National Agriculture Policy (2004)
- National Water Plan (2005)
- Forestry Master Plan
- National Transport Master Plan
- Agribusiness Promotion Policy (2006)
- Milk Development Policy (2007)
- Agriculture Biodiversity Policy (2007)

3.3.1 Agriculture Perspective Plan (APP - 1995 – 2015)

APP is a visionary document for overall economic growth and poverty reduction. Government incorporated APP in all subsequent strategy, planning and policy documents and adopted several important reforms in the agricultural sector. The strategy is to achieve broad based economic development and poverty reduction through accelerated growth of agriculture and non-agriculture sector through multiplier effects. APP identified four priority inputs and four outputs. Multi agency coordination and prioritized productivity package strategy is the key for successful implementation. Furthermore, Agriculture Perspective Plan Support Programme (APPSP) was implemented (2002 – 2009), with funding support from DFID, it shows government is committed for agricultural growth and donors are supporting to government.

Objective - five interrelated objectives as below:

1. Accelerate agricultural growth rate through increased factor of productivity,
2. Poverty reduction through growth and expansion in employment opportunities,
3. Transformation of agriculture from subsistence to commercial one through diversification and realization of comparative advantage,
4. Fulfilment of preconditions of agricultural development, and
5. Identify short, medium and long-term strategies, implement and prepare future periodic plans and programs based on guidelines developed.

Strategies – six as follows:

1. Technology based green revolution acts as initial engine of growth,
2. High growth in agriculture creates demand pull for both high value agriculture, and non-agriculture products with large multiplier effects,
3. Societal equity objective is achieved by employment creation with growth,
4. Few but critical priorities get investment with public policy support,
5. Terai, hills and mountains deserve differentiated but balanced strategies with package approach to development, and
6. Holistically, the strategy is regionally balanced and participation of women is ensured.

Priority Inputs - four as under, and different strategy for Terai (focus on agriculture crops) and mountains and hills (high value crops and livestock husbandry).

1. Green revolution agriculture technology with research and extension focus,
2. Chemical fertilizer in combination with organic manure,
3. Year-round irrigation with emphasis on shallow tube wells in the Terai plain, and
4. Farm to market agriculture road and electricity to run tube wells in the Terai.

Priority outputs - four as below:

1. Livestock,
2. High value crops,
3. Agribusiness, and
4. Forestry.

3.3.2 The National Agricultural Policy (2004)

It aims to ensure food and nutrition security, added new food access provisions for vulnerable groups, which are much more radical than those of the APP (FAO & SAARC, 2008). Provision of free inputs, technical support, lease hold land and irrigation facilities for the landless and farmers with less than half a hectare of land. Provision of low price shops, food coupons and food credit cards in food insecure regions. Provision of guaranteed employment (at least 100 day/family/years) to every family in food insecure areas, together with and access of poor people to agricultural land, forest and other resources are expected to increase their access to food. Policy focused on improvement in production and income generation avenues and local participation will be ensured for transportation, storage and distribution. Purchasing of locally available foods from local market will be promoted (MoAC, 2065).

Specific objectives are:

- Increase production and productivity of agriculture and livestock,
- Ensure food and nutrition security,
- Enhance competitiveness of agriculture and livestock products through development of basis for commercialization and competitiveness of farming system and developing subsistence agriculture and livestock to commercial,
- Increase employment opportunities for rural youth, women and underprivileged groups, and
- Development and extension of environment friendly technology for protection, promotion and utilization of biodiversity.

3.4 Nutrition Policy and Strategy

Strategy argues that nutrition improvement should be at the centre of development plans and strategies, and nutritional wellbeing should be a key objective and indicator of human development. Initiatives have been underway for more than three decades and some of the important policies on nutrition development are:

- National Nutrition Strategy (1978),
- National Nutrition Strategy for Nepal (1986)

- Nepal National Nutrition Plan of Action (1998)
- Health Sector Strategy (2004)
- National Nutrition Policy and Strategy (2004 -05)
- Food and nutrition security plan (2007)
- National Plan for Action on Nutrition (2007)
- National Strategy for Infant and Young Child Feeding (2006 -07)

3.5 Health Sector Strategy (2004)

Actions in the health sector for improving nutrition programmes include supplementation, fortification, education and rehabilitation. Focus is given to under five year old children and pregnant and lactating mother and to control specific vitamin and mineral deficiencies largely through health centre activities. It is recognized that inter disciplinary actions as well as community participation and involvement are needed to improve dietary habit, household food security and school health and nutrition. In addition, nutrition problems in exceptionally difficult circumstances such as food shortages in crisis situations including natural or human induced disasters and breastfeeding by HIV positive mothers requires special attention. Monitoring and evaluation is given prominence with call to:

- Strengthen existing institutional capacities- training, workshops,
- Improve coordination of data collection, analysis and reporting- committee, databanks, networks,
- Standardize tools for monitoring and evaluation of the nutrition situation-this could include not only anthropometry and dietary but inclusion of food consumption indicators such as household food insecurity index, dietary diversity score, and
- Implement national nutrition surveys.

3.6 Food and Nutrition Security Plan (2007)

Plan was issued with five main objectives:

1. Increase the country's self-reliance for basic foodstuffs,
2. Improve the overall nutritional situation,
3. Enhance standards and safety of foodstuffs which are available in markets,
4. Enhance capacity for managing food insecurity that arise from emergency conditions, and
5. Improve food access for food people and groups prone to food insecurity.

3.7 Disaster Risk Management Policy

Government has formulated and adopted Natural Calamity (Relief) Act 1982 (MoHA, 1982) focusing to relief. But this Act could not address the emerging challenges and issues of

disaster and development. According to the 1982 Act, there is provision of distribution of emergency relief materials like food, cooking utensil, shelter, medicine and other necessary material. Free treatment to the injured person and Rs 1000 as transportation support. Cash assistance of Rs 25,000 per families in case of deceased, Rs 10,000 for completely displaced and Rs 5000 per family as immediate relief to those who have lost house or land or food. Ministry of Home Affairs (MoHA) is National focal point for Disaster relief and District Administration Office is executing agency. Nepal Red Cross Society is active during the disaster rescue and relief activities.

Considering gaps in Natural Calamity (Relief) Act 1982, government has approved National Strategy for Disaster Risk Management (NSDRM) on 11 October 2009, on the occasion of United Nations International Strategy of Disaster Risk Reduction (ISDR) day (October 14 2009). New strategy has been crafted based on Hyogo Framework for Action (HFA). Structural arrangement has been changed with the provision of National Disaster Management Authority (NDMA) and provision of National Council for Disaster Management (NCDM) in the chairpersonship of Prime minister, which aims to mainstream disaster mitigation rather than existing relief and rescue focus. MOAC has been identified as national focal agency for food security and sectoral strategy for agriculture and food security is given in Annex 4. Main issues and gaps in Agriculture and Food security are:

- Disaster risk management is need to be integrated into the planning and programming initiatives in the agriculture sector,
- Lack of emergency assistance network both production and food supply, with poor seed storage and food storage facilities,
- Need to build up institutional mechanism within the MoAC to address the issues of disaster into sectoral plans and programmes; an emergency preparedness plan needs to be draw/updated for the sector,
- Lack of early warning system for flood and drought,
- Need to enhance DRM capacity among professional within the Agriculture sector in both government and private sectors,
- Awareness and necessary interventions for food security.

Main issues and gaps in Health and Nutrition sectors are:

- Despite the presence of an effective programme for health and nutritional surveillance and preparedness for response epidemics, the existing health infrastructures has not been used for delivery of preventive measures for other hazards,
- Health sector personnel, especially in remote areas and those outside the government system lack knowledge and awareness on DRM,

- The health sector emergency preparedness and response plan has not been implemented fully, the identified vulnerabilities in the major hospitals systems have not been addressed, and majorities of health facilities including the major hospitals have not prepared any emergency preparedness and response plan,
- There is no mechanism for networking and resource sharing among the hospitals even within the public hospitals of Kathmandu Valley.

IV. AGENCIES WORKING IN FOOD SECURITY AND NUTRITION

Government, UN agencies, donors, INGOs, NGOs, etc have been implementing various programs related to the food security and nutrition development (List of key agencies given in annex 5) and brief information of key organizations is presented below:

4.1 Ministry of Agriculture and Cooperatives (MoAC)

Focused on food production, most of the programs are extension (with very limited research), targeted to production increase, market access and technical support for the farmer. According to NSDRM 2009, this is focal ministry for food security (MoHA, 2009). Department of Food Technology and Quality (DFTQC) is dealing with standards and safety of food stuffs, sanitary and phytosanitary and assurance of quality control of foodstuffs.

