Crop Situation Update

A joint assessment of the 2013 winter crops including comprehensive data on the 2012/13 overall crop production

Ministry of Agricultural Development

Food and Agriculture Organization

World Food Programme

Contents

HIGHLIGHTS

2012/13 WINTER CROP SITUATION

- The production of wheat and barley is estimated at 1.9 million mt, and 37 thousand mt respectively. This is an increase in production of 2 percent and 6 percent respectively compared to 2011/12 winter season.The Central Development Region is the largest wheat producing region with an output of 631 thousand mt, up by 5 percent compared to 2011/12.
- Increase in winter crop production is attributed to the timely and adequate precipitation (rainfall/snowfall), and increased use of agricultural inputs.

2012/13 NATIONAL PRODUCTION

- Despite a good winter crop harvest, the 2012/13 national cereal crop production decreased substantially from 9.45 million mt of last year to 8.74 million mt this year—a drop of 7.6 percent.
- Due to late and erratic rainfall during the monsoon, the production of paddy, maize, and millet decreased to 4.5 million mt, 2.0 million mt, and 0.30 million mt, respectively. A decrease in production by 11.3 percent, 8.3 percent, and 3 percent respectively compared to 2011/12. Buckwheat marginally increased by 0.3 percent to 10,056 mt.
- The overall national cereal balance remains positive with a surplus of 408.4 thousand mt (7.8 percent) of edible food as opposed to a surplus of 886.3 thousand mt (17.2 percent) last year.
- Despite a surplus cereal food balance at national level, as many as 33 districts are food deficit; many of them are in the Mid- and Far-Western Hill and Mountain districts.
- During the period July 2012-March 2013, the share of cereal import was 3.25 percent (worth NPR 14 billion) as compared to 2.27 percent for the same period last year.
- Year-on-year Wholesale Price Index (WPI) marginally increased by 8.1 percent in May 2013 compared to 8.0 percent in the same period last year. However, the WPI of the cereal grains, increased by 9.4 percent compared to a decline of 0.2 percent over the same period last year.
- Global cereal production is estimated at 2,708 million mt, an increase of 6 percent compared to last year. In India, total grain output is estimated at 255.36 million mt, which includes 104.22 million mt of rice, 93.62 million mt of wheat, and 21.82 million mt of maize.

2013/14 SUMMER CROP OUTLOOK

- The overall outlook for the 2013/14 summer crops remains positive. Active pre-monsoon and the timely arrival of the monsoon rains are expected to results in good summer crop yields for maize, paddy, and millet.

Background and Objectives

The Crop Situation Update is issued by the Ministry of Agricultural Development (MoAD), World Food Programme (WFP), and Food and Agriculture Organization (FAO). It is published twice a year. While periodic updates on the crop performance and food security situation are provided through Food Security Bulletins (issued by MoAD and WFP on a quarterly basis), the crop situation update provides a comprehensive overview on the food supply situation.

This crop situation update covers the 2012/13 (Fiscal Year 2069/70) winter crop production and provides an overview of the National Food Balance for 2012/13 agricultural year.

Crop Situation Update is available in print as well as in electronic format at: https://sites.google.com/site/nefoodsec/home/crop-situation-update

Methodology

The crop situation update relies on primary as well as secondary information. The preliminary estimates of 2012/13 winter crop production prepared by the MoAD in May/June 2013 provide nationwide data on the production of winter crops. Information collected regularly through the NeKSAP District Food Security Networks (DFSNs) provides early indication on crop performances and the food security situation. The weather related information, especially on rainfall, is collected by the Department of Hydrology and Meteorology (DHM). For trade, data from the Trade and Export Promotion Centre (TEPC)[1] of the Ministry of Commerce and Supplies of the Government of Nepal is used.

A joint mission comprising of representatives from the MoAD, WFP, and FAO undertook field verification and stakeholder consultations that helped substantiate the secondary information and capture key issues, constraints, and opportunities of winter crop production in 2012/13. The mission included the following:

- Consultation with DADO and other authorities to get an overview of agricultural production (winter crops) and an understanding of the reasons behind deviations (if any) in the winter crop yields;
- Discussion with district line agencies and stakeholders (including CDO, LDO, DCCI, AIC, NFC etc.)[2] on issues related to crop production and associated impacts on food supply and food security.
- Community interactions to verify information obtained through DADO and other stakeholders and to capture the community perceptions on the state of agricultural production.

Districts visited by the Winter Crop Assessment Mission
Eastern Development Region: Morang, Ilam, and Jhapa Central Development Region: Sindhupalchowk, Ramechhap, and Bara Western Development Region: Rupandehi, Tanahun, and Manang Mid-Western Development Region: Bardiya, Dailekh, and Kalikot Far-Western Development Region: Kailali, Doti, and Achham

Field verifications were undertaken in 15 districts (3 districts from each development regions) purposively selected so as to: (i) cover districts that were anticipated to observe production losses in winter crops; (ii) ensure coverage from each of the five development regions; and (iii) cover districts that were not visited in earlier missions. The field verification mission was undertaken during April/ May.

[1] http://www.tepc.gov.np/

[2] CDO-Chief District Officer; LDO-Local Development Officer; DCCI-District Chamber of Commerce and Industries; AIC-Agriculture Input Corporation; NFC-Nepal Food Corporation;

Rainfall

Almost 80 percent of the total rainfall in the country falls during the months June to September. This monsoon season is governed by the southeasterly moisture-laden air-mass moving from the Bay of Bengal. It usually reaches eastern Nepal around the 10th of June and advances westwards covering the whole country within a period of a week.

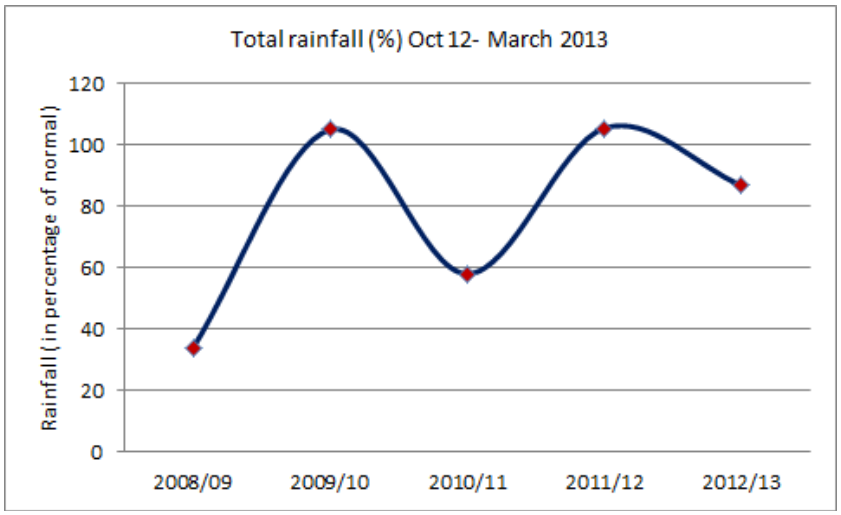


Figure 1: Annual rainfall (in percentage) from Oct-March 2008/09 to 2012/13 (Source: DHM)

Winter rain and snow is due to Winter Disturbance- a term used to describe an extra tropical storm originating in the Mediterranean that brings sudden winter rain and snow to the northwestern parts of the Indian subcontinent. This is a non-monsoonal precipitation pattern driven by the Westerlies. The moisture in these storms usually originates over the Mediterranean Sea and the Atlantic Ocean. Western Disturbances are important to the development of the winter crops. As shown in Figure 1, rainfall during October-March 2012/13 was recorded 87 percent of the normal, more than double the amount of rainfall in 2008/09, when Nepal experienced one of the worst ever winter droughts.

Although rainfall was relatively low during October-January, the 2012 monsoon had made a late start and rainfall was relatively intense in September providing adequate soil moisture for germination of the winter crops (wheat, barley, lentils, and legumes) and compensating for the below normal rainfall. However, rainfall during latter half of March (Figure 2) and early April had adverse impact on the winter crops, especially wheat, in some districts. Heavy rainfall and hailstorms during this period caused significant wheat crop loss in Dailekh, Jajarkot, Rukum, Kalikot, Panchthar, and Taplejung. In Rupandehi, western dry winds during the maturity stage caused shriveled wheat grains and hence lower grain production than forecasted.

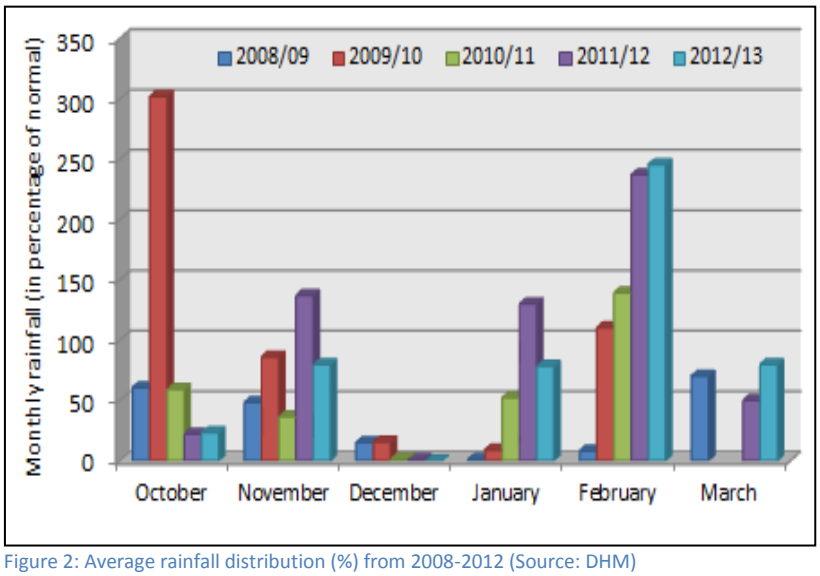


Figure 2: Average rainfall distribution (%) from 2008-2012 (Source: DHM)

National Winter Crop Production Overview

Wheat and barley, which are the major winter cereals for Nepal, recorded a combined production of 1.9 million mt, which is 2.03 percent above the 2011/12 level and 16.90 percent above normal[3] (Table 1).

