LDC Issues for Operationalisation of the SAARC Food Bank

Nepal Case Study

SAWTEE Working Paper No. 01/12

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Krishna Prasad Pant, Ph. D.
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Abbreviations and acronyms

ADBL	Agriculture Development Bank Limited
ADB	Asian Development Bank
APP	Agriculture Perspective Plan
BIMSTEC	Bay of Bengal Initiatives for Multi-Sectoral, Technical and Economic Cooperation
CBS	Central Bureau of Statistics
CDP	Committee for Development Policy
EVI	Economic Vulnerability index
GAFSP	Global Agriculture and Food Security Programme
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GNI	Gross national income
HAI	Human Assets Index
KR	Kennedy Round
LDC	Least developed countries
MDG	Millennium Development Goal
MOAC	Ministry of Commerce and Supply
MOF	Ministry of Finance
NAP	National Agriculture Policy
NASDP	National Agriculture Sector Development Priority plan
NeKSAP	Nepal Food Security Monitoring System
NFC	Nepal Food Corporation
ODA	Official development assistance
OECD	Organization for Economic Cooperation and Development
SAARC	South Asian Association for Regional Cooperation
SAFTA	South Asian Free Trade Area
SAPL	Second Agriculture Program Loan
SAWTEE	South Asia Watch on Trade, Economics and Environment
SFDB	Small Farmer Development Bank
UN	United Nations
US$	United States Dollar
WTO	World Trade Organization

Executive Summary

This report presents a Nepal case study for Regional Least Developed Countries (LDCs) Study commissioned by SAWTEE under its Trade, Climate Change and Food Security Programme in collaboration with Oxfam Novib. The objectives of the study are to analyze the status and trends in agricultural productivity, investment, and food security in Nepal, as well as the status and trend in Nepal's Public Distribution System. The study identifies challenges and opportunities for an effective food distribution system, and also suggests policy measures for enhancing access to the food distribution system, including that from the SAARC Food Bank. The methodologies followed were a review of literature, an analysis of secondary data on food production, trade and public distribution, and a questionnaire survey of policy makers and experts.

Among the eight members of South Asian Association for Regional Cooperation (SAARC), half of the members - Afghanistan, Bangladesh, Bhutan and Nepal - are Least Developed Countries (LDCs). Nepal has a predominantly agrarian economy with about 3.2 million hectares of agricultural land. Within Nepal, 77 percent of the 5.66 million households are engaged in agriculture. As per the government statistics, Nepal has had food deficit for 13 of the last 22 years. During this period, the food deficit was five percent or less, except during 1992/93, 1994/95, and 2009/10, when, due to severe droughts and floods, the deficit was higher. The statistics show that in case of a severe drought, Nepal can face food deficit of 300 to 500 thousand metric tons. However, the national food buffer stock is just 25 thousand metric tons. Thus, there is a need for provisions to be made for outsourcing in the event of future adverse conditions. Net food production in the year 2010/11 was 5,513 thousand metric tons and the net import was 332 thousand metric tons. The public distribution system operated by Nepal Food Corporation (NFC) distributed 20 thousand metric tons of foodgrain in the same year. NFC, with 159 warehouses in 63 districts, distributes foodgrain, (mainly to 23 remote districts via the aid of government subsidy. It seems that the role of NFC in food supply is small as compared to its role in production and trade.

Agriculture is suffering from low investment and low productivity. Public investment in agriculture is mainly to cover operating expenses, and the capital expenditure is less than one billion rupees per year. The contribution of foreign aid is also small, at about half a billion rupees per year. Agriculture has failed to attract private sector investment adequately. The total loan advanced to the agricultural sector is Rs 23 billion. However, most of the capital investment, foreign aid and credit money go to non-food crops, as the government policy has focused on high value cash crops in lieu of traditional foodgrain. As a result, crop productivity is low with only 3.3 and 1.9 metric tons of rice and wheat produced per hectare.

The public distribution system (PDS) gives an opportunity to strengthen food security

through supply management. The supply management includes the provision of buffer stock of essential food commodities for controlling price rise and market stabilization.

The PDS involves several challenges. It involves a large budget, high risks, and a large number of human resources and infrastructure. Buying food, storing it, transporting it to deficit areas and distributing it, involves large costs. The public sector is less efficient than the private sector. Because foodgrain are semi-perishable it involves high risks of storage damage, adding to the handling costs; a large number of human resources are necessary for the buying, storing, transportation and distribution of foodgrain. With the functioning of the PDS, there is also the danger of replacing the food market in sensitive areas, by creating uncertainty among private food suppliers. The PDS also discourages farmers from growing food locally, as the distribution of subsidized food dampens local food price, diminishing the incentive to grow food. This creates chronic dependency of the villages on food aid. It is also believed that distribution of subsidized rice leads to malnutrition and loss in crop biodiversity. The PDS sometimes also politicizes the food supply, making the local people more vulnerable.

For increasing food security in South Asia through collective action, the 14th SAARC summit in Islamabad in 2007 established the SAARC Food Bank, based on 20 years of bitter experience of non-functional SAARC Food Reserve. The Bank is expected to act as a regional food security reserve for the member countries during food shortages and emergencies, as well as provide regional support to national food security efforts, foster inter-country partnerships and regional integration, and solve regional food shortages. The Bank holds 485.6 thousand metric tons of rice and wheat, with 306 thousand metric tons in India, 80 thousand metric tons in both Pakistan and Bangladesh, 8 thousand metric tons in both Nepal and Sri Lanka, 2.84 thousand tons in Afghanistan, 0.40 metric tons in Maldives, and 0.36 metric tons in Bhutan. The reserve is the asset of the respective members and is under the control of the SAARC Food Bank Board located in the SAARC Secretariat, Kathmandu. Nepal's share of the reserve is maintained by the NFC.

Though the SAARC Food Bank was established in 2007, it is not yet operationalised. The Bank, if properly operationalised, is expected to contribute enormously in addressing food insecurity in the region. No specific mechanism is yet developed for linking the Bank to the PDS operated by the NFC. NFC officials are not currently provided with the information and plans necessary for empowering them to mobilize the food from the Bank at the time of need. The PDS of Nepal can be strengthened and linked to the SAARC Food Bank, not only for maintaining the reserve, but also for the operationalization of the Bank; whereby the PDS helps by distributing the foodgrain released from the Bank, and replenishing the stock during the next harvesting season. Considering an annual fluctuation of the food production, Nepal needs to maintain a national food reserve of five percent (250 thousand metric tons) of its annual consumption. Increasing access to the Bank can reduce the amount needed for the

national reserve, reducing the costs of maintaining a large buffer stock.

Food withdrawal from the Bank is possible only when there is emergency or food shortage. The necessary condition for a food shortage is that the production of foodgrain in the current year is lower by eight percent than the average of production of the previous three years. Analyzing the food production data shows that Nepal would never have qualified for this condition during past two decades, as the shortfall in the production of foodgrain was not more than 6.31 percent. Even after meeting this condition, foodgrain within the country can be withdrawn only after three months from the date of the notice. If a member needs foodgrain from the reserve of another member, no clearly specified provision is available for food transportation, border formalities, institutional mechanisms, and price setting for swift delivery of foodgrain.

The SAARC Food Bank Board has the authority to revise procedures and mechanisms for food withdrawals. The Board needs to authorize Nodal Points of the member countries, which have the authority to decide and draw foodgrain from their own reserves, immediately at the time of need. The Board needs to establish an automatic set of mechanisms for the pricing, releasing, transporting, border crossing and distributing of foodgrain, at any time when a member feels that its people are suffering from food insecurity.

Though small countries and LDCs are more vulnerable to food insecurity, no special provision is made under the SAARC Food Bank for such countries. The LDCs have low level technology base, from which to increase food production and adapt to the shocks of natural calamities that are being accentuated by climate change. Recognizing the problems of smaller economies and low level of development, the importance of regional collective actions for ensuring food security is greater in LDCs.

PDS of the member countries in LDCs need to be empowered and strengthened in order to allow the withdrawal of food at the time of need, and its quick distribution to food-insecure, remote, rural and vulnerable areas. A built in mechanism is necessary to avail food from the Bank at reasonable price. For food distribution, food coupons and food credit cards can be used in some extreme cases, and food distribution also needs to be linked to credit system through consumer cooperatives, fair price shops and food depots. The NFC needs to be reoriented and strengthened to assume new responsibility of effective food distribution. For efficient distribution of foodgrain in food insecure areas, PDS can also be linked to local level institutions, such as the local governments, or local charity organizations. Such decentralization is necessary at the time when Nepal is leading towards federal states. PDS can also be linked to self-help groups or local institutions working for food security. The government needs to implement PDS by developing targeted programs for the identified food insecure regions and groups.

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1. Introduction

1.1 Background

This Nepal case study is a part of Regional Least Developed Countries (LDCs) study commissioned by SAWTEE under its Trade, Climate Change and Food Security[1] Programme with Oxfam Novib. It empirically analyses the status and trends in food production, availability and agricultural investment, and assesses the impact of such trends on food insecurity, at both national and local levels. The study also delineates public food distribution system in Nepal and its challenges and opportunities. Likewise, it assesses policies and programmes for fair distribution of food, and effective operationalization of the SAARC Food Bank, assessing their current and potential impact on reducing the risk of food insecurity among the poor within the country.

1.2 Context of the study

South Asia houses 330 million undernourished[2] people accounting for 40 percent of the world's undernourished (World Bank 2006; FAO 2011). Some 578 million people are undernourished in Asia Pacific accounting to 62 percent of the global number (FAO 2010). In response to chronic food insecurity, at least in some parts of the countries, governments in South Asia have tried to implement several policy measures that help them, which includes among others, policies designed to help maintain and increase national food reserves. The governments have also adopted other measures like reducing taxes on foodgrain, increasing supply using foodgrain stocks, export restrictions, price controls and consumer subsidies. Recognizing the importance of a coordinated approach to addressing food insecurity, SAARC countries have emphasized the importance of maintaining regional foodgrain reserves.

The Istanbul programme of Action for the LDCs for the decade 2011-2020 proposed joint actions for exploring the feasibility, effectiveness, and administrative modalities of a system of food stockholding as a means of dealing with humanitarian food emergencies, or as a means to price volatility (United Nations 2011). The Istanbul policies have targets of ensuring access to safe food and emergency food assistance in all LDCs.

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[1] Food security is a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life (World Food Summit—Rome—Declaration 1996).

[2] Undernourishment or hunger exists when caloric intake is below the minimum dietary energy requirement (MDER) for light activity and to maintain a minimum acceptable weight for attained height (FAO, 2012).

LDCs are low-income countries facing structural impediments to sustainable development. The income is measured in terms of gross national income (GNI) per capita. The structural impediments to sustainable development include low level of human development and structural vulnerability to shocks. The low income and structural constraints are interconnected with social, economic and environmental problems, leading to low standard of living, which in some severe cases manifested by hunger and malnutrition.

Nepal is one among the 48 LDCs in the world. The UN added Nepal to this list in 1971. The UN identified the LDCs in terms of their low GNI, weak human assets, and high degree of economic vulnerability. Under the GNI criterion, three-year average estimate of the GNI per capita is taken for comparison. Human resource weakness criterion involves a composite Human Assets Index (HAI)[3] based on indicators of nutrition, health, education and adult literacy. Similarly, the economic vulnerability criterion is based on indicators of the instability of agricultural production; the instability of exports of goods and services; the economic importance of non-traditional activities (share of manufacturing and modern services in GDP); merchandise export concentration; and the handicap of economic smallness (United Nations 2008). To be included in the list of LDCs, a country should have population less than 75 million; GNI per capital less than $750; HAI less than 55; and an Economic Vulnerability index (EVI) greater than 37.

Among the eight SAARC member countries, 50 percent of them fall in the list of LDCs[4]—Afghanistan, Bangladesh, Bhutan and Nepal. Maldives graduated from its former LDC status in January 2011. To be included in the list of LDCs, a country must satisfy all three criteria. To qualify for graduation, a country must meet the thresholds for two of the three criteria in two consecutive triennial reviews carried out by the UN Committee for Development Policy (CDP)[5]. Afghanistan meets all four indicators to be a LDC. Other three remaining LDCs meet two out of four indicators. Nepal qualifies for LDC status in terms of its population and income.

Nepal is the second poorest country in South Asia, after Afghanistan, in terms of per capita gross national income (GNI) (Table 1). However, Nepal has the second highest human asset index (after Bhutan) and the second lowest economic vulnerability index (after Bangladesh) among the South Asian LDCs. The economic vulnerability index, however, does not capture the climatic vulnerability in which Bangladesh is most susceptible. Moreover, a hunger index is not incorporated as an indicator of an LDC.

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[3] The HAI is calculated as the simple average of the component indices—Index of child mortality rate, index of prevalence of undernourishment in the population, index of adult literacy rate and index of gross enrolment in secondary education. The original component data are transformed into indices between 0 and 100 (Korachais, 2011).

[4] http://www.un.org/esa/policy/devplan/profile/ldc_list.pdf

[5] www.un.org/special-rep/ohrlls/ldc/ldc%20criteria.htm

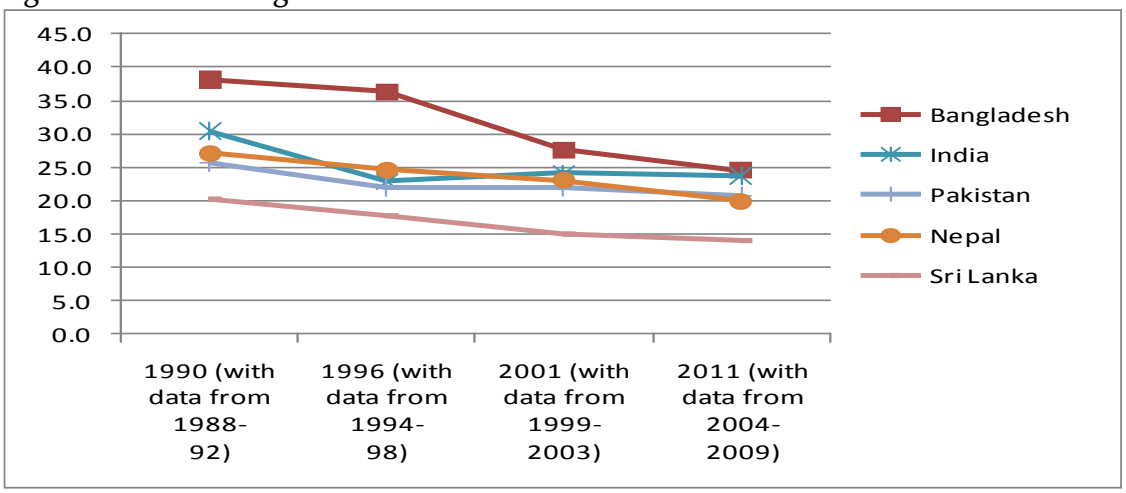
Table 1: Key indicators of South Asian LDCs (2009)

Country	Population (million)	Per capita gross national income (GNI) (US$)	Human Asset Index (HAI)	Economic Vulnerability Index (EVI)
Afghanistan	28.22	301	15.2	39.5
Bangladesh	161.32#	453	53.3	23.2#
Bhutan	0.67	1487#	58.6#	52.9
Nepal	28.76	320	58.3#	33.6#

Note: # Do not qualify to be a LDC.
Source: United Nations, 2009

The Global Hunger Index (GHI) of 2011, shows hunger to be lowest in Sri Lanka (14.0 percent) followed by Nepal (19.9 percent), Pakistan (20.7 percent), India (23.7 percent), and highest in Bangladesh (24.5 percent)[6]. Bangladesh, Nepal, and Sri Lanka have made appreciable improvement in the area of hunger during last two decades (Figure 1). However, GHI data is not available for Afghanistan, Bhutan and Maldives.

Figure 1: Global hunger index in South Asian Countries



Data Source: www.ifpri.org/book-8018/node/8058

Poverty and food insecurity are undeniable problems in Nepal. Above 25 percent of the population exist below the national poverty line of Rs. 19,261 per capita per annum in 2010-11 prices. The food poverty line is Rs. 11,929, and the non food poverty line Rs. 7,332 (CBS 2011a). Inadequate food production by farmers, low levels of income with which to buy sufficient food, and a limited public food distribution system (PDS) are the major reasons of food insecurity among the poor. Child malnutrition is among the highest in the world, with 42 percent of children under five years of age stunted, 31 percent underweight, and 14 percent wasted (CBS 2011b).

[6] http://www.ifpri.org/book-8018/node/8058

PDS for food is operationalised by Nepal Food Corporation (NFC) under the Ministry of Commerce and Supplies (MOCS). The NFC purchases foodgrain from farmers and traders in the Terai region during harvesting season, and sells them to food deficit hill and mountain districts, with the aid of transportation subsidy from the government. The size of NFC's operation is limited by the size of transportation subsidy provided by the government. The NFC maintains a national food buffer stock of 25,000 metric tons and the SAARC Food Bank reserve of 8,000 metric tons.

The SAARC Food Bank, established in April 2007, is an improved version of its non-functional predecessor—the SAARC Food Reserve—established in 1988. There is an immediate need to make the Food Bank operational and effective. Issues of foodgrain pricing, operational guidelines and delivery systems need to be tackled to make the Food Bank operational. The effective operationalization of the Bank may constitute a first step in building an efficient regional response mechanism to food inflation in South Asia (Carrasco and Mukhopadhyay 2012). It is still not clear whether the SAARC Food Bank can be operational in a manner which helps to reduce the vulnerability of South Asian poor from food insecurity. This study is commissioned to explore ways to operationalise the Food Bank in order to help the poor in Nepal, and reduce hunger and malnutrition.

1.3 Objectives of the study

The country case study explores the status and trends in agricultural productivity, agricultural investment and food security at both the national, sub-national and district levels; particularly at remote, rural, inaccessible and vulnerable regions. It also identifies the challenges and opportunities for an effective food distribution system. It analyses the efficiency of the policies and programmes in enhancing access to food, and ensuring its fair distribution.

In addition, the study also explores the commitments from the government to operationalise the regional food bank. It analyses the stakeholders take on this issue, nationally and locally, with regard, for example, to coverage of food items, storage and withdrawal conditions, pricing mechanisms, and replenishment of the stock. The study discusses the question of which policy and institutional mechanisms are necessary for the regional food bank to be accessible to poor people in food-insecure, remote, rural, and vulnerable areas. It also examines the public food distribution system, and its suitability for linking with the regional food bank, strategically and institutionally.

On the question of institutions, this paper argues for the need for governments to implement national and decentralized distribution systems, with certain institutional arrangements at the community level. It examines how the pricing mechanism can be implemented under the Food Bank mechanism. The study explores the question of how those countries with an immediate need can be assisted to benefit from the system, and

explores special arrangements that can be made for LDCs. It also reviews mapping of food-insecure areas and distribution of food at the time of shortage.

1.4 Methodology

This country case study is based on a comprehensive literature review, an analysis of secondary data, and a questionnaire survey. Available literature from Nepal, South Asia and other countries were reviewed first. Data related to foodgrain, food acquisitions, food distributions, government subsidies, donor subsidies, transportation costs, number and capacity of warehouses, and staff involved were obtained from Nepal Food Corporation (NFC). Secondary data was obtained from publications of the Ministry of Agriculture and Cooperatives (MOAC) and the Central Bureau of Statistics (CBS), and was analysed using simple statistical tools of mean and percentages. The secondary data has been presented in two-way tables and illustrated graphs.

The questionnaire survey was conducted with policymakers, experts and other stakeholders available in Kathmandu (Annex I). The survey questionnaire covered awareness of, and issues for, the operationalization of the SAARC Food Bank (Annex II). The results of the survey were incorporated in the paper. The findings were presented in the Regional Seminar on Emerging Issues on Trade, Climate Change and Food Security: Way Forward for South Asia, 31 May – 1 June 2012, Colombo, Sri Lanka, and the comments and feedbacks received have been incorporated.

1.5 Limitations of the study

The study is based on the information from secondary sources and interactions with a small number of policy makers and experts. The analysis is based on simple statistical analysis of the secondary data.