4.2 Ministry of Local Development (MoLD)

Implements Nepal Food Crisis response program, funded by World Bank (WB), and Food for Work (FFW) programs, material support of WFP and technical support of GTZ, in food deficit districts with the objective of creating rural employment opportunities to the poor through the Rural Community Infrastructure Works (RCIW) Programme consisting of rural road construction and community based projects such as irrigation and soil conservation, school building and other support, health facilities improvement, income generation, etc. The program implements by District Development Committees (DDCs) and village development committees (VDCs) through user group.

4.3 Ministry of Education (MoE)

MoE implements Food for Education (FFE) program with material food support from WFP. It follows an objective of improving nutritional status of school children, school enrolment and attendance of children, particularly girls, by providing a mid-day meal and a take-home ration of oil for girl students. The program is implemented in food deficit districts. A separate program directorate has been established under MoE to implement, supervise and monitor the program.

4.4 Ministry of Health and Population (MoHP)

Department of Health implements Mother and Child Health Care (MCHC) programme with material support from WFP in collaboration with MoE. The programme aims to improve the health and nutritional status of pregnant and lactating mothers and children (6-36 months) by providing monthly take home ration (fortified nutritious food). Major nutrition interventions are:

- Growth monitoring – through health facilities,
- Distribution of vitamin A and deworming at national level - for 6 – 59 months old children twice a year through female community health volunteers (FCHV),
- Integrated management of childhood illness (IMCI)– distribution of ORS packets, and education on nutrition, pneumonia and diarrhoea through FCHV and GoN. It aims to cover 75 districts by 2011,
- Distribution of Iron tablet – for pregnant and postpartum mother through FCHV,
- Distribution of Vitamin A and Iron tablet – for postpartum mother through FCHV,
- Distribution of micronutrient powder (sprinklers) - distribution of micronutrient sachets containing 15 different types of micronutrient for children between 6 – 24 months and they have to consume 120 sachets in 6 months period. They are being used as a sprinklers in foods while eating,
- Celebration of breast feeding week – celebrating every year between 1-7 August

4.5 Nepal Food Corporation (NFC)

NFC is currently supplying subsidised food to 30 districts including 22 remote districts across the country (MoAC, WFP and FAO, 2009), where local production is deficit. It follows the Government's food policy with responsibility of collection, transportation, storage, sale and mobilization of food. It also handles food aid received by the country. NFC focuses on providing food to people living around district headquarters, and mostly to government employees. The conflict disrupted the food distribution system as the NFC's distribution depots outside of district headquarters were forced to close.

4.6 World Food Programme (WFP)

WFP works in partnership with MoLD, MoE, MoHP, UN agencies and NGOs through life cycle approach of distributing food from pregnancy stage to adult of women candidates. As of November 2009, WFP coverage is in 22 districts (personal interaction with WFP staff). All interventions are carried out in the food insecure areas identified by Vulnerability Assessment and Mapping (VAM) unit of WFP in close collaboration with the Government. User group will execute the works and social mobilization will be facilitated by NGOs.

Major activities: Currently following activities are being implemented through WFP:

- Food for work (FFW) - 22 district
- Cash for work – 6 districts
- Food for education (FFE) - 11 district
- Food for Bhutanese refugees
- Maternal and child health care (MCH) – nine district
- Girls incentive programme (GIP) - five district,
- Vulnerability assessing and mapping (VAM) - currently WFP is monitoring food security in 53 districts and produces different reports like food security bulletin (quarterly), market watch bulletin (monthly), assessment report (occasionally) and national assessment report. Currently, National Food security monitoring task force has been formed and member from national planning commission (NPC) is chair and different ministries are member. Information from this unit (VAM) could help to all stakeholders who are working on food security. Establishment of National level Food security monitoring and analysis system, in collaboration with government is under process and expected to establish in MoAC.

4.7 Other agencies

There are other agencies and some of them are as follows:

- ActionAid Nepal,
- Agro Enterprise Centre (AEC),
- DEPROSC,
- DFID,
- GTZ,
- Helen Keller International (HKI),
- OXFAM GB,
- SAPROSC,
- UNICEF,
- WHO

V. UNDAF, CCA AND MDG FOR NEPAL

5.1 United Nations Development Framework (UNDAF - 2008-12)

UNDAF outlined that targeted nutrition interventions will be delivered through effective local government and community structures. Aspects of nutrition, which relate to food insecurity and income generation interventions for people living with HIV/AIDS or for people most at risk to contract HIV are addressed under UNDAF outcome C, Sustainable Livelihoods. Targeted nutrition interventions covered under outcome B, quality basic services (UNCT, 2007a).

Country Programme Outcome	Country Programme
CP Outcome B.1: Socially excluded and economically marginalized groups including adolescents increasingly utilize and participate in the management of basic services including education and health services, and water and sanitation facilities.	**CP Output B.1.3:** Selected communities, particularly socially excluded and economically marginalized groups, will have enhanced knowledge, skills and resources for improved nutrition, home based health care and health seeking behavior.
CP Outcome C.2 Improved household food security for enhanced resilience to shocks.	**CP output C.2.2** Timely provision of food to targeted beneficiaries in crisis or post conflict transition situation or those vulnerable to potential shocks.
	CP output C.2.3 Capacity of rural households to increase their production, income and diversify their food consumption enhanced.

Source: UNDAF 2008 -2010

5.2 Common Country Assessment (CCA - 2007)

Although poverty level has dropped considerably and possibility to meet MDG 1, Target 1, poverty is still severe and widespread in many rural areas and amongst marginalised groups. Likely to reach the hunger target, MDG1, Target 2, with sustained efforts but 30 - 40 % people are still suffers from hunger. Major causes are unfavourable environment for domestic and foreign investment, and limited attention given to developing the agriculture sectors, which is the mainstay of most vulnerable people's livelihoods. High levels of malnutrition are due to inadequate food intake, heavy disease, recurring food shortages in several parts of country. Low levels of agricultural productivity and growing population have eroded the per capita availability of food. Women and children from poor families are most vulnerable to malnutrition, 6 – 24 months children are most vulnerable, and women and girls often receiving less nutritious food than men and boys. Similarly, U5MR, MDG 4, and tuberculosis, MDG 6, Target 8, are likely to be achieved. The maternal health, MDG 5, and malaria, MDG 6, Target 8, can also be met with sustained efforts and a positive environment. But unlikely to met HIV/AIDS goal, MDG 6, Target 7. The proportion of the population with sustainable access to improved drinking water facilities could well meet or surpass MDG 7, Target 10, provided the problem of poor maintenance can be effectively addressed, as the installation of improved water supply facilities has progressed rapidly. Poor and marginalized people have low levels of access to clean water and toilets because of caste and gender discrimination, lack of awareness and education, their lack of influence in local governance and insufficient resources. The key challenge is to ensure that poor, marginalized and internally displaced

people living on the urban fringes and in remote villages have access to an improved source of drinking water and build and use their own toilets.

The main challenges common to the entire health sector are to:

- Improve sustainable access to quality health services for all, including the poor, the excluded, people affected by the conflict and internally displaced persons with a focus on women;
- Increase the number, the skills and the motivation of health care personnel and provide them with adequate resources to carry out their jobs properly; and
- Provide adequate and affordable health commodities on time across the country.

Similarly, main challenges to reduce child deaths are:

- Improve sanitation, hygiene and access to clean drinking water;
- End the widespread malnutrition;
- Improve newborn care practices; and
- Overcome staff shortages in rural health facilities.

The main challenges for reducing maternal mortality are to:

- Provide skilled attendance at deliveries and emergency obstetric care for women who develop complications;
- Overcome HHs level factors that prevent access to maternal health care including harmful cultural practices and traditions that consider the birthing process to be ritually polluting;
- Overcome weak health system functioning;
- Improve access to family planning;
- Provide youth-friendly services; and
- Stop early marriage and improve health awareness.

5.3 Millennium Development Goal (MDG) Target versus Progress

If current progress is maintained, then Nepal will achieve the MDG target of halving the proportion of people whose income is less than one dollar a day (UNCT, 2007). Increased in nutritional status between 2001 and 2006 shows that MDG is likely to be reached, and the supportive environment is strong (UNICEF, 2009). The target of reducing the percentage of underweight and stunted children from around 60 % in 1990, to 30% by 2015, remains a big challenge. Situation of the health system is miserable, particularly in rural areas, which lack doctors, nurses, clinics and provision of basic health services. The deeply entrenched nature of social exclusion creates a difficult environment for the achievement of the MDGs. Strong

national political commitment and advocacy for effective reform strategies are required in order to address this and implement changes.

