Crop Situation Update

A joint assessment of the 2013 winter crops including comprehensive data on the 2013/14 overall crop production

Ministry of Agricultural Development

Food and Agriculture Organization

World Food Programme

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Highlights

2013/14 winter crop situation

Production of winter crops (wheat and barley) was estimated at 1.9 million mt, an increase of 12.46 percent compared to the 'normal level'[1] and a decrease of 0.06 percent compared to 2012/13.

With 615,400 mt of production, the central region has the largest share of wheat production (33 percent). Rupandehi, Dhanusa, Bara, Kapilvastu and Parsa are the top 5 wheat producing districts in 2013/14.

Although the average rainfall from October 2013 to March 2014 was only 75.7 percent of the 'normal level'[2], adequate soil moisture allowed for germination and crop growth. Nevertheless, some districts including Saptari, Siraha, Panchthar, Sankhuwasabha, Ilam and Tehrathum reported moderately lower levels of rainfall and in 34 village development committees (VDCs) of Dailekh and 12 VDCs in Dang hailstones damaged the standing wheat crop.

Trade and food market situation

The Trade and Export Promotion Centre (TEPC) reported the value of foreign trade at 592.39 billion NPR during first nine months of the fiscal year 2013/14. During this period, Nepal's imports were recorded at 524.19 billion NPR (88.5 percent of the trade value). The share of cereals in total imports was recorded at 3.57 percent (18.73 billion NPR), which over the same period last year was recorded at 3.36 percent (14.80 billion NPR).

The overall year-on-year Wholesale Price Index (WPI) increased by 9.1 percent in May 2014 compared to an increase of 8.1 percent over the same period last year. The WPI of food grains showed an 8.3 percent increase in May 2014 as compared to 9.4 percent in 2013.

The overall Wage Rate Index (WRI) increased by 12.9 percent in May 2014 compared to a 7 percent increase over the same period last year. The WRI of agricultural labour increased by 8.4 percent in May 2014 compared to an increase of 12.1 percent over the same period last year.

In India, the third advanced estimate of crop production projected 2014 wheat production at 96 million mt, which is 3 percent above last year's bumper output.

2013/14 national food availability

The Ministry of Agricultural Development (MoAD) estimated the total edible cereal production at 6.08 million mt against the national requirement of 5.2 million mt. Hence, the country has recorded a national level surplus of 0.88 million mt in 2013/14. However, despite aggregate surplus at the national level, the country has not been able to meet the requirements for rice, millet and barley through domestic production. Thirty districts (6 in the far-western region, 7 in the mid-western region, 2 in the western region, 11 in the central region and 4 in the eastern region) were reported as food deficit. In those districts, local production has not met the district's food requirement level based on the production amount, population size and average per capita cereal consumption.

[1] Normal area and production refer to average area and production of the preceding five years, i.e. 2009-13.
[2] Normal level of rainfall refers to average rainfall levels of the preceding 30 years.

Background and objectives

The Crop Situation Update is published twice a year by the Ministry of Agricultural Development (MoAD), the World Food Programme (WFP), and the Food and Agriculture Organization (FAO). While periodic updates on crop performance and the food security situation are provided through the Nepal Food Security Bulletin (issued by MoAD and WFP on a trimester basis), the Crop Situation Update provides a comprehensive overview of the domestic food supply situation by focusing on the production and trade of major summer and winter crops in Nepal.

This edition of the Crop Situation Update covers the 2013/14 (Nepali Fiscal Year 2070/71) winter crop production and the outlook of summer crops for 2014 (Nepali Fiscal year 2071/72). In addition, it also looks at the trade of key cereals between 2013 and 2014.

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

Methodology

The Crop Situation Update relies on primary and secondary sources of information. The preliminary estimates of summer crop production released by MoAD in May 2014 provided nationwide data on the production of winter crops and information on input supplies, including fertilizers and seeds. Information collected regularly through *Nepal Khadya Suraksha Anugaman Pranali (*NeKSAP) District Food Security Networks (DFSNs) provided an early indication of crop performance and the food security situation. Weather-related information, especially on rainfall, was provided by the Department of Hydrology and Meteorology (DHM). For trade information, data from the Trade and Export Promotion Centre (TEPC)[3] of the Ministry of Commerce and Supplies was used.

In addition, a joint crop assessment mission - comprised of representatives from MoAD, WFP, FAO and the Hill Maize Research Programme (HMRP) of the International Maize and Wheat Improvement Centre (CIMMYT) - conducted field verifications and stakeholder consultations that helped substantiate the secondary information and capture key issues, constraints, and opportunities of the 2014 winter crop production.