Winter cereal output has been increasing steadily since the drought in 2008/09 (Figure 3). Annual average increase was 10 percent (2009/10- 2011/12). However, in 2012/13, a marginal increment of two percent was recorded.

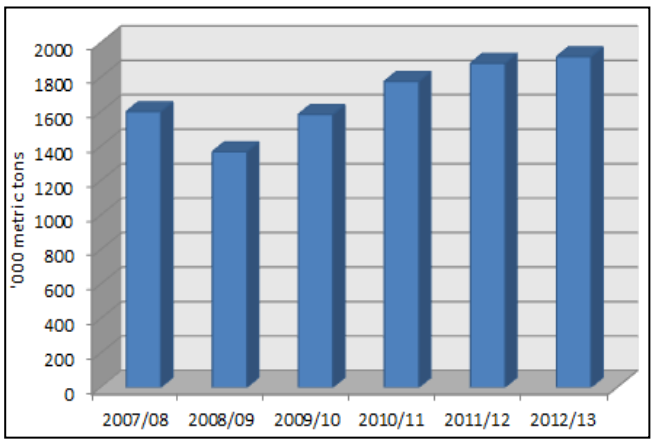


Figure 3: Total winter cereal output 2007/08- 2012/13 (Source: MoAD)

Wheat

Wheat is the third largest crop in terms of production but second largest in terms of value. Wheat cultivation in Nepal was limited to the Mid and Far-Western Hills only and it was considered as a minor cereal in the country. However, after introduction of semi-dwarf varieties from Mexico, the area and production of wheat has increased dramatically and wheat is now grown across the country in some 760 thousands hectares.

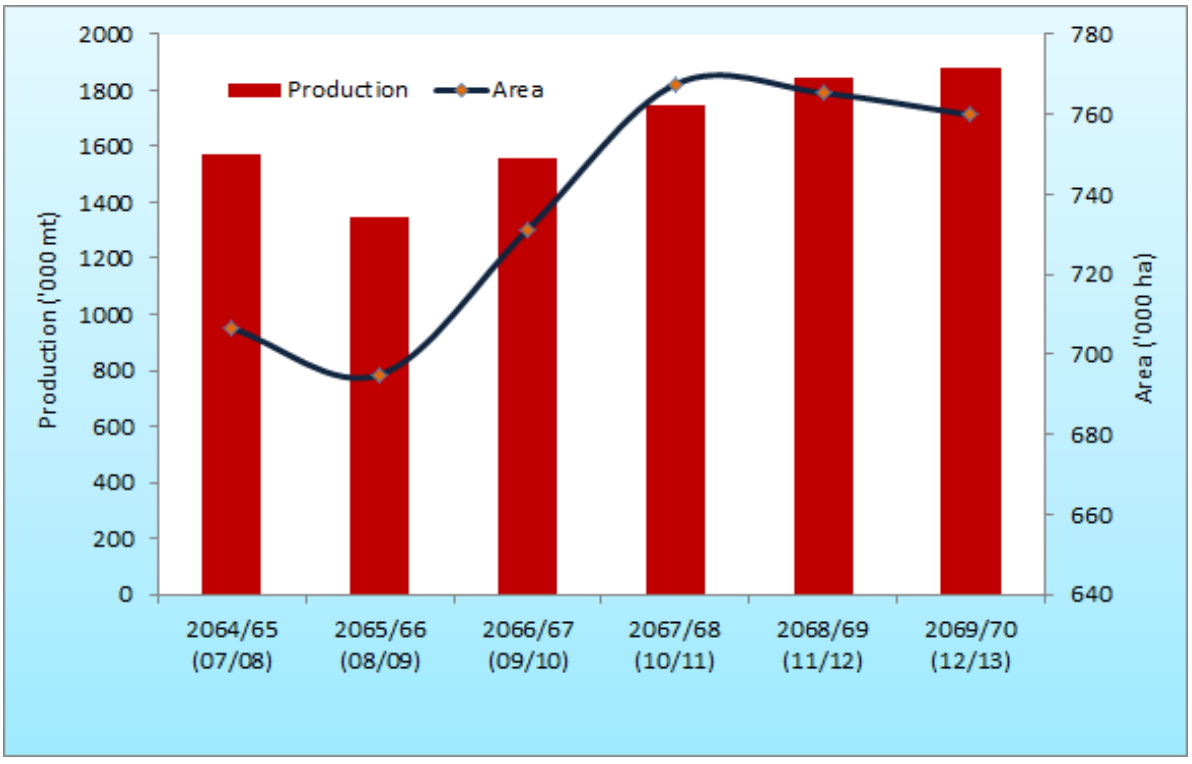


Figure 4: Area and production of wheat 2007/08-2012/13 (Source: MoAD)

As revealed during the crop assessment mission, wheat varieties commonly grown in Nepal are: NL 297, Gautam, Bhrikuti, BL 3235, Bijaya, WK 1204/5, Achyut, Triveni, BL 1473, Annapurna, Pasang

[3] Throughout this report, normal production is meant for the average production of last five years, i.e. 2007/08 to 2011/12.

Lhamu, and BL 1032. In addition, some local varities like *Begali* and *Mudule* (red and white) are planted in some districts.

The wheat area, which was limited to some 100 thousands ha in 1965/66 rose to 760 thousands ha in 2012/13 (Figure 4). The production increased from 112 thousands mt to 1.88 million mt during this period. Wheat's contribution to the national cereal production is 21.5 percent. In terms of acreage, the wheat occupies about 22.7 percent of utilized agricultural land.

Although area under wheat marginally dropped in 2012/13 (i.e. by 0.7%), production increased by 2 percent (Table 1). The increment in wheat production this year is attributed to favourable weather conditions, inputs availability, and improving cultivation as well as crop husbandry practices.

At sub-national level, the Central Development Region continues to hold the largest share in wheat acreage and production—30 and 34 percent respectively. Compared to 2011/12 this region observed some 5 percent increase in production. This region also has the highest wheat productivity in Nepal recorded at 2,753 kg/ha.

At the district level, Dhanusa records a production of 108 thousands mt. In 2011/12, Rupandehi was still the highest wheat producing district. Wheat production in Dhanusa increased by some 20 percent whereas in Rupandehi, it declined by 8 percent compared to last year.

Ecological belts	2012/13			2011/12			Percentage change		
	Area (ha)	Production (mt)	Yield (kg/ha)	Area (ha)	Production (mt)	Yield (kg/ha)	Area	Production	Yield
E.MOUNTAIN	7,100	13,900	1,958	6,410	12,941	2,019	10.8	7.4	-3.0
E.HILLS	28,349	69,249	2,443	28,410	63,023	2,218	-0.2	9.9	10.1
E.TERAI	69,175	171,488	2,479	75,600	186,565	2,468	-8.5	-8.1	0.5
Eastern region	***104,624***	***254,637***	***2,443***	***110,420***	***262,529***	***2,378***	***-5.2***	***-3.0***	***2.7***
% share in total	14	14		14	14				
C.MOUNTAIN	12,350	17,334	1,404	12,108	13,492	1,114	2.0	28.5	26.0
C.HILLS	46,569	122,665	2,634	46,395	121,832	2,626	0.4	0.7	0.3
C.TERAI	170,415	491,437	2,884	170,135	466,528	2,742	0.2	5.3	5.2
Central region	***229,334***	***631,436***	***2,753***	***228,638***	***601,852***	***2,742***	***0.3***	***4.9***	***0.4***
% share in total	30	34		30	33				
W.MOUNTAIN	858	1,648	1,921	893	1,725	1,932	-3.9	-4.5	-0.6
W.HILLS	53,434	108,820	2,037	54,231	105,690	1,949	-1.5	3.0	4.5
W.TERAI	75,780	229,357	3,027	79,325	250,705	3,160	-4.5	-8.5	-4.2
Western region	***130,072***	***339,825***	***2,613***	***134,449***	***358,120***	***2,664***	***-3.3***	***-5.1***	***-1.9***
% share in total	17	18		18	19				
MW.MOUNTAIN	15,865	30,325	1,911	16,048	30,042	1,872	-1.1	0.9	2.1
MW.HILLS	85,118	179,340	2,107	87,155	185,721	2,131	-2.3	-3.4	-1.1
MW.TERAI	53,986	160,295	2,969	54,120	151,693	2,803	-0.2	5.7	5.9
MW region	***154,969***	***369,960***	***2,387***	***157,323***	***367,456***	***2,336***	***-1.5***	***0.7***	***2.2***
% share in total	20	20		21	20				
FW.MOUNTAIN	21,897	44,107	2,014	16,450	25,900	1,574	33.1	70.3	27.9
FW.HILLS	52,192	101,045	1,936	51,290	91,210	1,778	1.8	10.8	8.9
FW.TERAI	66,755	141,210	2,115	66,705	139,040	2,084	0.1	1.6	1.5
FW region	***140,844***	***286,362***	***2,033***	***134,445***	***256,150***	***1,905***	***4.8***	***11.8***	***6.7***
% share in total	19	15		18	14				
NEPAL	**759,843**	**1,882,220**	**2,444**	**765,275**	**1,846,107**	**2,383**	**-0.7**	**2.0**	**2.6**

Table 1: Area, production, and yield of wheat for ecological belts and regions (Source: MoAD)

Barley

Barley can be grown from Terai up to an elevation of 4,000 meters but is commonly grown only in the Hills and Mountains in the west of Nepal. Acreage and production of barley has kept fluctuating for the last 10 years.

The 2012/13 barley production is estimated at 36,973 mt grown on 28,989 hectares. This is an increment of 4 percent in area and 6.4 percent in production compared to 2011/12 (Table 2). The Mid-Western Development Region is the largest barley producing region of the country, despite acreage and production drops of 9.9 and 3.9 percent respectively compared to 2011/12.