Table 8: MDG Target vs. Progress

Goal	Indicator	Baseline (1990)	Progress (2005)	2006	Target (2015)
1. Eradicate extreme poverty and hunger	% of population below $ 1/day (PPP value)	33.5	24.1	-	17
	% of population below national poverty line	42	31	-	21
	% of underweight children aged 6-59 months (> - 2 S.D.)	57	-	38.6	29
	% of stunted children aged 6-59 months (> - 2 S.D.)	60	-	49.3	30
2.Achieve universal primary education	Proportion of pupils that start grade 1 and reach 5	38	76	-	100
	Literacy rate of 15-24 years olds	49.6	73	-	100
3.Promote gender equality and empower women	Ration of literate women to men from 15-24 years old	0.48	0.73	-	1
4.Reduce child mortality	IMR	108	61	51	34
	U5MR	162	82	65	54
5. Improve maternal health	MM	515	-	280	134
6. Combat HIV/AIDs. Malaria and other diseases	% of HIV prevalence among 15-49 years of age	-	0.5	-	-

Source: Nepal MDG progress report 2005, NDHS, 2006 and CCA 2007

VI. ROLE OF WOMEN IN NUTRITION DEVELOPMENT

According to FAO, in developing country, 60 -80 % of total food production is contributed by women, and they have been engaged in subsistence farming (Kantipur, 2009). Capacity building of women in different sectors contributes to improve the livelihoods of the family, community and whole country. Almost 100 % women take responsibility for nurturing and care of children, and ideas, believe and practice change of women contributes a lot to improve nutritional status of children and women themselves.

VII. FOOD SAFETY NET

A variety of formal safety net programmes exist, like food for work, cash transfers and food subsidies but coverage is limited and confined mostly at the district headquarters, and are far from adequate to meet the food requirements of food insecure districts, particularly of those living in remote parts. However, there is no specific, strong, sustainable and notable food security related safety net targeting to the weaker section of the society to ensure the rights to food. Traditional safety net had helped poor in the past to secure food supply but now this system has almost eroded (Adhikari and Bhole, 1999). NFC rice is sold at subsidized rates,

these food prices may still be out of reach for many poor families and the rice quantities are generally insufficient to meet demand. Many of the safety net activities channelled through MoLD and Village Development Committees (VDCs) and Municipalities executes and they are:

- Old age citizens above 70 years of age –unconditional assistance of Rs. 500/ month;
- Single women including widow over 60 years;
- Old age Dalits over 60 years;
- Foods for work, food for education and food for pregnant and lactating mothers;
- Small scale irrigation special program (cooperative irrigation) - started with objective to increase agricultural productivity in partnership with farmers (15 % contribution from farmers groups);
- Seed and fertilizer transportation subsidy - to small scale farmer;
- Subsidised food supply - food transportation and distribution through NFC in targeted districts;
- Cheap price shops - Government owned corporations/cooperative shops runs cheap price shops;
- Emergency relief - emergency relief for disaster victim according to Natural Disaster Act 1982;
- Residents of Karnali Zone over 60 years;
- All citizen of ethnic minority with threat of extinction –ethnic minority, ethnic tribe listed in schedule 2 of Social Security Operation procedure 2008;
- Physically challenged persons - completely and partial disable persons receive Rs 1000 and Rs 300 per month respectively.

VIII. VULNERABILITY CONDITION

8.1 Post harvest losses

More food grains can be made available by reducing the loss in various post-harvest operations. Losses occur at two levels, farmer level and traders' level. About 60 - 70 % of production remains at farmers/labourers level, where larger part of losses occur (FAO, 1975). Amongst different losses, storage loss is high and it is high in Terai and low in Mountain. Difficult to generalize the extent of storage loss, because of various reason like storage practices, storage period, types of grains, climatic condition, geographical location, local customs, variation in processing loss due to method and efficiency of process and/or machine, capacity of human resources involved, etc. There are variations in loss reporting, 19 % (paddy) (APPROSC, 1982), farm level loss 10 % (HMG, 1978) and 8 - 9 % loss (Rural Save Grain Programme in Nepal) and storage loss of paddy is reported 15 - 30 % (Pfalser, 1972). Of the grains, losses due to insect are highest in wheat. Loss in traditional storage is reported between 10 - 30 % (Rana and KC, 1977). Loss varies according to food grains,

storage period and geography (Table 5). Improvement in traditional storage practices is necessary for several benefits like retain quality, minimize storage loss and generate employment. Adequate drying and satisfactory storage structure are important to control storage loss.

Table 9: Ecological Storage Loss[3] According to Storage Period (%)

Storage period	Mountain				Hill				Terai			
	Paddy	Wheat	Maize	Millet	Paddy	Wheat	Maize	Millet	Paddy	Wheat	Maize	Millet
I – 6 months	3.37	5.04	5.15	3.06	5.22	6.37	5.28	3.71	5.67	10.11	9.20	5.70
Over 6 months	4.03	9.80	9.25	5.23	5.34	8.73	8.27	8.58	7.25	16.79	10.40	4.90

Source: APPROSC, 1982

8.2 Irregular Supplies

Supply constraints can be caused by hampering transportation due to strikes or bandhas, lack of traders' access caused by natural disaster, seasonal stock reduction, or lack of traders' willingness to reach certain remote areas.

Due to fragile political situation and social unrest, supplies are very irregular. These have been further worsted by poor road and high price of commodities. Expenditures in food are high, national HHs income spent on food is 59 % and 73 % for the poorest quintile (Box 7). A 30-40 % increase on food expenditure is equal to total current expenditure for the poor and extreme poor.

Box 7: Expenditure of income on food

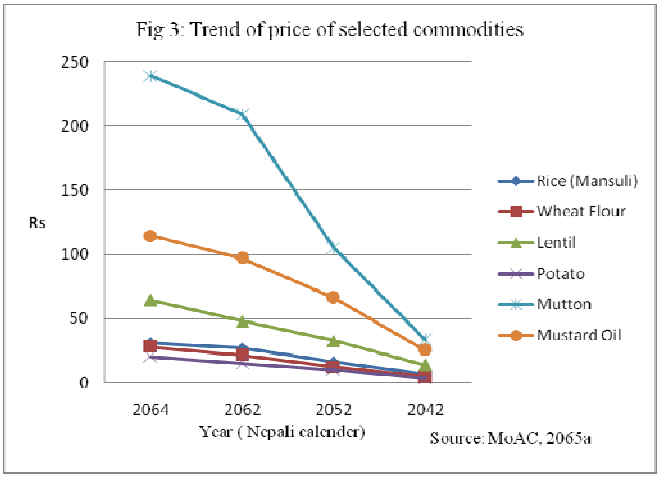
Region	%
Mountains	64.8
Hills	55.4
Terai	51.7
Poorest quintile	73
Second quintile	67
Nepal	59

Source: NLSS, 2004

8.3 Food Price and Market

In Nepal, agricultural markets system is defined by poor integration, frequent supply constraints, large price differences in rural districts and complete lack of private traders in some Mountain areas. This is generally related to poor transportation infrastructures, high transportation cost and political instability. These factors tend to exemplify the negative impacts on food security following periods of poor harvest.

Fig 3: Trend of price of selected commodities



Source: MoAC, 2065a

[3] All the losses are as perceived by the farmers.

Food prices have increased worldwide as a result of declining food stocks, changes in dietary habits, harsh weather conditions, rising fuel costs, depreciating US $ and market speculations. As a consequence several major exporting countries including China and India have banned the export of rice to food deficient countries like Nepal. The price of rice increased globally by 74 % from March 2007 to March 2008. Price of cooking oil and coarse rice has increased by 26 % and 19 % respectively in real prices between October 2007 and April 2008(OCHA, 2008). The price increases for coarse rice is highest in the Hills and Mountains with 29 % and 27 % respectively compared to Terai with 24 %. On an annual basis, the price of coarse rice has increased by 40 % in the period April 2007 to April 2008. Nepal experienced particularly steep food price inflation in 2007/08 as a result of global food crisis. (MoAC, WFP and FAO, 2009). Compared to November 2008, price of rice, mustard oil and lentil (musuro) increased by 19 %, 30 % and 37 % (MoAC, WFP and FAO, 2009). Price inflation (Figure 3) is very high and Karnali always win the record of high price (artificial) record (Box 8). Compared to Terai, price of rice is higher in Western, Eastern and Central Mountains (Figure 4). In March 2009, nearly 40 % of Mountain and Hill market had insufficient or depleted supply of coarse rice and across Nepal only 40 % of market had sufficient cooking fuel supply (MoAC, WFP and FAO, 2009).