1.6 Organization of the study

After the background information presented in Chapter 1, Chapter 2 presents the status and trends in food production and availability in Nepal, highlighting food insecurity. Chapter 3 identifies challenges and opportunities of food distribution system in the country. Chapter 4 is dedicated to commitments for SAARC Food Bank and conditions of its operationalization. Issues of the operationalization are also discussed in this chapter. Chapter 5 concludes the study, and policy measures are recommended in Chapter 6.

2. Status and trends in Food Availability

Agricultural production and food security programmes in Nepal are guided by the 20-year Agriculture Perspectives Plan (APP), 1995-2015. APP stresses the need for the repositioning of investment on priority inputs and outputs as a means of generating growth and multiplier effects in the economy. APP has targets in increasing gross food production from 276 kg per capita to 426 kg per capita per year (APPROSC and JM

Associates 1995). On average 63 percent of gross foodgrain is edible and with this in mind, the APP target of 426 kg per capita would lead to the production of 268 kg of edible foodgrain per capita—much higher than the domestic need. Indeed, the per capita annual requirements of edible foodgrain are 191 kg for those in the mountain region, 201 kg for those in the hilly region, and 181 kg for those in the Terai (IDL Group 2006). However, Nepal is lagging far behind the APP target of improving food security and generating food surplus through increased production. The annual per capita edible foodgrain production declined from 198 kg in 1990/91 to 186 kg in 2008/09 (NPC 2011a).

The National Agricultural Policy (NAP) (2004) aims to increase food production in the country, with the primary goal of attaining food security and improving the livelihoods of the farmers. It seeks to achieve this, by in part, encouraging a transformation from subsistence agriculture, towards a commercialized and competitive system. It has a unique provision of encompassing earlier policies, such as the National Seed Policy (2000) and National Fertilizer Policy (2002), and providing a basis for developing other commodity specific detail policies under its framework such as the Agribusiness Promotion Policy (2006), the Agriculture Bio-diversity Policy (2007), and the Poultry Policy (2012).

The food security issue is also addressed by the National Agriculture Sector Development Priority plan (NASDP) (2011-2015), developed on the basis of NAP 2004. NASDP's, number one priority is to enhance food and nutrition security and safety. The expected improvements of the plan includes an increase in productivity and production, an ensured access to sufficient and safer food for the poor and vulnerable groups, a strengthened food distribution system, and a stronger emergency preparedness, response, and recovery support in order to minimize the extent of vulnerabilities (MOAC 2010a). Similarly, the Three Year Plan (2010/11-2012/13) developed on the basis of the NASDP, has the major objective of ensuring food and nutrition security with increased food production and productivity. It also aims to reduce poverty through agricultural production, and to minimize adverse effects of climate change on agriculture (NPC 2011b). It is evident that the public policies are mainly focused towards food production, rather than towards food access, utilization and stability for food security.

2.1 Food production

In 2010, SAARC countries produced 186 million metric tons of paddy, 111 million metric tons of wheat and 20 million metric tons of maize. (Table 2). The highest contribution came from India, which produced 65 percent of paddy, 73 percent of wheat and 68 percent of maize. The second highest producers were Bangladesh for paddy and Pakistan for wheat and maize. Nepal contributed only 2.16 percent in paddy, 1.40 percent in wheat, and 8.98 percent in maize. Thus, Nepal was South Asia's third largest producer of maize, and fourth largest producer of rice and wheat. Though foodgrain production is slowly increasing in this region, the year to year fluctuation is very high due to high

dependency of agriculture on weather conditions. As food production in South Asia is growing slower than expected, Thimphu Declaration of 16th SAARC Summit (2010) emphasized the need for the reduction of food insecurity through increased production.

Table 2: Major cereal production in SAARC countries in 2010 (‗000 metric tons)

	Paddy		Wheat		Maize	
Afghanistan	672	(0.36)	4,532	(4.08)	301	(1.46)
Bangladesh	49,355	(26.50)	901	(0.81)	887	(4.29)
Bhutan	62	(0.03)	4	(0.00)	55	(0.27)
India	120,620	(64.76)	80,710	(72.70)	14,060	(68.05)
Maldives	0	(0.00)	0	(0.00)	0	(0.00)
Nepal	4,024	(2.16)	1,557	(1.40)	1,855	(8.98)
Pakistan	7,235	(3.88)	23,311	(21.00)	3,341	(16.17)
Sri Lanka	4,301	(2.31)	0	(0.00)	162	(0.78)
Total	186,268	(100)	111,015	(100)	20,662	(100)

Notes: Figures in parentheses are percent to the total production in the region.
Source: FAOSTAT, 2010.

Nepal is a LDC member of the SAARC, which has a predominantly agrarian economy with about 3.2 million hectares of agricultural land and 77 percent of households engaged in agricultural production. Although only about 21 percent of land area is used for agriculture, agriculture is the major determinant of economic activities and the nation‘s socio-political identity (NSAC 1998). The agricultural sector contributes 35 percent to gross domestic product, and provides employment to 65 percent of the labour force (MOAC 2010). Though 77 percent of the households in Nepal are engaged in agricultural production, a large proportion of the labour force from these households has moved away from agriculture in order to earn cash income.

Table 3: Production of cereals, potato and pulses in Nepal during last 25 years (‗000 metric tons)

Year	Paddy	Maize	Millet	Wheat	Barley	Potato	Pulses
1985/86	2804.49	873.75	137.94	598.00	23.43	356.72	NA
1990/91	3502.16	1230.95	231.63	835.97	27.84	738.03	NA
1995/96	3578.83	1331.06	282.44	1012.93	41.34	898.35	NA
2000/01	4216.47	1484.11	282.85	1157.87	30.49	1313.72	243.24
2005/06	4209.28	1734.42	290.94	1394.13	27.79	1974.76	267.45
2010/11	4460.28	2067.52	302.69	1745.81	30.24	2508.04	318.36

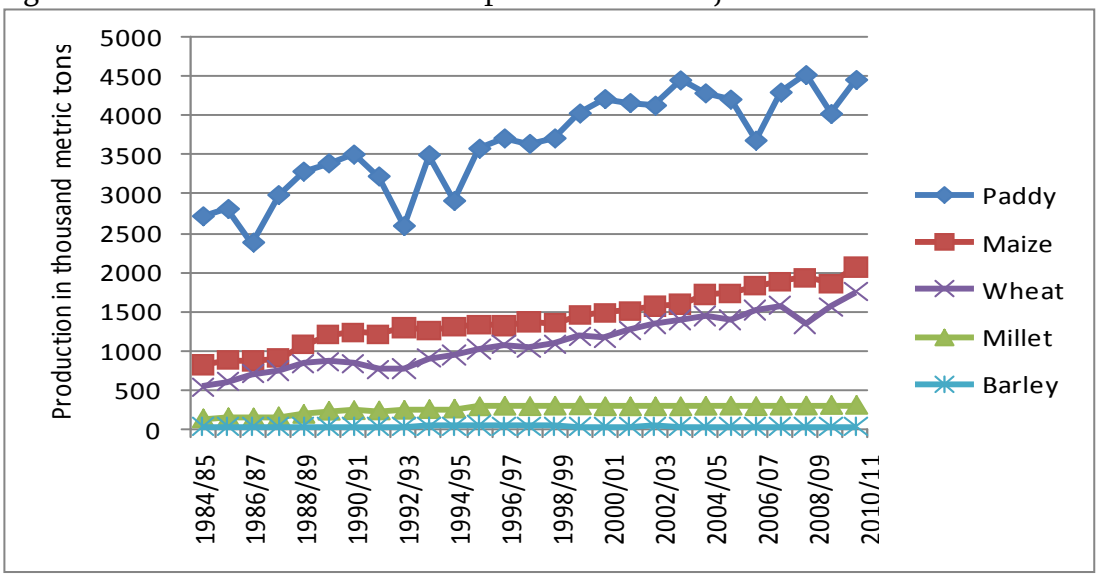
Source: MOAC 2011

In Nepal, production of major cereals, potatoes and pulses has increased over the years. During the last 25 years, the highest increases in production have been obtained in potato

(603 percent) and the lowest in barley (29 percent) (Table 3). The production of maize, millet and wheat has more than double. The production of the main staple crop –paddy- increased by 59 percent during the same period. Among the cereals, paddy contributes the most, followed by maize and wheat. The contribution of millet and barley are very small. Though potato makes large contribution in food, it is only used as staple in mountain region and t is used as a vegetable in other regions.

Though the production of all the cereals has increased over the years, fluctuations in production from year to year are still evident, and are most noticeable in the production of paddy and wheat. Indeed, paddy production fell between 1986/87, 1992/93, 1994/95, 2006/07 and 2009/10, due to droughts during growing season (Figure 2). Similarly, wheat production dipped during 1992/93 and 2008/09, due to prolonged drought during winter season, other cereal production fluctuated less.

Figure 2: Annual fluctuations in the production of major cereals



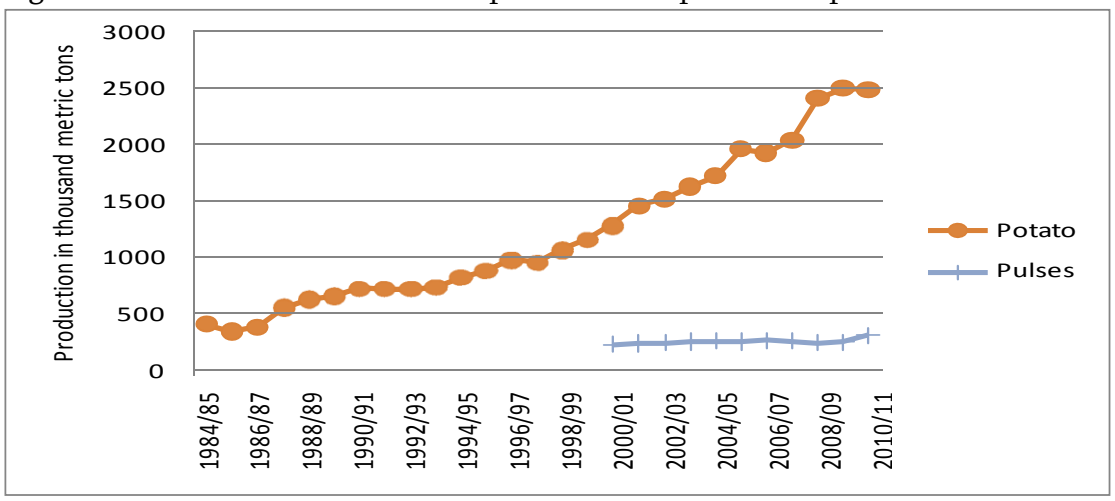
Data Source: MOAC 2011

Potato production has increased sharply, touching the level of 2500 thousand metric tons, with little fluctuations (Figure 3). Some decreases in production are found in the year 1985/86, 1997/98, and 2006/07. Little fluctuation is seen in pulse production during the last decade. This is explained by the fact that the pulse production is taken as an aggregate production of lentil, chickpea, pigeon pea, black gram, grass pea, horse gram, soybean and other.

Agricultural production is especially effective in reducing hunger in Nepal. Agriculture not only increases the food supply, but also reduces poverty directly by raising farm incomes, and indirectly, by providing employment and reducing food prices in the market. In addition, the agricultural production continues to be a major source of raw materials, provides a means for value addition - generating further employment and plays

a vital role in increasing the affordability of food.

Figure 3: Annual fluctuations in the production of potato and pulses



Source: MOAC 2011

Though food production in the country has increased over the years, rising demand for foodgrain due to the rise in population has worsened the problem of food insecurity, particularly among the rural poor in areas with poor transportation facilities.

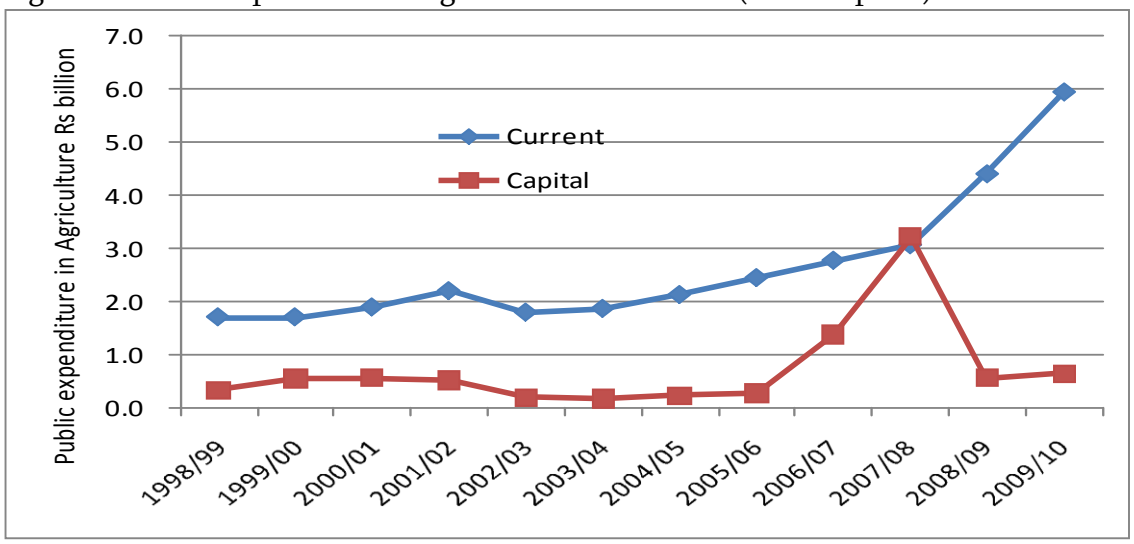
Limited availability of arable land and low level of productivity are the major reasons of food deficiency in Nepal. The average farm size is 0.7 ha, although this is normally fragmented into 3.3 parcels (CBS 2011). Low crop productivity can be attributed to the problems of less productive land, low levels of modern inputs use, large fractions of rainfed lands (46 percent), inadequate infrastructure, and poor access of the farmers to technological services. The National Agriculture Policy (2004) and Three Year Plan (2011-2014) both emphasize the need for high value commercial crops to replace at least some of the food crop areas. In terms of food security related output indicators, the plan has set target levels of increasing food crop production by 23 percent, pulse production by 6 percent, fruit production by 10 percent, potato production by 9 percent, vegetable production by 20 percent, milk production by 19 percent, and meat production by 16 percent (NPC 2011b). Such ambitious targets in food production are for reducing food insecurity in the country. To eradicate extreme poverty and hunger (related to MDG-1), the plan has emphasized the need for improved productivity, market linkage development, rural employment promotion, improved food distribution arrangement, and targeted food assistance. The low productivity of traditional agriculture, limited opportunities for its commercialization, and limited opportunities for off-farm and non-farm employment opportunities has caused the absence of 1.9 million youths (population census 2011), mainly due to their migration for foreign employment (CBS 2011). A large portion of the remittance is used by the women, children and elderly left at home for the purpose of buying food. Such low productivity and inadequate food production are

attributed to low investment in agriculture. Remittance-fuelled consumption, rather than investment has been a main driver to achieving the MDG goals, and as a consequence, competitiveness has been eroded (IMF 2011).

2.2 Agricultural investment

Public expenditure in agriculture is increasing. In 1998/99 expenditure (at current price) totalled Rs 2.02 billion, and increased to Rs 6.6 billion by the year 2009/10. The increase was however predominantly due to an increase in current expenditure, which was 80 percent during 1998/99, and increased to 90 percent in 2009/10. Indeed, during this period, the current expenditure increased from Rs 1.7 billion to Rs 5.95 billion. As the current expenditures are expenses on goods and services that are consumed within the current year, such expenditures are made recurrently to sustain the production of agricultural services in the country. Such expenditures do not increase the productive capacity of the agriculture sector. The capital expenditure that is utilized in order to increase productive capacity is still very low, failing to rise above one billion rupees, except in a couple of years following the peace agreement of 2006 (Figure 4). It is clearly visible that the priority of the state during the conflict period was diverted away from the agriculture.

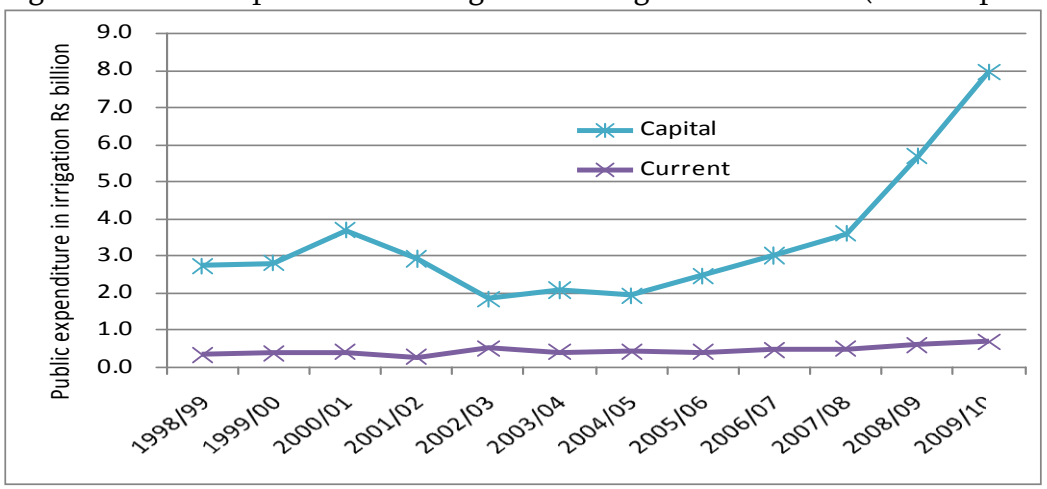
Figure 4: Public expenditure in agriculture in a decade (current price)



Data source: MOF, 2011

The public expenditure in irrigation reached Rs 8.65 billion in 2009/10 from Rs 3.05 billion in the year 1998/99. In irrigation, by nature, the capital expenditure is much higher than the current expenditure. The current expenditure ranges from eight to twenty percent. The capital expenditure, which decreased during the conflict period, has increased continuously after the peace accord in 2006, rising to Rs 8.0 billion in 2009/10 (Figure 5).

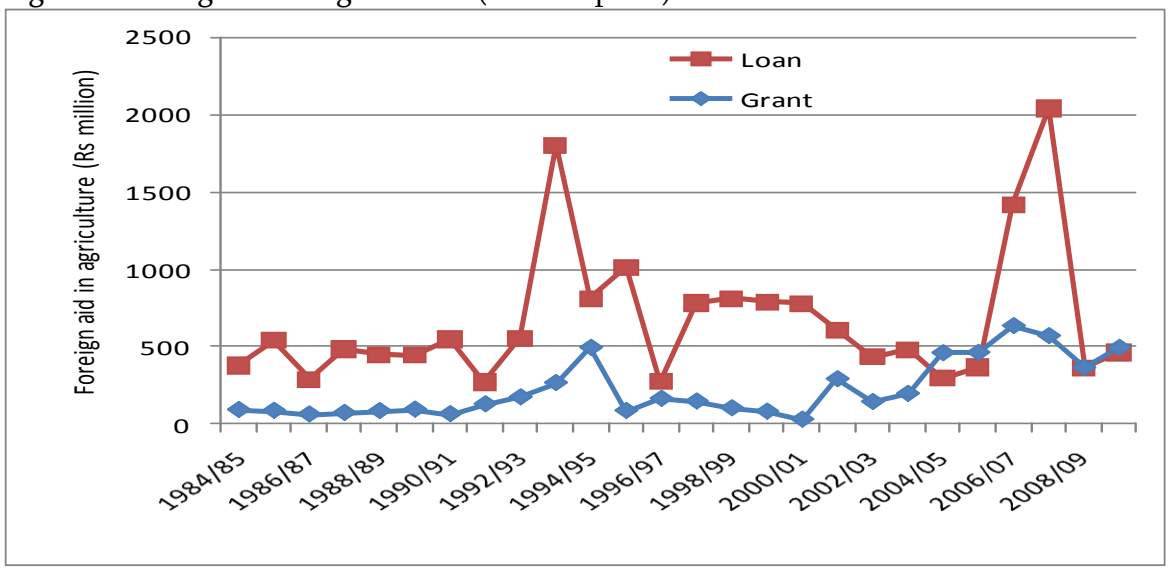
Figure 5: Public expenditure in irrigation during the last decade (current price)



Data source: MOF, 2011

With regard to agricultural development, the government has a policy to obtain as much foreign aid as possible. The foreign loan and aid together in agriculture remained generally less than Rs one billion per year, in current price, except in pre-conflict and post conflict periods. During the decade of conflict (1996 to 2006) foreign aid in agriculture was low (Figure 6). Compared to aid, the amount of foreign loans invested in agriculture is much higher, with higher level of fluctuations.