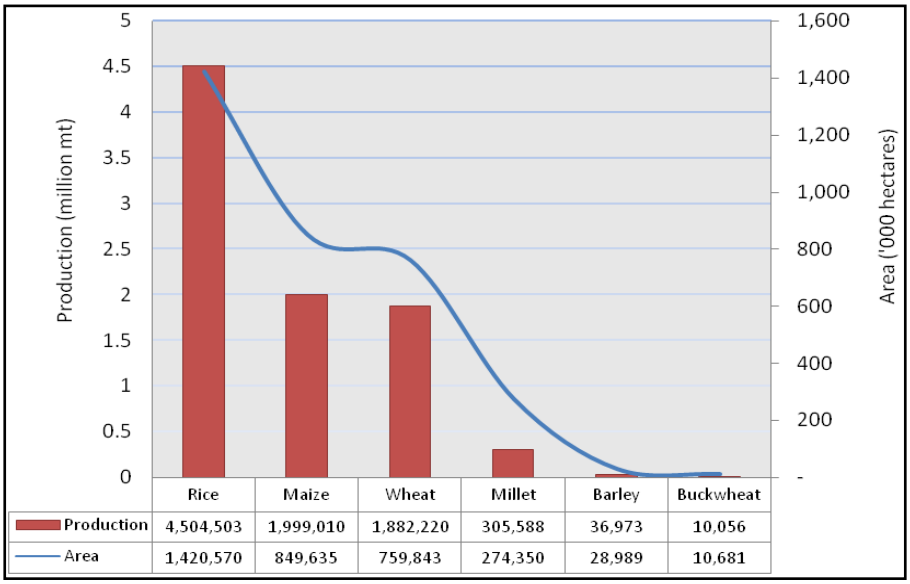
Ecological belts	2012/13			2011/12			Percentage change		
	Area (ha)	Production (mt)	Yield (kg/ha)	Area (ha)	Production (mt)	Yield (kg/ha)	Area	Production	Yield
E.MOUNTAIN	475	542	1,141	475	506	1,065	0	7.1	7.1
E.HILLS	1,205	1,284	1,066	1,268	1,322	1,043	-5	-2.9	2.2
E.TERAI	8	6	750	8	6	750	0	0	0
Eastern development region	*1,688*	*1,832*	*2,957*	*1,751*	*1,834*	*1,047*	*-3.6*	*-0.1*	*182.4*
% share in total	6	5		6	5				
C.MOUNTAIN	695	798	1,148	729	838	1,150	-4.7	-4.8	-0.1
C.HILLS	1,660	2,392	1,441	1,673	1,708	1,021	-0.8	40	41.1
C.TERAI	452	443	980	489	639	1,307	-7.6	-30.7	-25
Central development region	*2,807*	*3,633*	*1,294*	*2,891*	*3,185*	*1,102*	*-2.9*	*14.1*	*17.4*
% share in total	10	10		10	9				
W.MOUNTAIN	447	792	1,772	370	700	1,892	20.8	13.1	-6.3
W.HILLS	2,564	3,239	1,263	2,638	3,156	1,196	-2.8	2.6	5.6
W.TERAI	388	710	1,830	390	770	1,974	-0.5	-7.8	-7.3
Western development region	*3,399*	*4,741*	*1,395*	*3,398*	*4,626*	*1,361*	*0*	*2.5*	*2.5*
% share in total	12	13		12	13				
MW.MOUNTAIN	7,515	11,277	1,501	8,615	11,331	1,315	-12.8	-0.5	14.1
MW.HILLS	5,064	6,132	1,211	5,361	6,800	1,268	-5.5	-9.8	-4.5
MW.TERAI	70	70	1,000	70	65	929	0	7.7	7.7
MW development region	*12,649*	*17,479*	*1,382*	*14,046*	*18,196*	*1,295*	*-9.9*	*-3.9*	*6.7*
% share in total	44	47		50	52				
FW.MOUNTAIN	5,914	6,006	1,016	3,700	4,500	1,216	59.8	33.5	-16.5
FW.HILLS	1,972	2,612	1,325	1,525	1,735	1,138	29.3	50.5	16.4
FW.TERAI	560	670	1,196	560	660	1,179	0	1.5	1.5
FW development region	*8,446*	*9,288*	*1,100*	*5,785*	*6,895*	*1,192*	*46*	*34.7*	*-7.7*
% share in total	29	25		21	20				
NEPAL	**28,989**	**36,973**	**1,251**	**27,871**	**34,736**	**1,200**	**4**	**6.4**	**4.3**

Table 2: Area, production, and yield of barley for the ecological belts and regions (Source: MoAD)

2012/13 National Crop Output

CEREALS

The total cereal output for FY 2012/13 is estimated at 8.74 million mt, some 8 percent lower than 2011/12. The cereal acreage has been estimated at 3.34 million hectares. Cereal yields have decreased by 4 percent with an average of 2,613 kilo/ha.

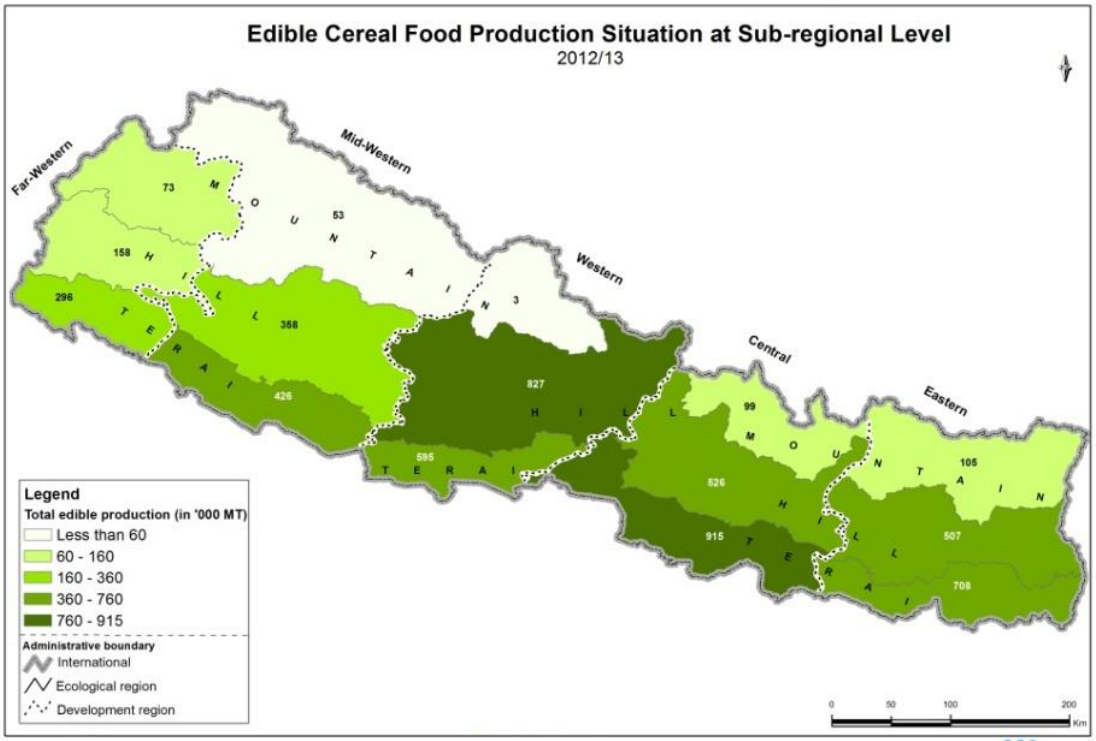


	Rice	Maize	Wheat	Millet	Barley	Buckwheat
Production	4,504,503	1,999,010	1,882,220	305,588	36,973	10,056
Area	1,420,570	849,635	759,843	274,350	28,989	10,681

Figure 5: Production and area of major cereals (2012/13) (Source: MoAD)

Paddy remains the largest crop in terms of acreage and production. It occupies 42.5 percent of the cereal area and contributes 51.5 percent to the total cereal output. Maize and wheat are the second and third largest crops, occupying 25.4 and 22.7 percent of cereal area and contributing 22.9 and 21.5 percent to the overall cereal production. Acreage and production of other cereals like millet, barley, and buckwheat are marginal (Figure 5).

Edible cereal is projected at 5.6 million mt. The Central Terai, Western Hill, and Eastern Terai record largest edible cereal production of 915, 827, and 708 thousands mt respectively (Map-1). The Western mountain with a production of 3,000 thousands mt has the lowest edible cereal output in 2012/13.



Map-1: Edible cereal grain output 2012/13 (Source: MoAD)

OTHER CROPS

Potato

Potatoes are grown in Nepal (in all 75 districts), at below 100 m altitude in the south (Terai) to as high as 4,000 m in the north (Mountains). The consumption, however, is larger in the Mountains where potato is consumed as a staple food in some areas. In the lower lying areas, potato makes an essential ingredient of Nepalese vegetable.

In Nepal, potato can be grown in summer and winter. In Terai belt potato is grown only in winter, whereas in the Hills and Mountains it is grown both in both seasons—summer and winter. Winter potato is grown from Oct/Nov to Feb/March, and summer is grown during Feb/March to July/ August.