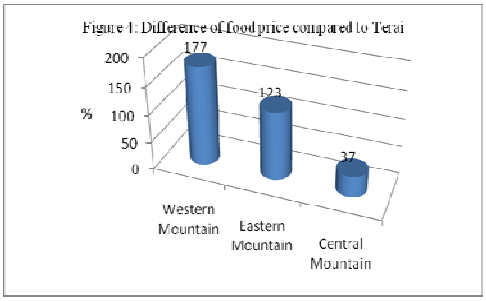
Box 8: Case of high food price in Karnali

Price is very high in Karnali compared to Nepalgunja, cooking oil Rs 100 vs 320, kerosene oil Rs 55 vs. 350, soap Rs. 6-12 vs. 30 -60. Air cargo per kg price is very high, Humla Rs 95, Dolpa Rs 75, Jumla Rs 65 and Mugu Rs 85, this is mainly due to syndicate system and compelled to deal through Cargo agencies. Airlines do not deal with business persons and general people.

Monopoly of private transportation (airlines) causes high price of food and other commodities in Karnali. Private airlines charges high transportation rate to WFP, and local business persons and Nepal Food Corporation could not transport items in times, resulting to food crisis. Local peoples are reluctant to high (artificial) transportation charge but effort went to vain.

Source: Kantipur daily, 15 December 2009

HHs in some of the worst affected districts, particularly in the Far and Mid Western Hills and Mountain areas, will not have sufficient purchasing power to procure sufficient food items or will not have access to adequately stocked market to meet their demand. High price (artificial) of food commodities and poor market functioning in food deficit remote areas is other challenged for poor people. Intra-household discrimination in food allocation is widespread and women and girls suffer most and various immediate impact of crop loss and high price. Ability to purchase food, especially for the poor, has become significantly more difficult since November 2008, due to sky rocketing food prices (Box 9). During the second half of 2008, it was even noticed that around 15 % HHs were enduring entire days without food (WFP, 2009a). The insurgency and social security has also reduced people's access to food over the last few years. Hunger crises pose a serious risk for peace and security from different dimensions.



8.4 Risk of Agriculture

Agriculture is subject to variety of risks arising from different factors such as rainfall aberrations, temperature fluctuations, hailstorms, cyclones, floods and climate change, which are presently exacerbated by price fluctuations, weak rural infrastructure, imperfect markets and lack of financial services including limited scope and design of risk mitigation instruments such as credit and insurance. Another kind of risk that farmers face is the periodic non-availability of quality inputs such as seeds, pesticides, fertilizers etc. Varieties of measures has to be adopt to manage agricultural risks and these would include new approaches to disaster risk management, surveillance and control of trans-boundary pests and diseases, awareness on climate change adaptation, and monitoring of climate change. Experience from other countries shows that effective food security monitoring and early warning requires a combination of coordinated actions (FAO, 2008) like: 1) comprehensive understanding of the policy framework for all interventions intended to improve food security and nutrition, 2) long-term and early warning mechanism for monitoring, analyzing, assessing, and decision making in relation to food security, nutrition and risk management; and 3) processes for designing, funding and delivering appropriate interventions in response to both imminent and existing disasters.

Box 9: Impact of crop loss and high food price

- 66 % of HHs experienced food shortages,
- 43 % of HHs are skipping or reducing meals,
- 30 % of HHs in Hill & Mountain districts impacted by drought were forced to consume seed stock,
- 73 % of HHs in Mountain districts impacted by drought had a family member out-migration.
- 23 % of HHs took children out of school to work.

Source: (MoAC, WFP and FAO, 2009).

8.5 Road Network

In south Asia, Nepal has least road network. Poor accessibility to such remote locations with rugged terrain and a lack of roads accelerates lack of food access. The poor transport networks, with 15 districts not being road connected, hinder the movement of food from surplus to deficit areas - mainly to remote hill and mountain areas. According to 2005 WFP study, 27 % HHs have to walk for eight hours to reach in nearby road head. Similarly, average walking distance is four hour to reach nearby market.

8.6 Disaster

Nepal is susceptible to several types of natural disasters, like droughts, floods, landslides, windstorms, hailstorms, cold waves, disease epidemics, glacial lake outburst, fires and earthquakes. Various demographic factors such as rapid population growth, improper land use, slow economic development, civil and political conflict, and remoteness of rural communities often compounded food security and livelihoods impacts when disaster occurs. The middle Hills are mainly prone to landslides and hailstorms, while the Terai is prone to floods and fire. Of these, droughts, floods, hailstorms and landslides are must significant factors affecting cereal production, especially in Eastern and Central Terai. For example, since early July 2007, floods and landslides have wreaked large-scale destruction, affecting

33 districts, and recurrent natural disasters cause significant human and material losses. Frequent drought and floods also reduce access to food. Trend of flood and landslides from 1999-2003 shows that it occurred some 256 times on average in a year and affected average of 22,263 HHs annually (Table 6) (ECO-Nepal, 2005). In 2006, drought in the eastern Terai and floods in the west restricted yields to 50 % of the norm and drought and other natural disasters resulted in a 13 % deficit in the national cereal production. In 2007, 70,000 families affected in 47 districts and in 2008, more than 40,000 families affected (OCHA, 2008) and cereal shortage alone for 2006/07 was more than 18 % (OCHA, 2008). In 2008/2009, winter drought has heavily affected in food production. Nepal possesses insufficient information, early warning systems and risk management response policies. Such systems must be designed in order to reduce the possibility of causalities, fatalities, personal loss, property damage and agricultural loss.

Table 10: Loss of lives and property by disaster in Nepal

Year	Loss of lives (person)	Affected family (number)	Estimated economic loss (million)	Damage land (ha)
1999	1466	17,842	509	182
2000	377	24,900	1141	889
2001	415	15,908	526.5	196
2002	458	40,935	525.5	1078
2003	310	11,730	989.9	3342
Total	3026	111,315	3692.5	5687
Annual average	605.2	22,263	738.5	948

Source: PARYAWARAN, June 2005, additional issue

8.7 Political and Social Unrest

Political situation is very unstable and political parties are not unified for country development and preparation of interim constitutions. Because of this, social unrest is increasing daily. This is one of the major contributing factor for high pricing, irregular supply, food insecurity and malnutrition.

IX. MANAGEMENT INFORMATION SYSTEM

First nutrition survey was undertaken in 1975 and which has been considered as reference information of the country. Then onward different studies have been undertaken to assess nutritional status of under five years old children and women. In 1997 nutrition status of children and women was undertaken, then from 2001 it has been undertaking in each five year. In 1998, first comprehensive study on micronutrient was undertaken.

WFP has started Participatory process for classification of food insecurity phase classification based on different indicators (Annex 6). This system helps to monitor food security situation up to VDCs level, and prepares quarterly food security phase classification report. WFP is facilitating to establish district based food security forums to enable better verification of food security situation. As of March 2009, 51 Food Security Networks have been established (WFP, 2008, Food Security Bulletin - 21). This approach provides a means of identifying areas where food insecure households are more concentrated.

X. BEST PRACTICES FOR FOOD SECURITY AND NUTRITION

Following are some of the best practices for food security and nutrition development adopted by communities:

- Traditional/indigenous food safety net but now it has been almost collapsed,
- Indigenous community participation system, still it is strong in some ethnic groups like in Thakali and Newar,
- Indigenous practice adopted by mother to monitor the growth of children (small thread was putting just above the heap of the children).

XI. ISSUES

Major issues are categorised according to pillars of food security as follows and detail is given in Annex 7:

Availability

- Low agricultural productivity and production
- Poor capacity of farmers for food production
- High food loss
- Poor natural resource management
- Misuse of food and poor perceptions to on local/indigenous food
- Dependency syndrome on food aid.

Access

- Poor food distribution
- High poverty
- Poor government capacity
- Regional Disparities and social discrimination

Utilization

- Poor basic services
- High malnutrition and lack of nutrition awareness
- HIV incidence.

Stability/Vulnerability to Food

- Rising food prices
- Poor political and economic governance
- No functioning of traditional/indigenous community food safety net,
- High magnitude of disaster.

