Crop Situation Update

(A joint assessment of 2010/11 winter crops with comprehensive data on 2010/11 crop production)

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MINISTRY OF AGRICULTURE AND COOPERATIVES

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This assessment was undertaken jointly by the Ministry of Agriculture and Cooperatives (MoAC), the World Food Programme (WFP) and the Food and Agriculture Organization (FAO).

The joint assessment team consisted of the following experts:

Mr. Hemraj Regmi, Mr. Shiv Nandan Sah, Mr. Badri Khanal, Mr. Uttam Hari Rimal, and Bishnu Prasad Ghimire (from MoAC)

Dr. Sridhar Thapa, Dr. Krishna Pahari, Mr. Pushpa Shrestha, Ms. Sunita Raut, Mr. Man Kshetri, Mr. Binod Dev Bhatta, Mr. Rabindra Chand, Mr. Laxmi Narayan Chaudhari, Mr. Ramesh Sah, Mr. Raju Chhetri, Mr. Kishor Bhandari, Mr. Birendra Kadayat (from WFP)

Mr. Xavier Bouan, Mr. Dilip Karki, Mr. Niranjan Dangol, Mahendra Shakya, Birad Siku Shrestha, and Samir Rijal (from FAO)

The field work was undertaken by the joint assessment team with staff from these three organizations-as well as 30 WFP field monitors.

नेपाल खाद्य सुरक्षा अनुगमन प्रणाली
Nepal Khadhya Surakshya Anugaman Pranali (NeKSAP)
Nepal Food Security Monitoring System

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Crop Situation Update

A joint assessment of 2010/11 winter crops with comprehensive data on 2010/11 crop production

HIGHLIGHTS

- Wheat production in 2010/11 has increased by 12.2% to 1.75 million MT compared to 1.56 million MT last year and that of barley has increased by 9.6% to 30.2 thousand MT compared to 27.6 thousand MT last year. The production of buckwheat which is also included in cereal food balance computation from this year was 8.8 thousand MT in 2010/11.
- In 2010/11, the production of cereal crops has increased by 10.9% to 8.62 million MT compared to 7.76 million MT last year. The overall edible cereal crop production shows a total of 110 thousand MT (2%) surplus this year in contrast to 330 thousand MT (- 6%) deficit last year.
- An increase in the overall cereal output is attributed by a number of factors such as adequate precipitation across the country during plantation and growing period, fertilizer subsidy in some hill and mountain districts, and the support to agricultural productivity enhancement programme from both government and non-government organizations.
- Rainfall in March-April 2011 has been favourable for timely planting of spring paddy and spring maize. Moreover, the anticipated beginning of the monsoon with a forecast of normal rainfall is expected so far to be favourable for the next summer crops production.
- Despite a marginal surplus in the national cereal balance, Nepal will still sustain a significant population vulnerable to food insecurity, particularly those with limited economic access and residing in remote and rural areas such as the Mid- and Far-Western hill and mountain districts.

1. BACKGROUND AND OBJECTIVES

Crop production plays an important role in an agrarian country like Nepal because of its contribution to food security as well as to the overall national economy. Domestic production is a major source of food security for most households in Nepal, particularly those living in remote and rural areas. Wheat is the main winter crop and the second most important crop with regard to its share in agricultural GDP. This crop is planted across all agro-ecological belts in October-November and harvested in April-May. However, its cultivation is more wide spread in the *Terai* and the hills. Barley is cultivated in limited areas across the country, particularly in the hill and mountain districts of the Mid and Far-Western region despite being a staple food in those districts. Winter potato and mustard are also major winter crops.

This crop situation update is the result of a joint assessment conducted by the Ministry of Agriculture and Cooperatives (MoAC), the World Food Programme (WFP), and the Food and Agriculture Organization (FAO). It contains information on the production status of 2011 winter crops, the overall production situation of 2010/2011 crops, an early outlook of the 2011 summer crops and the likely impact on Nepal's food security situation.

The joint assessment mission had the following specific objectives:

1. To assess and verify the overall winter crop production situation and early outlook of summer crops in the country,
2. To assess the annual cereal food production vis-à-vis the requirement and balance situation, and
3. To make short as well as long term recommendations for policy level considerations.

2. METHODOLOGY

The assessment methodology consisted of national, district and field level analysis of crop production and food supply situation, using available data from the Ministry of Agriculture and Cooperatives, combined with field verifications in selected districts chosen from different development regions and ecological belts of the country.

The District Agriculture Development Offices (DADOs), and the Nepal Food Security Monitoring System (NeKSAP) District Food Security Networks (DFSNs) reported the pre-harvesting stage situation of winter crops in April 2011. Based on the situation updates, altogether 21 districts were sampled across five development regions for field assessment and verification. The joint assessment and field verification mission was then organized comprising of staff from the MoAC, WFP, and FAO. Five teams thus covered 21 sample districts in five development regions. These included Siraha, Saptari, Sunsari, Okhaldhunga and Khotang in the Eastern Development Region; Ramechhap, Makawanpur, Sindhuli, Bara, and Rautahat in the Central Development Region; Kapilbastu, Palpa and Syangja in the Western Development Region; Bardiya, Surkhet, Dailekh and Kalikot in the Mid-Western Development Region; and Kailali, Baitadi, Achham and Bajura districts in the Far-Western Development Region. The assessment teams conducted a field survey in the respective regions with pre-designed district check list formats in consultation with various district stakeholders including District Agriculture Development Officers, Local Development Officers, Chief District Officers, District Livestock Officers, and other organizations related to agriculture, market and food security in the district. The mission also visited at least one community in each district to assess and verify the crop production situation and understand communities' perception of food security situation.

The report contains crop production and food balance data from field survey data compiled using the district checklists, community interaction, information from NeKSAP District Food Security Networks, and rainfall data from the Department of Hydrology and Meteorology.

3. RAINFALL SITUATION FOR SUMMER AND WINTER CROPS

Despite the monsoon starting a week later, on the 17th June 2010, adequate rainfall during the monsoon, which is the important crop planting period, contributed to a good summer crop. Moreover, the monsoon period which was prolonged for one month (i.e. until October in 2010) helped maintain soil moisture for a longer period, which helped winter crops to germinate and grow on time.

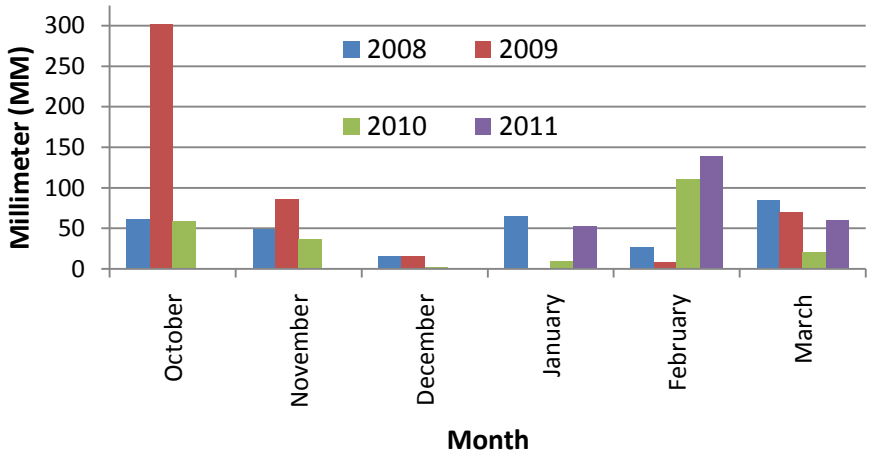
The monsoon is a typical South Asian meteorological phenomenon originating from the Bay of Bengal in the Indian Ocean and is the source of rainfall in the South Asian sub-continent. Monsoon normally starts on June 10 and remains active up to September 23 across the country. However in 2010, it started one week later and remained active until October (more than one month compared to normal routine). According to the Department of Hydrology and Meteorology, the average rainfall in Nepal was 75% in June, 115% in July, 122% in August and 114% in September compared to the normal. Due to the availability of sufficient irrigation from the rainfall, the area planted under paddy, maize and millet increased by 1.0%, 3.5% and 0.5% respectively compared to 2009/10. Despite these year-on-year increases, the paddy planted area however was nevertheless 3.8% lower than in 2008/09. Also, there were a significant number of days having more than 1 mm rainfall which is considered as significantly good for the paddy crop.

Despite a low rainfall in November and December 2010, the prolonged monsoon rainfall until October 2010 was helpful to plant winter crops and the rainfall during the first week of February 2011 across the country was also supportive to the growing winter crops. Although the rainfall in March and April remained below "normal"[1], the intensity was regular, which helped much during the growing and pre-harvesting stage of the winter crops.

Figure 1 displays the monthly total rainfall observed from October to March in the last four years. It shows favorable rainfall in January, February and March 2011. In October 2010, even though rainfall was less than in 2009 (when excessive rain caused significant floods in many areas of Nepal), it was sufficient to keep the soil moist for the plantation of winter crops later in the year. Map 1 shows the rainfall situation across the country in the period of October-December 2010 and January-March 2011, as reported by the District Food Security Networks. Map 1 further reveals that the rainfall during the period of January-March was relatively low in eastern Terai districts compared to other parts of the country.