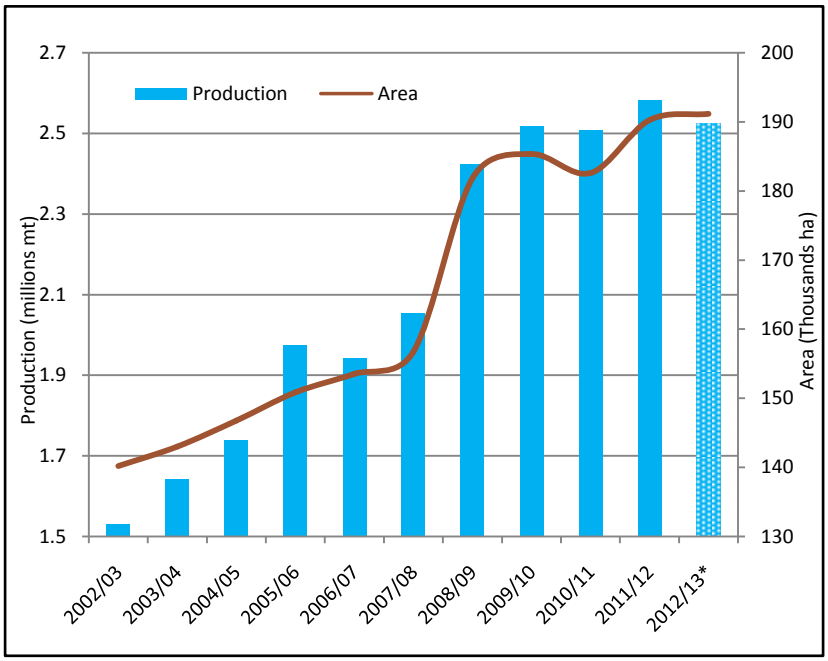


Figure 6: Area and production of potato 2002/03 to 2012/13 (Source: MoAD and NeKSAP)

Acreage, production, and yield of potato have increased over the last 10 years, with significant improvement after 2007/08 (Figure 6). Since then average annual increment in acreage and production is estimated 5 percent per year. In 2012/13, potato has been grown in some 191 thousands ha, and the production is estimated at around 2.5 million mt.

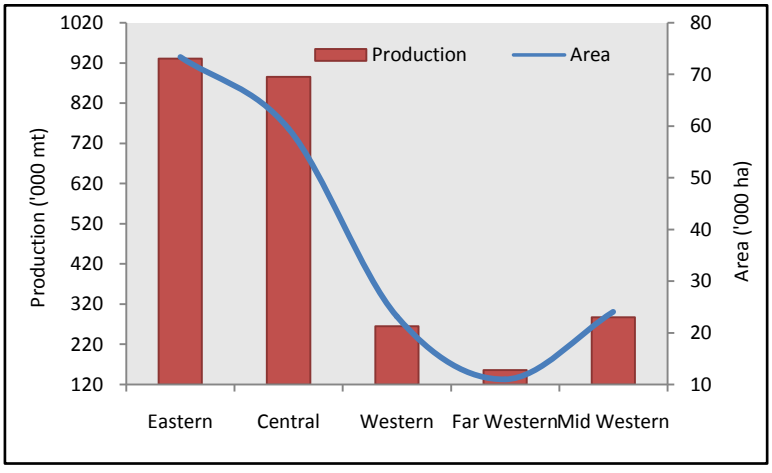


Figure 7: Area and production of potato 2012/13 (Source: NeKSAP consultation)

Eastern and central region continue to record largest share in the national potato production (Figure 7).

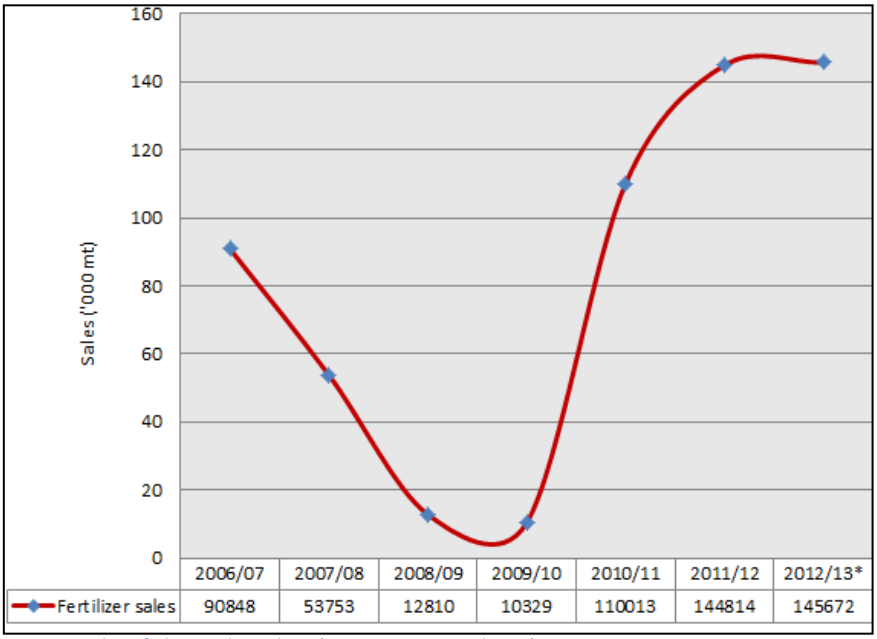
Lentils

Lentils recorded positive growth in acreage, production, and productivity. With some marginal increment in acreage, lentils recorded a production and productivity growth of 12 percent. With a combined productivity of 1,070 kilo/ha, total production has been estimated at 356,743 mt produced on 333,436 ha. Oil seeds recorded a marginal drop (1 percent) in acreage and production- 179,000 mt from 215,600 ha.

Input supplies

Fertilizer

Fertilizer, one of the priority inputs identified by the Agriculture Perspective Plan (APP), remains a largely undersupplied agricultural input in Nepal. Fertilizer supply, which was deregulated in 1997, was brought under government control again in 2009 and the subsidy that was phased out in 1997 was re-introduced then. Since 2009, the government has entrusted the Agriculture Input Company Limited (AICL) to import and distribute the subsidized fertilizers.



	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13*
Fertilizer sales	90848	53753	12810	10329	110013	144814	145672

Figure 8: Sales of Chemical Fertilizer (Source: MoAD and AICL)

Despite revival of subsidies, there is still a big mismatch between the estimated current fertilizer demand of 586,000 mt annually and the actual sales of 145,672mt in the 2012/13 (Figure 8).

Most of the districts visited by the crop assessment missions indicated fertilizer shortage as an issue. Whereas districts of Ramechhap, Bara, Rupandehi, Tanahun, Dailkeh, Bardiya, Kailali, Doti, Achham, Jhapa, and Morang reported ***inadequate*** fertilizer supply, Kalikot reported ***unavailability*** of fertilizer.

Seed

Seed supply in Nepal is largely dominated by the informal sector including farm saved seeds and local trading and exchanges. Of the total requirements in cereal seeds, contribution of the formal sector is less than 10 %. The share of the National Seed Company (NSC) to the total cereal crop seed supply is less than 2%. While more than 90% of cereal seed requirements are currently met by the informal sector, this sector is severely constrained by the availability of good quality source seed[4]. As indicated in Figure 9, seed

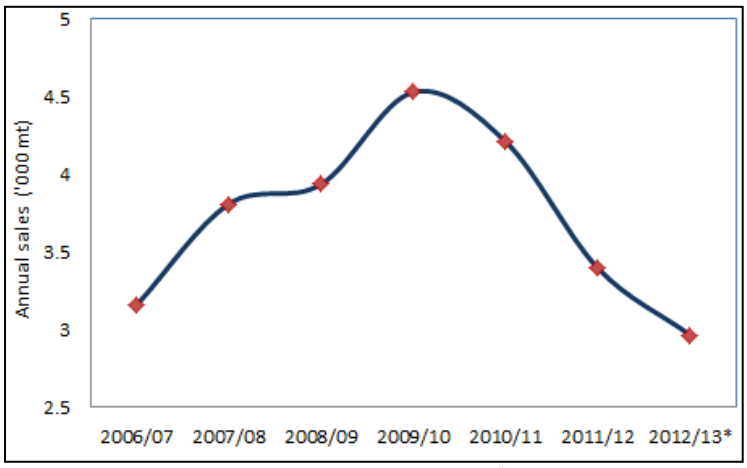


Figure 9: Seed supplies 2006/07-2012/13 (Source: MoAD[#])

[4] Goleti F 2011, Agriculture Development Strategy: Draft Assessment Report Prepared for the Government of Nepal.
* Agriculture Inputs Company Ltd., Fertilizer sales from July 2012 to 17 June 2013, http://www.aicl.org.np/files/Fertilizer%20bibran%202070.03.03.pdf; Viewed 25 June 2013.

supply by Nepal Seed Company Limited is at the lowest level for last five years, almost to the levels of 2006/07. Unavailability of quality seeds in time was also stated as a problem by stakeholders and communities during interaction by the joint crop assessment missions, especially in the district of Ramechhap, Manang, Sindhupalchowk, Kailali, Achham, Dailekh, Bardiya, and Kalikot.

Agricultural Mechanization

There has been considerable progress in agricultural mechanization in Nepal. Mostly, agricultural mechanization is taking place in the Terai and, to a lesser extent, in the Hills and Mountains. For instance, while the mission found that almost 70 percent of ploughing in Terai (Rupandehi, Bara, Morang, Jhapa, Morang, and Kailali) was done by tractors and power tillers, whereas only 5-10 percent area was under power tiller coverage in the Hills. The coverage of combine harvester, thresher, and corn Sheller is very low. In most of the cases, machines are owned by groups/cooperatives and private individuals renting out to farmers rather than individual farmer owning the machines. For instance, in Rupandehi some 30-40 combine harvesters are owned by private individuals, who rent it out to the farmers @ NPR 1,500/ hour. Similarly, the rental charge for tractor was reported NPR 800/hour.

Agricultural mechanization is an evolution of agriculture over time and a response to labor shortages. During the crop assessment missions, stakeholders and communities indicated that mechanization has reduced production costs. For instance in Morang, it was reported that using tractor and power tiller for ploughing saves 30-40 percent of the cost.

[#] Figures for 2006/07 to 2011/12 are based on published data of the MoAD, Statistical Information on Nepalese Agriculture 2011/12; and for 2012/13 are based on the preliminary estimates 2012/13 of the MoAD.

Food Market Situation

Retail price of the major food commodities over the last four years are presented in Figure 10. Most of the commodities have shown upward trend despite few yearly fluctuations. Price of coarse rice, wheat flour, and pulses recorded a year-on-year increment of 15.8, 13.2, and 10.6 percent respectively in May 2013; while that of red potato declined by 16.8 percent.