XII. STRENGTH AND OPPORTUNTIES

- Diverse ecological zone – high potential to grow diverse agricultural crops throughout year and crops intensification;
- Different agencies are working in food security and nutrition – varieties of agencies are working in food security and nutrition development, so possibilities of harnessing disintegrated efforts;
- Government have some policy on agriculture and nutrition – despite the lack of comprehensive policy on food security is lacking, government have different policy on agriculture, nutrition and health;
- Provision of safety net
- Opportunities for public private partnership (PPP) – PPP is working in different sectors, so possibilities of PPP in the area of food security;
- Food security mapping – system for food security mapping have been initiated (up to VDCs level), and this system could be use as a basis for promotion of food security and development interventions;
- Baseline information on nutrition status and food security– information are available;
- Agricultural market in Terai and Hilly area;
- Government up to grass root level;
- More food producers are available (66 % of population).

XIII. GAPS

Major gaps are mentioned as below and detail is given in Annex 8:

- Lack of support for agriculture development and increased production
- Lack of planning to address regional imbalance of development
- Lack of adequate nutritional knowledge
- Lack of government support for preparedness for disaster risk management
- Lack of national level institutional coordination among key institutions
- Lack of enabling environment for public private partnership (PPP)
- Lack of investment priority
- Lack of institutionalization for productive safety net
- Lack of land use planning and hazard mapping

- Lack of target programme
- Capacity building of FCHVs
- Low coverage of growth monitoring
- All children do not have access to integrated management of childhood illness (IMCI)
- No monitoring mechanism for food security at government level.

XIV. PRIORITY AREAS OF INTERVENTIONS FOR FAO

The proposed interventions should address the immediate, medium term and long term food security and nutrition development through increasing food production, dietary diversification, ensuring HHs level food availability, especially for vulnerable members, hands-on training on food preparation and, promotion of locally available and/or locally produced vegetables and fruits and livestock. Potential interventions are given in table (Table 7)

- Improving the productivity and diversification of agriculture– through different measures like investing on agricultural extension and research, farmer-field based education/training and field experiment services targeted at small hold farmers, diversification of crops, introducing new varieties of fruits and vegetables, capacity building of farmers to increase productivity and adaptation to climate change
- Natural resource management –, promotion of local/indigenous crops, sustainable management of forest and NTFPs and improving the management and utilization of land and water resources
- Promote integrated community nutrition programmes to improve nutritional knowledge and practices – through awareness raising, training in household and community nutrition, improved complementary feeding and family nutrition
- Institutional capacity building of MoAC for Disaster Risk Reduction – through early warning, preparedness and mitigation interventions
- Policy formulation and capacity building of government – to develop comprehensive policy and central level focal point to deal with food security and nutrition, strengthening capacity and improving coordination for FSN, integration of food safety net (FSN) into the decentralized local planning process
- Improved FSN-related information management and targeting of interventions
- Social awareness – to reduce geographical disparities, social discrimination and exclusion, dependency on food aid, and to increase income generation.

Table 11: List of Potential Projects for FAO

SN	Projects	Possible partnership
Priority one		
1	Enhancing productivity of small farmers in remote and marginal regions, especially in Far and Mid Western regions	MoAC, DoA and DLS
2	Livelihoods improvement through strengthening production and productivity in potential and favorable regions/areas focusing agricultural extension and small animal raising	MoAC, DoA and DLS
3	Integrated programme on food security, nutrition and livelihoods	UNDP, UNICEF, WFP, INGOs, MoLD and MoHP
4	Capacity building of farmers for rational balance use of agricultural inputs	MoAC
5	Improving nutritional status of community	MoHP, Nutrition division and MoAC, DFTQC
6	Strengthen capacity of MoAC for institutional development for disaster risk management in line with new NSDRM 2009	MoAC and UNDP
Priority two		
1	Prevention and reduction of pre/post harvest losses and increasing food value through value addition and value chain development	MoAC, DFTQC and NGOs
2	Strengthen capacity of government to implement national food standards in line with CODEX and Sanitary and Phytosanitary (SPS) agreement	DFTQC
3	Capacity building of farmers for adaptation to climate change and monitoring of climate change	DoA, Department of Metrology
4	Enhancing agricultural research and extension	MoAC and NAARC
5	Strengthening community capacity to cope with disaster risk reduction by increasing productive food safety net and on promotion of drought resistance crops in hills and mountains and	MOAC
Priority three		
1	Support to government for technical and policy support to develop national food security, nutrition, disaster management and livelihoods policy, strategy and tools by integrating with relevant government – NPC, Ministry of Health and Population (MoHP), MoAC and Ministry of Children and Women (MoCW) - focusing to conservation and effective use of land, water and biodiversity	NPC, MoAC, MoHA, MoHP, MoCW, I/NGOs, civil societies, etc.

2	Community seed production and marketing	MoAC
3	Improvement in enterprise development and food processing	DFTQC and Department of Women Development
4	Capacity building of government, partners and community on social equality and gender inclusion	Government and concerned partners

XV. CONCLUSION AND RECOMMENDATIONS

15.1 Conclusion

To address the food insecurity situation, designing of policy focusing to substantive and urgent effort to increase agricultural production, awareness on nutrition, reducing geographical and social discrimination and exclusion, improve market infrastructure and ensure access to food by all population groups. Government has understood the importance of nutrition and included nutrition and food security in Interim three year plan. GoN has realized infant and young children feeding to address malnutrition, and recently GoN has focused pregnant mother and under two year children to fight against malnutrition. Nutrition gap analysis has been recently completed with funding support from UNICEF, USAID and World Bank. Recently, GON has identified MoAC responsible for food security under NSDRM 2009.

The total number of food insecure people across Nepal is estimated to be 3.7 million. This represents approximately 16.4 % of the rural population (WFP, 2009 c). WFP Nepal is providing assistance to 1.6 million people (WFP, 2009 c). Food insecurity is a substantive and urgent issue in Nepal that needs to be addressed. Not a single sub-region in Nepal can be classified as moderate or low in terms of their hunger index scores WFP, 2009b). The situation is extremely alarming in the Far- and Mid-Western Mountains. Of 75 districts, 42 are food deficit, and 40 % of the families have started to skip or reduce their meals. It is because of stagnating growth in overall cereal production, increasing population, poverty, climate change, continuing high food price and ongoing drought and floods, weak distribution system and market, especially in remote areas, and poor governance (political and economic). Food security of many HHs is further deteriorated due to lack of awareness in poor food utilization and sanitation. Terai is more food secure compared to Hills and Mountains and Eastern, Central and Western. Poverty, poor economic activity, low agricultural productivity, lack of access to basic services like health facilities and food markets all plays significant role for food insecurity. The current government year-on-year food price inflation figure is 16.7 % (WFP, 2009 c). Further price spikes for staple grains are expected in early 2010 due to recent large scale crop losses in South and Central Asia.

In current situation, for food security major thrust has to given to production of food grains, horticulture, fisheries and livestock product through sustainable use of resources. Investing in agriculture has several benefits and as a major sector contributing to economic growth,

agriculture has to transform from traditionally subsistent to a vibrant commercial and competitive one. Potentiality for agriculture development should be taped with increasing concerns for irrigation, fertilizer, storage, marketing, improved seeds and breeds, quality control, improved service delivery, research focus on niche areas, credit facility and capable human resources. Improved farming system, planting of fruit and fodder and use of SALT (sloping agricultural land technology) can improve land use and control water induced disaster. Fertiliser, irrigation and seeds are essential for agriculture, and fertilisers are not available as per the demand and fertilisers are of sub standard, year round irrigation is only 38 % and some initiations for community seed production have been initiated. Essential things for agricultural productivity are input, credit and market. Market is under control of mediator and businessperson, and consumers could not buy at fair price and producers could not get fair price of their produces. Important things for agriculture commercialization are mechanization, cooperative farming and industry, and lack of agriculture friendly policy. Requirements for agriculture protection are grant, insurance and land protection but still lack of appropriate policy. Similarly, environment friendly agriculture farm, storage and gene bank are essential but insecticides and pesticides are being haphazardly at commercial scale but effective monitoring is lacking. Required numbers of cold storage are lacking, and farmers are compelled to sell goods at cheaper price. Despite the tremendous biodiversity, no facility for gene bank (it is under construction) and hopefully it will operate soon. Technology, extension and education are important for agriculture development but these situations are not satisfactory. Policy, plan and programmes are important for agriculture development, but proper focus for increase production and productivity are still not sufficient.

Strategies, approaches and programme to increase domestic food availability have to emphasize on (i) the need for technological change to increase labour, land, input and productivity, (ii) improving connectivity to increase market access resulting to reduce the transaction costs of getting inputs and services from market to farm and farm to market, and (iii) price guarantees to serve as an incentive to farmers to produce for the market. Increasing production, promoting processing, developing and strengthening business enterprises services, improving marketing efficiency, and reducing food prices, are major avenues to improve food security.