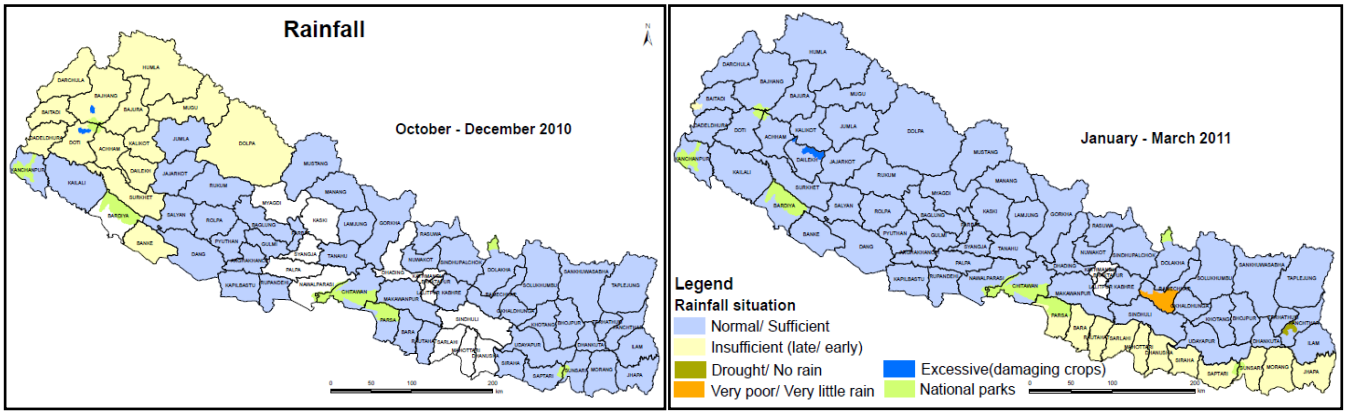
[1] Department of Hydrology and Meteorology

Figure 1: Rainfall distribution and intensity in the years 2008-2011



Source: Department of Hydrology and Meteorology

Map 1: Rainfall situation during October-December 2010 and January-March 2011



Source: NeKSAP, District Food Security Networks (DFSNs).

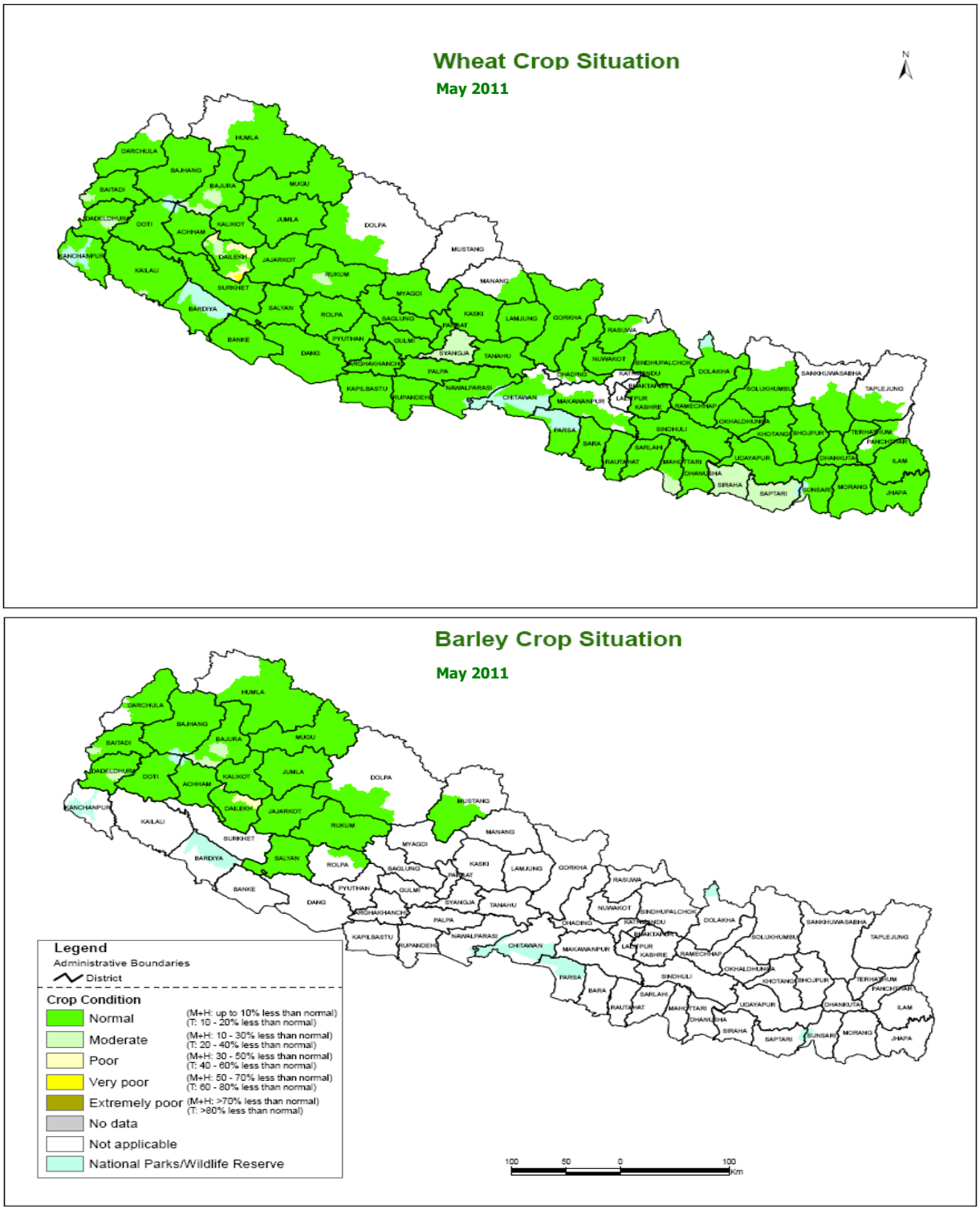
4. NATIONAL OVERVIEW OF CROP PRODUCTION

The overall production of winter crops such as wheat and barley has been generally good across the country (April-June). The production of two major winter crops, namely wheat and barley have increased by 12.2% to 1.75 million MT and 9.6% to 30.24 thousand MT respectively compared to last year. Wheat production has set a record of the highest production in the past 21 years (Figure 2). Moreover, the MoAC has recorded a total production of 8,841 MT of buckwheat this year; and for the first time, has started to include it in the computation of the national cereal food food balance. The major wheat producing districts by quantity produced are Rupandehi (105,900 MT), Kapilbastu (96,986 MT), Dhanusha (96,119 MT) and Bara (96,900 MT), while the highest barley producing districts have been Jumla (4,410 MT), Mugu (1,837 MT), Bajura (1,769 MT), Salyan (1,529 MT) and Surkhet (1,330 MT).

It is worth noting that the summer crop also fared well in the year 2010/11 (refer to Crop Situation Update of February 2011). Paddy, maize and millet production have reached 4.46 million MT, 2.07 million MT, and 302,691 MT respectively, an increase of 10.9%, 11.5%, and 1.1% respectively compared to the previous year. Maize production is the highest on record of crop production in more than 20 years back.

Map 2 shows winter crop situation by VDC. As shown in the map, wheat cultivation is spread across the country, while barley cultivation is mostly concentrated in the hills and mountains of Mid and Far Western regions. Map 3 (in Annex) shows the summer crop production situation.

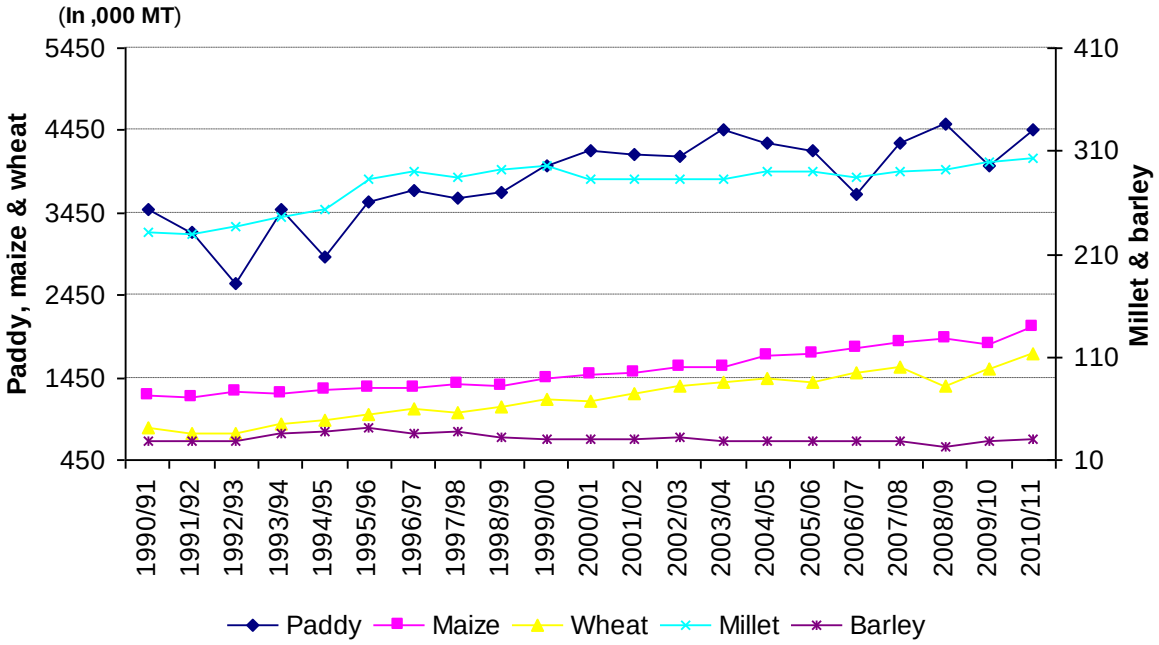
Map 2: 2010/11 winter crop production by VDC



Source: NeKSAP, District Food Security Networks.