Figure 6: Foreign aid in agriculture (current price)

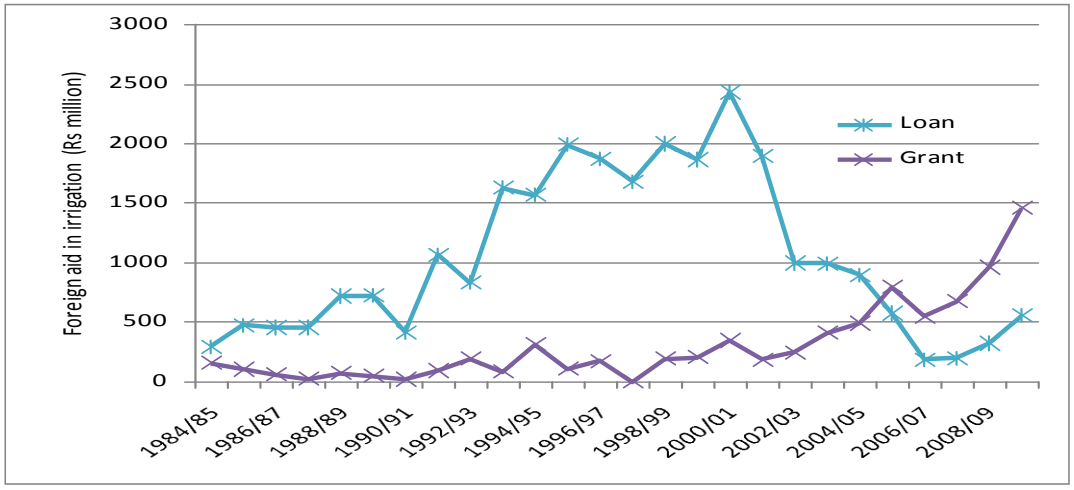


Data source: MOF, 2011

The foreign aid in irrigation was much lower during the eighties and then increased successively, with some fluctuations, till 2000/01. Since 2000/01, the amount of loan decreased drastically, whereas the grant maintained its trend with exceptions in the year 2001/02 and 2006/07 (Figure 7). After the peace accord in 2006, both loan and grant are

improving, but the improvement in loan is much slower than the improvement in grant. In the year 2009/10, the total foreign aid in irrigation was Rs 2.02 billion.

Figure 7: Foreign aid in irrigation (current price)

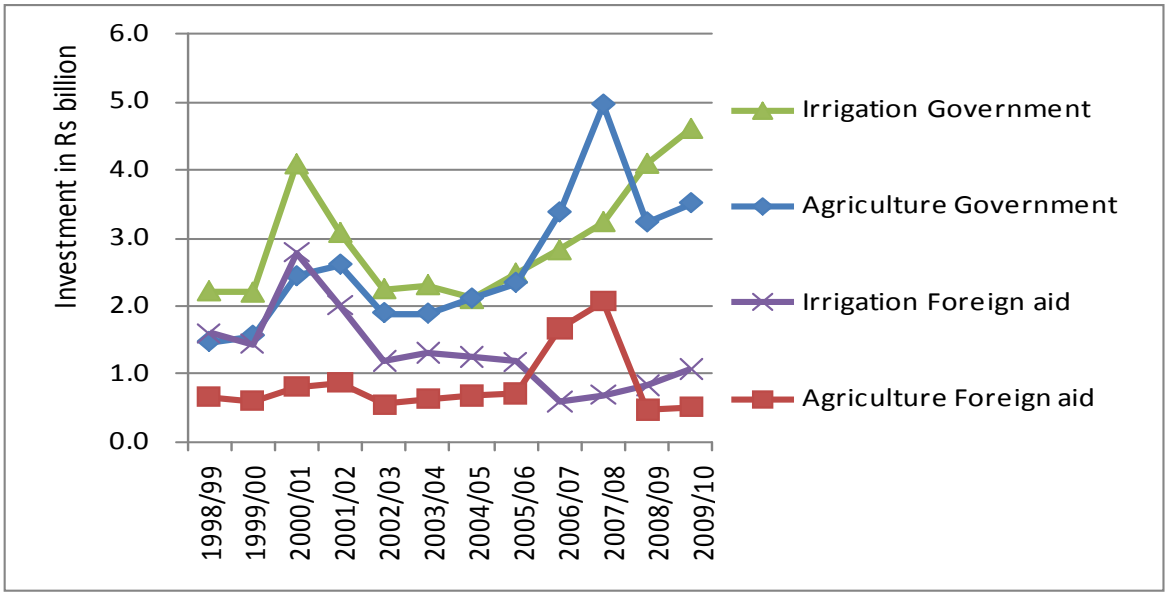


Data source: MOF, 2011

Public expenditures in agriculture and irrigation in real terms are presented in Figure 8. In real price, the investment in agriculture over a decade has been bimodal. There was a peak in the year 2000/01, and again in 2007/08. Between these two modes, the public expenditures in agriculture and irrigation declined, although the amount of foreign aid was still lower than public expenditures. The decrease in the agricultural expenditure was both due to internal and external causes. Indeed, the internal resources were diverted to containing conflict, and the external foreign aid was often loaded with conditionalities. The Second Agriculture Program Loan (SAPL) from the Asian Development Bank was conditional upon the structural adjustment program that, in 1995/96 pushed the government to discontinue subsidies in fertilizers and irrigation. The conditionalities led, not only to a decline in the use of chemical fertilizers, but also to a decline in the use of ground water, particularly in establishing deep tube, and shallow tube wells. Consequently the use of chemical fertilizers and establishment of tube wells decreased. As these were the priority inputs proposed by the APP for generating growth in agriculture, the implementation of APP, formulated with technical assistance of ADB almost failed.

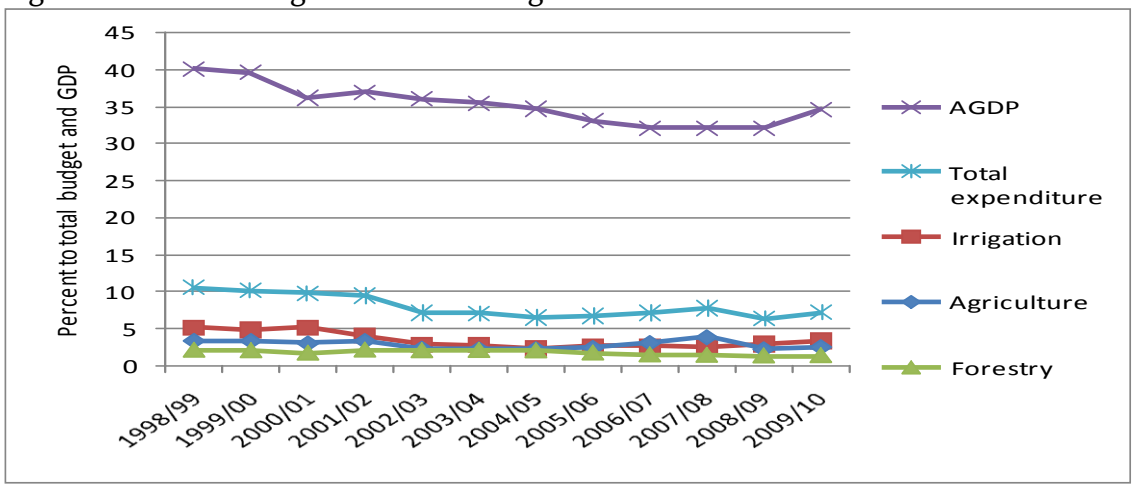
Limited internal resources, loan conditionalities and policy instability within Nepal have all contributed to ensure a decrease in investment in the agriculture sector during the last decade. In turn this has meant that the potential of the country to produce food and high value crops has been unexploited. The expenditure in the agricultural sector (including agriculture, irrigation and forestry) was nearly 11 percent in the year 1998/99, but this decreased to 6.5 percent by the year 2004/05. Although it has slightly improved, reaching 7.1 percent in the year 2009/10. This budget is much lower as compared to the contribution of agriculture to gross domestic production (GDP), which was 35 percent during the same year (Figure 9).

Figure 8: Public expenditures in agriculture and irrigation (at 2000/01 price)



Data source: MOF, 2011

Figure 9: Percent budget allocation in agriculture and contribution to GDP



Source: MOF, 2011

Low expenditure in agriculture and an open access for imports of agricultural products at very low tariff, particularly from India, has caused undue pressure on the livelihood of the farmers and has led to the migration of the labour force away from agriculture. Investment in agriculture has become particularly unattractive within Nepal's private sector, and investment has been diverted into other sectors of the economy, particularly real estate and housing. The housing boom, in turn, has led to a process of urban sprawl which has eaten away at precious farmlands, decreasing food production.

Private investment is fundamentally important for agricultural development and food production. However, no systematic data is available on private investment in the

agriculture sector. Credit from financial institutions is taken as a proxy for private sector investment in agriculture. The major sources of agricultural credits are commercial banks, Agriculture Development Bank Limited (ADBL), Small Farmer Development Bank (SFDB) and agricultural cooperatives. The outstanding loan of commercial banks in the agriculture sector at the end of year 2009/10 was Rs 14.29 billion (Table 4). During the same year, ADBL had Rs 5.37 billion of outstanding loan in the agriculture sector. But, the contribution of SFDB and agricultural cooperatives is much smaller. Though Micro-Finance Development Banks and Rural Development Banks had loans and advances to the tune of Rs 11.11 billion in the same year, no information is available about what portion of this goes to the agricultural sector.

Table 4: Agriculture loan outstanding at the end of year 2009/10

	Source	Outstanding loan (Rs billion)
1	Commercial banks	14.29
2	Agriculture Development Bank Limited	5.37
3	Small Farmers Development Bank	1.12
4	Agricultural cooperatives*	2.38
5	Milk, fruit & vegetable, tea, coffee, beekeeping cooperatives*	0.15
	Total	23.31

Note: * Total investment
Source: MOF, 2011; MOAC 2010.

The banks instituted for lending to agriculture has diverted the loans to other sectors of the economy. Investment was primarily diverted to real estate and then to housing (IMF 2011). Out of the Rs 40.4 billion outstanding loan of ADBL, only Rs 5.2 billion (12.88 percent) was invested in the agricultural sector at the end of fiscal year 2010/2011 (Table 5). This outstanding loan divided by the cultivated area in the country comes to an average loan of Rs 1,683per ha. More than half of this loan goes to crops and crop services (52.66 percent), followed by livestock and livestock related activities (23.86 percent). In addition, there is no data on what percent of the agricultural loans are diverted to other purposes.

Table 5: Loan outstanding from ADBL in agriculture sub-sectors

	Purpose of loan	Outstanding loan (Rs billion)		% to total outstanding loan in agriculture in 2010/11
		2009/10	2010/11	
1	Crop and crop services	2.24	2.79	53.66
2	Tea and coffee	0.22	0.08	1.61
3	Livestock and livestock related	1.29	1.24	23.86
4	Forestry	0.03	0.02	0.43

5	Irrigation	0.04	0.03	0.64
6	Other agricultural and agro services	1.56	1.03	19.80
7	Total in agriculture	5.37	5.20	100
8	Total outstanding loan of ADBL	39.58	40.37	

Source: ADBL, 2011

The low level of public expenditure, foreign aid, and private investment in agriculture has led to a dwindling of research and technology generation, and a poor delivery of technology extension services from the public sector. This has resulted in low levels of entrepreneurship in the private sector. The declining trends of global funding on agriculture and rural development are also reflected in the country programs of donors. The gross disbursement of the official development assistance (ODA) for agriculture was 12.9 percent in 2002, and declined to 2.9 percent in 2010. In this period, the assistance to food crop production always remained at less than one percent (please see the figures from Creditor Reporting System database of the OECD in Annex VII). Increasing population, higher food price and climate change, add to the challenges of increasing food production. The situation is particularly vulnerable among South Asian LDCs where poor people are working on small farms for their subsistence. Food insecurity and hunger are old problems in such countries aggravated by new challenges of rising food prices and climate change. Unfavourable processes and dysfunctional policies and institutions in LDCs serve only to increase the economic, ecological and social challenges of food security in such countries. The unfavourable processes include population growth at a rate faster than food production, climate change and rapid urbanization. Some examples of dysfunctional policies include the neglection of agriculture in budget allocation, faulty public distribution systems and a lack of incentives for the farmers to continue farming. Similarly, some examples of institutional dysfunction include skewed land holding, excluded farmers, bad governance and distorted markets.

2.3 Food insecurity

The 2009 World Food Summit[7]was able to renew commitments towards advancing agriculture, and addressing hunger and food insecurity. The Summit defined food security as the ―situation 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 four most recognized elements of the definition of food security are availability, access, utilization and stability.

Food availability is generally equated to domestic food production, but in fact it is a function of food production, domestic carry-over of stocks, commercial food imports and

[7] World Summit on Food Security in Rome on 15–18 November 2009.

food aid. It is said that food availability is a necessary but not a sufficient condition for achieving food security among the poor. The second element, food access covers both physical as well as economic access to food. Food access is ensured when households and all individuals within the households have adequate resources to obtain appropriate foods for a nutritious diet. The economic access of a household to adequate food depends upon income and food prices. The physical access to food depends on infrastructures, transport, connectivity and food policy.

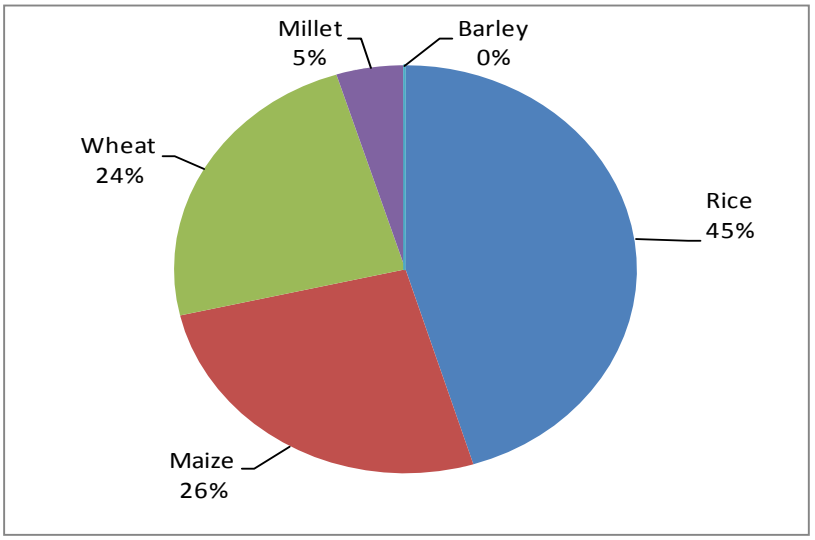
The third element, food utilization depends on the metabolism of an individual in taking nutrients and energy from food and is expressed in terms of a certain nutritional status. Good knowledge and sound practices in food processing, storage, safety, consumption and health care are necessary for effective food utilization. Finally, the fourth element, food stability refers to non-vulnerability in the temporal dimension of food security. Anthropogenic disturbances, natural calamities and climate induced instability in food supply and agricultural production are the main source of food insecurity. Thus, food insecurity is a consequence, not only of low production, low supply and poverty, but is also a product of poor health, unhealthy food practices and external factors, such as natural calamities, which differ from country to country. The poor in LDCs are particularly vulnerable to food insecurity and this increases the need for national and regional food buffer stock.

2.3.1 Food insecurity in Nepal

Nepal is one of the food insecure LDCs in South Asia. A limited area of arable land suitable for cereal and grain farming, a decade of armed conflict, and protracted political instability have all resulted in inadequate food production. Natural disasters, including droughts, flooding and erratic rainfall pose serious threats to vulnerable populations who depend on agriculture for domestic food production. Extremely difficult geographical conditions and the remoteness of the country pose difficulties for the delivery of development programmes and humanitarian food assistance. Inequalities such as gender disparities, caste differentials, ethnic and linguistic discrimination, and spatial exclusion due to the remoteness of rural villages are major challenges to food security in Nepal (Frankenberger 2010).

National food security is estimated by comparing the edible portion of the production and the requirement of the population. Though the term food encompasses all the nourishing substances of plant or animal that are consumed to sustain life, provide energy and promote growth, it is only the edible portion of five major cereals—rice, maize, wheat, millet and barley—that are considered for measuring food self sufficiency in Nepal. This is because these cereals are staples and the calories they provide are necessary for survival.

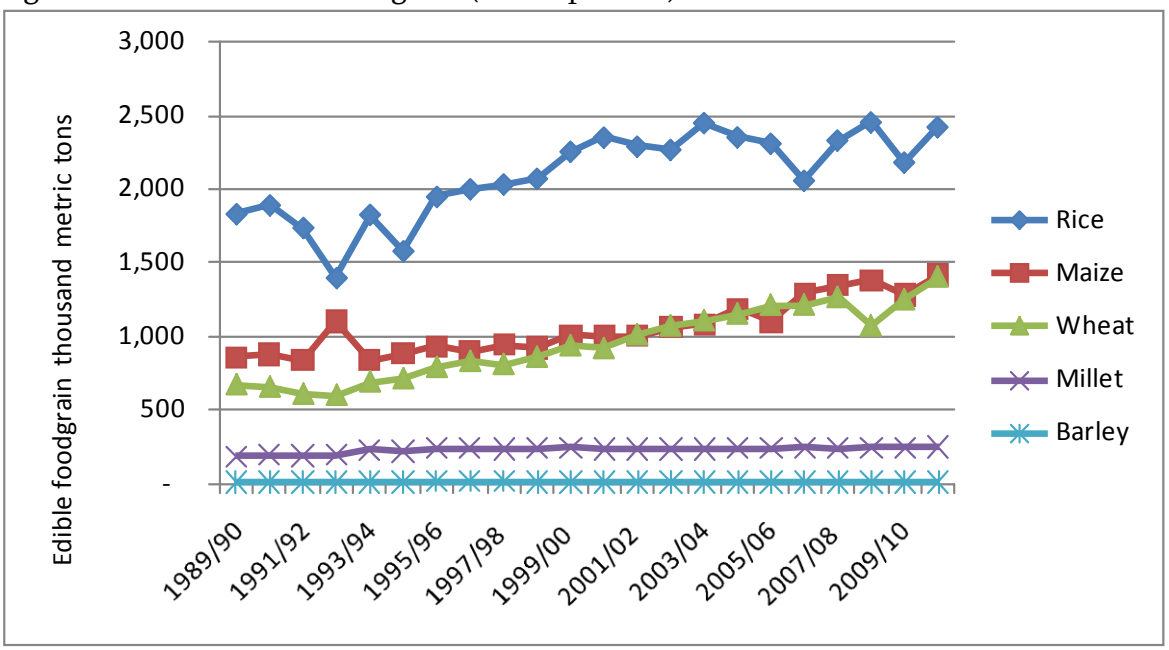
Figure 10: Contribution of different crops in cereal basket



Data source: MOAC 2011

The three year average ending 2010/11 shows that in terms of edible portion, rice contributes 45 percent of the cereal basket, followed by maize (26 percent), wheat (24 percent) and millet (5 percent). The contribution of barley is very low (0.15 percent) (Figure 10). Among these five cereals, the production of millet and barley has failed to rise for several years (Figure 11). The production of rice, maize and wheat has increased over the years with some fluctuations, caused primarily by prolonged droughts. The availability of water affects the production of rice, and thus in turn affects food security of the country.