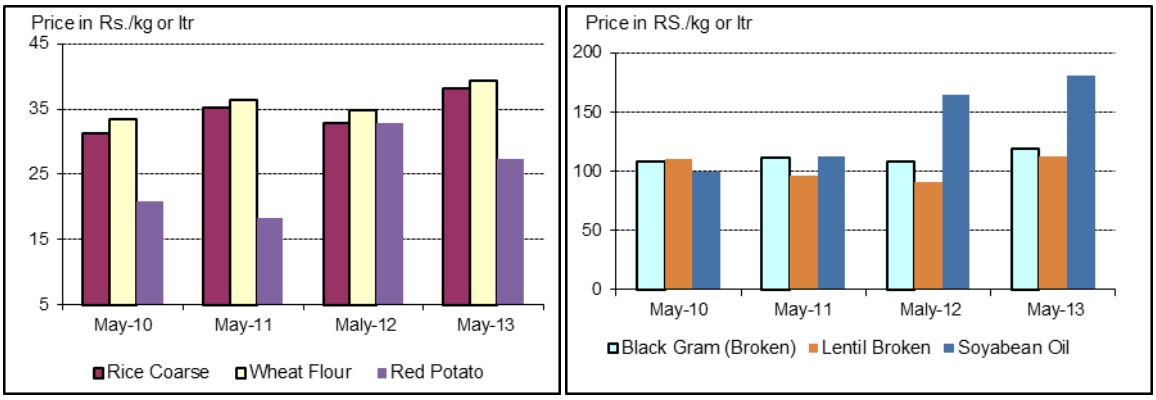


Figure 6: Retail food prices May 2010/11 and 12/13

Figure 11 presents the Wholesale Price Indices (WPI) from 2011 to 2013. The overall WPI marginally increased by 8.1 percent in May 2013, compared to an increase of 8.0 percent over the same period in 2012. The WPI of agricultural commodities (including food grain, cash crops, pulses, fruits and vegetables, spice, livestock) rose by 11.1 percent, compared to a marginal increase of 5.5 percent over the same period last year. However, the WPI of food grains alone increased by 9.4 percent compared to a decline of 0.2 percent over the same period last year.

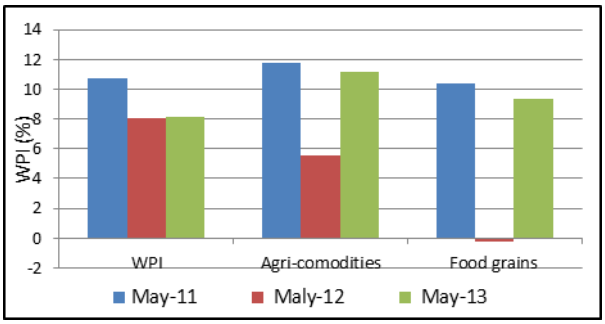


Figure 11: Wholesale price indices from 2011 to 2013

The year-on-year comparison of wage rate index presented in figure 12 shows a declining trend over the last three years. There was a nominal increase in wage rate index in May 2013 as compared to the previous consecutive years. Wage rate index increased by 7.0 percent in May 2013 compared to an increment of 22.6 percent over the same period last year. The indices of agricultural male and female wages increased by 7.9 and 16.6 percents respectively, compared to 19.2 and 19.7 percents increases over the same period last year. The indices of agricultural wage rates for both male and female have been increasing relatively faster than the indices of non-farm sectors, in which the rise of female wage index is relatively even higher. This is predominantly due to an effect of the large number of male migrants from the rural areas, which have increased the demand for female workers in the agricultural sector.

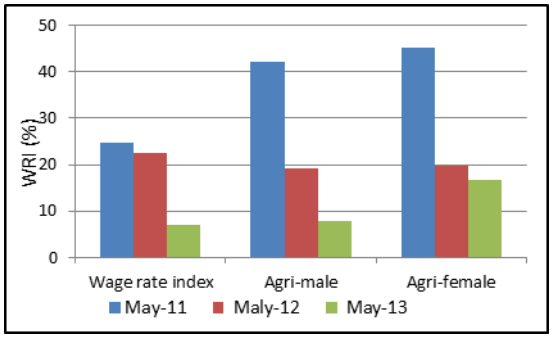


Figure 12: Wage rate indices 2011 to 2013

Trade Overview[5]

As reported by the Trade and Export Promotion Centre (TEPC), value of foreign trade during the first nine months of the Fiscal Year 2012/13 (July 2012 to March 2013) stood at NPR 498.35 billion; an increment of 19.10 percent compared to the same period last year. Share of export and import in trade stood at 11.3 (NPR 56.53 billion) and 88.7 (NPR 441.82 billion) percents respectively, showing a large trade deficit.

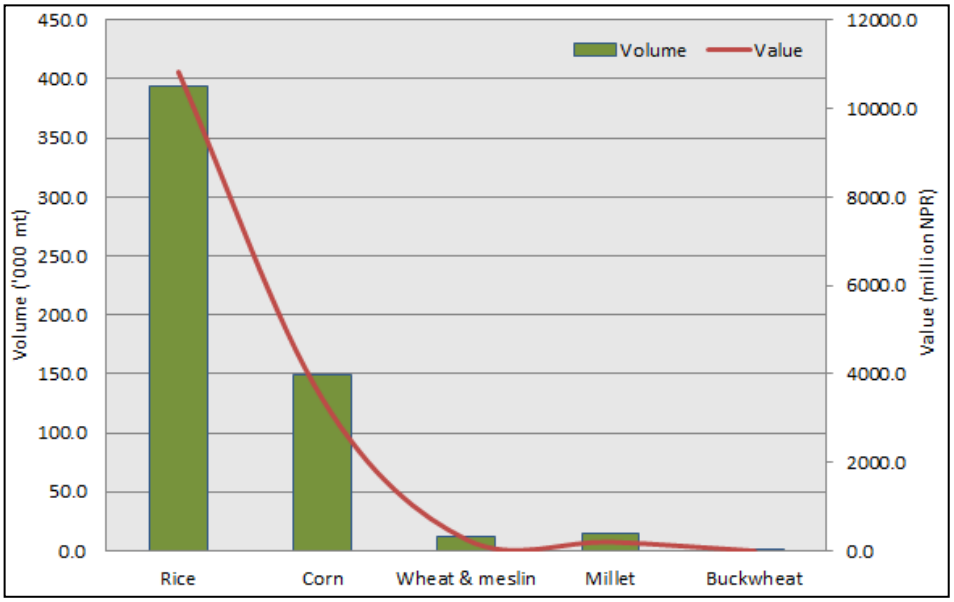


Figure 7: Import of cereals (July 2012-March 2013), Source: TEPC

Cereals recorded 3.25 percent share (worth NPR 14 billion) in total import during the period, which over the same period last year was measured at 2.27 percent (worth NPR 8.2 billion). Rice continues to record the largest share of cereal import 69.1 percent of import volume (393,370 mt) and 73.5 percent of the value (NPR 10.82 billion) followed by corn (maize) and wheat with their share in total import value recorded at 23.3 and 1.7 percents respectively (Figure 7 and Table 3).

Items	2009/10		2010/11		2011/12		2012/13*	
	Value ('000 NPR)	Quantity (mt)	Value ('000 NPR)	Quantity (mt)	Value ('000 NPR)	Quantity (mt)	Value ('000 NPR)	Quantity (mt)
Rice export	12,132.00	363.8	6,515.60	305.2	47	0.338	17,191	447
Rice import	2,635,825.50	102,846.90	2,408,634.00	133,489.90	8,742,872	382,108	10,825,811	393,370
Wheat flour export	51,977.40	3,045.30	4,294.90	123.2	56,862	2,315	97,163	1,378
Wheat flour import	8,975.00	254.5	427,424.20	21,634.40	86,938	3,548	192,409	7,072
Maize (corn + flour) export	2,698.40	33.5	82.3	0	733.28	82.6	196	16
Maize (corn + flour) import	656,253.00	47,798.80	2,285,541.60	160,815.00	3,744,559	199,904.53	3,448,821.64	149,506
Millet export	-	-	125,913.20	0	105	3.5	389	10
Millet import	-	-	125,913.20	15,511.00	191,349.46	19,149.71	202,166	14,702
Lentils export	3,744,900.00	37,793.10	3,349,100.70	37,425.00	2,501,976.16	31,868.32	2,630,610	22,057
Lentils import			249,013.60	8,057.70	1,242,355.76	2,913	373,288	7,329
* Provisional data of the first eight months of the FY 2011/12								

Table 3: Export and import of cereals 2009/10 to 2012/13**

[5] Based on Government of Nepal, Ministry of Commerce and Supplies, Trade and Export Promotion Centre (TEPC), http://208.67.23.5/~itsoftc/projects/tepc/commoditywise.php?txtmode=search; viewed 27 June 2013
* Agriculture Inputs Company Ltd., Fertilizer sales from July 2012 to 17 June 2013, http://www.aicl.org.np/files/Fertilizer%20bibran%202070.03.03.pdf; Viewed 25 June 2013.
** Provisional data for first eight months of Nepali Fiscal Year 2069/70

On the export front lentil, cardamom, tea, and ginger are the key items of export with their export value recorded at 2.4, 2.6, 1.4, and 1.0 billion NPR. While the export value of cardamom dropped by some 1.6 percent compared to same period last year, other commodities recorded significant improvement in export, up to 242.8 percent increment for ginger.

Global and Regional Production Overview

World cereal production is forecasted to increase by about 6 percent in 2013 to about 2,708 million mt, recovering from the previous year's reduced level to just above the trend of the past ten years. FAO's latest forecast (as of May 2013) for the global wheat production stands at 695 million mt, some 5.4 percent above the last year's harvest and some 6 million mt below the record level production of 2011. Production estimates for 2013 are based on huge production in Europe (138 million mt), mainland China (121 million mt), and India (93 million mt).

In India, the third advance estimate of crop production released by the Ministry of Agriculture on the 3rd of May 2013 has estimated a total grain output of 255.36 million mt. Production of rice, wheat, and maize is 104.22, 93.62, and 21.82 million mt respectively. Food grain production this year is the second highest ever achieved despite low and erratic monsoon rains during the monsoon season. In 2011-12, India had produced 259.32 million mt food grains[6].