Figure 2 shows the production trend of edible cereal crops in Nepal since 1990/91. The figures indicate that paddy production fluctuates over time, while wheat and maize production have by and large an upward trend. Barley production however shows a declining trend over time.

Figure 2: Production trend of edible cereal crops in Nepal since 1990/91



Source: Agri-Business Promotion and Statistics Division (ABPSD), Ministry of Agriculture and Cooperatives (MoAC) 2011

Detailed data on area, production and yield of major cereal crops such as paddy, maize, wheat, millet and barley at the sub-national level are presented in Table 1, also depicting changes compared to last year.

Table 1: Cereal crop production status in 2010/11

1. (a): Cereal crop production (Area in, 000 ha, production in, 000 MT and yield in MT/ha)

Belt/Region	Paddy			Maize			Wheat			Millet			Barley		
	Area	Prod	Yield	Area	Prod	Yield	Area	Prod	Yield	Area	Prod	Yield	Area	Prod	Yield
Eco-Belt															
Mountain	66.7	137.7	2.1	98.5	209.3	2.1	52.1	78.6	1.5	53.9	55.9	1.0	14.2	14.4	1.0
Hill	407.0	1,126.7	2.8	623.2	1,411.7	2.3	265.4	529.2	2.0	206.3	236.4	1.1	13.1	14.4	1.1
Terai	1,022.7	3,195.9	3.1	184.6	446.4	2.4	449.9	1,138.0	2.5	9.6	10.3	1.1	1.3	1.4	1.1
Development Region															
Eastern	297.7	898.5	3.0	55.0	142.5	2.6	125.5	276.7	2.2	5.4	6.0	1.1	1.9	2.0	1.1
Central	418.5	1,246.5	3.0	213.2	517.5	2.4	223.9	561.8	2.5	63.1	68.9	1.1	2.7	2.9	1.1
Western	335.5	1,073.7	3.2	237.3	571.5	2.4	138.2	363.9	2.6	96.3	105.8	1.1	3.9	4.7	1.2
Mid Western	173.7	549.3	3.2	153.5	323.0	2.1	145.1	297.8	2.1	21.7	25.5	1.2	14.1	13.9	1.0
Far Western	149.5	411.2	2.8	54.6	97.3	1.8	134.9	245.5	1.8	16.2	16.6	1.0	5.9	6.8	1.1
Nepal	**1,496.5**	**4,460.3**	**3.0**	**906.3**	**2,067.5**	**2.3**	**767.5**	**1,745.8**	**2.3**	**269.8**	**302.7**	**1.1**	**28.5**	**30.2**	**1.1**

1. (b): Percentage change compared to last year

Belt/Region	Paddy			Maize			Wheat			Millet			Barley		
	Area	Prod	Yield	Area	Prod	Yield	Area	Prod	Yield	Area	Prod	Yield	Area	Prod	Yield
ECO-BELT															
Mountain	5.8	12.3	5.8	5.6	9.7	3.9	0.4	26.3	25.8	-18.2	-20	-21.8	12.7	10.1	-8.1
Hill	4.8	12.8	7.7	0.4	6.4	6.2	8.1	27.7	18.2	1.6	3.5	1.9	3.6	12	8.2
Terai	1.1	13	11.9	8.3	31.8	21.7	3.8	5.4	1.5	-4.2	-7.8	-3.8	-13.1	-13.2	-0.2
Development Region															
Eastern	-4.8	3.3	8.5	4.8	7.3	2.4	5.4	9.5	3.9	3	8	4.8	2.3	8.3	5.9
Central	2.5	6.4	3.8	5.4	17.9	11.9	2.3	10.6	8.1	-1.4	-1.8	-0.3	3.7	7	3.1
Western	3.6	22.2	17.9	6.3	8.4	2	-1.5	0.5	2	-0.7	-4.2	-3.5	-1	5.2	6.3
Mid Western	5.2	11.5	5.9	-3.6	15.9	20.1	8.6	23.3	13.5	1.3	6.5	5.1	10.5	0.2	-9.3
Far Western	4.2	21.6	16.8	-0.1	7.6	7.7	12.9	27.8	13.2	3.5	7.3	3.6	7.8	43.7	33.2
NEPAL	**1**	**10.9**	**9.7**	**3.5**	**11.5**	**7.7**	**5**	**12.2**	**6.8**	**0.5**	**1.1**	**0.6**	**7**	**9.6**	**2.4**

1. (c): Crop-wise total production and edible production (MT)

Crops	Total production	Edible production (quantity)
Paddy	4,460,278	2,427,980
Maize	2,067,522	1,416,248
Wheat	1,745,811	1,404,114
Millet	302,691	247,749
Barley	30,240	9,649
Buckwheat	8,841	7,135
Total	**8,615,383.0**	**5,512,875**

Source: Agri-business Promotion and Statistics Division (ABPSD), MOAC 2011

Table 1.(b) shows an increase in area, production and yield of major cereal crops this year in nearly all ecological belts and development regions. The highest increase of wheat cultivation area is found to be in the hill belt (27.7%), followed by the mountain (26.3%) and the Terai (5.4%) belts. Among the development regions, the Far- and Mid-western regions have the highest rate of area increase in wheat cultivation, with an increase of 28.8% and 23.3% respectively. Besides good rainfall levels, another important factor that increased the cultivation area and improved wheat production were the agriculture related support programmes provided by the government and other development agencies, particularly in the Far- and Mid-western regions. For instance, FAO supported with 816 MT of wheat seed in five districts (Bajhang, Doti, Darchula, Baitadi, and Kailali) in the Far-western region, three districts (Dolpa, Jumla, and Kalikot) in the Mid-western region, and two districts (Sindhuli, and Udayapur) in the Central and Eastern regions with the funding from the EU Food Facility. Likewise, FAO also supported with 938 MT of chemical fertilizers in Doti, Darchula, and Baitadi districts, and provided technical training to more than 31,000 farmers on different winter crops. The Western region has the lowest increase in wheat production (0.5%) compared to last year but on the other hand has the highest increase of paddy production area (22.2%) compared to last year. The overall production situation of paddy, maize and wheat is found to be improved in all ecological belts and development regions compared to last year.

Table 1.(b) further reveals that compared to last year the area under paddy cultivation has increased the most in the mountain belt (5.8%), followed by the hill belt (4.8%). This increment in the area of production, particularly in the hill and mountain belts where rain-fed agriculture is common, is perhaps due to the positive impact of the timely and adequate rainfall. The highest increase of the plantation area for wheat is found to be in the hill belt (8.1% compared to last year) and that of maize is found to be in the Terai (8.3%).

Crop-wise total and edible production has also been presented in Table 1.(c). The total edible paddy production is the highest (2,427,980 MT), followed by maize (1,416,248 MT) and wheat (1,404,114 MT).

Crop situation in selected districts visited by the joint mission

Eastern Development Region

The districts in the Eastern Development Region covered by the mission (Okhaldhunga, Khotang, Siraha, Saptari and Sunsari) reported a higher winter crop production compared to last year. The overall wheat production in this Development Region has increased by 9.5 % and that of barley by 8.3%, while the overall wheat production in the five districts covered by the mission has increased by 42.9%. However by contrast, barley production has only increased by 2.2% and winter potato by 4.7%, while that of mustard has decreased by 37.8%. So far, the outlook of spring maize is good despite a hailstorm in Diktel, Khotang. It has been reported that the practice of intercropping (summer potato and maize) is also increasing in some VDCS in Khotang such as Nunthala. In addition, households in most of the VDCs from sampled districts reported to have enough food stocks for a couple of months and prices of food items have been relatively stable over the past three months. This is primarily due to road access in many hilly districts and relatively less obstruction in vehicular movements as well as the partial lifting up of the transport syndicate system.

Central Development Region

The mission covered five districts in the Central Development Region: Ramechhap, Sindhuli, Makwanpur, Bara and Rautahat. The overall increase in wheat and barley production in the region has remained 10.6%, and 7.0 % respectively compared to last year. The highest increase in wheat production has been observed in Sindhuli (53.8%) and Ramechhap (27.4%), which are districts highly dependent on rain-fed agriculture. By contrast, the increase in wheat production in the central Terai districts has remained nominal. Winter potato and mustard have increased by 12.8% and 1.2% respectively in the sampled districts. The mission reported that the farmers in Bara district are receiving subsidy for maize plantation from the GoN as part of the compensation for maize losses last year due to low quality 'high breed' maize seeds. There are enough food stocks in the region to meet the demand for the next couple of months. Food prices are also relatively stable.

Western Development Region

The winter crop assessment mission covered Kapilbastu, Palpa and Syangja districts in the Western Development Region. The overall production of wheat has increased by a nominal 0.5% and that of barley by 5.2% in this region. The production was affected by a lower amount of rainfall during the sowing period and the impact of hailstorm during the harvesting period in some parts of these districts. Kapilbastu is one of the major wheat producing districts in the region, however the production has remained less than expected (up by only about one percent compared to last year). This is mainly because the plantation area decreased by 1.6 percent due to lower rainfall. Moreover, winter potato has decreased by 3.0% in the sample districts; however, mustard has increased by 6.8% on an average. Despite a reduction in the winter crop production in sample districts, main markets have a good stock of food commodities and these districts are all food secure as of now. Market prices are also stable due to relatively good road access to major food markets.