Figure 11: Production of foodgrain (edible portion)

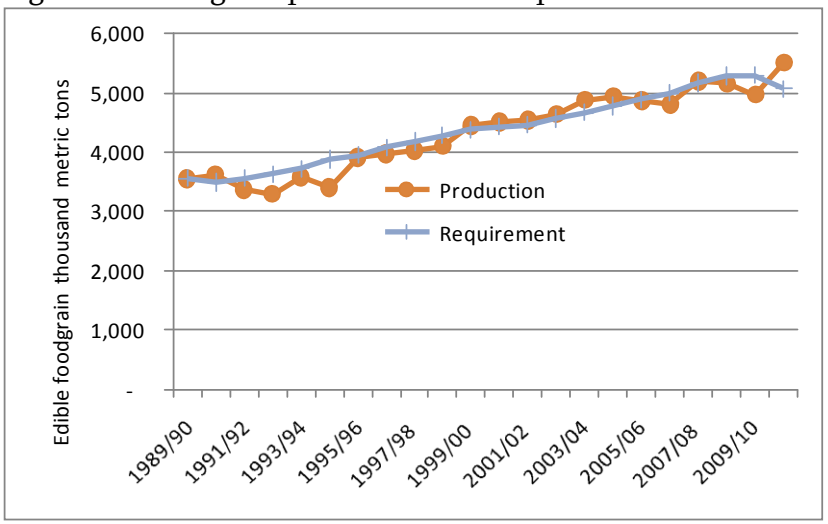


Data source: MOAC 2011

In terms of national aggregates, foodgrain production is moving almost alongside

foodgrain requirements, with surplus occurring in some years and deficit in others (Figure12). While better-off farmers have practices of keeping stocks of food at home in the surplus year, the poor cannot afford such food storage, and consequently suffer from shortfalls in production in any year. Indeed, even in years of national food self-sufficiency at an aggregate level, the poor in some parts of the country nevertheless still often suffer from food shortages.

Figure 12: Foodgrain production and requirement



Data source: MOAC 2011

During the last 22 years, Nepal was food deficit for 13 years and surplus for the other nine years (Table 6). During this period, the food deficit was five percent or less, except during the time of severe droughts and floods (1994/95, 1992/93 and 2009/10). During these drought years, the food deficit was 485, 342 and 330 thousand metric tons respectively. This means, if severe drought occurs, Nepal can face food deficit of 300 to 500 thousand metric tons. On average, Nepal is deficit in cereal grains by about one percent of domestic consumption. The government data shows that the food sufficiency is better in recent years, primarily due to increases in production and out migration of large number of youths.

In the context of Nepal, food availability is mainly a function of agricultural performance, but agriculture in turn depends heavily on rainfall pattern. Thus, severe weather conditions like drought, flood, landslides and hailstorms affect food security. Other factors affecting the food availability are food trade and food aid.

Food trade affects food availability in the country. Since 1990, Nepal‘s food trade with neighbouring countries has increased. This has been a result of the 1990 trade liberalization, as well as other developments, including Nepal‘s accession to the World

Trade Organization (WTO), and the development of both regional trade agreements[8], and a long standing bilateral trade agreement with India. Food trade is affected by price movement and the trade itself stabilizes food prices. The trade not only fills the gap between domestic production and consumption, but also reduces the variability in supply and prices caused by natural disasters and climate change factors (FAO and SAARC 2008). Trade policy however, is not considered an explicit instrument in achieving food security in Nepal (NTWG 2007). Nepal has open trade regimes with low applied tariff rate (10 to 15 percent for third country and no tariff for Indian primary products on reciprocal basis). It has no export subsidies and quantitative restrictions on export and import.

Table 6: Foodgrain self-sufficiency in last two decades (1,000 metric tons)

Year	Production	Requirement	Balance	Balance as % of the requirement
1989/90	3549.59	3559.01	-9.42	-0.26
1990/91	3618.96	3486.78	132.18	3.79
1991/92	3373.45	3561.84	-188.39	-5.29
1992/93	3292.13	3633.72	-341.60	-9.40
1993/94	3585.11	3723.72	-138.61	-3.72
1994/95	3397.76	3882.92	-485.16	-12.49
1995/96	3913.88	3948.23	-34.35	-0.87
1996/97	3972.59	4079.14	-106.55	-2.61
1997/98	4027.35	4178.08	-150.73	-3.61
1998/99	4097.61	4279.49	-181.88	-4.25
1999/00	4451.94	4383.44	68.50	1.56
2000/01	4513.18	4430.13	83.05	1.87
2001/02	4543.05	4463.03	80.02	1.79
2002/03	4641.47	4565.82	75.65	1.66
2003/04	4884.37	4671.34	213.03	4.56
2004/05	4942.55	4779.71	162.84	3.41
2005/06	4869.44	4890.99	-21.55	-0.44
2006/07	4815.28	4995.19	-179.91	-3.60
2007/08	5195.21	5172.84	22.37	0.43
2008/09	5160.41	5293.32	-132.91	-2.51
2009/10	4967.47	5297.44	-329.98	-6.23
2010/11	5512.88	5069.82	443.06	8.74

Data source: MOAC 2011

In spite of a surplus foodgrain production shown by the national statistics above, the net

[8] Nepal joined South Asian Free Trade Area (SAFTA) agreement among the SAARC countries and Bay of Bengal Initiatives for Multisectoral, Technical and Economic Cooperation (BIMSTEC) Free Trade Agreement (FTA) in 2004.

import of cereals and their products, such as flour and malts, was 331 thousand metric tons in the year 2010/11 (Table 7). Nearly a half of the import is maize (49 percent) followed by rice (38 percent). Export of cereals was, however, negligible, and import was mainly from India. Though the government statistics on food balance shows that foodgrain in year 2010/11 was surplus by 443 metric tons (8.74 percent of total production), the net import in the same year was recorded to be 331 metric tons (accounting to 6.02 percent of the total production). This raises questions with regards to the preciseness of the figures reported by the food balance sheet. Assuming that the net import was done to meet the domestic requirement, the domestic surplus and net import figures together indicate that the error in the estimates of food balance can go as high as 15 percent of the total consumption.

India is the major trading partner for export as well as imports. Trade with India, along the porous long land border, also defies trade restrictions, if price differences across the border are high enough to compensate the costs of informal trade.

Table 7: Food trade (_000 metric tons) 2010/11

	Product	Export	Import	Net import	Percent
1	Rice	0.30	126.72	126.42	38.10
2	Wheat	0.03	2.04	2.01	0.61
3	Maize	0	163.64	163.64	49.32
4	Millet	0	15.51	15.51	4.67
5	Barley	0	1.09	1.09	0.33
6	Cereals (other)	0	2.64	2.64	0.80
7	Malts	0	6.09	6.09	1.84
8	Wheat flour	1.17	15.59	14.42	4.35
	Total	1.50	333.32	331.82	100.00

Data source: TEPC as reported by MOAC 2011.

Food aid affects food availability, as well as the ability of the poor to access food. The government of Japan provides food aid under the Kennedy Round (KR1) programme, through Nepal Food Corporation (NFC). The quantity of this aid for the fiscal year 2009/10 is set at 9,600 metric tons of rice. The World Food Program (WFP) has also been making contribution to foodgrain availability through its safety net programme. The WFP, in collaboration with the government has provided rural employment opportunities to the poor. WFP's Food for Education Programme is improving children's nutritional status, as well as their school enrolment and attendance. Similarly, it's Mother and Child Health Initiative improves the health and nutritional status of pregnant women. The Food for Education Programme and the health initiatives are implemented for vulnerable people to improve food security in future. Using food aid, the WFP facilitates the construction and rehabilitation of productive assets to improve market infrastructure, such as rural roads and mule tracks, while enhancing agricultural

productivity through the construction of small-scale irrigation systems, water storage tanks, micro-hydro schemes and storage facilities (HLTF 2009).

Access to food is another important dimension of food security. The term access covers both economic as well as physical access to food. Access to food is ensured when every individual has adequate resources to obtain appropriate foods for a nutritious diet. The access to adequate food depends upon income of the household and food price in the market. Even though a whopping 77 percent of Nepalese households grow food, many rural households are still lack food security. Small size of landholding and limited availability of irrigation water impede food production, and this in turn limits the access of households to food as it limits both self production, and the ability for households to generate a farm-based income as a means of buying food. The physical access to food depends on transport infrastructure, market development, and communication. The market supplies food in town areas where transportation facilities are available. Since the transportation to remote areas is costly, market forces are not getting developed to supply food in such areas. The government provides transportation subsidies to NFC to supply food in 23 remote districts in mountains and hills. Some 3.5 million people in Nepal are highly food insecure (WFP 2010), and 24.82 percent of the population lives on less than US$ 1.25 a day at 2005 PPP[9]. The food insecurity is due to draught, high food prices, low agricultural production, political unrest and the impact of global economic crisis. This is particularly true in the mid and far western hills and mountains, where the farmers are exposed to food vulnerability mainly due to marginal land, the existence of intermittent rugged dry terrain, limited irrigation facilities for food production and limited road access for food supply.

Food utilization is another aspect of food security. Healthy body and healthy food practices are necessary for proper utilization of food. A person with healthy digestive system can digest the food properly. Healthy food practices include proper processing of food, good storage and safe handling. Finally, the stability of food refers to food availability, access and utilization. Because agricultural production is season bound, food is not equally available throughout the year for poor farmers. Seasonal fluctuations in food price also affect those who need to buy food. In addition, natural calamities make the farmers more vulnerable to food insecurity. In particular, rainfed farming is more susceptible to draughts, meaning such farmers are vulnerable to food insecurity.

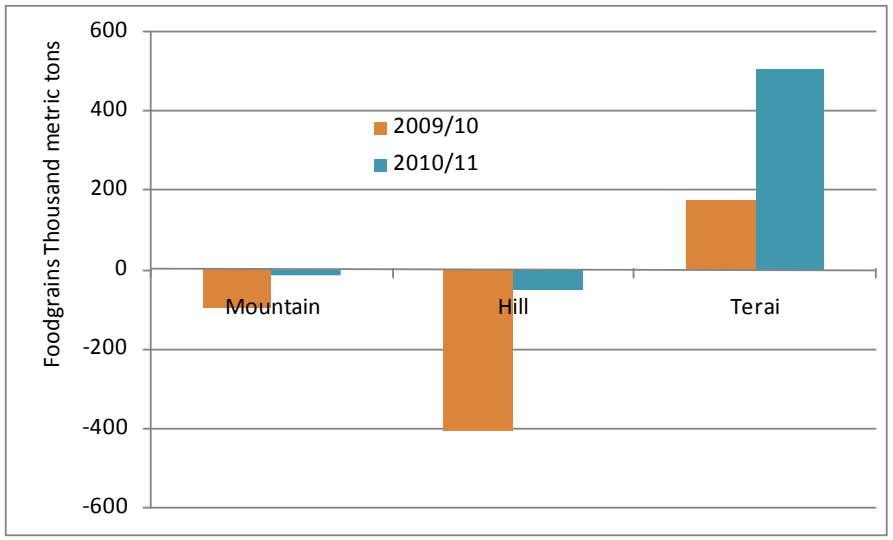
2.3.2 Food insecurity at regional and district level

The geography of Nepal extends from the southern plains of the Terai to the northern Himalayas, with the hilly region in between. The Terai region with plain areas and fertile soil is mostly food sufficient, whereas the hills and mountains are almost always food

[9] PovcalNet: the on-line tool for poverty measurement developed by the Development Research Group of the World Bank, http://iresearch.worldbank.org/PovcalNet/index.htm?3, accessed on 15th June 2012.

deficit in aggregate (Figure 13). Government data for the years 2009/10 and 2010/11 shows that there has been much improvement in food surplus in the Terai and a decrease in food deficit in the hills and mountains. Such improvements in food availability can partly be attributed to increased production and more importantly, to a revised population estimate, after the preliminary results of the 2011 population census showed that there was a much lower population than projected, mainly due to out-migration.

Figure 13: Surplus of the foodgrain by physiographic regions



Data source: MOAC 2011

For development purposes, the country is divided into five development regions—Eastern, Central, Western, Mid-western and Far-western. Three physiographic regions and five development regions overlaid each other gives 15 ecological regions in the country. The food production and requirements for each of these regions, for the last two years (2009/10 and 2010/11) are presented in figure 14 and figure 15.

The eastern and western development regions are food surplus, and the central region is food deficit. The mid and far western regions, and the Terai district are food surplus, but the hill and mountain districts are food deficit. The Mid western hills and central Terai regions that were food deficit in 2009/10 turned to be food surplus in the year 2010/11, mainly due to out-migration. In general, the Terai region and whole of the Eastern region is food surplus.

The district-wise food self sufficiency data offers a closer picture. In this regard, the ten most food surplus districts, in the order of surplus quantity are Kapilvastu, Rupandehi, Syangja, Jhapa, Bara, Bardiya, Kanchanpur, Parsa, Nawalparasi and Ilam (Figure 16). According to the government data, 33 out of 75 districts were food deficit in the year 2010/11 (MOAC 2011). The ten most food deficit districts in the order of deficit quantity are Kathmandu, Lalitpur, Siraha, Bhaktapur, Mahottari, Makwanpur, Rautahat, Sarlahi,

Dolakha and Bajhang. Though there are 33 food insufficient districts, including major cities like Kathmandu, Bhaktapur and Lalitpur, only those districts in far and mid western hills and mountains are really food insecure. Among the hill and mountain districts, the most insecure are those districts with limited road transport infrastructure and market development.

Figure 14: Food requirement and production in 2009/10

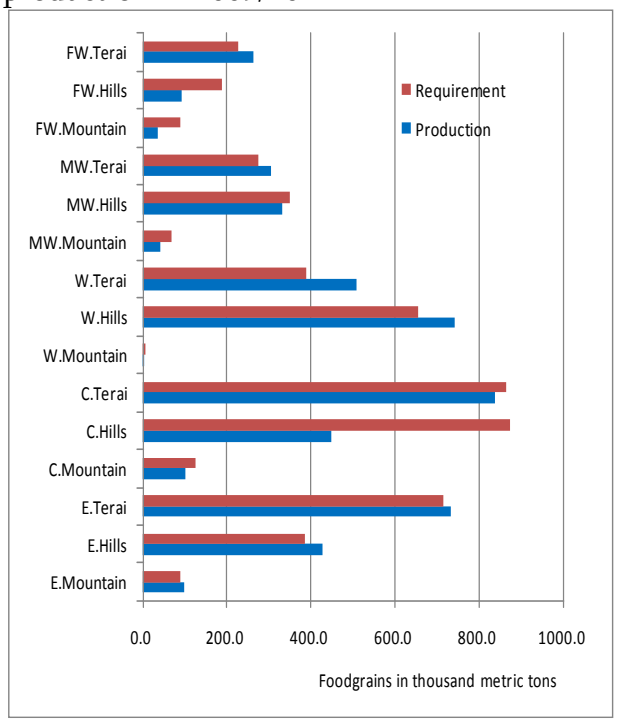
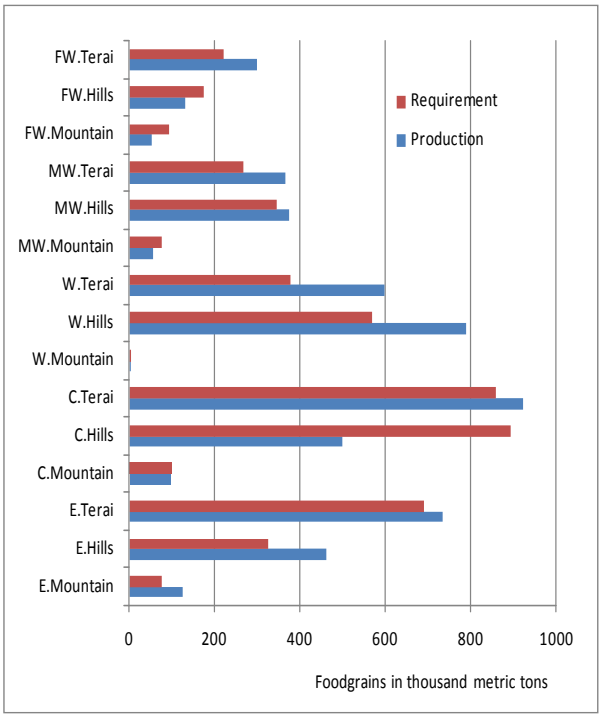


Figure 15: Food requirement and production in 2010/11

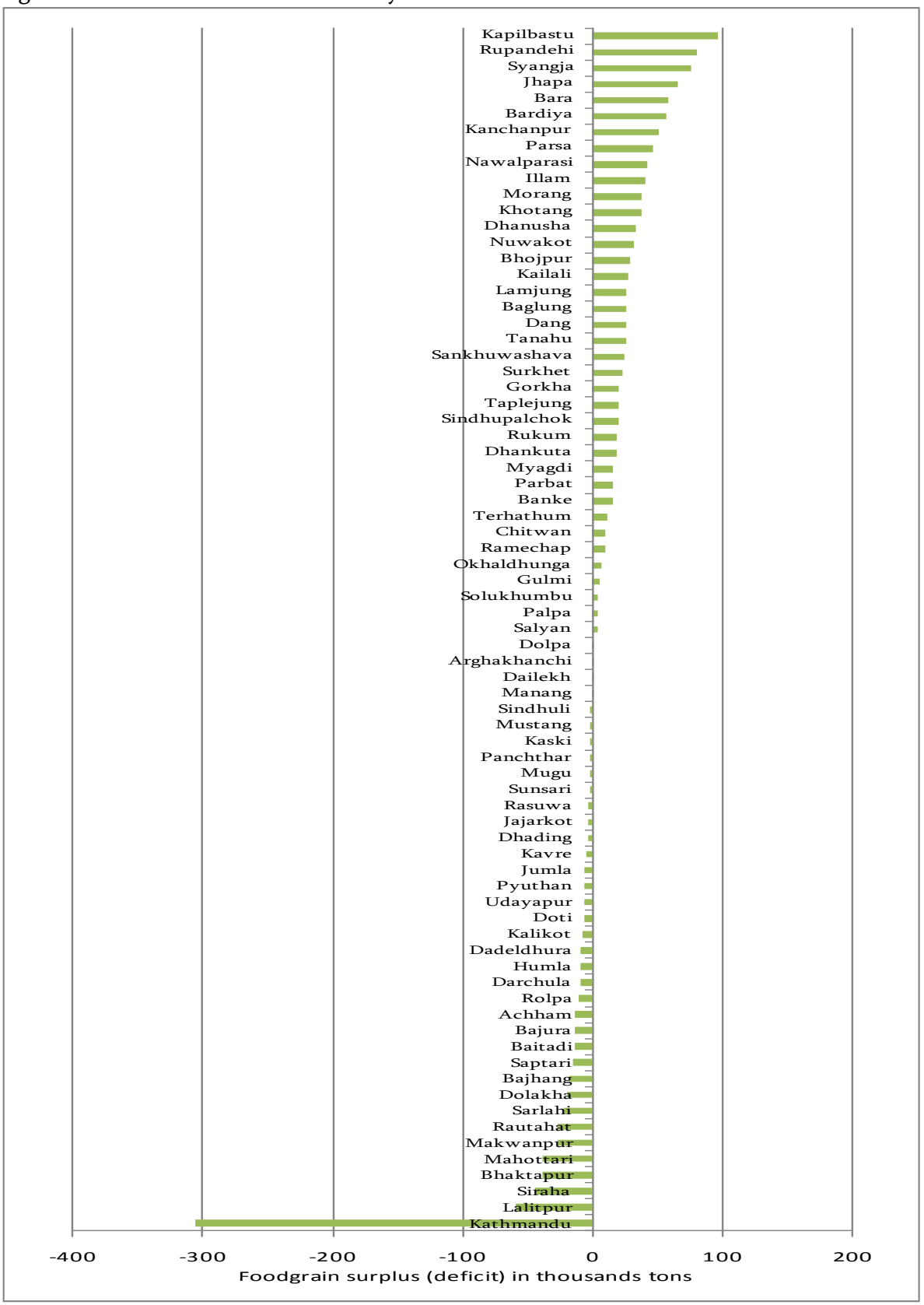


Data source: MOAC 2010 and 2011.

While at a national aggregate level Nepal is near food self-sufficient, the data demonstrates that internally there are great disparities. Indeed, at a national aggregate level, the food deficit is one percent on average, with a deficit of between two to four percent during some years. However, there are regions in the country where people chronically suffer from food insecurity. In particular, the mid and far western hills and mountain regions are food insecure, and require external assistance. Though food insufficiency is found in some districts with large urban centres, people in general are not food insecure in the accessible areas. In a real sense, the food deficit districts in the order of deficit quantity are Dolakha, Bajhang, Baitadi, Bajura, Achham, Rolpa, Dalchula, Humla, Dadeldhura, Kalikot, Doti, Udaypur, Pyuthan, and Jumla. The overall existence of these disparities in levels of food security, show that within Nepal, food security is a regional, district and to some extent even household specific issue.