Economic growth in many of the remote sub-regions is urgently required to combat poverty, which is a key underlying factor to the hunger problem in Nepal. Economic growth, preferably through increased investments in a much neglected agricultural sector, is however not enough, and there is an urgent need to invest solidly in direct nutrition interventions to address the huge issue of child malnutrition. This includes investing in the health sector, increasing nutritional awareness, improving behavioral practices such as hand washing, breast feeding and water treatment, and providing access to proper sanitation facilities to rural populations. In addition, sufficient access to food will need to be ensured to the most vulnerable, including the landless, disadvantaged ethnic groups, female headed households, elderly and handicapped, through targeted social protection programmes. Overall nutritional

status improved 2001 to 2006, except wasting. This indicates that food security and/or infections are of considerable concern highlighting the need for early warning systems and emergency procedures. Capacity building of community on nutrition and developing a comprehensive policy including strong monitoring and evaluation is paramount. Mass awareness and education on improved health and hygiene, food habit, crop diversification, dietary diversification, promotion of local/indigenous crops, balance food, importance of micronutrient, etc needs to undertake in massive scale across the country, especially in remote area. Strengthening and dissemination of knowledge, including indigenous knowledge, experiences and skills and good practices on food security and nutrition could help in improvement in nutrition.

15.2 Recommendations

To overcome food insecurity and nutritional problem, interventions has to be focused to all four pillars of food security and policy, programming and implementation has to make to reduce geographical disparities and gender discrimination. Major recommendations are as follows and detail is given in Annex 9:

15.2.1 Short and Medium Term

- Disaster preparedness
- School based programme
- Mass awareness on nutrition
- Social awareness
- Initiation of target programme on hotspots
- Livelihoods strengthening and disaster preparedness
- Support to establish and maintain food reserve.

15.2.2 Long term

- Support MoAC for disaster risk management
- Strengthen agricultural development programmes
- Linking strategy and policy with regional strategy
- Development of land use planning and improvement of agriculture practices in hilly area
- Agricultural risk management
- Improving agricultural marketing
- Improving food quality and safety standards
- Promote household food security, nutrition and livelihoods interventions
- Control food loss
- Strengthen food processing
- Strengthening disaster risk reduction

- Monitoring climate change
- Technical and policy development support to GON
- Improvement in monitoring and evaluation of nutrition situation.

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Annexes

Annex 1

List of Key Informants Interviewed

SN	Name and designation	Office
1	Kishor Aryal, National Programme Officer	WFP, Kathmandu
2	Pushpa Shrestha, Field surveillance Project Manager	WFP, Kathmandu
3	Pramila Ghimire, Country Programme Coordinator	WFP, Kathmandu
4	Kedar Neupane, RCIW Programme Manager	MoLD, Kathmandu
5	Hem Raj Regmi, Senior statistical Officer	MoAC, Kathmandu
6	Pooja Pandey Rana, Director of Programmes	Helen Keller International
7	Uttam Kumar Bhattarai, Joint Secretary, Monitoring and Evaluation Division	MoAC, Kathmandu
8	Raj Kumar Pokhrel, Chief Nutrition Section, Child Health Division, Department of Health	MoHP, Kathmandu
9	Jeevan Lama, Director General, Department of Food Technology and Quality Control	MoAC, Kathmandu
10	Ganesh Dawadi, Senior Food Research Officer, Department of Food Technology and Quality Control	MoAC, Kathmandu

U5MR by Caste, Ethnicity and Region, 2006

Category	**%**
All Brahman/Chhetri	76
Hill Brahman	45
Hill Chhetri	91
Madeshi Brahman Chhetri	55
Madeshi other caste	86
All Dalits	90
Hill Dalits	95
Madeshi Dalits	81
Newar	43
All Janajati including Newar	80
Hill Janajati	76
Terai Janajati	87
Muslim	80
All Hill/Mountaian groups	77
All Terai/Madheshi groups	84
Other	43
All Nepalis	68

Source: Nepal Human Development Report 2009

Annex 3

Main Reasons for Food Insecurity

Reason	Description
Availability	
Low agricultural production and productivity and high population growth	• Slow growth in agriculture • Haphazard use of land especially in hill and mountain region • Poor natural resource management • Lack of making productive and lawful distribution of land • Increasing land fragmentation process • High food handling loss (pre and post harvest loss) • Low investment in agriculture research and development • Loss in agricultural productivity • Unscientific land use and farming system, no crops rotation & crop diversification • Low mechanization • High population growth rate especially in food insecure area • Feudalism and ineffective labour management.
Small land holding	• Unequal land distribution - average HHs have land ownership of 0.83 ha but majorities (47 %) have 0.5 ha only (NLSS, 2004) • About one-fourth of population are landless.
Misuse of food commodities	• Alcohol preparation and use for different spiritual purpose • Negative people perceptions on local/indigenous food • Increasing tendency to use imported foods.
Dependency on food aid	• Dependency syndrome on food aid • Many agricultural lands in food insecure districts are fallow.
Access	
Unequal food distribution	• Disparities in food distribution across the country • Inter-household discriminations for girls and women • Poor capacity of government for distribution of food commodities.
Lack of road network and market in remote area	• No road access in 15 districts • Fragile security and peace situation • Monopoly of transport syndicate system • Limited markets, especially in district headquarter in remote areas • Business persons not interested to develop market in remote area.
Lack of emergency back u services	• Government does not have provision of materials support after disaster except limited relief package
Poor purchasing capacity of people	• Deep rooted high poverty • Poor people does benefits from country's economic growth • Lack of employment opportunities • Dominant seasonal employment - farming and harvesting • Forced to migration to India.
Social and geographical	• Social and geographical disparities • Remote areas have high poverty, food insecurity, and gender and social

disparities and exclusion	discrimination, and poor road access, development indicators • Disadvantaged and marginalised groups are excluded from development interventions.
Utilization	
Lack of health and nutrition awarene	• Majorities of people does not have knowledge on balance foods and role of diverse food for balance diet and good health • Knowledge on role and importance of local and/or indigenous food on food security and nutrition is gradually eroding • Decreasing tendency of consumption of local food • People have increasing perception that eating local food reflects poor social status • People tempted to buy small quantity of expensive processed food with poor nutritive value • Poor hygiene (HHs, personal and food) and environment sanitation and lack of safe drinking water.
High levels of malnutrition	• About half of under five year children are malnourished • High geographical and social disparities in malnutrition incidence.
Poor basic services	• Poor services of sanitation and hygiene, safe drinking water, basic health services especially in rural and remote areas.
High disease incidence	• Majorities of people have frequent incidence of different disease • HIV incidence.
• **Stability/vulnerability to food**	
Low income	• Poor people unable to buy expensive foods • Sky rocketing market price (16.7 %) • Lack of proper monitoring mechanism.
Frequent disaster	• High magnitude/ frequency of disaster especially water induced disaster & drought • Lack of early warning system to cope with food security and disaster.
Poor political, a economical governance	• Frequent social conflict and unrest • Frequent block, riots, BANDHA, etc. hampers is smooth accessibility to food, and market, employment, etc. • Weak implementation of law and lack of social security • Lack of human resource and their capacity especially in rural and remote services centres • Political in stability and frequent change in policies and political/ national interest.
No functioning of traditional/indige nous community food safety net	• Eroded traditional/indigenous community food safety net due to social conflict, political instability, • Decreased social cohesion and harmony.