It is also reported that farmers in Palpa and Syangja districts are involved in high value crops and horticulture. For instance, farmers in Palpa, particularly from the Madan Pokhara area, are benefiting from off-season vegetable farming due to the high demand from Indian border markets. In Syangja, orange farming is expanding into large scale production with the support and cooperation of FAO. Community interaction revealed that many households in the district have been able to improve their living conditions with the income from the orange farming.

Mid-Western Development Region

The mission visited four sample districts including Bardiya, Surkhet, Dailekh and Kalikot. The overall production in this Development Region has been found satisfactory. For instance, the overall wheat production has increased by 23.29% and barley by a nominal 0.2%. Among the four districts covered by the field mission, the winter potato has increased by an impressive 77.9% and mustard by a more reasonable 13.4%. The winter crop production has thus been favourable to address food insecurity of the local communities for some time. Many hill and mountain districts in the region have also been linked with seasonal road networks which further improved the supply situation. As a result, food prices in the markets of these districts such as Kalikot and Dailekh have decreased compared to previous years. However, the present situation only reflects a transitory improvement in food security and should not be generalized for a stable food secure condition.

Far-Western Development Region

The winter crop assessment mission visited Kailali, Achham, Bajura, and Baitadi districts in the Far-Western Development Region. The mission has reported a significant increase in winter crop production in this region. For example, wheat production has increased by 27.8% and that of the barley by 43.7%. Production has increased in almost all districts. Better harvest of winter crops in many hill and mountain districts has enhanced food stock at least for a couple of months. In addition, market price of essential food commodities has remained stable or has even reduced in some cases (e.g., Bajura district headquarters) compared to last year due to improved road access. In spite of improved winter crop harvests and different development programmes implemented to enhance the livelihoods of the local people, local communities in districts like Bajura are still facing food insecurity. This is partly because the local production not being sufficient to meet the needs of the population (in spite of some increase in production compared to last year). Furthermore, crops in some areas have been seriously affected by drought and other natural disasters. During the field visit, some of the communities suggested to the agencies like WFP to shift their programme approach from food distributions to providing more support for activities boosting agricultural production.

5. 2010/11 SUMMER CROP PRODUCTION OUTLOOK

The early outlook of 2011/12 summer crops such as maize and paddy (which will be harvested in August-September and October-November respectively) seems to be favourable. Rainfall in March-April 2011 helped to plant *Chaite* (spring) paddy and maize timely in many parts of the country, especially in rain-fed areas of hill and mountain belts. Moreover, the timely arrival of both pre- and normal monsoon indicates a positive outlook so far for the summer crops. Paddy plantation has already started in many parts of the country.

The report from the crop assessment teams shows that many districts in hill and mountain regions have planted maize in time and the growth of maize is good so far due to regular occurrence of rainfall. As a result of good harvest in 2010/11, many farmers including small holders are now better able to manage farm inputs such as seeds and fertilizers for the next crop thus contributing to a positive outlook for summer crops.

6. IMPACT ON THE NATIONAL FOOD BALANCE SITUATION

The total cereal crop production (paddy, wheat, maize, millet, barley and buckwheat) has increased by 10.9% compared to last year, in which paddy production has increased by 10.9% and that of wheat, maize, barley and millet have increased by 12.2%, 11.5%, 9.62%, and 1.1% respectively. The total productions of paddy, wheat, and maize are 4.46 million MT, 1.75 million MT and 2.07 million MT respectively. Maize and wheat productions in 2010/11 are the highest on record so far since more than 20 years back.

As rain-fed agriculture dominates Nepal's crop production situation, the food balance situation is siginifcanly influenced by weather conditions. Thanks to favourable weather conditions with adequate rainfall, combined with improved input provisions (for example seeds and fertilizers) and technological support (such as the System of Rice Intensification or, SRI) in some areas, annual cereal crop production has reached 8.62 milion MT this year. The MoAC food balance sheet shows a 110,634 MT edible cereal crop surplus this year compared to a 330,000 MT net deficit last year (see Figure 3).

Table 2 and Figure 3 present the trends of national edible cereal food production balances since 2001/02 and indicate that Nepal has experienced cereal grain food deficit in four of the past six years (since 2005/06). The highest food decifit is found to be in the year 2009/10 (330 thousand MT). It is noteworthy to say that in addition to 110.6 thousand MT edible food surplus (2% of requirement) this year, Nepal's net import of cereals (rice, wheat flour and maize both corn and corn flour) has reached about 173.5 thousand MT in the first ten months of the FY 2010/11 (Table 3). The result of the official figure shows a total of 283.6 thousand MT food surplus in Nepal in 2010/11. It is also known that official export and import figure to and from India however should be taken with caution due to the considerable amount of unrecorded trade between the two countries.

In spite of the marginal food surplus situation at the national level (2% of requirement), 38 out of 75 districts are still food deficit. As seen in Map 4, these include many districts in the Mid- and Far-western hills and mountain where road/market access is limited, some Terai districts with high population but relatively low production (such as Sunsari, Saptari and Siraha), and Kathmandu valley due to large urban consumer population. Map 4 further shows that districts, such as Dolpa, Kaski, Chitwan, Sankhuwasabha, Dhanusha, and Dang have been converted into marginally food surplus situation (from being marginally food deficit last year), probably due to adequate rainfall that gave rise to improved production. Such districts can easily switch to a food deficit situation with small fluctuation in production that can be caused by adverse weather conditions.

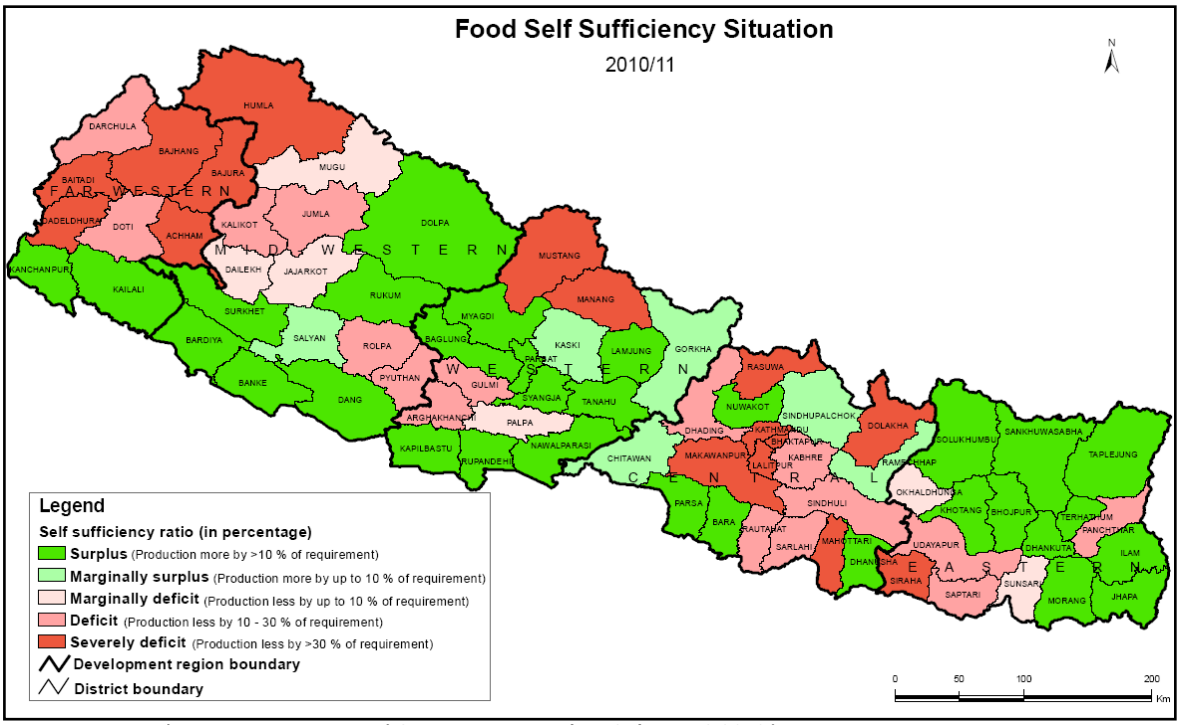
Furthermore, the status of edible cereal food balance at sub-regional (Table 3, Annex) levels clearly shows that the mountain districts in the Mid and Far western regions are deficit by 15.8 thousands MT and 38.4 thousands MT (22% and 42% of requirements) respectively and that the hill distircts in Far western region are deficit by 60.4 thousands MT (31% of requirements). The highest deficit of 393.2 thousands MT (44% fo requirement) is in the hill districts of the Cental region, this is mainly due to the high urban population in the Kathmandu valley districts. Likewise, mountain districts in the Central region are deficit by 28.7 thousands MT (22% of requirment). All three sub regions in the Eastern region are in a surplus situation (Map 4 and Table 3, Annex).