The World Food Programme (WFP) has assisted the Ministry of Agriculture and Cooperatives (MOAC) in mapping food-insecure areas using the Nepal Food Security

Figure 16: District food self sufficiency



Source: MOAC 2011

Monitoring System (NeKSAP). This system collects, analyzes and presents information on household food security, emerging crises, markets and nutrition for all of the districts. District Food Security Networks validate exchange and generate up-to-date food security information. As the SAARC Food Bank can be triggered only by emergency[10], or shortfall[11] in national food production or stock, the results of monitoring are not linked to this system in a manner which can address local level food insecurity.

External food assistance is necessary for food deficit regions, districts and households. Food assistance comes either through the food distribution system of the government - mainly through Nepal Food Corporation (NFC) or through external food aid operated by the WFP. In the case of regional food deficit, NFC buys food from the surplus areas and distributes food in the deficit areas. However, in the event of a national food deficit, the NFC has not assured international source of supply from which it can obtain the food necessary for reinforcing its public food distribution system.

2.4 Public Food Distribution System

Nepal's public food distribution system is not well developed. The NFC, established in 1974, is responsible for distributing foodgrain, maintaining buffer stock and handling food aids. It has a head office in Kathmandu, eight zonal offices, 26 branch offices and 58 depot offices, with a total of 459 employees—only 10.6 percent of whom are technically inclined. It has rice mills in Rajapur (Bardia), Janakpur (Dhanusha) and Mahendranagar (Kanchanpur) which have the capacity of producing 2.0, 1.0 and 0.5 metric tons per hour respectively. The Corporation has 31 office buildings and 159 warehouses with nearly 100,000 metric tons capacity. It has 43.3 ha of land in the Terai, 87.2 ha of land in the hills, prime locations in the Kathmandu valley and 60.0 ha of land in the mountain areas. A food testing laboratory and half a dozen warehouses are under construction (NFC 2011).

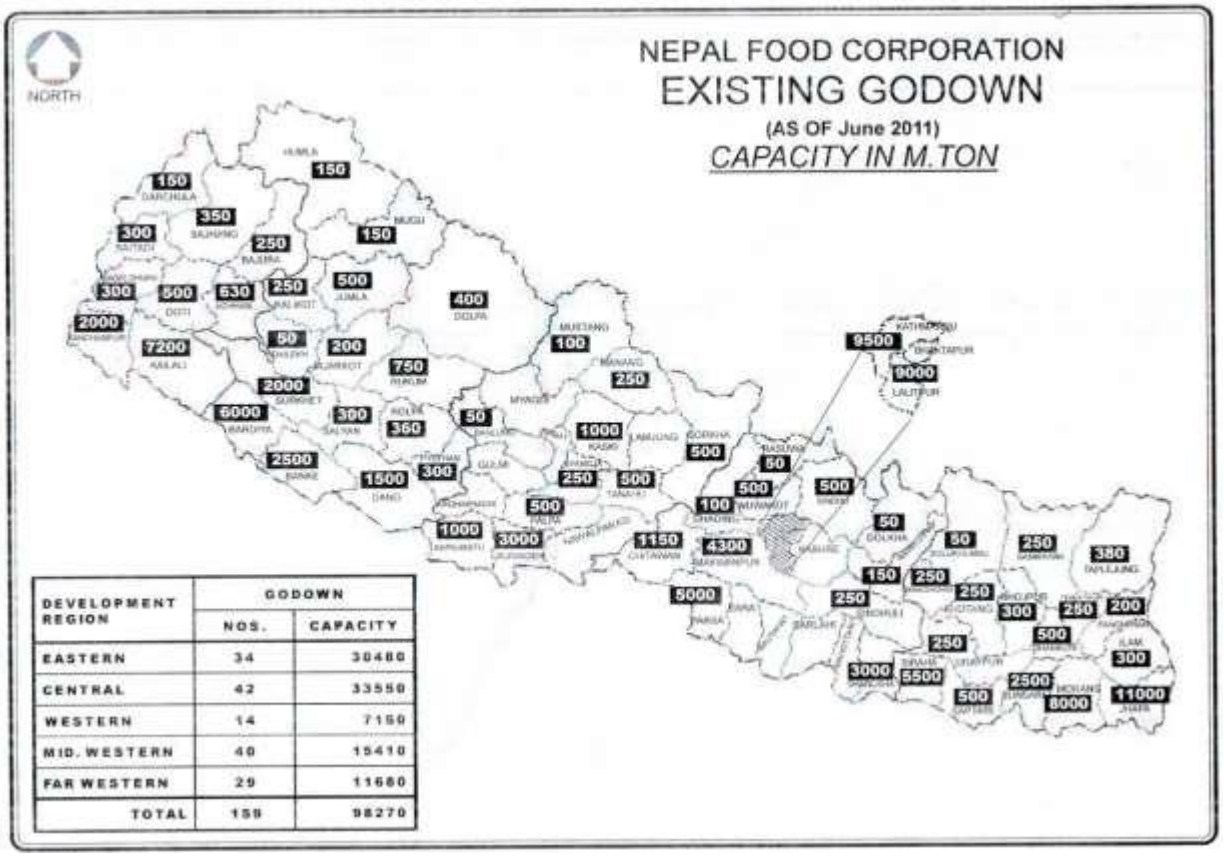
The NFC operates foodgrain distribution through procurement, storage, transportation and distribution of foodgrain. The procurement of foodgrain is done during the harvesting season at its own procurement price, either directly from the farmers or from the traders in the production area. The main production area of Nepal is the Terai. NFC has wide coverage of warehouses in different strategic locations for storage and distribution of foodgrain (Figure 17). During the period of armed conflict in the country, some warehouses were occupied by security forces, and some others by local clubs. NFC is in the process of regaining the control over these warehouses. NFC distributes food in

[10] A food emergency shall mean a state or condition in which a member state, having suffered a severe and unexpected natural or man-made calamity, is unable to cope with such a state of condition by using its national reserve (Ahmed et al., 2011).

[11] Food shortage shall mean a state or condition in which a member country has suffered a production shortfall and/or storage shortfall and find it difficult to cope with such a state or condition by using its national reserve (Ahmed et al., 2011).

deficit areas—mainly hilly and mountain districts. But a part of the food is also sold in Kathmandu valley. The transportation for remote areas is done at government subsidy. Though NFC used to distribute foodgrain in 30 remote districts, the districts covered were downsized to 23 remote districts in 2011. The downsizing of NFC coverage is for increasing the role of private sector in food marketing in newly opened road corridors.

Figure 17: Locations and capacity of warehouses



DEVELOPMENT REGION	GODOWN	
	NOS.	CAPACITY
EASTERN	34	30480
CENTRAL	42	33550
WESTERN	14	7150
MID. WESTERN	40	15410
FAR WESTERN	29	11680
TOTAL	159	98270

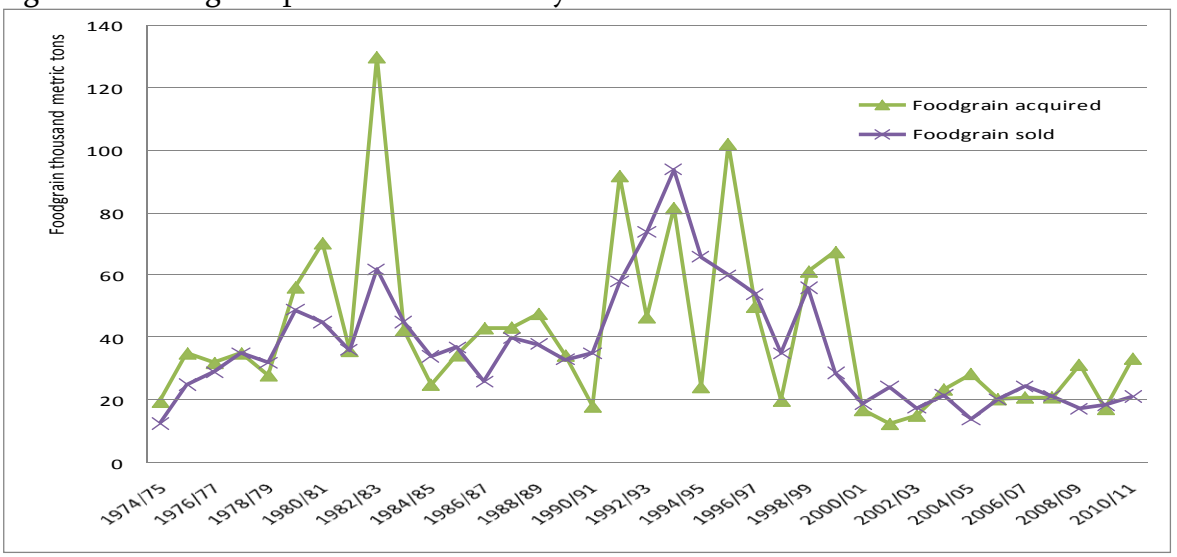
Source: NFC 2012

NFC acquires foodgrain either by procurement or through food aid. The food aid started in 1979/80. In 1982/83, a large (57 percent) contribution of food aid led to the NFC handling 130 thousand metric tons of foodgrain, which remains the highest in its history. From the conflict period onwards, however, the operation of NFC has decreased drastically, handling only around 20 thousand metric tons a year. This decrease is attributed to an increase in road access to many districts that were previously inaccessible. With 159 warehouses located in 63 out of 75 districts the foodgrain sold less than the foodgrain acquired (Figure 18). However, the amount of the foodgrain sold by NFC is very small as compared to the volume of production. For example, foodgrain sold in year 2010/11 amounted to only 0.38 percent of the total foodgrain production in the country.

The distribution of foodgrain in the remote areas is assisted by District Food Management

Committee (DFMC) chaired by Chief District Officer. Local line agencies and political parties are the members of the Committee. The Committee demands a food supply quota from the NFC. In case of inadequacy of the fixed quota, the Committee also recommends for an additional quota of foodgrain for the district. The foodgrain prices are, however, set by the NFC according to cost price basis.

Figure 18: Foodgrain purchase and sales by NFC over decades



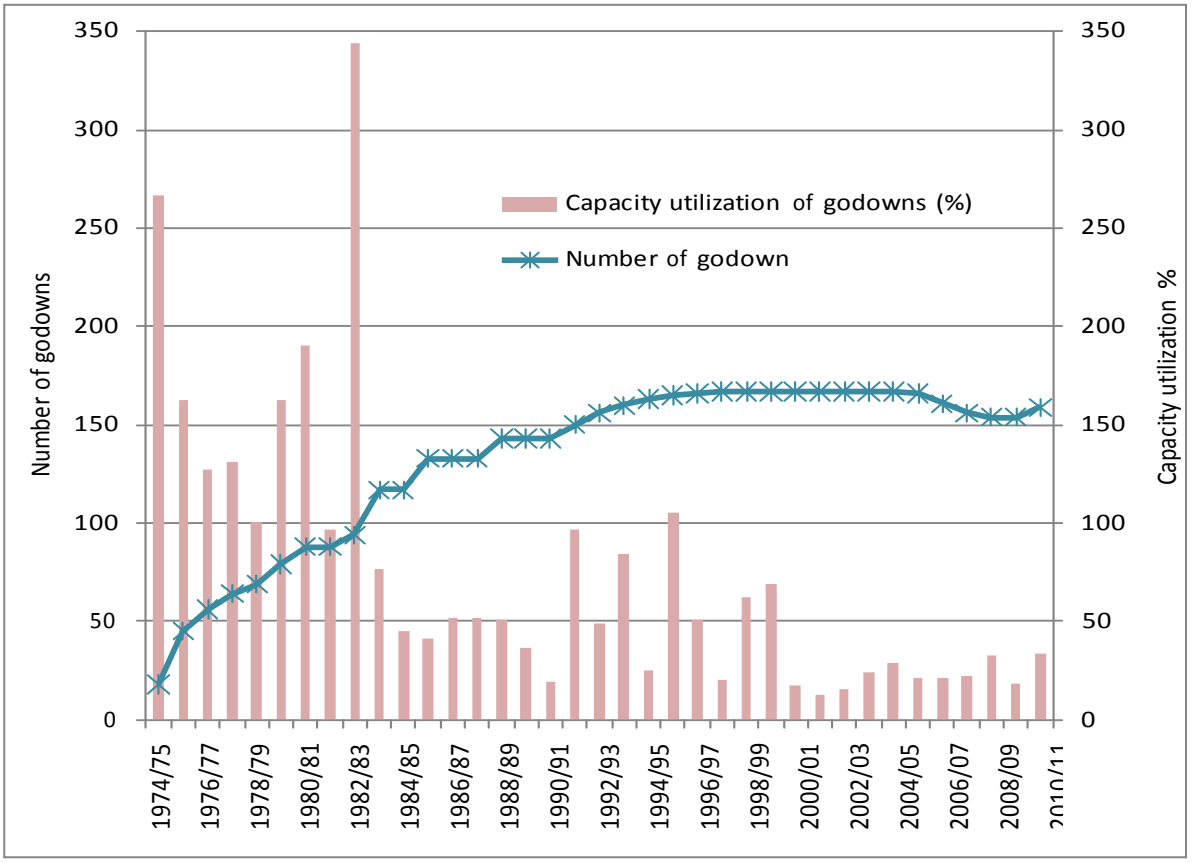
Data source: NFC 2012

In its early days, till 1982/83, the warehouses of the corporation were over utilized and the construction of new warehouses was rapid. But from the start of the decade long armed conflict in 1996/97 the capacity of the existing warehouses h never been fully utilized (Figure 19). The capacity utilization of the warehouses in 2010/11 was only one-third. Due to low capacity utilization, new warehouses were not constructed in this decade. Some of the warehouses were however used by security forces and local clubs for other purposes. Some unused warehouses have been rented out to other institutions such as Agriculture Input Company Limited, Nepal Telecom and the press.

The efficiency of NFC is measured in terms of subsidy per kg of foodgrain distributed, and tons of foodgrain sold per employee of the corporation. The subsidy per kg is steadily increasing (in nominal terms), except for a period of decline in the year 2010/11. The quantity of foodgrain handled per employee hovers at around 40 metric tons (Figure 20).

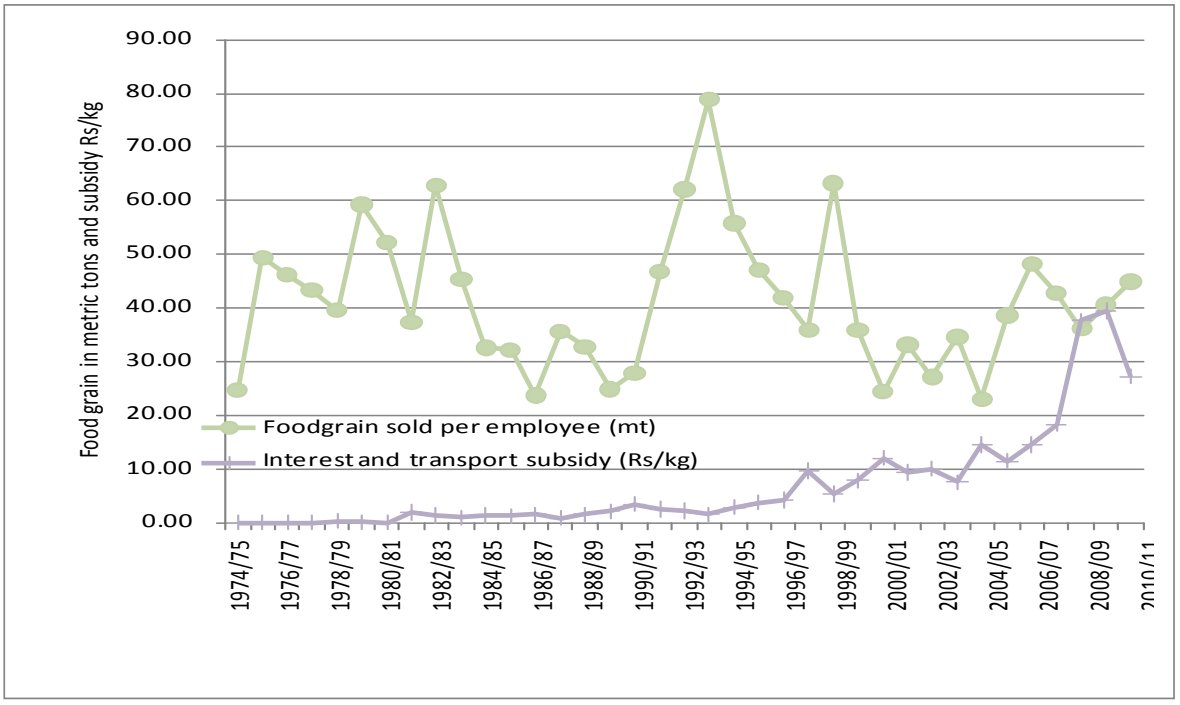
The focus of food supply has changed. A decade ago NFC used to sell 60 percent of the foodgrain it handled in the Kathmandu valley (Table 8). In 2010/11 NFC supplied only 18 percent of the grain to Kathmandu valley and instead supplied 73 percent of foodgrain it handled to remote villages.

Figure 19: Number of warehouses and their capacity utilization



Data source: NFC 2012

Figure 20: Efficiency of NFC measures in terms of handling costs



Data source: NFC 2012

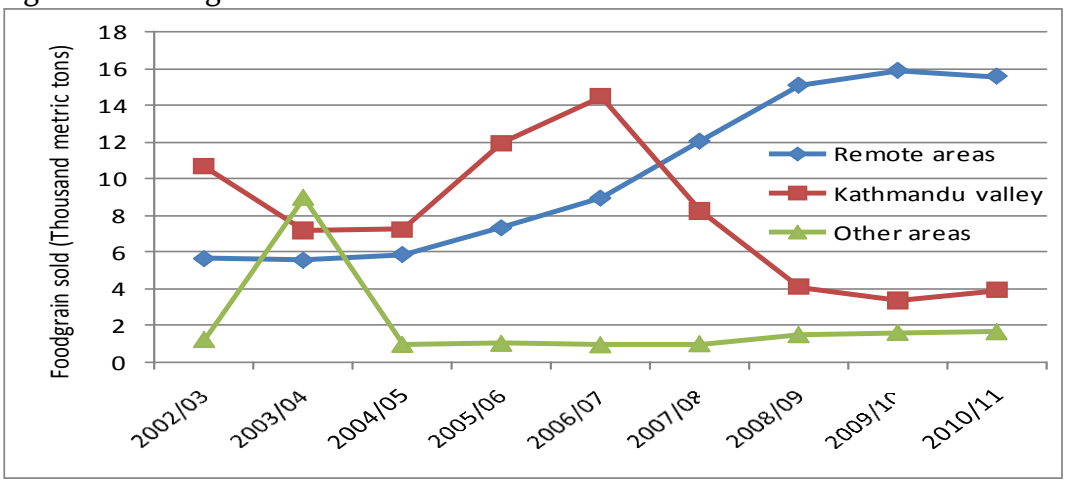
Table 8: Regional distribution of sales of foodgrain by NFC (metric tons)

Year	Remote areas	Kathmandu valley	Other areas@	Total
2002/03	5,653 (32.20)	10,679 (60.83)	1,223 (6.97)	17,555 (100)
2003/04	5,568 (25.66)	7,176 (33.07)	8,953 (41.26)	21,697 (100)
2004/05	5,882 (41.80)	7,238 (51.44)	952 (6.77)	14,072 (100)
2005/06	7,337 (36.16)	11,940 (58.85)	1,012 (4.99)	20,289 (100)
2006/07	8,949 (36.73)	14,486 (59.46)	928 (3.81)	24,363 (100)
2007/08	12,043 (56.61)	8,242 (38.74)	989 (4.65)	21,274 (100)
2008/09	15,085 (73.05)	4,084 (19.78)	1,481 (7.17)	20,650 (100)
2009/10	15,884 (76.19)	3,359 (16.11)	1,605 (7.70)	20,848 (100)
2010/11	15,572 (73.73)	3,908 (18.50)	1,639 (7.76)	21,119 (100)

@ The others include supply to security forces and jail in accessible areas.
Data source: NFC, 2012

NFC's supply of foodgrain to remote areas is increasing with logistic growth curve[12]. The growth was very slow during 2002-2004 and then increased sharply during 2005-2008 (Figure 21). Thereafter the supply has been stagnant indicating that there is either a saturation of demand or some constraints in supply. The latter is more likely to be the case, as the government subsidy is limited. Indeed, NFC's supply of foodgrain in Kathmandu valley has decreased sharply, and this decrease can be attributed to the fact that there is no government subsidy to supply food in the cities. It is also however due to private sector competition. Supply of foodgrain to other areas is much lower as compared to its supply to Kathmandu and the remote areas.