[6] http://pib.nic.in/newsite/PrintRelease.aspx?relid=95562

National Food Balance[7]

The total cereal requirement in the country is estimated at 5.2 million mt, which is some 1.7 percent above the cereal requirement of 2011/12. Despite rising demand and decreased production, the country still has 408.4 thousands mt of edible cereal food in balance, which is 53.9 percent lower than the last year (Table 4).

Year	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	Average 2007/08 to 2011/12	% change to normal	% change to 2011/12
Total production ('000 mt)	7,329	8,069.1	8,114.1	8,615.4	9,457.6	8,738	8,317.04	5.1	-7.6
Edible production ('000 mt)	5,195.2	5,170.4	4,967.5	5,512.9	6,037.7	5,648.3	5,376.74	5.0	-6.5
Requirement ('000 mt)	5,172.8	5,303.3	5,297.4	5,069.8	5,151.4	5,239.8	5,198.94	0.8	1.7
Balance ('000 mt)	22.4	-132.9	-329.9	443.1	886.3	408.4	177.8	129.7	-53.9
Balance (% of requirement)	0.4	-2.5	-6.2	8.7	17.2	7.8			

Table 4: National cereal production, requirement, and balance 2007/08- 2012/13 (Source: MoAD)

For the last two years, the country has been able to maintain edible cereal food production above the national requirement. 2011/12 recorded the largest production of edible cereals at 6.04 million mt. For last ten years, 2006/07 and 2009/10 were the ones with the lowest recorded edible cereal production years (Figure 14). Hence, during those years the national edible cereal production was lower than the requirement.

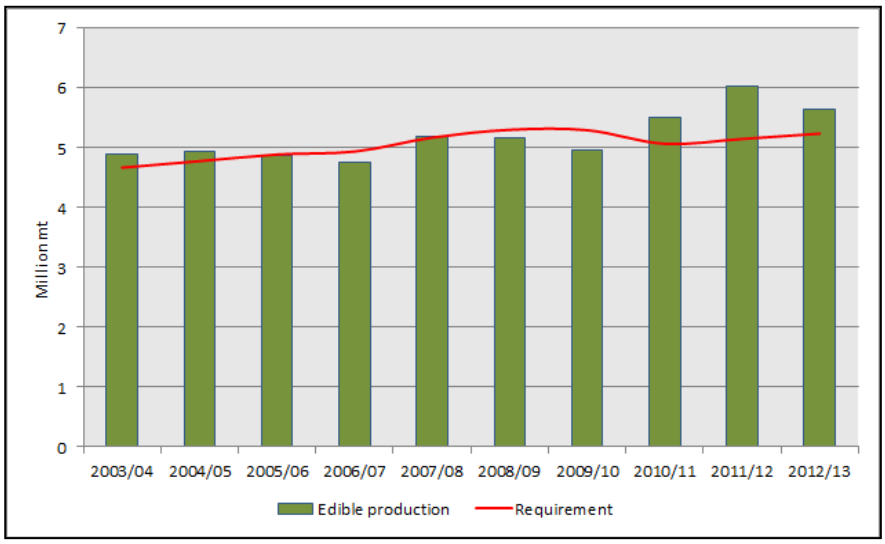


Figure 14: Edible cereal production and requirement 2003/04- 2012/13 (Source: MoAD)

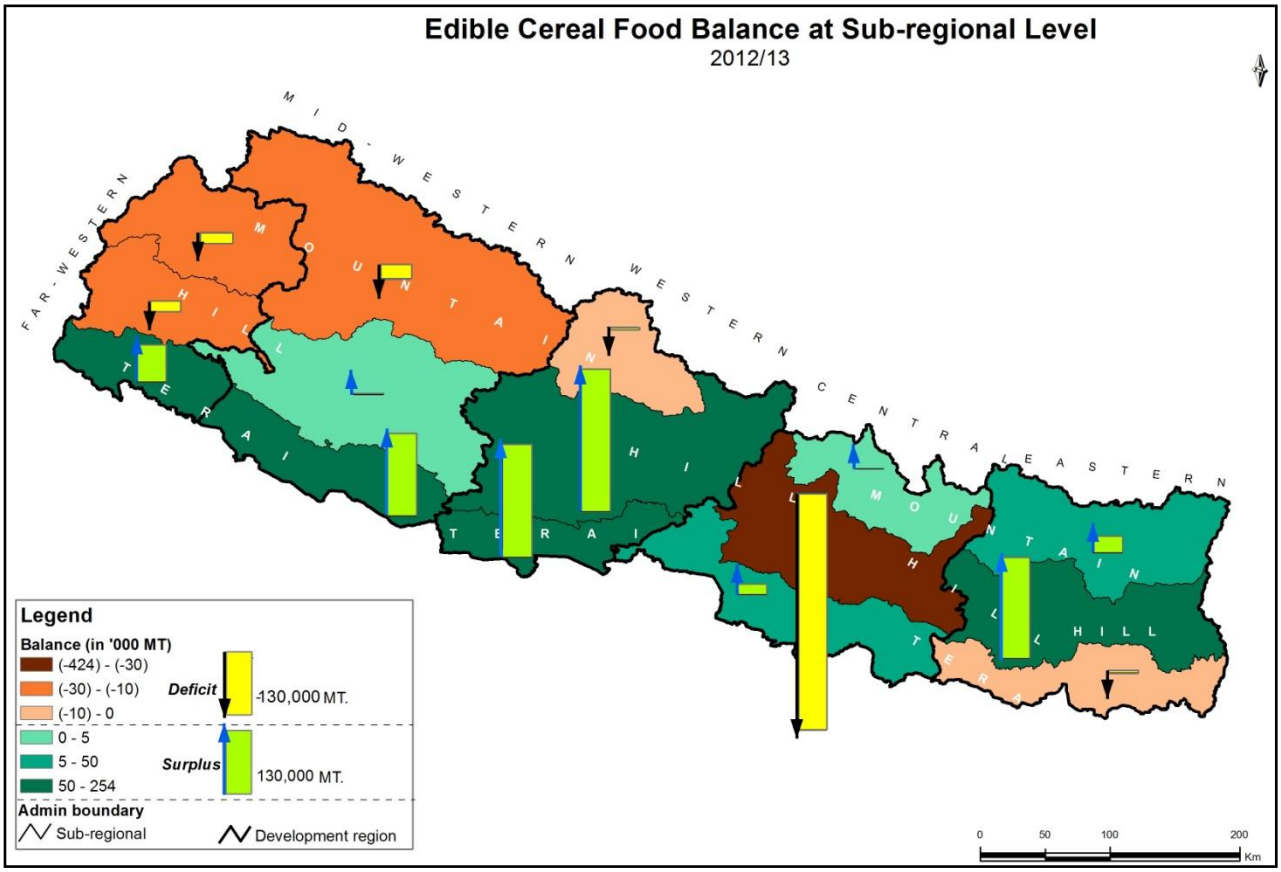
[7] This section is based on the domestic production only and doesn't take into account the supplies maintained by imports.

Despite positive aggregate national balance, domestic production is not enough to meet the rice demand, which is largely attributed to the preference attached to rice consumption in Nepal. Hence, a supply gap of 904,696 mt is anticipated for rice (Table 5).

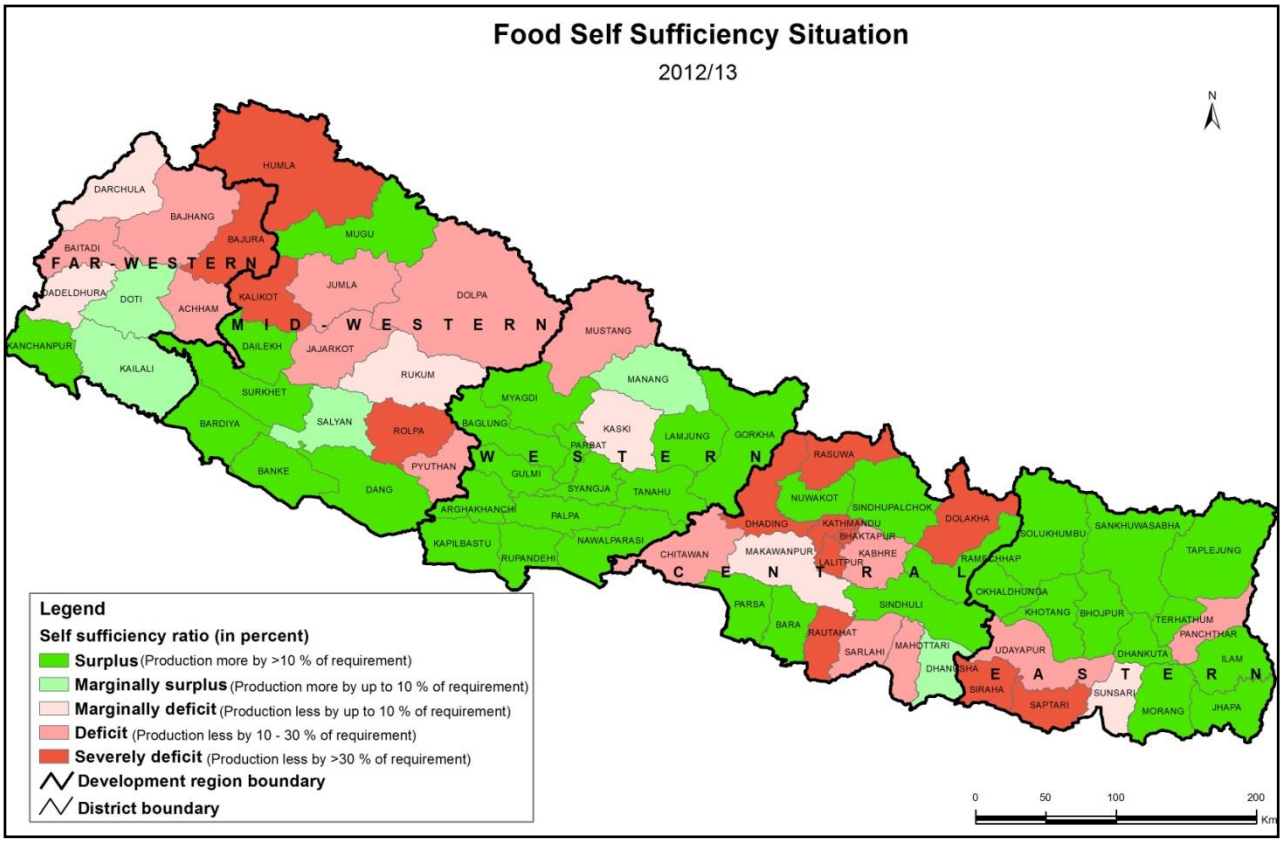
Food Items	Population	Actual Consumption (kg/person/year)	Requirement (mt)	Availability (mt)	± Gap (mt)
Rice	27,539,608	122.00	3,359,832	2,455,136	-904,696
Maize	27,539,608	41.60	1,145,648	1,408,017	262,369
Wheat	27,539,608	17.00	468,173	1,518,631	1,050,458
Millet	27,539,608	9.00	247,856	248,168	312
Barley	27,539,608	0.37	10,052	10,174	122
Buckwheat	27,539,608	0.29	7,986	8,136	150
Total	27,539,608	190.26	5,239,548	5,648,262	408,714