Table 2: The trends of national cereal food production and balance since 2001/02 (in ,000 MT)

Year	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Total cereal production	7171.8	7246.9	7360.4	7747.1	7767.5	7656.5	7329.0	8069.1	8114.1	8615.4
Edible production	4543.0	4653.4	4884.4	4942.6	4869.4	4753.4	5195.2	5170.4	4967.5	5512.9
Requirement	4463.0	4620.0	4671.3	4779.7	4891.0	4941.1	5172.8	5303.3	5297.4	5402.2
Balance in MT	80.0	33.4	213.1	162.9	-21.6	-187.7	22.4	-132.9	-329.9	110.6
Balance in % of requirement	+1.8	+0.7	+4.6	+3.4	-0.4	-3.8	+0.4	-2.5	-6.2	+2.0

Figure 3: Trends of national edible cereal food production and balance since 2001/02

Map 4: District-wise food self sufficiency situation in 2010/11



source: Agri-business Promotion and Statistics Division (ABPSD), MoAC 2010/11

7. FOOD MARKET SITUATION

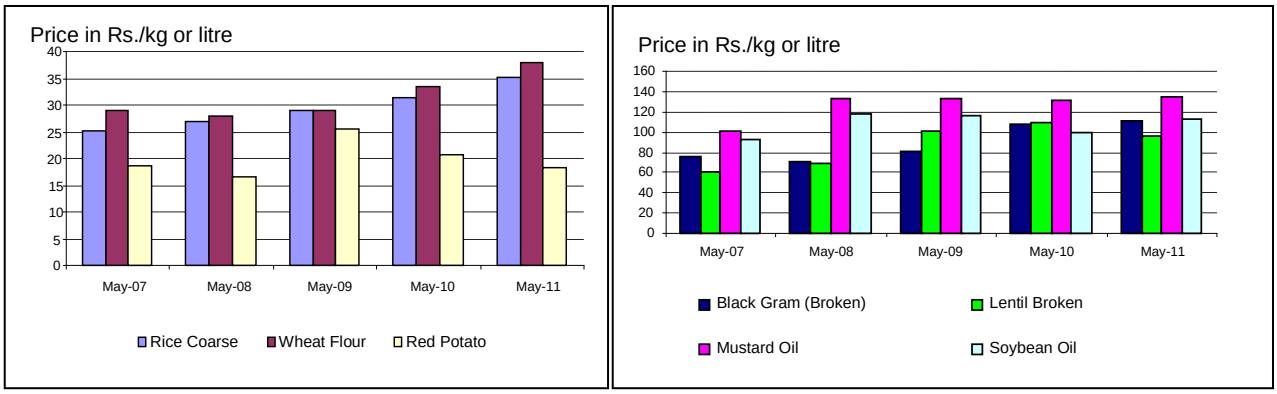
The data from the MoAC, Agribusiness Promotion and Marketing Development Directorate (ABPMDD) shows that prices of major cereal grains have continued to rise in the main markets, most probably due to soaring fuel prices which lead to higher food transportation costs. . For instance, the price of coarse rice increased by 11.6% in May 2011 compared to the same period last year and that of wheat flour increased by 7.1%. However, prices of black gram, red potato and mustard oil remained relatively stable with nominal increases of 1.3%, 3.4% and 3.5% respectively. The price of soybean oil is found to be 13.8% higher than the same period last year, while that of broken lentil decreased by 5.6%.

Figure 4 shows the average prices of major food items in the past five years. It shows that the average prices of coarse rice and wheat flour have been rising continuously, while other commodities (potato, pulses and oil) have shown some fluctuations during this period.

As per data released by the Nepal Rastra Bank, the year-on-year (y-o-y) inflation as measured by the consumer price index (CPI) remained at 10.6% in mid-April 2011 compared to 14.3 % in the same period last year. In the same period, the index of food and beverage group rose by 17.3% of which the index of vegetable sub groups rose by the highest rate of 61.1% compared to last year same period. Such a high increase in the general index of "food and beverage" combined with the very high increase in the index of vegetable sub-groups is of particular concern for the low and middle income population.

Moreover, the rise of petrol price from Rs. 97 to Rs. 102 per litre in May 2011 is likely to further affect the price of food commodities, which needs to be monitored closely.

Figure 4: Staple food prices May 2007/08/09/10/11



Source: ABPMDD, MoAC

8. FOOD SECURITY SITUATION AND OUTLOOK

There has been a seasonal improvement in the food security situation in many areas of the country. Overall, the food security situation at national level looks positive with an improvement in the production of summer and winter crops, leading to a country wide 110,634 MT edible cereal grain surplus, even though this surplus is marginal (only 2% of requirements). However, when analyzing the situation at sub-regional level, it appears that the most food insecure areas of the country like Mid-Western Mountain, Far-Western Mountain, and Hill districts still show a produced deficit of -15,861 MT (-23%), -38,419 (-42%), and -60,373 MT(-31%) respectively (Table 3 in Annex). Also some VDCs in sample districts had lost their crop due to hailstorm during the period of winter crop harvest; these VDCs include the eastern part of Palpa, the south-western part of Syangja, and some areas in Khotang. The relative improvement in winter crop production has positive impact even in the food insecure rural and remote areas as they can rely on their food stocks for at least a month after the harvest. However, many of these poor households are likely to face food insecurity in the usual hunger lean season during the July-September period.

In addition to crop production, better road access to Kalikot and Bajura districts has enhanced food supply in these areas and also helped stabilize prices of essential food commodities in the market. For instance, prices of the major

essential commodities such as coarse rice and wheat flour in Bajura and Achham remained stable over past three months and have even declined in some districts compared to the same period last year. Likewise, ferry facility on Koshi River for crossing vehicles to link Okhaldhunga and Khotang districts from Terai belt has also improved food supply and helped stabilize food prices to some extent. However, the supply situation in the hill and mountain districts may be affected during the monsoon period because of possible disruption in transport due to blockage of roads by landslides. Any resulting deterioration in food security situation needs to be monitored closely.

9. FOOD SUPPLY AND TRADE SITUATION

The food supply and trade situation often depends on the production trends within the country. An increase in the production is likely to improve the market supply as well as trade. As Nepal experiences 110,634 MT edible food surplus (2% of requirements) in 2010/11, it would be important to analyze how it relates to the overall food supply and trade situation in the country. Rice is the main import commodity of Nepal among the cereal grains, while major export crop items are pulses, ginger, cardamom and tea. Table 3 presents data on the export and import of major food items both in quantity and value since FY 2008/09. It shows that rice has been by far the most important item imported into Nepal, both in value and in quantity, in recent years. The data from the first ten months of the FY 2010/11 show that Nepal has imported almost 95,000 MT of rice (types include husk, husk brown, semi-milled or wholly milled and broken rice) during this period with a total value of NRs. 1.7 billion (approximately US$ 24 million). In the same period, even though it seems that there has been import as well as export of wheat flour, the import has been more dominant (import of this item being 3.4 times more than the export in value). Likewise, Nepal's import of maize (corn and flour) has also been quite significant (only next to rice, and increasing rapidly in recent years), with about 60,000 MT (with a value of NRRs 776 million or about US$ 11 million) being imported in the first ten months of the FY 2010/11.

In addition to formal trade (as seen per the recorded data), it is also known that there is also a significant informal trade with India due to its open porous border with Nepal. It has also been observed that Nepal often exports its cereal and cash crops to third countries other than India due to relatively higher prices in those countries and imports from India for domestic requirement. For instance, despite a lentil deficit in Nepal, the export of lentils to Bangladesh has increased by 22.9% this year due to an export ban from India to Bangladesh set by the Indian government.

Table 3: Export and import major food items

Items	2008/09		2009/10		2010/11*	
	Value In Rs. (,000)	Quantity (MT)	Value In Rs. (,000)	Quantity (MT)	Value In Rs. (,000)	Quantity (MT)
Rice export	81,817.2	2,019.0	12,132.0	363.8	515.6	5.2
Rice import	1,854,779.4	104,151.4	2,635,825.5	102,846.9	1,718,046.4	94,808.5
Wheat flour export	159,274.3	3,900.8	51,977.4	3,045.3	115,440.0	363.5
Wheat flour import	1,078.7	25.5	8,975.0	254.5	391,220.2	19,007.3
Maize (corn + flour) export	10,958.2	271.8	2,698.4	33.5	82.3	0.0
Maize (corn + flour) import	12,2954.8	16,465.1	65,6253.0	47,798.8	776,288.1	60,111.7
Lentils export	5,660,800.0	56,767.5	3,744,900.0	37,793.1	3,190,900.0	37,569.9

Note: Rice item includes husk, husk brown, semi-milled or wholly milled and broken rice. Source: Trade & Export Promotion Centre, Nepal.

* Data based on the first ten months period of the FY 2010/11.

10. CONCLUSION AND RECOMMENDATIONS

The overall crop situation of both winter and summer 2010/11 across the country shows an improvement in the production and national food balance; the annual cereal production has increased by 10.9% to a total of 8.62 million MT compared to 7.76 million MT last year. It is estimated that this improvement in cereal production leads to a total of 110,634 MT edible cereal grain surplus (2% of requirements) as opposed to 330,000 MT deficit (6% of requirements) last year. Such an increase in production is primarily attributed to favorable precipitation across the country in addition to the increased provision of inputs such as seeds and fertilizer together with other activities to

enhance production (such as extension services, zero tillage farming and system of rice intensification or SRI method in some areas). Moreover, the prospects for the summer crops for the fiscal year 2011/12 appear favourable so far, with timely beginning of monsoon across the country.