Figure 21: Foodgrain sold NFC in different areas



Source: NFC 2012

[12] A logistic growth curve is a sigmoidal (S-shaped) curve that increase gradually at first, more rapidly in the middle growth period, and slowly at the end, levelling off at a maximum value after some period of time.

Much lower than the preceding years, NFC in 2011/12 has a plan to distribute 14,987 metric tons of foodgrain in remote areas, subsidized by the government (Table 9). A large quantity of the foodgrain quota is allocated for Bajura district (11.14 percent) followed by Dolpa (10.39 percent) and Mugu (10.38 percent). NFC received Rs 110 million in Japanese aid (Kennedy round[13] KR1) in the year 2011/12, and has decided to distribute 2,013 metric tons of foodgrain in Mugu, Dolpa, Jumla, Humla and Kalikot districts. The KR1 food aid provided since 1970 can be used exclusively for the procurement of rice and its shipping services, including internal transportation. The amount received from the sale of the rice is deposited in the counterpart fund, which in turn is utilized for the implementation of economic and social development projects agreed between Japan and Nepal.

Table 9: Foodgrain quota (proposed) and transportation costs (2011/12)
(Quota in metric tons and transportation costs in Rs 1000)

	District	Government of Nepal		Foreign aid		Total	
		Proposed quota (revised)	Transport cost	Proposed quota	Transport cost	Proposed quota	Transport Cost
1	Taplejung	280	1,136	0	0	250	1,136
2	Sankhuwasava	260	3,365	0	0	200	3,365
3	Bhojpur	330	2,836	0	0	250	2,836
4	Solukhumbu	295	12,153	0	0	350	12,153
5	Okhaldhunga	255	2,068	0	0	200	2,068
6	Khotang	670	12,980	0	0	620	12,980
7	Manang	440	13,534	0	0	440	13,534
8	Gorkha	600	12,047	0	0	600	12,047
9	Mustang	150	1,840	0	0	150	1,840
10	Rukum	700	4,050	0	0	550	4,050
11	Rolpa	460	2,595	0	0	400	2,595
12	Dailekh	670	2,251	0	0	850	2,251
13	Jajarkot	790	9,721	0	0	720	9,721

[13]Providing aid to developing countries was one of the objectives of the Kennedy round—the sixth session of General Agreement on Tariffs and Trade (GATT) trade negotiations held in 1964-1967 in Geneva, Switzerland.

	District	Government of Nepal		Foreign aid		Total	
		Proposed quota (revised)	Transport cost	Proposed quota	Transport cost	Proposed quota	Transport Cost
14	Jumla	945	12,539	400	6,118	1,150	18,657
15	Humla	970	96,343	353	44,026	1,130	140,369
16	Mugu	1,555	63,506	500	30,355	1,560	93,861
17	Dolpa	1,557	65,404	490	24,881	1,690	90,285
18	Kalikot	790	8,598	270	4,620	820	13,218
19	Bajhang	410	4,077	0	0	400	4,077
20	Bajura	1,670	21,123	0	0	1,150	21,123
21	Achham	480	2,377	0	0	450	2,377
22	Baitadi	330	5,362	0	0	350	5,362
23	Darchula	380	10,095	0	0	450	10,095
	Total	14,987	370,000	2,013	110,000	14,730	480,000

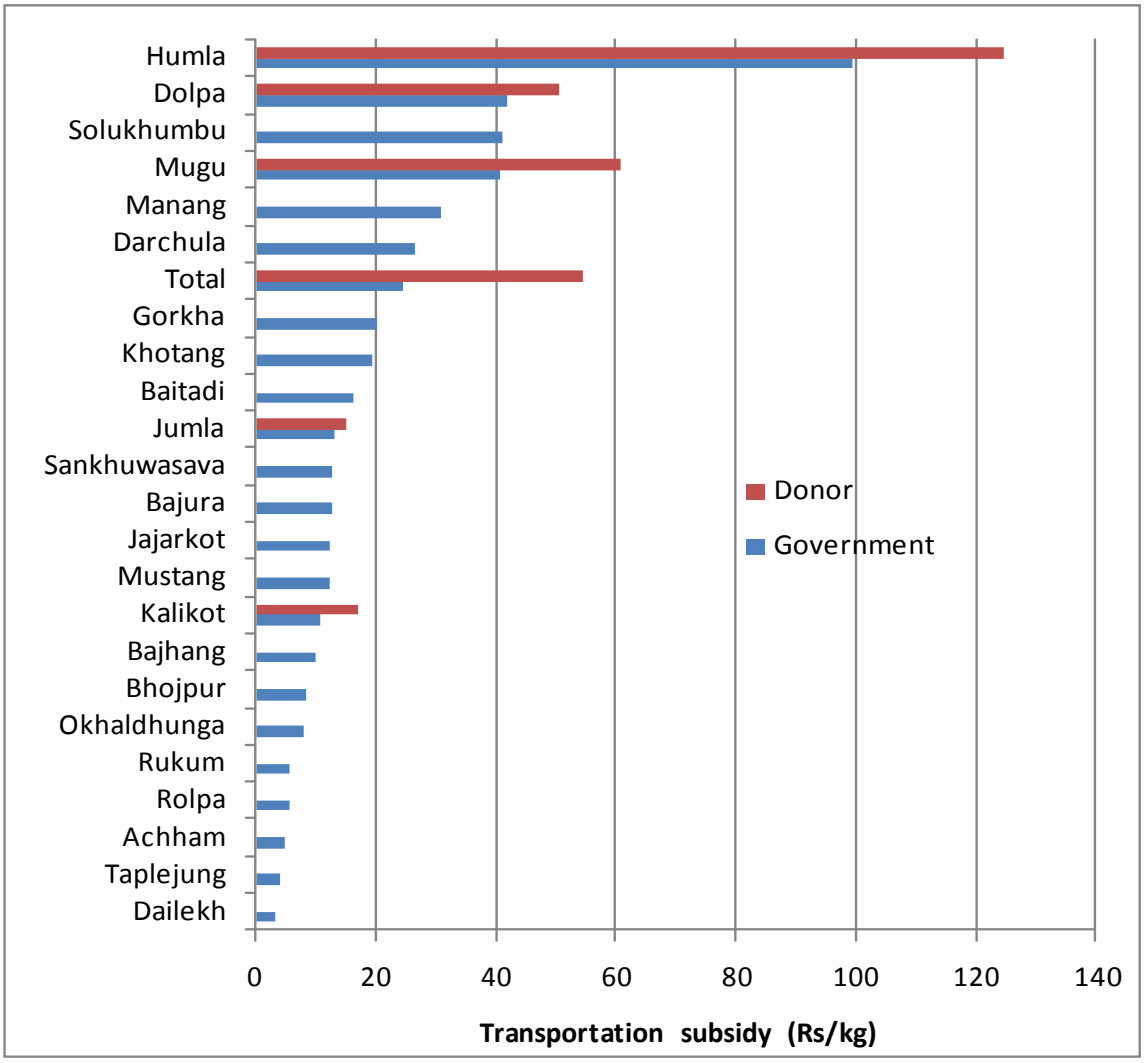
Note: Subsidized food supply is discontinued to districts of Panchthar, Tehrathum, Sindhuli, Dhading, Banglung, Myagdi and Pyuthan.
Source: NFC 2012

The average transportation subsidy provided by the government is Rs 24.69 per kg and ranges from Rs 3.36 per kg provided for Dailekh district to Rs 99.32per kg for Humla district (Figure 22). The transportation subsidy for the donor assisted programme (KR1) is higher than in the government programme. The average transportation subsidy provided by the donor programme is Rs 54.64 per kg, ranging from Rs 15.30 for Jumla to the highest of Rs 124.72 per kg in Humla. This is because KR1 foodgrain need to be transported from the point of entry to the country to the deficit districts, whereas NFC reserve is transported from the nearest warehouse. The transportation cost depends on the distance from the food store to the target district.

The Government of Nepal has a policy of increasing foodgrain buffer stock. The buffer stock of 15,000 metric tons maintained in 2010/11 was increased to 25,000 metric tons in 2011/12. During the same period, Nepal's contribution to SAARC Food Bank doubled

from 4,000 metric tons to 8,000 metric tons, maintained in the form of rice. The national buffer stock is maintained in eight strategic locations within the country, with the highest stock maintained in Kathmandu, and the lowest in Pokhara (Table 10 and Figure 23). Similarly, Nepal's share of the reserve for SAARC Food Bank is located in five locations, of which four coincide with the national reserve. The majority (75 percent) of the Food Bank is located in eastern part of the country, and only a small quantity (12 percent) is located in the western part. The reason for this disparity is that the food storages with low likeliness of immediate movement are designated as the reserve for the SAARC Food Bank. It is cheaper to store food in the place of procurement than it is to transport and store the food in a food insecure region. This indicates that NFC officials feel that food from the SAARC food reserve is less likely to move as compared to the national buffer stock.

Figure 22: Transportation cost per kg of grain for different districts



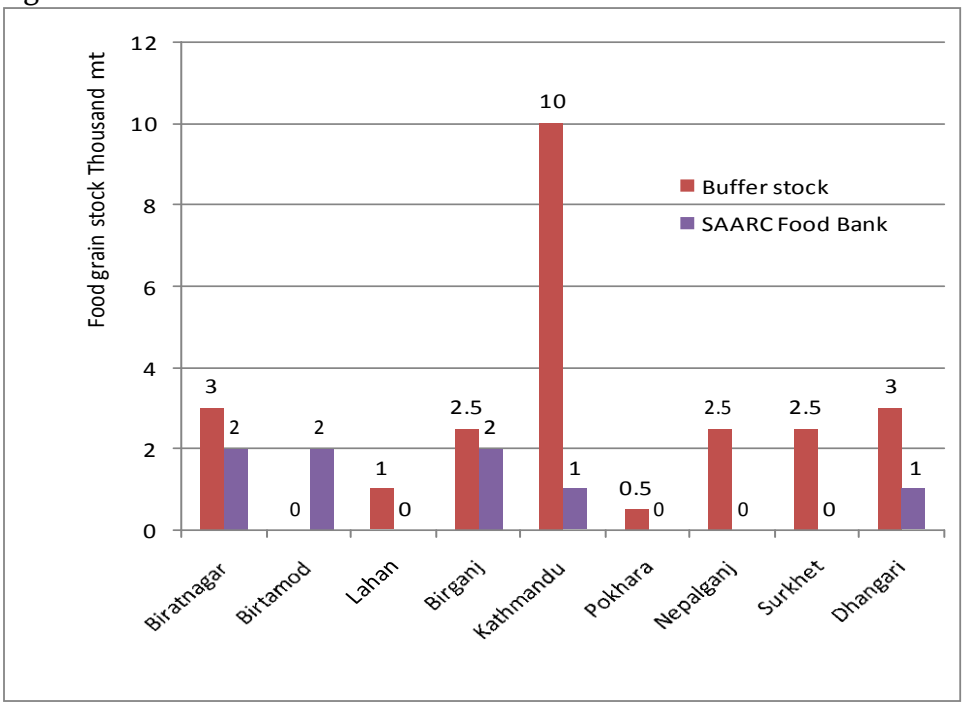
Source: NFC, 2012

Table 10: NFC national buffer stock and SAARC Food Bank (‗000 metric tons)

Location of warehouse	Approved National Foodgrain buffer stock		SAARC Food Bank	
	2010/11	2011/12	2010/11	2011/12
Biratnagar	1.00	3.00	1.00	2.00
Birtamod	0	0	1.00	2.00
Lahan	0.50	1.00	0	0
Birganj	1.50	2.50	1.00	2.00
Kathmandu	7.00	10.00	0.50	1.00
Pokhara	0.50	0.50	0	0
Nepalganj	1.50	2.50	0	0
Surkhet	1.50	2.50	0	0
Dhangari	1.50	3.00	0.50	1.00
Total	15.00	25.00	4.00	8.00

Source: NFC 2012

Figure 23: Buffer stock and SAARC Food Bank at different locations



NFC currently maintains a national buffer stock of 25,000 metric tons of rice to meet emergency requirements and the government has a policy of increasing the stock to 50,000 metric tons. As per the Foodgrain Buffer Stock Programme Operation Procedure (2006) approved by the government, the stock holder (NFC) will deliver the stock to persons or organizations from the district or region specified upon the order of Ministry of Commerce and Supplies (MOCS) (Article 4). As per the provision (Article 5), NFC is to replenish the stock immediately.

In addition to the buffer stock and SAARC Food Reserve[14], NFC handles food aid received from donor agencies. NFC implements food safety-net programme of the government by supplying foodgrain to food deficit districts. It provides food to consumers at fair prices and often provides food as a means to intervene in the foodgrain market and to stabilize prices. NFC manages food aid from donor agencies and holds food stocks for emergency. NFC is cutting down the number of districts gradually as its role gets smaller when remote inaccessible districts get linked with road networks. Though the coverage of NFC decreased from 30 districts to 23 districts, the quantity of food distribution made by the Corporation is not decreasing. Though NFC is playing an important role in maintaining food security in remote districts, the quantity supplied is less than adequate to influence the price and supply in the market. The handling is much less than one percent of the total consumption. Moreover, most foodgrain distribution by NFC arguably goes to government employees and those people residing at and near the district headquarters.

3. Challenges and opportunities of public distribution system

3.1 Opportunities of PDS

Operated by NFC, PDS offers an opportunity to strengthen food security in the country. According to the strategic plan (2011-2013) developed by the Department of Commerce, the government is planning to prepare a supply policy for facilitating supply management and making it transparent and reliable. It comprises of policies to develop and strengthen PDS through cooperatives and low price shops for reducing frictions on the supply of goods and services (DOC 2011). Supply management also includes the provision of buffer stock of essential food commodities for controlling price rise and market stabilization. PDS increases access to food for food insecure regions and households.

PDS can stabilize food price by purchasing the food from the country‘s surplus areas during the harvesting season and selling the same food in the food deficit areas during the time of shortage. Thus, PDS can help regional as well as seasonal spread of foodgrain. Agricultural production in Nepal fluctuates from year to year. PDS can store foodgrain during years of good harvest and sell the grains in years of poor harvest, thus stabilizing year to year fluctuations in food prices. For this purpose, national buffer stock of foodgrain is initiated, though with small quantity. PDS is an instrument for implementation of public policies in securing food security, maintaining the price level during the harvest season, and checking the price rise before the harvest season.

PDS can help the poor by reducing their vulnerability to food insecurity. PDS system can be used as a mechanism for distribution of subsidized food for the poor. It is a safety-net

[14] NFC maintains 8,000 metric tons of SAARC Food Bank reserve. But, NFC officials are not clear about the provisions for withdrawal of the food from the Bank.

programme for vulnerable communities, particularly in food deficit areas. PDS can stabilize the price in the market during the lean season, and during periods of erratic food supply (Puri 2012).

PDS is helpful in implementing food aids in collaboration with national and international agencies such as World Food Programme. PDS is currently being used for the operation of Food for Work Programme, which is self-targeted to food deficit households. It capitalizes the flow labour resources, in order to develop the infrastructures necessary for increasing food production and improving food transportation. The food production increases through the construction of irrigation canals, and food transportation improves through the construction of roads.

PDS can be strengthened and linked to the SAARC Food Bank, not only for maintaining the reserve committed by Nepal, but also for the operationalization of the Bank by distributing the foodgrain released from it and replenishing the stock during successive harvesting seasons.

3.2 Challenges of PDS

Developing PDS system is itself a challenge. It involves a large budget, high risks, and large number of human resources and infrastructures. Furthermore, it involves the process of buying, storing and transporting food to deficit areas. The process involves large costs, particularly as the public sector is less efficient than the private sector. Indeed, the operational cost of PDS is disproportionately higher than the would-be-cost of the private sector in supplying the same quantity of the food. As foodgrain are semi-perishable and can only be stored for two to three years, the operations involve high risks of damage and pest problems, which further add to the renovation handling costs. A large number of human resources are necessary for the buying, storing, transportation and distribution of foodgrain. It involves warehouse facilities and transport infrastructure. The huge costs of operation also increase the risks of moral hazards. Jenkins and Goetz (2002) studied PDS in India and reported that it suffers from management shortcomings such as inappropriate timing of procurement, poor forecasting capacity, inadequate logistics, cost inefficiencies, poor quality foodgrain, and the exclusion of large numbers of the poor from the system. Compared to other SAARC countries, PDS in Nepal is relatively ineffective, mainly due to expensive internal transport, storage, and handling costs (Pyakurel et al. 2005).

PDS has the danger of replacing the food market in the sensitive areas in the country, and creating uncertainty among private food suppliers. For example, the supply of subsidised food in remote areas often displaces food traders, which in turn results in the local people becoming more vulnerable, at the very time when the government cannot supply enough food for the people in these areas. NFC's distribution to remote areas has not been effectively targeted at the most needy households, despite a heavy financial burden on

the government (Pyakurel et al. 2005).

PDS also discourages the farmers from growing food, as the distribution of subsidised food dampens local food prices. This creates chronic dependency of the villages on food aid. Thus, the heavily subsidized foodgrain distribution depresses the grain market price for the local farmers and acts as disincentive for production and sales of foodgrain.

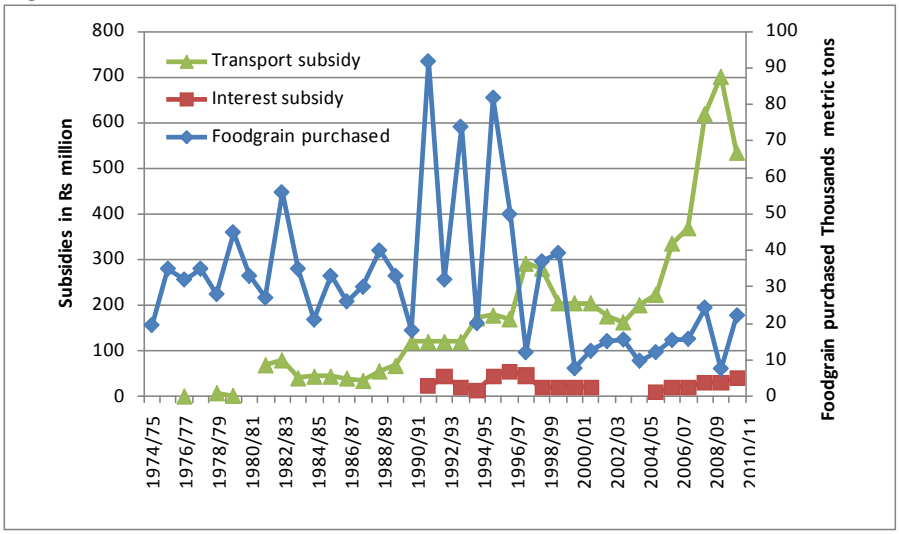
The distribution of rice can also lead to malnutrition. This is because the subsidized rice is often cheaper than the other, more nutritious, locally produced foods. As a response to this, the consumption habit shifts towards rice consumption, in effect worsening the nutritional status of the consumers, even though they consume a good amount of calories through rice. This also results in crop biodiversity loss, which increases the vulnerability of the farmers toward long term food insecurity and crop failure, due to a narrow genetic base.

Having no effective public institutional mechanism to monitor food distribution, it is not known if food is received by the hungry and vulnerable groups and targeted population in the regions. Even less is known about the quality of food distributed, and the proportion of foodgrain used for local alcohol production, and for the feeding of poultry and livestock (Dahal and Khanal 2010).

PDS politicises the food supply making the local people more vulnerable at the time of political incompatibilities between the local government and national government. Distribution of rice by PDS increasingly creates dependency on rice, which has limited production in the country.