Strategies for DRM in Agriculture and Food Security Sector

Five Priority Actions for Disaster Risk Reduction (DRR)				
Ensure that DRR is a national and a local priority with strong institutional basis for implementation disaster disk	Identify, assess and monitor disaster risk and enhance early warning	Better knowledge management for building a culture of safety	Reducing risks in key sectors and establishment mechanism for DRR	Enhance preparedness for effective response
• The MoAC to develop a national plan for disaster preparedness and emergency response for the agriculture sector, with templates for district and community level plans included for areas highly exposed to recurrent hazard risk. The plans should be prepared in a participatory dialogue with all stakeholders and be available in the public domain, • The MoAC should ensure that DRM issues are integrated into district agriculture and village agriculture plans, • Enhance under the leadership of MoHA DRM related coordination between MoAC and its departments and offices at the district levels as well as with other line agencies at all levels, • Enhance technical and operational capacities of agriculture offices operating at district	• Conduct and coordinate with other sectors hazard risk and vulnerability assessment studies and mapping exercise in the agricultural sectors, • Establish a simple crop and livestock monitoring system and database in high risk area to establish a basis for better emergency needs assessment and response, • Translate weather and climate forecast products (from Department of Meteorology) into agricultural impact forecast products and strategic decision support tools for farmers in (slow on –setting) drought prone areas, • Establish in collaboration with Water Dept. A flood and landslide early warning system for local levels, • Develop a DRM related communication	• Identify and document good practices for DRM in agriculture including existing coping practices and indigenous technologies, • Strengthen agricultural research institutions to conduct strategic applied research to identify and promote on farmers fields the testing of new technologies for DRM in agriculture, • Promote through the existing extension system the establishment of national platform for applied action research and demonstration to introduce, test and dissemination good practice for DRM in Agriculture, this includes the promotion of local farmers organizations and CBOs in implementing community based	• Improve local storage practice (farm level food, animal feed, local seeds storage system), • Promote improvement of strategic seed banks and national seed storage system, • Encourage to convert landslide areas in to plantation, discourage settlements in flood prone areas, • Invest on river training especially to reduce flood related risks, • Promote land and water conservation practice on farmers fields, • Increase irrigation coverage where water resources are available without negative impacts on ground water, • Encourage the use of crops and livestock species and integrated production systems which	• Promote regular contingency planning (from agriculture perspectives at all levels), • Ensure adequate emergency supply of food/seeds in the disaster prone areas in time of need, • Standardise the content/format of information collection on disaster impacts, • Ensure faster damage assessment and mobilization of resources, • Promote the establishment of strategic emergency buffer stocks of seeds, • Food and agriculture input in district agriculture offices or at regional level,

and area level on DRM, • Mandate the agriculture departments and offices at decentralised level to participate as key partners in DRM committees at all levels, and as implementing partners of actions jointly decided by the committees at different levels.	strategy in agriculture to ensure timely dissemination of early warning and strategic decision support information to farmers, • Promote economic assessment studies to monitor the cost of mitigation and adaptation to risk (as compared to loss).	disaster risk management approaches and initiatives within Agriculture sector, • Promote insurance practice for crops, and livestock in participation of private sector, • Include DRM issues into the curricula of agricultural campus, and at school levels.	are more resistant to natural hazards risk, and disasters, • Improve construction standards for animal shelters and hen pens including spatial locations guidelines, • Discourage agricultural practice that lead to disaster.	• Build capacity to know the risks at all levels, • Formulate definitions and indicators and triggers about the declaration of emergency situation in agriculture/ food security and phasing of emergency response.

List of Agencies Working in Food Security and Nutrition

SN	Name
1	ActionAid Nepal
2	DEPROSC
3	FAO
4	GTZ
5	Helen Keller International (HKI)
6	JICA
7	MoLD
8	OXFAM GB
9	Practical Action
10	RRN
11	SAPROSC
12	UNICEF
13	WFP
14	WHO

Food Insecurity Phase and Indicators

Nepal Food Security Phases	Indictors
Generally Food Secure	Usually adequate and stable food access/availability. Adoption of traditional coping mechanisms that are part of the livelihood strategy. No occurrence of natural disasters. General peaceful situation.
Moderately food insecure	Moderately inadequate food access/availability recurrent during lean periods. Adoption of reversible coping strategies. Probable occurrence of natural disasters causing bearable loss of food stocks and assets given the adaptive capacity of local society. Security situation could be unstable.
Highly food insecure (starting affecting livelihood assets)	Highly inadequate food access/availability usually due to prolonged stresses or severe sudden shocks. High levels of malnutrition. Starting an irreversible coping strategy that threatens livelihood assets. Probable occurrence of natural disasters causing losses of food stocks and assets at the limit of society's capacity to cope. Security situation has probably deteriorated.
Severely food insecure (acute food and livelihood crisis)	Severe/critical lack of food access/availability usually due to prolonged stresses or severe sudden shocks. Very high levels of malnutrition. Widespread adoption of irreversible coping strategies critically depleting livelihood assets. Probable occurrence of natural disasters causing very high losses of food stocks and assets overcoming local society's capacity to cope. Probable high level of violence and movement restriction due to conflict.
Humanitarian emergency/Famine	Extreme lack of food access/availability due to devastating natural disaster (large scale and intense earthquake or flood) leading to a substantial increase of deaths. Coping strategies are exhausted.

Source: WFP

Issues and Associated Factors in Food Security and Nutrition

Issues	Situations
Availability	
Poor capacity of farmers for food production	• Lack of sufficient knowledge for farming
Low agricultural productivity	• Low in comparison to population growth (2.25 %) • Only 38 % of agricultural land is under year round irrigation • Low agricultural input (for rice, two farmers out of three and for wheat one out of two farmers are using chemical fertiliser) • Unscientific farming system and land use, lack in crops rotation and diversification, low mechanization • Feudalism and labour management • Small land holding – according to NLSS (2004), average HHs have land ownership of 0.83 ha but majorities (47 %) have 0.5 ha only (NLSS, 2004) and almost one-fourth of population are landless • Increasing land fragmentations process • Low investment in agriculture research and development - much lower than recommendation, and not directed toward the most important crops for the poor, and slow growth in agriculture
High food loss	• Not satisfactory handling (pre and post harvest)and storage system and practices
Poor natural resource management	• No planning for farming, orchard and livestock development, urbanization, resident, • Lack of lawful distribution of land
Misuse of food and poor perceptions to local/indigenous food	• Use for alcohol preparation, and use for different spiritual purpose • People tendency have been increasing to use/buy external/imported foods
Dependency syndrome on food aid	• People of food insecure districts are practiced to heavily depend on external food assistance (WFP and Government) • Many agricultural lands in food insecure districts are fallow
Access	
Poor food distribution	• Poor market development, management • Unequal distribution across the country • Food supply constraints due to fragile security and peace situation, and transport syndicate system • Poor road network in food insecure area (no road access in 15 districts)
High poverty	• Deep rooted poverty, inequality, and poor governance • Geographical discrimination (economic growth has not benefited poor people in rural areas) forced people to live in hunger and malnutrition • Lack of employment and seasonal employment, farming and harvesting • Migration to India - most of the people who are living in remote and food insure area are forced to migration to India

	• No implementation of '100 days employment in Karnali region' policy
Poor government capacity	• No emergency back up services • No provision of ration cards for vulnerable people living in food insecure area
Regional Disparities and social discrimination	• Poverty, food insecurity, road access, development indicators, gender and social discrimination situation are worst in Mid and Far Western region, in comparison to other part of the country • Rural area, especially remote and Mid and Far Western area have been excluded from development interventions • High discrimination and exclusion for women, disadvantaged and marginalised groups • Discrimination to girls and women in inter-household food distribution • Women have poor capacity and neglected and discriminated in both food security and child nutrition.
Utilization	
Poor basic services	• Poor sanitation and hygiene, safe drinking water, basic health services • Poor hygiene (HHs, personal and food) and environment sanitation • Lack of safe drinking water, etc
High malnutrition and lack of nutrition awareness	• Majorities of people does not have knowledge on balance foods and role of diverse food for balance diet and good health • Knowledge on role and importance of local and/or indigenous food on food security and nutrition is gradually eroding • Increasing tendency to decline habit of local food (people have increasing perception that eating local food reflects poor social status) • No healthy food habit (people tempted to buy small quantity of expensive processed food with poor nutritive value) • High levels of malnutrition – about half of under five year children are malnourished with high geographical and social disparities
HIV incidence	• People in Far and Mid western are more affected from HIV/AIDS.
Stability/vulnerability to food	
Rising food prices	• Sky rocketing market price (16. 7 % increase) • Lack of proper monitoring mechanism
Poor political economic	• Fragile political situation, political in stability, weak implementation of law • Social unrest and lack of social security • Lack of human resource and poor capacity in government services facilities, specially in remote area • Frequent change in policies and political/ national interest • Lack of institutelization of system and lack of governance
No functioning of traditional/indigenous community food safety net	• Eroding and vanishing of indigenous social security system
High magnitude of disaster	• Heavy loss from water induced disaster and drought • No early warning system to cope with food security and disaster.