As of now, the domestic supply situation, especially in the areas linked with roads, has been satisfactory. According to the report from the district based field monitors, traders in many hill and mountain districts have stockpiled food stuffs in anticipation of possible disruption in food supplies during the monsoon period. Moreover, Nepal's trade in food stuffs has also been increasing over the time. For instance, the import of cereal has increased by 24.4% in the first ten months of the FY 2010/11 (compared to same period last year), probably due to the impact of last year's food deficit and increasing food demand in the country, particularly rice and wheat flour. The export of some cash crops, especially tea, ginger, lentils and cardamom has been increasing over time with few fluctuations. Since the agriculture in Nepal is still significantly dependent on rainfall which is increasingly unpredictable due to impacts of climate change, it calls for measures that would reduce dependence on weather conditions in order to have a stable production. In addition, improving road access to remote areas is also important in order to ensure smooth supply of food commodities across the country.

Based on the findings of the joint mission, the following recommendations are made:

SHORT-TERM QUICK IMPACT INTERVENTIONS:

- Strengthen the Nepal Food Security Monitoring System (NeKSAP) in collaboration with the Government of Nepal and conduct crop monitoring and assessment regularly as part of the NeKSAP programme.
- Update market prices and market supply situation at local, regional and national levels in relation to the global markets, including the causes of price changes and their impact on the food security.
- Monitor the food security situation closely up to VDC level to identify populations vulnerable to food insecurity as to ensure informed decision-making with appropriate responses.
- Strengthen and upgrade the distribution mechanism throughout the country to deliver goods and services effectively, particularly in remote and vulnerable areas.
- Improve recording and monitoring of quantities of food imports/exports and food assistance to produce a more accurate situation report on food availability.

MEDIUM AND LONGER-TERM IMPACT INTERVENTIONS

- Implement programmes to improving irrigation facilities in order to reduce weather dependency on agriculture and crop production volatility.
- Update the knowledge of food balance in relation to changing food habits and production variability, and include other edible crops, such as potato in the overall food balance to allow more accurate reporting of the food balance.
- Enhance technologies which are cost effective, resilient against drought and irregular rainfall, and lead to higher yields.
- Identify and promote crops which have high value in the markets in order to enhance the livelihoods of marginalized farmers and thereby reduce poverty and vulnerability.
- Formalize agricultural and food security strategy which is already under consideration by the Government of Nepal.
- Enhance climate adaptive farming techniques including drought and flood resistant varieties and farming methods suited to different areas.
- Update crop assessment methods for better insights including scientific methods such as remote sensing, updated field techniques and statistical analysis.
- Provide skill and entrepreneurship trainings to the farmers in a changing scenario to enhance the livelihoods of small and marginalized farmers.

ANNEX

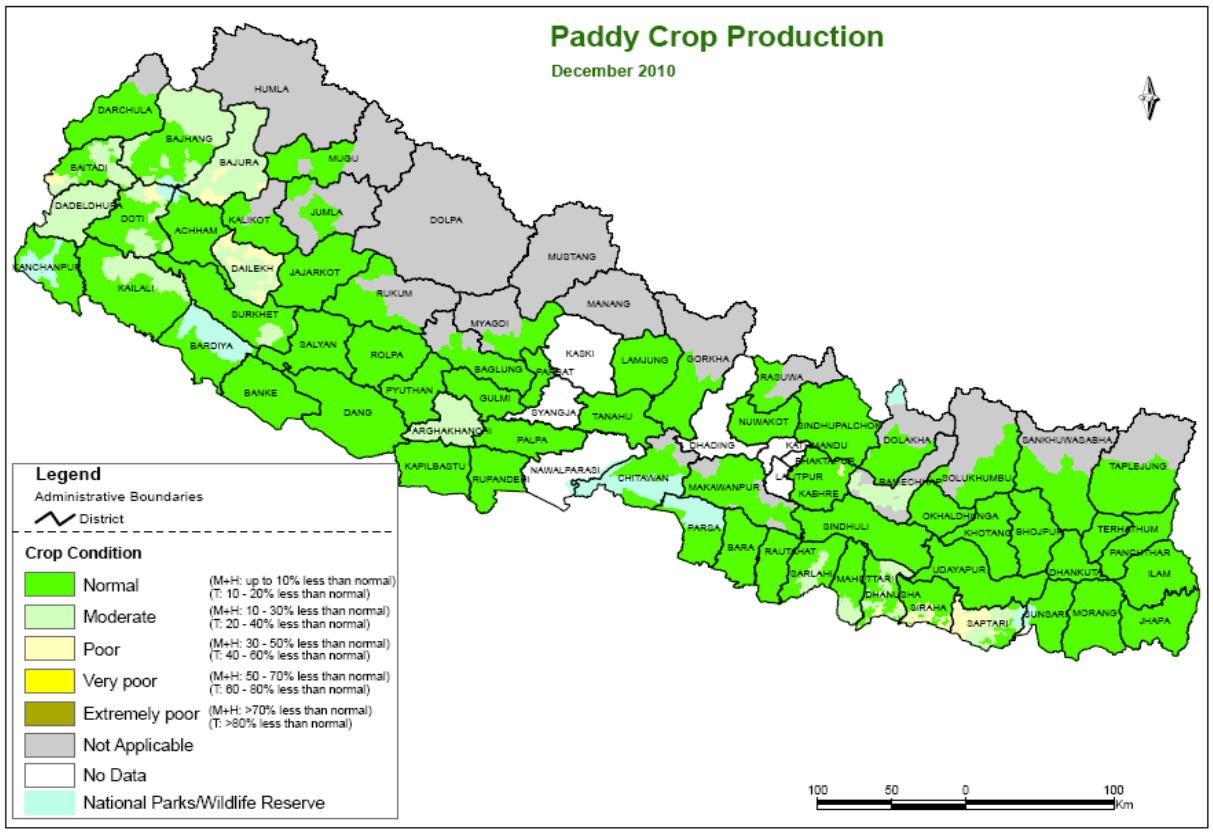
Table 3: District-wise cereal crop production situation and edible cereal food balance in 2010/11 (in MT)