The food transportation and interest subsidies to NFC contribute to fiscal deficit. The subsidy crossed Rs 700 million in the year 2009/10 and reduced slightly in 2010/11. Over the years, the subsidy amount is increasing and the food purchased is decreasing (Figure 24). The trends over the last 35 years show that transportation subsidy is increasing at the rate of 13.04 percent per annum, whereas, the amount of foodgrain purchased is decreasing at the current rate of 2.7 percent per annum. At the same time, increases in the national buffer stock and the maintenance of the food reserve for the SAARC Food Bank will increase the interest subsidy. During the same period the food aid is decreasing at the rate of 0.60 percent per annum. The increasing burden to the government treasury and decreasing supply of foodgrain by NFC indicates that the practice is unsustainable.

Figure 24: Subsidies on food transportation and interest subsidies on food reserve



4. Commitments for SAARC Food Bank and Issues on its Operationalization

The SAARC Food Reserve, the previous version of the SAARC Food Bank (SFB), was established in 1988 but was not operationalised in its 20 years of life until till 2007. This was mainly due to the stringent condition of making it a necessity for countries to first declare an emergency before any operationalization could occur. This reserve was not established as an institution. Nor was any other institution formed to support the operation of the reserve. Similarly, no systematic procedures or articles were drafted for the purpose. Likewise, no provision was made to meeting the costs involved[15]. South Asian countries during this period neither faced a balance of payment crisis, nor declared food emergencies. It is however, also claimed that the non-operationalization was because of the political problems in South Asia, whereby countries did not trust each other and politicians did not have much concern for food security. Likewise, the food reserve did not have a mechanism to monitor and follow up on what was agreed[16]. The non-functional Food Reserve was converted to SAARC Book Bank by 14th SAARC summit in Islamabad in 2007, with an intention of making its operationalization a reality. The Bank is expected to act as a regional food security reserve for SAARC member countries during food shortages and emergencies, as well as provide regional support to national food security efforts, foster inter-country partnerships and regional integration, and solve regional food shortages through collective actions.

Schedule-I of the agreement on establishing the SAARC Food Bank specified the shares of foodgrain of each member for the reserve. The reserve of Afghanistan, was however, decided later. It was mentioned that the reserves would remain the property of the individual member countries, and would be in addition to their national reserves. India

[15] Mathema, SB 2012, personal correspondence.
[16] Adhikari, J 2012, personal correspondence.

made the highest contribution in the Food Bank, with 153,000 tons, whereas Pakistan and Bangladesh contributed 40,000 tons each. Nepal and Sri Lanka contributed 4,000 tons each, followed by Afghanistan (1,420 tons), Maldives (200 tons) and Bhutan (180 tons). Keeping in view the rising population and threat of natural disasters, the third meeting of the SAARC Food Bank Board at Kabul in 2009 decided to double the stock from 242,800 tons to 485,600 tons. The Board is located in SAARC Secretariat Kathmandu and Nepal is represented by the Joint Secretary, Ministry of Commerce and Supplies. Nepal's commitment is to maintain a reserve of 8,000 tons of foodgrain, as a contribution to the reserve of the SAARC Food Bank, in addition to the national buffer stock. The government bears the interests on the stock, as well as any handling costs and storage losses on this reserve. When a request is received from an aggrieving member, the government has to take steps to immediately release the foodgrain. In addition, the government is committed to designate a Nodal Point, which represents its interests to SFB Board.

The stated objectives of the SAARC Food Bank are to (a) act as a regional food security reserve for the SAARC countries during food shortages and emergencies; (b) provide regional support to national food security efforts; (c) foster inter-country partnerships and regional integration; and (d) solve regional food shortages through collective action. The first objective will be difficult to achieve, mainly because the committed foodgrain reserves by the Member States have not been fulfilled on time, and due to the unclear description of what constitutes "emergencies". The fourth objective will also be difficult to achieve, mainly due to political instability in the Member States, and frequent changes in leadership[17]. Though the SAARC Food Bank is supposed to work as a regional reserve for food security during times of emergency and shortage, and develop a common response under joint initiative to collectively combat food shortfall in a member country, member countries have made no specific effort to meet set objectives.

The SAARC Food Bank 2007 is yet to be operationalised. There are several reasons, as to why it has not yet been. The major reasons are i) Lack of regional network for transporting foodgrain through railways, air, sea; ii) Lack of institutional arrangements for making periodic estimates of food demand, and undertaking measures to increase the storage capacity of the member States; iii) Lack of political will and commitment; and iv) Lack of strategic community centred action plans to deliver foodgrain to food insecure areas[18]. Some others claim that the non-operationalization was due to reasons such as there being no price advantage in drawing from the Reserve, the availability of food aid as grants from other sources, the inability of the SAARC Food Reserve to compete with food aid given as grants, and also the political tensions between member states (IPS 2008, p19). Likewise, other weaknesses include the lack of transparent mechanism for price setting,

[17] Mathema, SB 2012. Personal correspondence.
[18] Mathema, SB 2012. Personal correspondence.

the time taking system of decision making of the SAARC Food Bank Board, the difficulties involved in meeting the condition of an eight percent shortfall in production, and the limited linkages of the PDS within food insecure areas.

4.1 Mechanisms to link the national food distribution system with the SAARC Food Bank
Though the Agreement on Establishing the SAARC Food Bank was signed in 2007, the operationalization of the Bank has still not occurred. Not a single member so far has been able to access food from the Bank. Realizing this fact, the declaration of seventeenth SAARC Summit (2011) at Addu, Maldives, commits to resolve the operational issues related to the SAARC Food Bank by the next session of the Council of Ministers in 2012, with a view to ensuring its effective functioning (paragraph 9). The Bank, if properly operationalised, is expected to contribute enormously in addressing food insecurity in the region.

No specific mechanism is yet developed for linking the SAARC Food Bank to the PDS operated by NFC in Nepal. The officials of NFC are not provided with enough information, or the plans necessary for empowering them to mobilize the food from the Bank at the time of need. NFC has its own network of warehouses in 63 out of 75 districts that can be utilized for distribution of foodgrain in case of need, but a practical mechanism for drawing the food is lacking.

4.2 Critical appraisal of SAARC Food Bank from Nepal's perspectives

4.2.1 Inadequate Food Reserve
In South Asia, food production and consumption vary drastically from country to country (Table 11). Export, import, and stock variations depend on the yearly crop production. The amount of food earmarked by all the countries as the SAARC reserve (486,000 metric tons) is comparative to 15.2 percent of the domestic production of Sri Lanka, 7.5 percent of the production of Nepal and only 0.2 percent of the domestic food production of India. If the food reserve of the entire SAARC Food Bank is drawn by Sri Lanka, the food with be enough to feed its people for 55 days. For Nepal, the food from the Bank would be enough to feed its population for 27 days. For India, the entire foodgrain reserve from the Bank would not be enough to feed its population for even a single day. This effectively means that although the Food Bank can help smaller countries in case of food shortage, it is not enough to help India. When some of the members cannot benefit from the Bank, it is difficult to chart out conditions conducive for its operationalization.

Table 11: Food balance sheets of South Asian countries and comparison with SAARC Food Bank (_000 metric tons)

	Element	Bangladesh	India	Nepal	Pakistan	Sri Lanka
1	Production Quantity	30,372.84	212,344.09	6,103.29	33,033.88	2,150.48
2	Import Quantity	3,569.74	2,742.23	317.76	163.95	1,199.06
3	Stock Variation	-2,694.84	-2,263.93	86.49	-2,568.66	31.63
4	Export Quantity	21.70	9,938.17	8.64	4,092.99	191.07
5	Domestic supply quantity	31,226.04	202,884.21	6,498.90	26,536.19	3,190.10
6	Feed	56.43	7,950.46	733.84	1,402.39	103.21
7	Seed	444.04	6,601.10	171.60	1,577.97	47.42
8	Waste	2,185.60	8,208.40	661.15	846.00	167.45
9	Processed	0.00	411.50	5.02	3.67	10.89
10	Food consumption	28,529.80	177,681.65	4,846.32	22,480.07	2,853.17
11	Other Utility	10.33	2,032.32	83.53	228.10	8.17
12	SAARC Food Bank as % of domestic supply	1.56	0.24	7.48	1.83	15.23
13	Supply per day	85.55	555.85	17.80	72.70	8.74
14	Days SAARC Food Bank enough for	5.68	0.87	27.30	6.68	55.61
15	8% of domestic production	2,429.83	16,987.53	488.26	2,642.71	172.04

Source: FAOSTAT, 2007

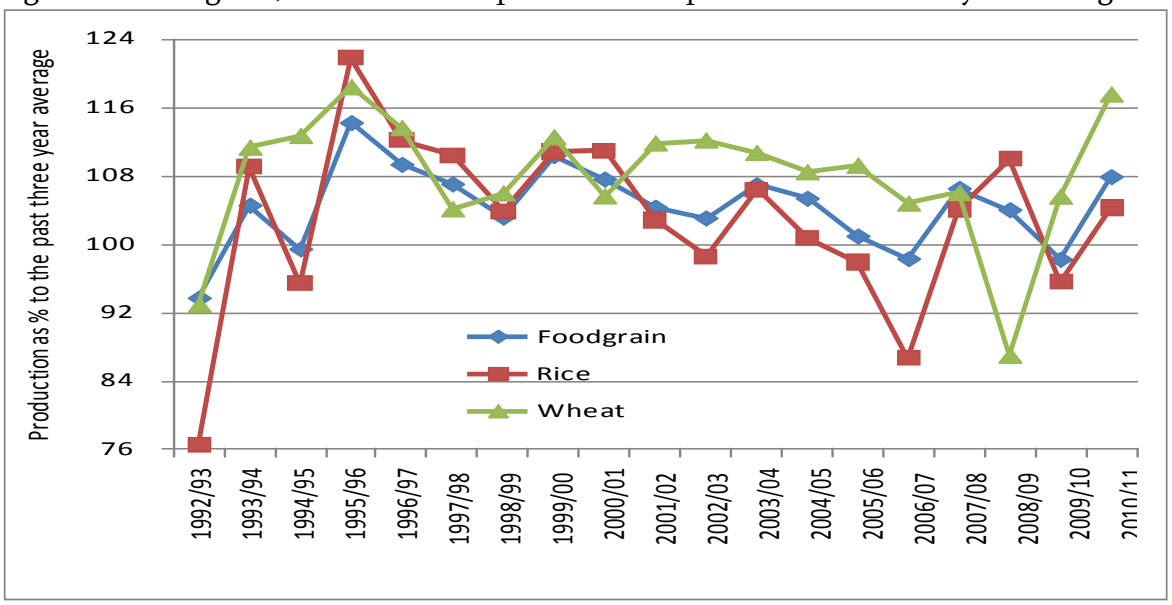
The condition for being eligible to withdraw food from the Bank is either that of an emergency, or of a shortfall of food production by 8 percent. However, this percentage of shortfall in production requires much larger quantity of foodgrain than the Bank has in its reserve. For example, an 8 percent decrease in food production in Nepal means a decrease by 488,260 metric tons, whereas the entire reserve of the Food Bank is only 486,000 metric tons. For larger countries like India, Pakistan and Bangladesh, the 8 percent decrease in production is much bigger than the amount of the foodgrain in the Food Bank. It means, if the production shortfall is below the 8 percent, the member is not eligible to withdraw foodgrain, and if the shortfall is 8 percent or above, the food reserve in the Food Bank is not enough to meet the requirement. Thus, the SAARC Food Bank has little role to play for the large countries in South Asia. This is why the food reserves have never been utilized despite pressing demands in certain situations.

4.2.2 Qualifying for drawing from Food Reserve

Since the establishment of the SAARC Food Security reserve in 1988, neither Nepal, nor any other member has declared a food emergency that makes them eligible to withdraw food from the Reserve. Realizing this fact, the Agreement for Establishing the Food Bank added the provision for enabling the countries to withdraw food in the case of a food

shortage, due to production shortfall, and /or storage shortfall (Article V number 3). But, the necessary condition for this shortfall is that the production of foodgrain in the current year must be 8 percent lower than the average of the production or storage of the previous three years. Analysis of the food production data of the last two decades shows that Nepal would never have qualified this condition during past two decades, as the shortfall in the production of foodgrain was not more than 6.31 percent, even in the severe drought year 1992/93 (Figure 25). It is not clear, however, from the agreement as to how the storage shortfall would be measured. One exception given by the agreement is that in specific cases, a member country may initiate a request on a seasonal basis, which considers the impact of seasonal shortfall on annual production. It is not likely that a shortfall of seasonal production by 8 percent can be deemed as a shortfall. If such shortfall is allowed, Nepal has 16 percent probability that it will qualify for drawing foodgrain from the reserve. The SAARC Food Bank Board has authority to revise this percent as per need. But, like all other SAARC agreements, there is no time frame, and there are accountability clogs (IPS 2008, p9). Moreover, the decisions and recommendations of the Board shall be taken on the basis of unanimity (Article X), which means that unless all the members agree for a revision of the conditions necessary for the operationalization of the Bank, it is not likely to become operational.

Figure 25: Foodgrain, rice and wheat production as percent to the three year average



4.2.3 Procedure for drawing from the reserve

No clearly specified provision is available with regards to food transportation mechanism, border formalities, and institutional mechanisms for the swift delivery of foodgrain to the country of need. Conditions specified for withdrawal of foodgrain from the Bank, are difficult to meet, both until and unless there is emergency or severe shortage of more than eight percent at an annual basis. Withdrawal of foodgrain is easier in the case of an emergency than in the case of shortage. The procedure for the withdrawal of foodgrain

by a member, from its own share of the reserve is easier than withdrawing from the reserve of other members. In case of emergencies, a member can withdraw food from its share of the reserve by serving a notice to the Board and other members. In the case of a food shortage, the foodgrain can be withdrawn only after three months[19] from the date of the notice (Article VIII). If particular members individual share of the reserve is not enough to address its own emergency or shortage, then the member can notify the amount of foodgrain required through its designated Nodal Point. The Deputy General Manager (DGM) of NFC is the designated Nodal Point in Nepal. The country receiving the request for food is to take immediate steps for speedy release of the requested foodgrain (Article VI). For the operationalization of the Bank, a country has either to declare emergency or give prior notice. The condition of three months prior notice for withdrawing from one's own reserve restricts the members from using the reserve in the case of immediate problem of food shortage, particularly during the pre-harvest season.

The private sector is not allowed to transact the foodgrain from the Bank. The Nodal Point is responsible for transacting all activities on behalf of the private sector importers (Article X). This condition obstructs the private sector from efficient food transaction and utilization. The members, however, are allowed to develop appropriate guidelines for involving the private sector in conformity with its national legislations, procedures and requirements.

The lengthy process of price determination is a hurdle for getting access to the food reserves of other countries. Indeed, the members need to negotiate the prices, terms and conditions of payment for each request that they make, which may take a long time. For facilitating the process of negotiation, the Board is to approve a guideline (Article IX), although, no information is available to demonstrate that the Board has approved any such guideline. It is however, stated that in the case of emergency, the humanitarian aspects will be given due importance while determining prices. Broad principles of price determination includes that the price should be lower for the members, than to the non-members, and shall represent market price (both domestic and international). These principles do not guarantee that the foodgrain from the Bank will be cheaper than those from the market. The lengthy process of withdrawal will be an added cost, pushing the needy members to prefer food trade to using the Bank. Lack of motivation of the member to withdraw food from the Bank limits the scope of its operationalisation.

4.3 Discussions on operational issues

Considering the terms and conditions set for the withdrawal of foodgrain from the SAARC Food Bank, and the inadequacy of the automatic provisions for price setting, boarder facilitations, transactions, and transportation, it is less likely that the foodgrain from the Bank will be easily available at the time of need. Discussions with policy makers

[19]However, for withdrawing food from the voluntary reserve the notice period is one month.

reveal that the mechanism necessary for withdrawing foodgrain from the Bank is far from clear.

The pricing mechanism for the food is not clear. Some provisions are set that the quoted price needs to be lower than the price generally charged or quoted for countries beyond the region. As the Bank is not for beyond the region, the provision refers to the price quoted for commercial transactions and not for the food from the Bank. Nevertheless, it is not clear that the price should be lower, and by what percent. Another clause states that the price quoted should be representative of the domestic and international market price, and that a national treatment is needed in calculating cost components. These statements clearly show that the pricing be done on market price basis, or cost price basis, including handling charges. Additional formalities of the Bank can add inefficiencies, and pricing at the market price basis clearly discourages the needy countries from withdrawing food from the Bank. Possible introduction of ‗red tapism', and other inefficiency in price determination makes the implementation of a pricing mechanism under the SFB a difficult task.

Private traders are not allowed to transact for the food, even after the permission of the Nodal Point. Nodal Point withdrawing and transacting the food on behalf of the private sector increases the operational costs, discouraging the private sector. All these conditions taken together make an arguably sure recipe for failure in the operationalization of SAARC Food Bank. It is hard to find any suggestions as to how a pricing mechanism can be implemented under the Food Bank mechanism.

The policy makers consulted are satisfied with the coverage of food items. Some of them, however, added their concern for adding pulses in the food reserve. Policy makers other than those working in NFC are less concerned with the storage of foodgrain. Decision makers in NFC are concerned with the cumbersome work necessary for changing the stock of foodgrain in order to avoid quality loss. The foodgrain need to be changed every two to three years. NFC is using principle of first-in-first-out (FIFO) for changing the stock of the grain. The system for withdrawing the food and replenishing the stock is still not clearly documented.

No specific strategy is available to link PDS with the regional food bank. As both the national food buffer stock for PDS, and regional food reserve for the Bank are maintained by NFC, under the order and expenses of Ministry of Commerce and Supplies (MOCS), no problem in institutional linkages is visualized. Policy makers have not felt any need for a decentralized food distribution system outside the purview of NFC.

No special arrangement is found for LDCs in the operation of the SFB. It is still not well documented how countries in immediate need can be assisted to benefit from the system. Though small countries and LDCs are more vulnerable to food insecurity, no special and

differential provision is made for such countries. For geographically large countries, loss in food production due to some natural calamities in one part of the country can be pooled to other less affected areas, reducing the risk of hunger. But, for a small country, the entire country may get affected by calamities such as droughts, and this can lead to food insecurity. LDCs have low level of technology bases from which they can increase food production and adapt to the shocks of natural calamities that are being accentuated by climate change. Recognizing the problem of smallness of size and low levels of development, the importance of regional collective actions is higher for food security in LDCs.

5. Summary

Rice, wheat and maize are the staple foods in Nepal. The country is nearly food self-sufficient, with some five percent deficits in odd years. However, within the country, food security varies from region to region. Mountain areas and the mid-western hills are food insecure, and urban areas are food insufficient. The public distribution system is not well developed. Nepal Food Corporation (NFC) procures food from food surplus Terai areas and sells in food deficit areas with the aid of government transportation subsidy. Though NFC is entrusted with maintaining a food reserve for the SAARC Food Bank of 8,000 metric tons, the corporation is not clear about how this food can be withdrawn in the time of need. NFC has never attempted to withdraw food from the Food Reserve. In two and a half decades of history of SAARC food reserve and food bank, the foodgrain have not once been utilization for reducing hunger and malnutrition among the South Asian people. Inadequacy of political determination can be taken as the major hindrance to the operation of the food reserve.

Though the name of the reserve was changed to the SAARC Food Bank in 2007, South Asian countries have no swift process through which they can draw food at the time of need. The SAARC Food Bank Board was formed for setting necessary mechanisms for the operationalization of the Food Bank. However, the board's decisions need to be unanimous. Also the process of calling annual meetings and deciding unanimously is time consuming. Indeed, such processes can take longer to occur, than it takes for a famine to take lives of South Asian people residing in food insecure areas. In effect, this means that the Board is unresponsive to some of the challenges affecting the food security and lives of many within certain parts of LDCs. The SAARC Food Bank agreement has no special and differential provision for LDCs.

6. Recommendations

The recommendations emerging from the study are presented in two sections—national level and regional level.

6.1 Recommendations at national level

6.1.1 Nepal government

A built-in policy and institutional mechanisms are necessary in order for the food reserves to be distributed to food insecure, remote, rural and vulnerable areas. Such mechanisms include the use of PDS, use of a food coupon system, and the linking of food supply to the credit system. The establishment of fair price shops and food depots can also be useful for implementing food coupons.