Annex 8

Major Gaps in Food Security and Nutrition Development

Gaps	Factors to be considered
Lack of support for agriculture development and increased production	• No detail and strategic plan for increasing agriculture productivity and production
Lack of planning to address regional imbalance of development	• Need to develop in line with regional development planning
Lack of adequate nutritional knowledge	• Communities have lack of mass awareness on importance of different foods including indigenous foods and handling and processing of foods. Food taboos and so called social status of food are resulting to malnutrition due to declining in production of diverse foods including purchasing of expensive imported and/or processed foods
Lack of government support for preparedness for disaster risk management	• Weak GON capacity to address disaster including climate change, new cropping strategy, new technology, and management of migration from rural to urban area and from hills to the Terai
Lack of national level institutional coordination among institutions	• Different institutions often compete for funding, resulting in confusion, duplication and gaps in activities. Integration of existing efforts and up scaling of good practices, as well as capacity building of relevant stakeholders are lacking; non existence of specific and comprehensive legislation and central level focal point to fit into the constitutional spirit. Food aid, safety net programmes are very important initiatives but lacks legal backing (dependent to the donor's interest)
Lack of enabling environment for public private partnership (PP	• Needed, more specifically through targeted public investment to encourage and facilitate private investment, especially by farmers themselves, e.g. new public road in a fertile region makes private investment profitable
Lack of investment priority	• **Agricultural sectors** has low priority for investment and it has to increase by some 60 % because agriculture is foundation of economy - production, employment, income generation, industrial growth, rural infrastructures, trade balance, etc. Similarly, no clear and proper investments priority for **rural infrastructure** (roads, power, storage and irrigation systems); research and extension services, and disaster risk management
Lack of institutetionilization for productive safety	• No institutelization mechanism for food safety net and need to develop mechanism for subsidies for seed, fertiliser, crop

net	insurance, food for work, etc. And such schemes have to be considered as a rights of vulnerable peoples
Lack of land use planning and hazard mapping	• Fertile farm lands are being diverted to non-agricultural uses, thus reducing the area available for food production. Hazards mapping has to made country wide so that it could help in land use planning
Lack of target programme	• No targeting activities for food security and nutrition to address remote area and vulnerable groups
Capacity building of FCHVs	• There are about 50, 000 FCHVs and they have been responsible for different activities but capacity building is lacking
Low coverage of growth monitoring	• Only health facilities are providing growth monitoring facilities and counselling is also lacking for growth promotion,
All children do not have access to integrated management of childhood illness (IMCI)	• Only sick children will have opportunity to get IMCI services,
No monitoring mechanism for food security at government level	• Detail system and mechanism has to be developed considering all pillars of food security.

Annex 9

Detail of Recommendations for Food Security and Nutrition Development

SN	Recommendations	Major Area for Interventions
	Short and Medium Term	
1	Disaster preparedness	• Support to productive food safety net e.g. provision of seeds, tools and training • Support to establish food storage facilities in disaster prone areas, seed bank (drought and flood resistant species) • Improving MoAC capacity to deliver the services after disaster
2	School based programme	• School garden, curriculum improvement focusing to food security, nutrition, hygiene, climate change, etc
3	Mass awareness on nutrition	• Awareness camping for knowledge, practice and behaviour change at community and HHs level focusing to safe and healthy preparation of food, nutrition for vulnerable groups, hygiene, consumption of diverse food, use of local nutritious foods, appropriate feeding, etc to overcome IMR/U5MR/MMR and malnutrition, etc
4	Social awareness	• Empowerment, gender equality and social inclusion, good governance, micro-credit, social taboos at community and organizational level
5	Initiation of target programme on hotspots	• In remote and food deficit areas for most vulnerable HHs to address food insecurity, malnutrition including safety net program for social protection
6	Livelihoods strengthening and disaster preparedness	• Creating labour productivity enterprise focusing to farm and off-farm for diversification of coping mechanism and livelihoods • Capacity building of women for nutrition development • Establishment of strategic seed bank and support community for community seed production for disaster preparedness • Support to construct cold storage
7	Support to establish and maintain food reserve	• Regional food stocks, especially in Far and Mid Western region linking with SAARC food reserve
	Long term	
1	Support MoAC for disaster management	• Support MoAC to establishment institutional mechanism to address sectoral role mentioned in NSDRM 2009
2	Strengthen agricultural development	• Interventions focusing to 1) location specific approach focusing to agro-ecological domains, 2) technology development and sharing, 3) resource managements for sustaining food production, and 4) research and development • Crop diversification • Introduction of productive varieties, crop intensification, increasing agri-input, drought resistance varieties, etc
3	Linking strategy	• Well chartered food security and nutrition strategy to

	and policy with regional strategy	complement national, regional and global policies and strategies through joint effort
4	Development of land use planning and improvement of agriculture practices in hilly area	• In the context of food security, natural resource management and disaster risk management, effective land use policy for agriculture, natural conservation, housing, infrastructure and urbanization is required with high focus to food insecurity. It also helps to mitigate water induced disaster and conservation of natural resources
5	Agricultural risk management	• To address wide range of risks like natural disasters, trans-boundary pests and diseases, impact of climate change, non-availability of quality inputs (seeds, pesticides, fertilizers etc.)
6	Improving agricultural marketing	• Through a wide range of measures like linking small producers to markets, improve rural infrastructure, enhance processing, strengthen public-private partnerships, developing communications networks, disseminating market information, etc
7	Improving food quality and safety standards	Focus should be given on: • Review the regulatory framework for harmonization with regional and international standards, • Maintain food quality and safety at all stages-field to table, • Address the issue of stringent sanitary and phytosanitary restrictions that are increasingly being used by food importing countries and upgrading to meet these, and • Review existing/develop effective import control procedures & mechanisms to ensure safe food imports.
8	Enhancing institutional and policy environment for FSN	• Strengthening capacities and improving coordination for FSN • Integrating FSN into the Decentralized Local Planning Process • Improving FSN related information management and targeting of FSN interventions
9	Control food loss	• Development and transfer of technology and institutional support to control pre harvest and post harvest loss
10	Strengthen food processing	• Value addition focusing to rural level entrepreneurs
11	Strengthening disaster risk reduction	• By preparing strategy, policy and programme through integrated approach, linking development with disaster, in line with Hyogo Framework for Action (HFA)
12	Monitoring climate change	• Monitoring the effect of climate change for food security • Mass awareness and education on climate change and adaptation
13	Technical and policy development support to GON	• Comprehensive and integrated policy development linking relief with development through proper coordination with different sectors considering current issues, gaps, resource management and conservation focusing to partnership development, conducive environment for private investment, management of external assistance; capacity building of MoAC as a national focal point for food security, development of institutional framework (horizontal, vertical and cross-

		sectoral coordination) for coordination and implementation, social awareness
14	Improvement in monitoring and evaluation of nutrition situation	• Inclusion of food consumption indicators such as household food insecurity index, dietary diversity score.

Some Development Indicators

Indicators	Status
General information	
Total area (sq km)	147,181
Total area covered by forest (%)	39.6
Human development index (2006) (UNDP, 2009a)	0.509
District without road access	15
Food insecure districts	42
Population (2006)	26427399
Male	13240233
Female	13187166
Population growth rate (%)	2.25
Average household size (2001)	5.44
Adult literacy (% of 15 years and above) (2006) (UNDP, 2009a)	52.42
Poverty and economic related information	
Population below national poverty line (2003/4) (%)	31
People below $ 1 /day, 2003/4 (%)	24
Unemployment rate amongst 15 -24 years old (2003/4) (%)	6
GDP per capita (2006/7) Rs	27,209
Contribution of agriculture in GDP (2007) (WFP, NDRI)	38
GDP per capita (PPP Rs) (2006) (UNDP, 2009a)	1597
Health and nutrition information	
Stunting children under five year of age (%)	49.3
Underweight children under five year of age (%)	12.6
Under weight women (%)	38.6
U5 mortality rate (2006)	65
U5 mortality rate (2001)	91
U5 mortality rate (1991)	158
Life expectancy at birth (2007)	63.7
Agricultural information	
Population engaged in agriculture (2001) %	65.6
Total land cultivated (‘000 ha) (%)	3091 (21)
Agricultural land uncultivated (‘000 ha) (%)	1030 (7)
Non - agricultural land (‘000 ha) 2001/02	156.4
Irrigation (year round) (%)	38
Food security information	
Total annual food requirements per head (kg)	190
Total food insure population (% of rural population)	3.7 million (16.4)
Total landless population in country (OCHA, 2008) (%)	24
Landless, of total population, in Central and Eastern Terai (OCHA, 2008) (%)	33
Landless, of total population in Western Terai (OCHA, 2008) (%)	13
Disaster	

Number of annual loss of life (person)	605
Number of annual affected HHs (HHs)	22263
Annual economic loss (million)	738.5
Annual land damage (hectors)	948