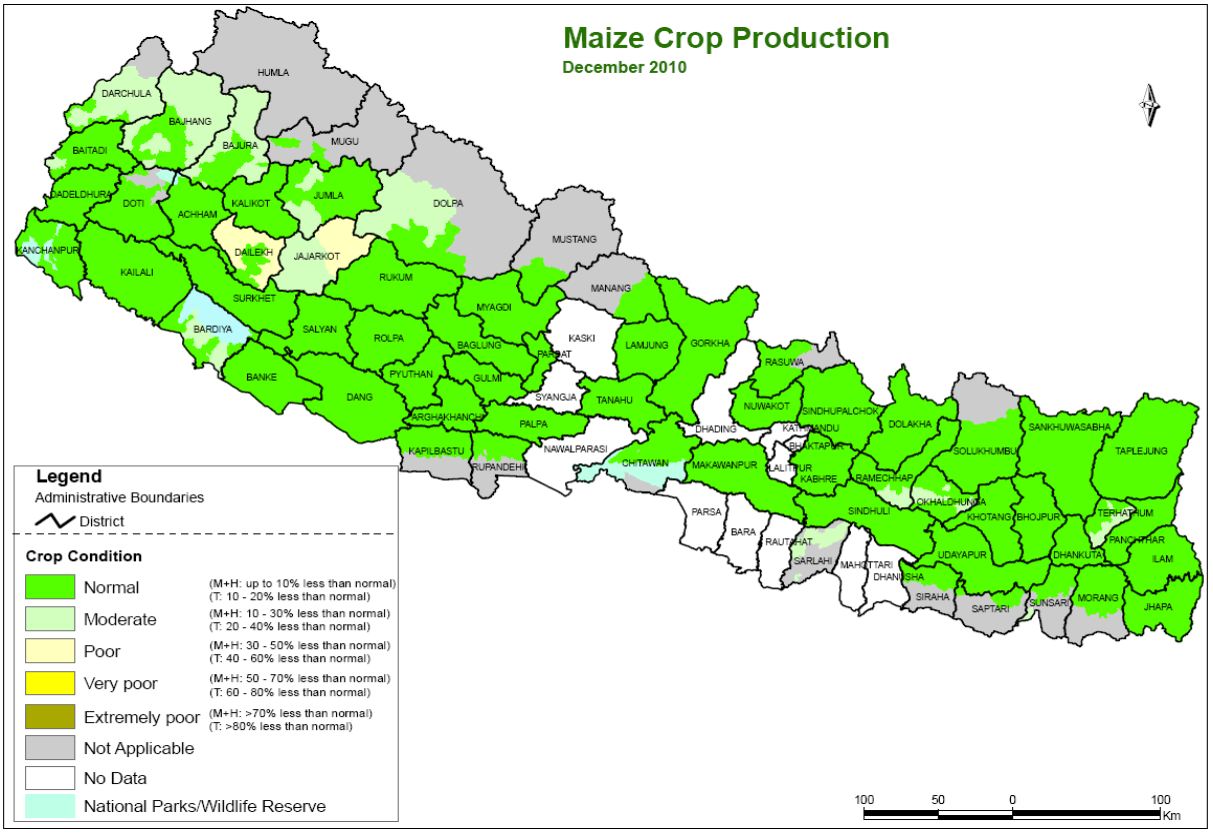
DISTRICT	Paddy Prod	Maize Prod	Millet Prod	Wheat Prod.	Barley Prod.	Buckwheat Prod.	Total Cereal Prod	Total Edible Prod	Requirement	Balance (+,-)
TAPLEJUNG	20,100	36,795	3,813	3,921	300		64,929	45,375	30,141	15,234
SANKHUWASABHA	29,816	28,259	9,875	2,800	26		70,777	45,325	35,624	9,701
SOLUKHUMBU	3,060	32,388	2,625	7,125	224	180	45,602	34,730	23,977	10,753
E.MOUNTAIN	**52,976**	**97,442**	**16,313**	**13,846**	**550**	**180**	**181,307**	**125,432**	**89,742**	**35,690**
PANCHTHAR	21,840	21,233	8,350	7,400	600	42	59,465	38,604	48,098	-9,493
ILLAM	45,690	77,500	3,312	13,365	75	20	139,962	99,923	69,127	30,796
TERHATHUM	21,102	21,014	3,061	4,505	110	8	49,800	32,124	26,425	5,699
DHANKUTA	21,957	39,736	8,080	3296	10	13	73,092	52,137	39,412	12,725
BHOJPUR	37,633	48,600	5,100	4,160	40	53	95,585	65,641	46,068	19,573
KHOTANG	27,459	52,000	19,800	11,200	435	450	111,344	79650	53,507	26,143
OKHALDHUNGA	9,850	23,202	11,865	5,684	138	80	50,819	36,464	36,922	-457
UDAYAPUR	42,625	34,980	3,965	11,000	36	14	92,620	58,494	71,777	-13,283
E.HILLS	**228,156**	**318,265**	**63,533**	**60,610**	**1,444**	**679**	**672,686**	**463,039**	**39,1336**	**71,703**
JHAPA	271,920	62,310	2,160	24,150	7	1,300	361,847	213,093	147,787	65,306
MORANG	258,060	45,300	1,716	52,500	-		357,576	212,835	186,524	26,311
SUNSARI	155,994	23,250	1,200	46,250	-	50	226,744	134,395	142,632	-8,236
SAPTARI	116,842	8,000	250	48,000	-	0	173,092	102,246	125,161	-22,914
SIRAHA	95,697	3,600	700	31,350	-	0	131,347	72,322	126,333	-54,010
E.TERAI	**898,513**	**142,460**	**6,026**	**202,250**	**7**	**1,350**	**1,250,606**	**734,893**	**728,437**	**6,456**
E.REGION	**1,179,645**	**558,167**	**85,872**	**276,706**	**2,001**	**2,209**	**2,104,599**	**1,323,365**	**1,209,515**	**113,850**
DOLAKHA	6,304	12,336	4,094	5,105	230		28,069	16,349	46,551	-30201
SINDHUPALCHOK	27,002	52,624	19,330	6,650	242		105,848	75,595	69,550	6,045
RASUWA	2,908	4,535	1,035	1,258	396		10,132	5,806	10,326	-4,519
C.MOUNTAIN	**36,214**	**69,495**	**24,459**	**13,013**	**868**	**0**	**144,049**	**97,751**	**126,427**	**-28,675**
RAMECHAP	25,049	36,800	5,051	9,013	81	19	76,013	51,854	50,097	1,757
SINDHULI	19,010	39,423	10,560	13,730	90	260	83,073	59,023	68,679	-9,655
KAVRE	32,915	56,096	3,550	21,001	750		114,312	74,095	92,827	-18,731
BHAKTAPUR	23,220	6,000	140	9,884	50		39,294	22,236	56,261	-34,024
LALITPUR	21,390	22,979	672	12,617	72	24	57,754	35,489	84,551	-49,061
KATHMANDU	41,730	21,260	715	14,284	7		77,996	44,614	292,566	-247,952
NUWAKOT	54,843	53,509	10,449	15,062	250		134,113	87,966	69,136	18,830
DHADING	40,882	43,670	7,160	7,914	350		99,976	64,295	82,281	-17,985
MAKWANPUR	36,630	40,456	3,206	11,796	25	180	92,293	59,930	96,307	-36,376
C.HILLS	**295,669**	**320,193**	**415,03**	**115,301**	**1,675**	**483**	**774,824**	**499,506**	**892,705**	**-393,199**
DHANUSHA	61,972	2,365	425	96,119	5		275,037	172,834	147,691	25,143
MAHOTTARI	34,776	1,935	232	45,250	50		128,022	78,644	122,629	-43,984
SARLAHI	39,350	8,125	215	56,000	50		184,688	116,296	142,262	-25,965
RAUTAHAT	42,396	4,950	60	37,020	52		165,349	100,169	122,979	-22,809
BARA	52,725	7,500	78	96,900	66		286,771	186,383	127,191	59,192
PARSA	46,690	4,065	81	75,700	34		247,472	156,278	112,769	43,509
CHITWAN	32,770	20,660	1,810	26,533	61	775	192,644	113,166	106,959	6,207
C.TERAI	**310,679**	**49,600**	**2,901**	**433,522**	**318**	**775**	**1,479,982**	**923,773**	**882,480**	**41,293**
C.REGION	**418,503**	**213,232**	**63,136**	**561,836**	**2,861**	**1,258**	**2,398,854**	**1,521,031**	**1,901,612**	**-380,581**
MANANG	0	185	0	644	273	575	2,010	1,388	2,571	-1,182
MUSTANG	0	525	0	1,081	475	955	3,321	2,258	3,263	-1,004
W.MOUNTAIN	**0**	**710**	**0**	**1,725**	**748**	**1,530**	**5,331**	**3647**	**5,834**	**-2,186**
GORKHA	17,785	19,350	11,605	7,240	110	380	112,148	75,309	68,274	7,035
LAMJUNG	16,135	15,900	7,919	6,500	27	16	87,483	60,954	42,142	18,812