Table 5: Food wise requirement and gap (Source: MoAD)

Positive aggregate national cereal balance, however, doesn't imply that food availability is not a concern. In fact, despite the food balance being maintained at national level, sub-national disparities do exist with regard to cereal production and requirement. The Terai is the only region to maintain a balance of 429,238 mt while the Hills and Mountains have deficits of 5,029 and 15,767 mt, respectively (Map-2, and Annex 1). With respective edible cereal balance of 254, 268; 201, 218; and 180, 692 mt, the Western Hills, Western Terai, and Eastern Hills observe the largest cereal balance in 2012/13. Other regions with net positive cereal balance include Far-Western Terai, Central Terai, Mid-Western Hills, Eastern Mountains, and Central Mountains. The Far-Western Hills and Mountains, Mid-Western Hills and Mountains, Western Mountains, Central Mountains, Central Hills, and Eastern Terai are expected to observe deficits of varying degrees; altogether 33 districts are deficits (Annex 1). Eleven districts, most of which are in the Mountains of the Mid-Western, Far-Western, and Central Development Regions are expected to observe the largest food deficit, with local demand exceeding the production by more than 30 percent; similarly, 14 districts are expected to experience edible cereal deficits of 10-30% (Map-3). Rupandehi district has recorded the largest surplus of 89,708 mt, which is about 53 percent above the requirement.



Map-2: Edible cereal food balance at sub-regional level (Source: MoAD)



Map-3: Food self sufficiency at district level (Source: MoAD)

Conclusion

The overall weather conditions in 2012/13 were not too favorable and as a consequence reduced the summer crop (paddy, maize, and millet) production by 10.01 percent. Winter crops (wheat and barley), however, recorded an increment of 2.03 percent.

Total cereal output for FY 2012/13 is estimated at 8.74 million mt, 7.6 percent lower than 2011/12. At 8.74 million mt, net edible cereal output is estimated at 5.3 million mt against a cereal requirement of 5.2 million mt. The national food balance is positive at 408.4 thousands mt. The national food balance, however, excludes the food supplies maintained through imports. During the first nine months of the Nepali Fiscal Year 2069/70 (2012/13), some 0.57 million mt (worth NPR 14.72 billion) of cereal food was imported.

2013/14 Summer crop outlook

The joint crop assessment mission found normal growth of the spring season crops (especially maize) and paddy. Due to the favorable weather conditions, spring season production is expected as normal.

The South Asian Climate Outlook Forum (SASCOF-4) has suggested a normal monsoon over South Asia with a slightly above the normal level in Nepal[8].With timely and adequate level of monsoon, paddy and other summer crops (maize and millet) production is expected to be normal.

Though production has declined compared to last year, the country still has net food balance. Nevertheless, the country still faces rice deficit of 905 thousands mt, which has to be met by imports. Hence, with current production and imports, food availability situation is not expected to deteriorate exceptionally.

[8] http://hydrology.gov.np/new/bull3/index.php/hydrology/other/current_forecast; Viewed 28 June 2013.

Acknowledgments

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

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The views expressed in this publication do not necessarily reflect the views of the European Union.

Annex 1: 2012/13 DISTRICT-WISE CROP PRODUCTION, CEREAL REQUIREMENT, AND BALANCE (mt)

DISTRICT	PADDY	MAIZE	MILLET	BUCKWHEAT	WHEAT	BARLEY	TOTAL CEREAL	NET EDIBLE	REQUIREMENT	BALANCE*
TAPLEJUNG	10,913.00	27,450.00	3,507.00	165.00	3,600.00	312.00	45,947.00	32,175.85	24,329.00	7,846.85
SANKHUWASHAVA	23,701.00	22,226.00	10,180.00	10.00	3,000.00	30.00	59,147.00	37,427.65	30,510.00	6,917.65
SOLUKHUMBU	3,366.00	32,517.00	2,520.00	138.00	7,300.00	200.00	46,041.00	35,106.06	20,359.00	14,747.06
E.MOUNTAIN	37,980.00	82,193.00	16,207.00	313.00	13,900.00	542.00	151,135.00	104,709.56	75,198.00	29,511.56
PANCHTHAR	22,600.00	12,240.00	9,350.00	36.00	7,632.00	552.00	52,410.00	32,050.79	39,725.00	(7,674.21)
ILLAM	45,185.00	78,385.00	2,670.00	17.00	12,960.00	50.00	139,267.00	99,213.22	60,009.00	39,204.22
TERHATHUM	23,784.00	26,288.00	3,300.00	28.00	5,900.00	83.00	59,383.00	38,663.96	20,033.00	18,630.96
DHANKUTA	18,859.00	39,312.00	7,780.00	0.00	3,385.00	10.00	69,346.00	48,699.55	32,898.00	15,801.55
BHOJPUR	44,299.00	76,470.00	4,404.00	12.00	5,520.00	25.00	130,730.00	93,968.96	36,275.00	57,693.96
KHOTANG	30,248.00	69,232.00	24,512.00	405.00	12,535.00	430.00	137,362.00	101,204.46	41,230.00	59,974.46
OKHALDHUNGA	14,361.00	26,040.00	9,998.00	91.00	5,031.00	100.00	55,621.00	38,887.72	29,494.00	9,393.72
UDAYAPUR	43,594.00	23,275.00	5,031.00	19.00	16,286.00	34.00	88,239.00	53,932.73	66,265.00	(12,332.27)
E.HILLS	242,930.00	351,242.00	67,045.00	608.00	69,249.00	1,284.00	732,358.00	506,621.39	325,929.00	180,692.39
JHAPA	320,790.00	82,140.00	1,785.00	1,265.00	21,750.00	6.00	427,736.00	254,447.93	151,998.00	102,449.93
MORANG	259,289.00	5,379.00	1,812.00	65.00	36,438.00	-	302,983.00	204,631.94	179,681.00	24,950.94
SUNSARI	160,650.00	27,000.00	1,078.00	380.00	43,500.00	-	232,608.00	137,288.34	141,463.00	(4,174.66)
SAPTARI	60,388.00	750.00	215.00	0.00	40,000.00	-	101,353.00	64,737.28	120,108.00	(55,370.72)
SIRAHA	53,814.00	3,150.00	574.00	0.00	29,800.00	-	87,338.00	47,020.38	119,303.00	(72,282.62)
E.TERAI	854,931.00	118,419.00	5,464.00	1,710.00	171,488.00	6.00	1,152,018.00	708,125.87	712,553.00	(4,427.13)
E.REGION	1,135,841.00	551,854.00	88,716.00	2,631.00	254,637.00	1,832.00	2,035,511.00	1,319,456.81	1,113,680.00	205,776.81
DOLAKHA	5,625.00	10,485.00	4,200.00	401.00	6,278.00	210.00	27,199.00	15,937.41	35,381.00	(19,443.59)
SINDHUPALCHOK	26,486.00	50,833.00	21,252.00	0.00	9,336.00	205.00	108,112.00	77,457.59	54,695.00	22,762.59
RASUWA	2,982.00	3,549.00	791.00	0.00	1,720.00	383.00	9,425.00	5,382.84	8,330.00	(2,947.16)
C.MOUNTAIN	35,093.00	64,867.00	26,243.00	401.00	17,334.00	798.00	144,736.00	98,777.83	98,406.00	371.83
RAMECHAP	26,530.00	51,355.00	4,425.00	20.00	8,180.00	142.00	90,652.00	63,880.54	40,993.00	22,887.54
SINDHULI	34,910.00	44,410.00	9,196.00	269.00	14,230.00	78.00	103,093.00	70,325.39	59,847.00	10,478.39
KAVRE	36,350.00	48,334.00	3,506.00	600.00	20,905.00	1,425.00	111,120.00	69,184.78	78,556.00	(9,371.22)
BHAKTAPUR	25,653.00	7,876.00	150.00		11,559.00	55.00	45,293.00	26,155.37	65,171.00	(39,015.63)
LALITPUR	25,272.00	24,049.00	690.00	54.00	12,340.00	70.00	62,475.00	37,605.06	101,127.00	(63,521.94)
KATHMANDU	48,500.00	27,203.00	850.00	5.00	16,138.00	8.00	92,704.00	55,790.25	393,879.00	(338,088.75)
NUWAKOT	57,500.00	41,434.00	9,153.00	65.00	15,062.00	228.00	123,442.00	78,184.01	55,654.00	22,530.01
DHADING	33,349.00	24,383.00	6,445.00		12,101.00	360.00	76,638.00	46,126.64	67,490.00	(21,363.36)
MAKWANPUR	36,663.00	63,114.00	3,257.00	159.00	12,150.00	26.00	115,369.00	79,031.89	87,461.00	(8,429.11)
C.HILLS	324,727.00	332,158.00	37,672.00	1,172.00	122,665.00	2,392.00	820,786.00	526,283.94	950,178.00	(423,894.06)
DHANUSHA	125,054.00	6,662.00	300.00	0.00	108,000.00	1.00	240,017.00	157,045.22	143,130.00	13,915.22
MAHOTTARI	83,584.00	1,500.00	0.00	0.00	63,312.00	10.00	148,406.00	94,207.83	120,961.00	(26,753.17)
SARLAHI	92,905.00	19,677.00	950.00	0.00	65,750.00	275.00	179,557.00	116,781.30	145,005.00	(28,223.70)
RAUTAHAT	67,575.00	5,544.00	51.00	0.00	48,050.00	5.00	121,225.00	76,216.47	133,099.00	(56,882.53)
BARA	231,880.00	21,120.00	91.00	0.00	94,600.00	63.00	347,754.00	217,919.05	133,410.00	84,509.05
PARSA	164,360.00	14,263.00	77.00	0.00	81,600.00	39.00	260,339.00	165,867.37	113,532.00	52,335.37
CHITWAN	94,800.00	10,500.00	1,650.00	0.00	30,125.00	50.00	137,125.00	87,147.90	106,718.00	(19,570.10)
C.TERAI	860,158.00	79,266.00	3,119.00		491,437.00	443.00	1,434,423.00	915,185.14	895,855.00	19,330.14
C.REGION	1,219,978.00	476,291.00	67,034.00	1,573.00	631,436.00	3,633.00	2,399,945.00	1,540,246.90	1,944,439.00	(404,192.10)
MANANG	0.00	485.00	0.00	447.00	568.00	292.00	1,792.00	1,179.98	1,168.00	11.98
MUSTANG	0.00	770.00	0.00	955.00	1,080.00	500.00	3,305.00	2,203.69	2,594.00	(390.31)
W.MOUNTAIN	0.00	1,255.00	0.00	1,402.00	1,648.00	792.00	5,097.00	3,383.67	3,762.00	(378.33)
GORKHA	37,555.00	45,471.00	13,926.00	395.00	7,234.00	118.00	104,699.00	72,844.03	53,444.00	19,400.03
LAMJUNG	42,115.00	35,654.00	9,936.00	17.00	1,275.00	25.00	89,022.00	60,063.07	33,682.00	26,381.07
TANAHU	48,168.00	71,630.00	6,710.00	184.00	3,662.00	6.00	130,360.00	89,790.25	67,096.00	22,694.25
KASKI	78,256.00	42,549.00	17,094.00	16.00	16,100.00	113.00	154,128.00	97,733.38	104,352.00	(6,618.62)
PARBAT	26,281.00	30,023.00	7,630.00	37.00	6,522.00	105.00	70,598.00	48,446.11	29,161.00	19,285.11
SYANGJA	60,829.00	92,675.00	19,326.00	140.00	11,150.00	9.00	184,129.00	130,539.51	56,832.00	73,707.51