Considering the annual fluctuation of foodgrain production by two to seven percent, Nepal needs to maintain a national food reserve of at least five percent of its annual consumption. Considering the annual need of 5.07 million metric tons of cereals, Nepal's food reserve of 25,000 metric tons is not sufficient, and it needs to increase 10 times in order to maintain the 250,000 metric tons of food reserve necessary to cope with an abnormal food crisis, arising due to adverse situations and production shortfall. Increasing access to the SAARC Food Bank can reduce the amount needed for the national reserve, saving costs and reducing the risks of food insecurity. However, Nepal needs to fulfil its share of foodgrain 8,000 metric tons of good quality foodgrain for this reserve, and ensure such commitments are fulfilled on time. The government needs to regularly assess the areas of the country facing food emergency and shortage.

Nepal's food situation is not stable. Considering the time series data of the 'Food Balance Sheet', there were years when foodgrain were in shortage. The distribution of food in food insecure areas is not effective, and although the WFP and the NFC are helping, neither have done so in an effective manner. In this background, the Government of Nepal can play an important role in fulfilling the food requirement of deficit areas through the SAARC Food Bank. A portion of the subsidy received by the NFC for transportation can be given to the community for the storage and distribution of food.

6.1.2 Local governments in Nepal

For the efficient distribution of foodgrain in food insecure areas, PDS can be linked to local level institutions such as the local governments, cooperatives, and local charity organizations. The District Food Security Committee can coordinate all the concerned institutions in the district including the NFC branch, local NGOs and local charity organizations. Such decentralization is necessary at a time when Nepal is leading towards a federal state. PDS can also be linked to self-help groups or local institutions working for food security. The government needs to implement PDS by developing targeted programs for the identified food insecure regions and groups. A close linkage from PDS to the Bank is necessary for the swift operation of Food Bank. PDS can use food coupons and subsidies to immediately meet the food needs of the poor. PDS can utilize the help of local governments, local level NGOs, and charity organizations in order to quickly reach people in need.

For safeguarding local level food distribution system from possible malpractices relating to moral hazards, central level institutions need to have regular monitoring systems in close contact with the beneficiaries. Local communities need to be empowered to follow up the activities of local NFC officials and political leaders. Every effort should be made to avoid the leakage of subsidized food to the private sector.

6.1.3 Nepal Food Corporation

NFC needs to be reoriented and strengthened in order to assume new responsibilities of effective food distribution. NFC is closely working with the World Food Programme (WFP) based on a memorandum of understanding (MoU). Similarly, from analysing the situation, it is apparent that NFC can proceed to work with the SAARC Food Bank, and that a MoU can develop between both parties.

NFC can explore the local based consumer co-operatives, and through these co-operatives, a decentralised food distribution system can be enhanced. There should be more decentralized food banks in Nepal. NFC needs to participate in the meetings of the SAARC Food Bank Board.

6.2 Recommendations at regional level

6.2.1 Member governments

Cooperation among the members is vital in order to deal with food shortages at times of disasters, and in order to stabilize food prices. Members need to earmark the stock at closer locations to other members, and inform other members regarding the exactly location of storage so that food can be quickly released and delivered to other members, thus reducing transportation costs. The members need to undertake every effort to improve storage methods and ensure quality control, in line with the requirements set by the SAARC Food Bank Board. The inter-government contact procedures need to be simplified for the quick movement of food items.

The Nodal Points need to be strengthened in order to support the cooperation between the ARC Food Bank Board and the national Public Distribution System (PDS). Further, PDS needs to be empowered and strengthened to support the withdrawal of food at the time of need and its swift distribution to food-insecure, remote, rural, and vulnerable areas.

The difficulties involved in border crossing between South Asian countries pose a further hurdle to the operationalization of the food bank. Indeed, such an operationalisation is difficult unless trade within the region is first liberalized, in order to allow for the swift transportation of food commodities at short notice, during times of food insecurity. The food from the Bank needs to be exempted from customs tariff and other duties.

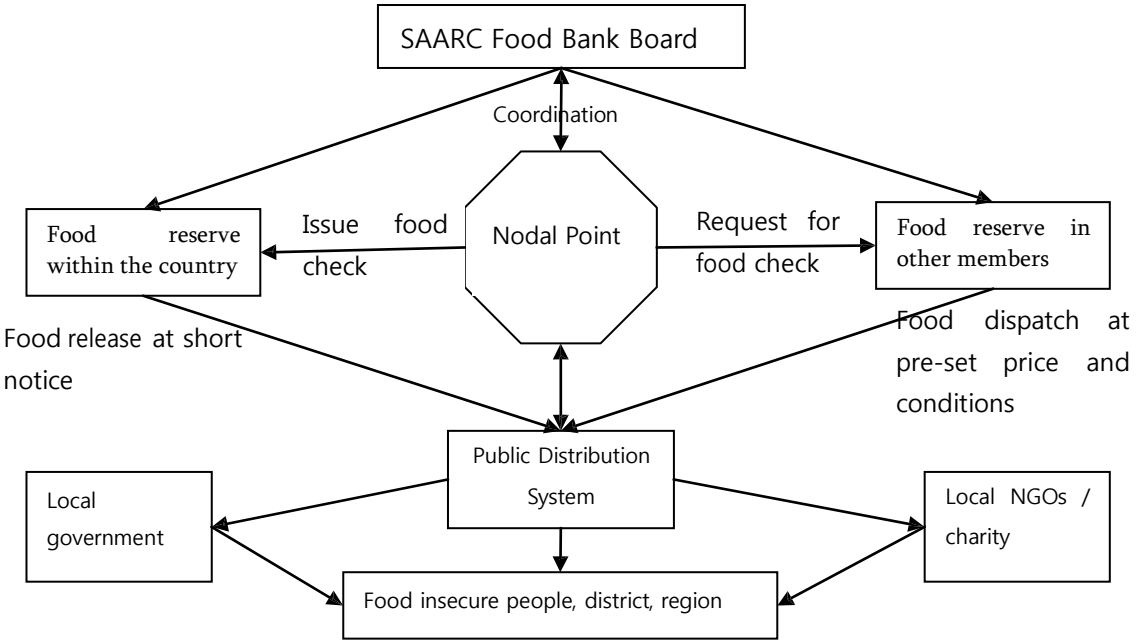
Interconnectedness of the food reserves is necessary to reduce the cost of transportation. For example, food transportation from northern Uttar Pradesh of India would be cheaper for those in the Mid-western hills of Nepal than the food transportation from Eastern Nepal. Similarly, the food reserve in Eastern Nepal can be utilized for meeting the shortfall in eastern parts of India. Effective pricing policies and border facilitation have great potentials to reduce costs of food transportation and ensuring food security in South Asia. The food prices should be 20 percent lower than the commercial trading price for the same quality of foodgrain. The terms and conditions of payment need to be pre-established by the Board.

6.2.2 SAARC Food Bank Board

SAARC Food Bank Board has the authority to develop procedures for the operationalization of the Bank. However, its lengthy mechanisms for the convening of meetings and decision making, delays the delivery of food. Clarity is needed on procedures for the withdrawal of foodgrain by a member country from its own share of the reserve, on the determination of foodgrain prices available in the reserve of other members, on institutional arrangements supporting the Board, and on the conditions for the replenishment of the reserve. For facilitating the effective operationalization of the Bank, the Board needs to operationally define what constitutes an emergency case and a shortfall. It needs to authorize Nodal Points of the member countries to use food check in order to decide, at short notice, whether to draw the foodgrain from its own reserve. The food needs to be released immediately after getting the food check by the authority that holds the foodgrain. The Nodal Point needs full authority to request other Nodal Points to release the food (Figure 26). The Nodal Points require the authority to accept food checks from other members and immediately dispatch the food to the needy member.

The member country should follow Article IX, Determination of Price, as mentioned in Agreement on Establishing the SAARC Food Bank. This requires revision now and then. For getting immediate access to the food reserve in other member countries, the conditions for price setting should be agreed in advance so that there will be no need to negotiate at the time of food shortage or emergency. The Board needs to set a pre-established mechanism for pricing, releasing, transportation, border crossing and distribution of the foodgrain at any time when a member feels that its people are suffering from food insecurity. Special preference needs to be given to LDCs in food pricing, releasing and border crossing. In developing pre-established pricing mechanisms, care should be given so that no member can increase the food price by incorporating its inefficiency in production, storage, and handling.

Figure 26: Coordination for operation of SAARC Food Bank



The SAARC Food Bank Board has a mandate of developing a common response under joint initiative to collectively combat food shortfall in a member country. In developing such common responses, it needs to take the concerns of LDCs more seriously. The major concerns are the low level of food production technology, the less developed infrastructures and the low affordability of food for the poor. LDCs require support in production technology and infrastructure, and also in the supply of food at a lower price.

The Board needs to simplify the conditions for replenishing food after the harvest, so that it will actually function like a bank. The Board needs to carry out further study, in order to better understand the effects of food release from the bank on food security, on the local food market, on food trade and on food production.

The Board needs to obtain technical assistance from food security experts by inviting papers in Board meetings. Inclusion of the representatives of food related ministries from the member countries would add value to the Board.

Continuity of the Board members is necessary for its effective functioning. For this purpose, the members can nominate the Board members for a fixed term in such a way that no more than two members will be new in each Board meeting. For example, if Board members are nominated for four years, and two board members retire every year, then there will be a continuity of experience within the board. To start with this scheme,

the members for the first time should nominate their representative for varying years[20].

6.2.3 SAARC Secretariat

The SAARC Food Bank Board should have a dedicated secretariat for implementing its decisions. The Board needs to be empowered to link the Food Bank to international institutions concerned with food security, such as the International Food Policy Research Institute (IFPRI) and the International Fund for Agricultural Development (IFAD). Linking the Food Bank to such institutions is a key in securing the funds necessary for the smooth and efficient operations of the Food Bank. The Board should have the authority to request for official development assistance (ODA) to increasing the food stock in South Asia and for helping LDCs in the region in particular. The agreement establishing the SAARC Food Bank needs to be revised to introduce special and differential provisions for LDCs in the region, particularly in reference to food supply and pricing. If a LDC member country is given access to the Bank's food reserves, the member should have the option to either pay the food provider or to increase an equivalent amount of food in its own reserve in the next harvesting season.

Due to production season or food shortages in the domestic market, it is often difficult for needy countries to restore their food reserves within six months after withdrawing. In this regard, the SAARC Food Bank agreement needs to be revised in order to give the members at least one full year to restore the depleted reserves. Similarly, the terms ‚emergency' and ‚shortage' need to be clearly defined to include the severity of each particular case.

[20] For the first time, two countries nominate the SFB Board member for four years, two countries for three years, two members for two years and rest two members for one year. From second time and onward, every member needs to nominate its member for four years.

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Annexes

Annex I: List of policy makers consulted

	Name	Designation	Institute
1	Rajendra Prasad Baskota	Acting DGM	NFC
2	Khadga Bahadur Khadka	Division Chief	Planning Division, NFC
3	Moti Raj Shakya	Senior Officer	Planning Division, NFC
	Chandra Man Shrestha	Staff	Purchase Division, NFC
4	Naindra Prasad Upadhaya	Joint Secretary	Ministry of Commerce and Supplies (member of SFB Board)
5	Himal Thapa	Under Secretary	Ministry of Commerce and Supplies
6	Binod Prasad Acharya	Under Secretary	Ministry of Commerce and Supplies
7	Dr Sudarshan Bhakta Mathema	Freelance Consultant	
8	Ganesh Prasad Dhakal	Joint Secretary	Office of the President (former member of SFB Board)
9	Dr. Jagannath Adhikari	Freelance consultant	Martin Chautari,
10	Chandra Bahadur Thapa	National Consultant	Food and Agriculture Organization of UN

Annex II: Questionnaire for survey

Nepal Case Study on
The LDC Issues for the Operationalization of the SAARC Food Bank

Questionnaire for survey of policymakers and other stakeholders

Name:
Designation, if any:
Office, if any:

1. I want to know why South Asian Food Security Reserve (SAFSR) 1988 did not get operationalised.

2. Any idea why SAARC Food Bank 2007 is not yet operationalized?

3. The SAARC Food Bank has 4 objectives:
   - act as a regional food security reserve for the SAARC countries during food shortages and emergencies;
   - provide regional support to national food security efforts;
   - foster inter-country partnerships and regional integration; and
   - solve regional food shortages through collective action.

   Do you feel that the SAARC Food Bank can achieve these objectives? Yes/no
   If no, which objective is not likely to be achieved and why?

4. Would you like to tell something about the commitments of the government to operationalise the regional food bank?

5. Do you feel convenient on the coverage of food items (rice and wheat), storage (at different locations) and withdrawal conditions?

6. Would you like to suggest any policy and institutional mechanisms that can be introduced for the regional food bank to be able to be accessible for poor people in food-insecure remote, rural and vulnerable areas in mountains and Mid- and Far- western hills?

7. Do you have any suggestion how NFC can be linked with the SAARC Food Bank (strategically and institutionally)?

8. Would you like to suggest any institutional options to NFC to implement a

decentralized distribution system, for example, with certain institutional arrangements at the community level (through local governments or self-help groups or community seed banks)?

9. Do you have any suggestion on the pricing mechanism under the SAARC Food Bank?

10. Would you like to suggest anything to Nepal government to benefit from the SAARC Food Bank?

11. Any suggestion how should the mapping of food-insecure areas and distribution of food can be done?

12. Any suggestion how the food distribution activities of SAARC Food Bank, World Food Programme and NFC can be coordinated?

13. Any other suggestions for Operationalization of the SAARC Food Bank

Thanks a lot!!!

Annex III: Expenditure of Government on Agriculture and Irrigation (1998/99 2009/10) (Rs. in Million)

	Agriculture			Irrigation		
	Current	Capital	Total	Current	Capital	Total
1998/99	1,696.0	322.6	2,018.6	326.9	2,724.7	3,051.6
1999/00	1,695.0	544.1	2,239.1	362.4	2,799.3	3,161.7
2000/01	1,881.6	552.0	2,433.6	400.4	3,684.6	4,085.0
2001/02	2,190.9	505.4	2,696.3	271.4	2,913.5	3,184.9
2002/03	1,784.0	187.0	1,971.0	503.7	1,840.9	2,344.6
2003/04	1,856.0	160.2	2,016.2	401.1	2,070.9	2,472.0
2004/05	2,117.2	217.5	2,334.7	410.9	1,921.5	2,332.4
2005/06	2,437.5	265.4	2,702.9	403.7	2,462.7	2,866.4
2006/07	2,766.2	1,374.2	4,140.4	451.3	3,012.6	3,463.9
2007/08	3,057.9	3,211.8	6,269.7	484.0	3,605.1	4,089.1
2008/09	4,401.0	556.9	4,957.0	593.7	5,695.8	6,289.5
2009/10	5,950.3	638.6	6,588.9	677.5	7,974.6	8,652.1
Source: MOF 2011 Economic Survey 2010/11 Ministry of Finance, Kathmandu						

Annex IV: Total expenditures and agriculture sector expenditures (Rs million)

	National expenditure	Agriculture	Irrigation	Forestry	Total expenditure in agriculture sector	% to total expenditure
1998/99	59579.0	2018.6	3051.6	1208.8	6279.0	10.54
1999/00	66272.5	2239.1	3161.7	1304.5	6705.3	10.12
2000/01	79835.1	2433.6	4085.0	1303.6	7822.2	9.80
2001/02	80072.2	2696.3	3184.9	1638.7	7519.9	9.39
2002/03	84006.1	1971.0	2344.6	1645.1	5960.7	7.10
2003/04	89442.6	2016.2	2472.0	1783.5	6271.7	7.01
2004/05	102560.4	2334.7	2332.4	1992.8	6659.9	6.49
2005/06	110889.2	2702.9	2866.4	1823.2	7392.5	6.67
2006/07	133604.6	4140.4	3463.9	1865.1	9469.4	7.09
2007/08	161349.9	6269.7	4089.1	2160.1	12518.9	7.76
2008/09	219662.0	4957.0	6289.5	2723.2	13969.7	6.36
2009/10	259689.1	6588.9	8652.1	3327.9	18568.9	7.15

Annex V: Foreign Aid Disbursement on Agriculture and Irrigation (1984/85 2009/10)
(Rs. in million)

	Agriculture			Irrigation		
	Grant	Loan	Total	Grant	Loan	Total
1984/85	89.4	376	465.4	154.8	294.4	449.2
1985/86	83.9	542.3	626.2	103.3	473.9	577.2
1986/87	61.1	287.2	348.3	59.7	455	514.7
1987/88	70.6	482.7	553.3	23	453.3	476.3
1988/89	82.6	446.9	529.5	71.1	720.8	791.9
1989/90	92.5	443.7	536.2	46.9	725.5	772.4
1990/91	62.4	547.2	609.6	20.4	414.9	435.3
1991/92	126.4	270.4	396.8	93.9	1065	1,158.9
1992/93	171.4	553.5	724.9	192.9	834.2	1,027.1
1993/94	263.9	1801	2,064.9	82.7	1631	1,713.7
1994/95	492.4	810	1,302.4	313.7	1,569.4	1,883.1
1995/96	83.8	1,013.5	1,097.3	109.8	1,992.7	2,102.5
1996/97	162.4	273.7	436.1	171.6	1,876.8	2,048.4
1997/98	144.4	780.5	924.9	NA	1,681.9	1,681.9
1998/99	100.5	808.9	909.4	192.5	2,003.0	2,195.5
1999/00	79	788.3	867.3	205.3	1,867.8	2,073.1
2000/01	27.5	778.8	806.3	347.1	2,436.8	2,783.9
2001/02	289.5	607.2	896.7	183.5	1,895.9	2,079.4
2002/03	141.3	433.2	574.5	245.1	996.4	1,241.5
2003/04	193.8	481.1	674.9	409.1	993.1	1,402.2
2004/05	457.7	294.3	752	489.8	895.8	1,385.6
2005/06	460.3	365.5	825.8	795	575.8	1,370.8
2006/07	633.5	1,419.8	2,053.3	546.8	185.1	731.9
2007/08	568.2	2,039.7	2,607.9	676.9	198.6	875.5
2008/09	362.1	362.1	724.2	962.0	322.0	1284.0
2009/10	492.0	460.7	952.9	1461.0	555.8	2016.0

Source: Economic Survey 2010/11, MOF.

Annex VI: Global hunger index in South Asian Countries

	1990(with data from 1988-92)	1996(with data from 1994-98)	2001(with data from 1999-2003)	2011(with data from 2004-2009)
Afghanistan	NA	NA	NA	NA
Bangladesh	38.1	36.3	27.6	24.5
Bhutan	NA	NA	NA	NA
Maldives	NA	NA	NA	NA
India	30.4	22.9	24.1	23.7
Nepal	27.1	24.6	23.0	19.9
Pakistan	25.7	22.0	21.9	20.7
Sri Lanka	20.2	17.8	14.9	14.0

Note: NA= not available

Source: http://www.ifpri.org/book-8018/node/8058

Annex VII: ODA from all sources to Nepal total and that in agriculture sector (million US$, in current price)

Year	Total	Agriculture, fishery, forestry	Food crop production	% in agriculture, fishery and forestry	% in Food crop production
2002	277.986	36.018	0.518	12.96	0.19
2003	429.986	22.954	0.853	5.34	0.20
2004	394.84	28.993	0.873	7.34	0.22
2005	415.436	20.487	3.131	4.93	0.75
2006	474.676	17.664	4.84	3.72	1.02
2007	545.374	23.883	0.553	4.38	0.10
2008	745.474	26.214	0.608	3.52	0.08
2009	758.616	25.621	0.408	3.38	0.05
2010	946.386	46.555	1.327	4.92	0.14

Source: Creditor Reporting System database of the OECD http:stats.oecd.org, extracted on 19th May 2012.

Annex VII. Contributions to SAARC Food Bank

	Country	Food reserve (1000 tons)	%
1	India	306.00	63.01
2	Bangladesh	80.00	16.47
3	Pakistan	80.00	16.47
4	Nepal	8.00	1.65
5	Sri Lanka	8.00	1.65
6	Afghanistan	2.84	0.58
7	Maldives	0.40	0.08
8	Bhutan	0.36	0.07
	Total	485.60	100.00

Source: SAARC Secretariat 2012