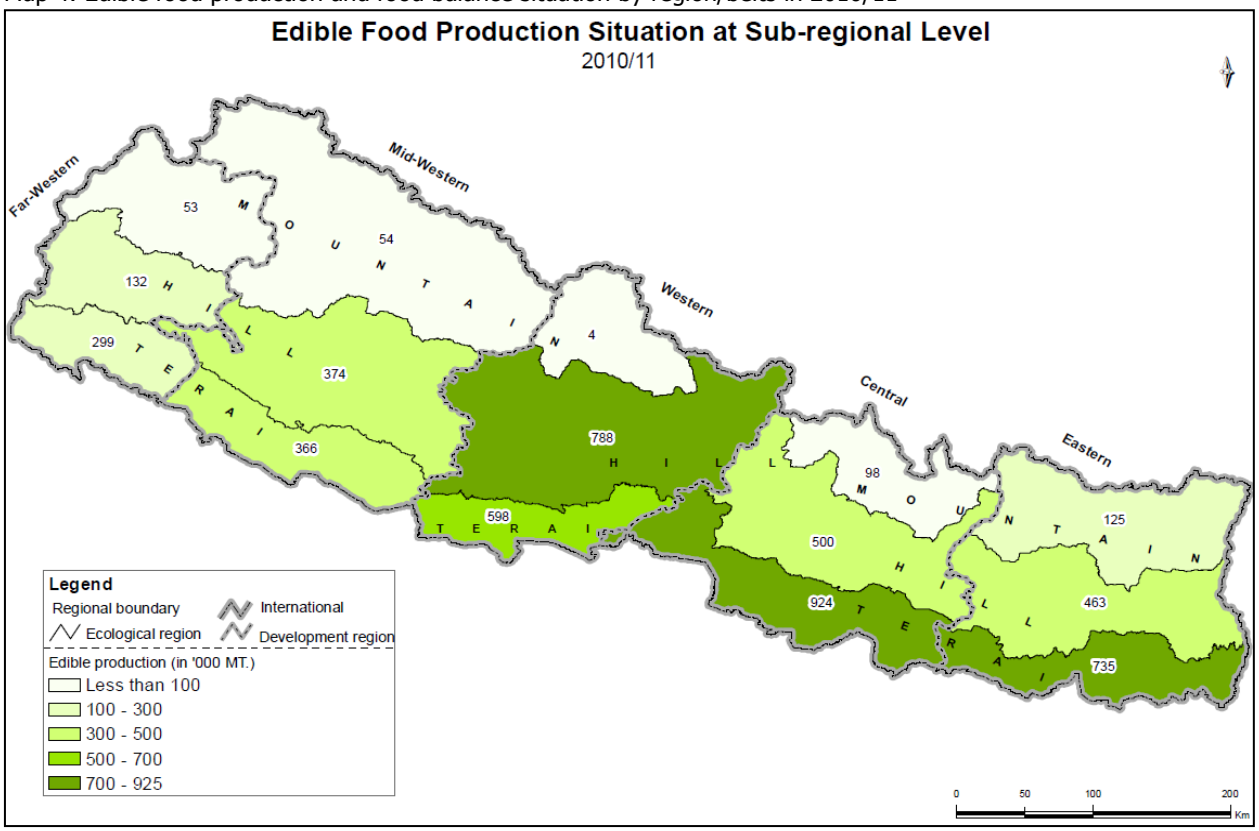
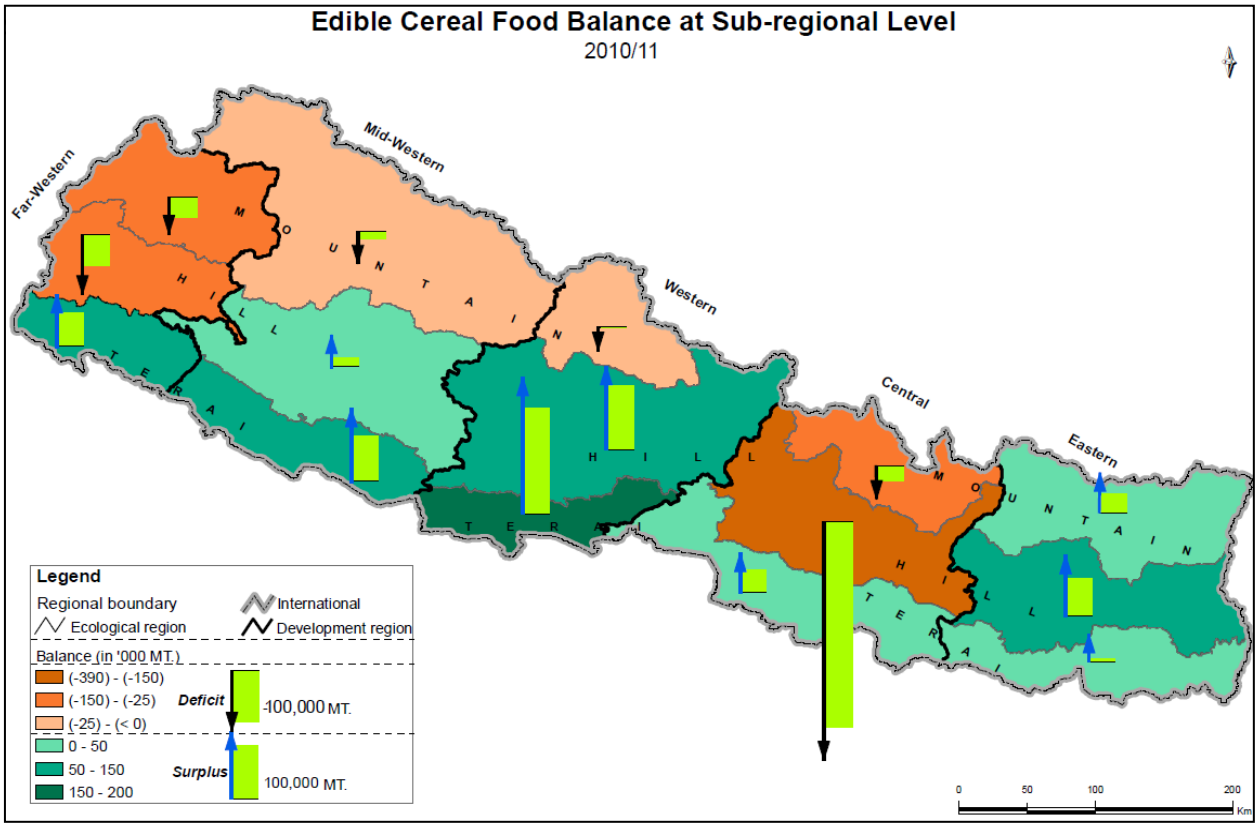
DISTRICT	Paddy Prod	Maize Prod	Millet Prod	Wheat Prod.	Barley Prod.	Buckwheat Prod.	Total Cereal Prod	Total Edible Prod	Requirement	Balance (+,-)
TANAHU	20,850	26,029	6,710	3,435	5	175	137,135	92,397	75,585	16,812
KASKI	23,000	20,800	16,640	14,200	109	14	150,591	97,416	94,867	2,549
PARBAT	9,595	14,205	8,845	6,773	176	28	66,264	45,389	36,855	8,534
SYANGJA	19,455	30,900	16,805	13,200	120	113	188,026	134,327	73,608	60,718
PALPA	9,561	21,563	2,580	13,425	38	433	84,443	58,245	63,535	-5,289
MYAGDI	3,895	11,115	3,048	5,845	559	0	53,827	39,240	27,092	12,148
BAGLUNG	5,792	20,327	17,700	13,267	1,265	110	107,475	80,578	64,069	16,509
GULMI	10,426	24,845	2,916	15,796	570	204	87,837	62,501	69,629	-7,127
ARGHAKHANCHI	8,768	16,915	820	13,478	593	330	63,563	41,404	49,565	-8,160
W.HILLS	**145,262**	**221,949**	**95,588**	**113,159**	**3,572**	**1,803**	**1,138,791**	**787,764**	**665,221**	**122,543**
NAWALPARASI	46,690	10,750	500	46,140	88	200	260,981	157,512	126,035	31,477
RUPANDEHI	71,500	2,500	100	105,900	30	0	392,120	240,668	161,765	78,902
KAPILBASTU	72,000	1,390	100	96,986	280	0	325,893	200,207	108,121	92,085
W.TERAI	**190,190**	**14,640**	**700**	**249,026**	**398**	**200**	**978,994**	**598,387**	**395,922**	**202,465**
W.REGION	**335,452**	**237,299**	**96,288**	**363,910**	**4,718**	**3,533**	**2,123,116**	**1,389,800**	**1,066,978**	**322,822**
DOLPA	270	2,300	325	5,700	208	240	10,317	8,610	6,697	1,913
MUGU	1,265	607	1,800	7,785	1,837	750	15,160	9,278	10,077	-798
HUMLA	565	105	1,302	820	701		3,777	1,488	9,199	-7,710
JUMLA	2,750	4,550	3,950	2,530	4,410	651	24,136	15,428	20,234	-4,805
KALIKOT	3,522	5,455	1,252	9,015	720		28,339	19,551	24,012	-4,460
MW.MOUNTAIN	**8,372**	**13,017**	**8,629**	**25,850**	**7,876**	**1,641**	**81,729**	**54,358**	**70,219**	**-15,861**
RUKUM	11,288	41,030	979	27,140	1,203		81,640	62,135	45,545	16,590
ROLPA	12,966	24,771	1,061	11,740	560		51,098	35,643	49,823	-14,180
PYUTHAN	17,004	24,880	1,998	15,590	578		60,050	41,645	51,571	-9,925
SALYAN	21,753	24,652	2,483	28,050	1,529	88	78,555	52,724	50,774	1,951
JAJARKOT	11,488	14,071	4,522	14,632	478	26	45,218	31,662	32,203	-540
DAILEKH	26,627	39,091	2,628	9,870	285		78,501	53,837	54,201	-363
SURKHET	47,435	41,538	2,703	45,000	1,330		138,006	96,421	71,706	24,715
MW.HILLS	**148,561**	**210,033**	**16,374**	**152,022**	**5,963**	**114**	**533,068**	**374,070**	**355,823**	**18,248**
DANG	115,962	55,062	150	29,000	25		200,199	126,970	104,596	22,374
BANKE	119,720	18,446		38,154	10		176,330	104,898	88,880	16,018
BARDIYA	148,925	18,210		52,800	10		219,945	134,383	87,022	47,362
MW.TERAI	**384,607**	**91,718**	**150**	**119,954**	**45**	**0**	**596,474**	**366,251**	**280,498**	**85,754**
MW.REGION	**549,294**	**323,040**	**25,471**	**297,826**	**13,884**	**1,755**	**1,211,271**	**794,680**	**706,540**	**881,415**
BAJURA	5,418	1,749	2,610	9,900	1,769	11	21,457	12,498	24,805	-12,306
BAJHANG	16,215	5,475	2,300	8,300	1,500		33,790	19,750	38,320	-18,569
DARCHULA	10,725	12,566	1,300	6,000	1,100	75	31,766	20,436	27,980	-7,544
FW.MOUNTAIN	**32,358**	**19,790**	**6,210**	**24,200**	**4,369**	**86**	**87,013**	**52,686**	**91,105**	**-38,419**
ACHHAM	22,680	9,844	3,241	23,401	667		59,833	38,625	55,216	-16,591
DOTI	18,000	4,193	5,353	28,000	250		55,796	36,209	50,608	-14,398
BAITADI	10,017	17,100	950	24,700	600		53,367	36,830	55,982	-19,152
DADELDHURA	14,182	6,390	390	12,000	225		33,187	20,275	30,508	-10,232
FW.HILLS	**64,879**	**37,527**	**9,934**	**88,101**	**1,742**	**0**	**202,183**	**131,941**	**192,314**	**-60,373**
KAILALI	174,000	28,500	310	69,000	660		272,470	167,989	145,355	22,634
KANCHANPUR	139,965	11,495	180	64,232	5		215,877	131,382	88,823	42,559
FW.TERAI	**313,965**	**39,995**	**490**	**133,232**	**665**	**0**	**488,347**	**299,371**	**234,178**	**65,193**
FW.REGION	**411,202**	**97,312**	**16,634**	**245,533**	**6,776**	**86**	**777,543**	**483,998**	**517,597**	**-33,599**
MOUNTAIN	137,674	209,344	55,929	78,634	14,411	3,437	499,429	333,874	383,327	-49,452
HILL	1,126,711	1,411,729	236,443	529,193	14,396	3,079	3,321,551	2,256,322	2,497,399	-241,076
TERAI	3,195,893	446,449	10,319	1,137,984	1,433	2,325	4,794,403	2,922,678	2,521,516	401,162
NEPAL	**4,460,278**	**2,067,522**	**302,691**	**1,745,811**	**30,240**	**8,841**	**8,615,383**	**5,512,875**	**5,402,242**	**110,634**

Source: MoAC 2011**[**Based on preliminary production data of the FY 2010/11].

Map 3: 2010/11 summer crop productions by VDC





Source: NeKSAP, District Food Security Networks.

Map 4: Edible food production and food balance situation by region/belts in 2010/11