DISTRICT	PADDY	MAIZE	MILLET	BUCKWHEAT	WHEAT	BARLEY	TOTAL	NET EDIBLE	REQUIREMENT	BALANCE*
PALPA	32,292.00	40,368.00	2,588.00	419.00	13,737.00	37.00	89,441.00	60,216.79	54,176.00	6,040.79
MYAGDI	12,060.00	39,665.00	3,390.00	50.00	6,096.00	406.00	61,667.00	45,743.82	22,831.00	22,912.82
BAGLUNG	18,316.00	56,682.00	21,989.00	119.00	13,298.00	1,223.00	111,627.00	83,917.73	54,315.00	29,602.73
GULMI	22,312.00	58,542.00	2,589.00	205.00	16,048.00	627.00	100,323.00	73,723.88	56,497.00	17,226.88
ARGHAKHANCHI	25,437.00	49,441.00	606.00	245.00	13,698.00	570.00	89,997.00	63,618.07	39,983.00	23,635.07
W.HILLS	403,621.00	562,700.00	105,784.00	1,827.00	108,820.00	3,239.00	1,185,991.00	826,636.65	572,369.00	254,267.65
NAWALPARASI	179,110.00	35,025.00	495.00	115.00	50,269.00	100.00	265,114.00	160,753.00	118,081.00	42,672.00
RUPANDEHI	319,695.00	10,530.00	0.00	0.00	97,840.00	210.00	428,275.00	258,382.79	168,675.00	89,707.79
KAPILBASTU	205,118.00	3,350.00	0.00	0.00	81,248.00	400.00	290,116.00	175,742.99	106,904.00	68,838.99
W.TERAI	703,923.00	48,905.00	495.00	115.00	229,357.00	710.00	983,505.00	594,878.78	393,660.00	201,218.78
W.REGION	1,107,544.00	612,860.00	106,279.00	3,344.00	339,825.00	4,741.00	2,174,593.00	1,424,899.10	969,791.00	455,108.10
DOLPA	570.00	224.00	273.00	632.00	6,300.00	500.00	8,499.00	5,703.02	7,354.00	(1,650.98)
MUGU	2,700.00	1,170.00	4,500.00	500.00	7,917.00	1,860.00	18,647.00	12,395.47	11,119.00	1,276.47
HUMLA	915.00	171.00	1,280.00	603.00	1,173.00	847.00	4,989.00	2,559.08	10,249.00	(7,689.92)
JUMLA	6,490.00	5,400.00	4,560.00	290.00	5,390.00	7,320.00	29,450.00	16,880.05	21,675.00	(4,794.95)
KALIKOT	6,240.00	5,215.00	1,291.00	148.00	9,545.00	750.00	23,189.00	15,727.36	28,928.00	(13,200.64)
MW.MOUNTAIN	16,915.00	12,180.00	11,904.00	2,173.00	30,325.00	11,277.00	84,774.00	53,264.98	79,325.00	(26,060.02)
RUKUM	10,330.00	16,013.00	922.00	0.00	26,550.00	1,156.00	54,971.00	39,673.19	43,402.00	(3,729.00)
ROLPA	11,787.00	16,304.00	1,059.00	65.00	15,979.00	710.00	45,904.00	31,491.60	46,387.00	(14,895.00)
PYUTHAN	18,950.00	18,351.00	2,005.00	11.00	19,465.00	790.00	59,572.00	40,278.53	48,282.00	(8,003.00)
SALYAN	23,294.00	22,242.00	2,204.00	80.00	29,226.00	1,485.00	78,531.00	53,120.04	50,348.00	2,772.00
JAJARKOT	10,403.00	11,930.00	3,859.00	31.00	14,886.00	360.00	41,469.00	28,828.77	36,652.00	(7,823.00)
DAILEKH	25,953.00	36,975.00	2,643.00	20.00	27,219.00	261.00	93,071.00	65,820.84	54,866.00	10,955.00
SURKHET	48,869.00	43,407.00	2,750.00	0.00	46,015.00	1,370.00	142,411.00	99,040.53	76,017.00	23,024.00
MW.HILLS	149,586.00	165,222.00	15,442.00	207.00	179,340.00	6,132.00	515,929.00	358,253.49	355,954.00	2,301.00
DANG	157,384.00	46,891.00	20.00	0.00	29,995.00	50.00	234,340.00	142,910.49	105,184.00	37,726.00
BANKE	109,226.00	29,760.00	0.00	0.00	55,900.00	10.00	194,896.00	123,156.26	94,263.00	28,893.00
BARDIYA	159,575.00	20,000.00	0.00	0.00	74,400.00	10.00	253,985.00	159,598.49	79,077.00	80,521.00
MW.TERAI	426,185.00	96,651.00	20.00	0.00	160,295.00	70.00	683,221.00	425,665.25	278,524.00	147,140.00
MW.REGION	592,686.00	274,053.00	27,366.00	2,380.00	369,960.00	17,479.00	1,283,924.00	837,183.72	713,803.00	123,380.98
BAJURA	7,613.00	1,817.00	2,610.00	11.00	8,831.00	1,500.00	22,382.00	12,762.27	27,169.00	(14,407.00)
BAJHANG	20,528.00	6,573.00	2,057.00	4.00	21,964.00	2,836.00	53,962.00	34,290.59	38,813.00	(4,522.00)
DARCHULA	11,027.00	11,261.00	786.00	80.00	13,312.00	1,670.00	38,136.00	25,690.50	25,973.00	(283.00)
FW.MOUNTAIN	39,168.00	19,651.00	5,453.00	95.00	44,107.00	6,006.00	114,480.00	72,743.35	91,955.00	(19,212.00)
ACHHAM	31,138.00	9,525.00	3,310.00	0.00	24,145.00	563.00	68,681.00	43,858.14	53,068.00	(9,210.00)
DOTI	22,844.00	5,240.00	5,810.00	8.00	33,915.00	240.00	68,057.00	45,232.00	42,773.00	2,459.00
BAITADI	14,280.00	18,850.00	910.00	0.00	24,000.00	1,600.00	59,640.00	40,146.20	51,443.00	(11,297.00)
DADELDHURA	16,414.00	8,236.00	260.00	0.00	18,985.00	209.00	44,104.00	28,799.57	29,148.00	(348.00)
FW.HILLS	84,676.00	41,851.00	10,290.00	8.00	101,045.00	2,612.00	240,482.00	158,035.91	176,432.00	(18,396.00)
KAILALI	185,980.00	12,000.00	450.00	25.00	69,000.00	660.00	268,115.00	159,703.31	146,450.00	13,253.00
KANCHANPUR	138,630.00	10,450.00	0.00	0.00	72,210.00	10.00	221,300.00	135,995.76	83,273.00	52,723.00
FW.TERAI	324,610.00	22,450.00	450.00	25.00	141,210.00	670.00	489,415.00	295,699.07	229,723.00	65,976.00
FW.REGION	448,454.00	83,952.00	16,193.00	128.00	286,362.00	9,288.00	844,377.00	526,478.34	498,110.00	28,368.00
NEPAL	4,504,503.00	1,999,010.00	305,588.00	10,056.00	**1,882,220.00**	**36,973.00**	**8,738,350.00**	**5,648,264.87**	**5,239,823.00**	**408,441.79**

Note*: Figures in parentheses indicate deficit (Source: MoAD)