The mission carried out the following activities:

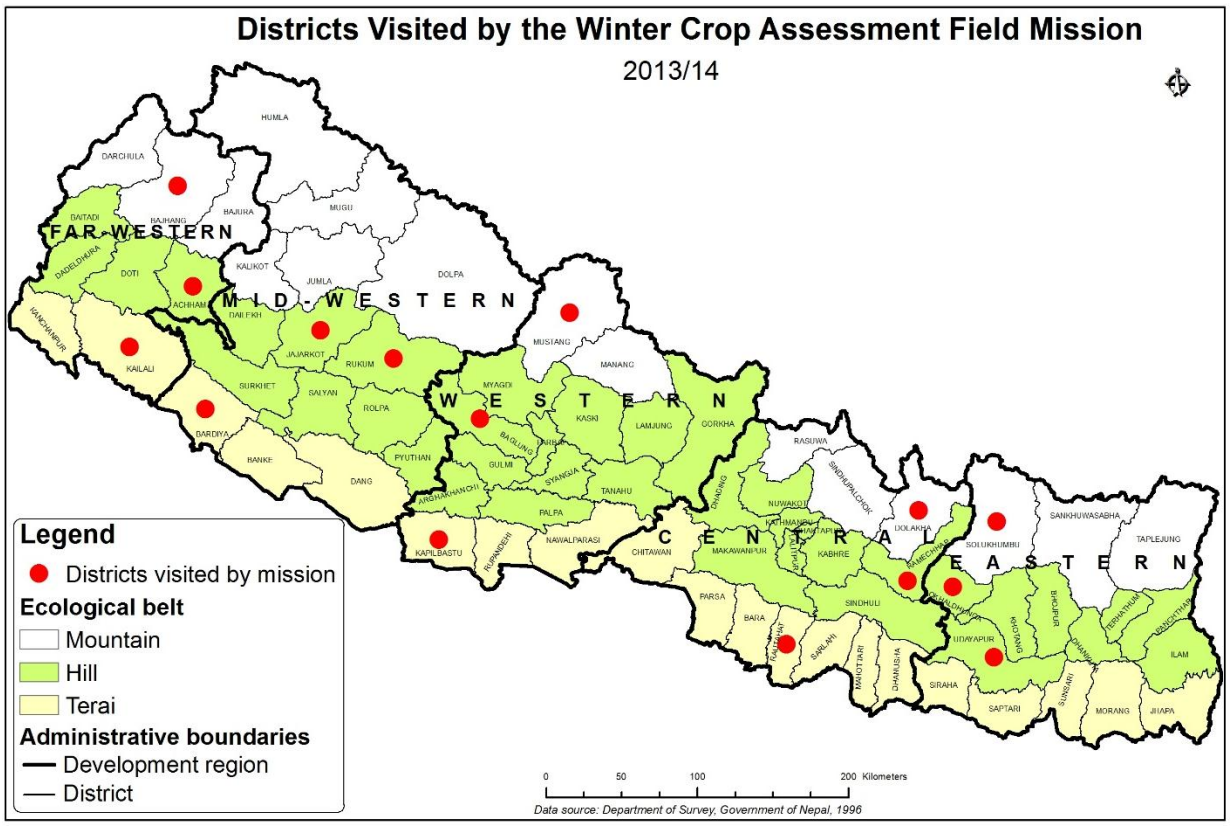
- Consultations with District Agricultural Development Officers (DADO) and other authorities to get an overview of agricultural production (winter crops) and to understand the reasons behind deviations (if any);
- Discussions with district line agencies and stakeholders (including Chief District Officers (CDOs), Local Development Officers (LDOs), the District Chamber of Commerce and Industries (DCCI), etc.) on issues related to crop production and associated impacts on food supply and food security.

[3] www.tepc.gov.np

- Community interactions to verify information obtained through DADO and other stakeholders, and to understand the communities' perceptions on agricultural production issues, weather conditions, livelihoods, and food security. A sample of the community interaction report is presented in **Annex 1**.

As shown in **Map 1**, field verifications were undertaken in 15 districts (3 districts selected from each development region) in order to: (i) cover districts that were anticipated to observe production losses of winter crops; (ii) ensure coverage from each of the five development regions; and (iii) cover districts that were not covered in earlier missions. Field missions were undertaken in mid-April 2014. Field missions intended to observe crop cutting surveys in all districts; however, due to time constraints, these surveys were undertaken in 10 districts only. Crop cuttings were undertaken in 10 square meter (5*2) plots and in each district at least two crop cuttings surveys were undertaken. The results of crop cutting surveys are presented in **Annex 2**.

Prior to the field mission a series of meetings were organized at MoAD to reach a common understanding among the mission members on the process and outputs. Following the field mission, a debriefing meeting was organized to share the preliminary findings and impressions from the field.



Map 1: Districts visited by the winter crop assessment field mission

2013/14 national winter crop output

Wheat and barley are the major winter crops of Nepal. While wheat is grown across the country and makes a significant contribution to the domestic food availability, barley occupies a smaller share of the land, is mostly planted in the mountains, and makes a marginal contribution to overall food availability in the country. In 2013/14, the share of wheat in total winter crop production was estimated at 98 percent.

Figure 1 shows the area and production of winter crops from 2004/05 to 2013/14. As shown in the figure, in 2013/14 the area under winter crops (wheat and barley) was recorded at 782,678 ha with the corresponding production of 1.9 million metric tons (mt).

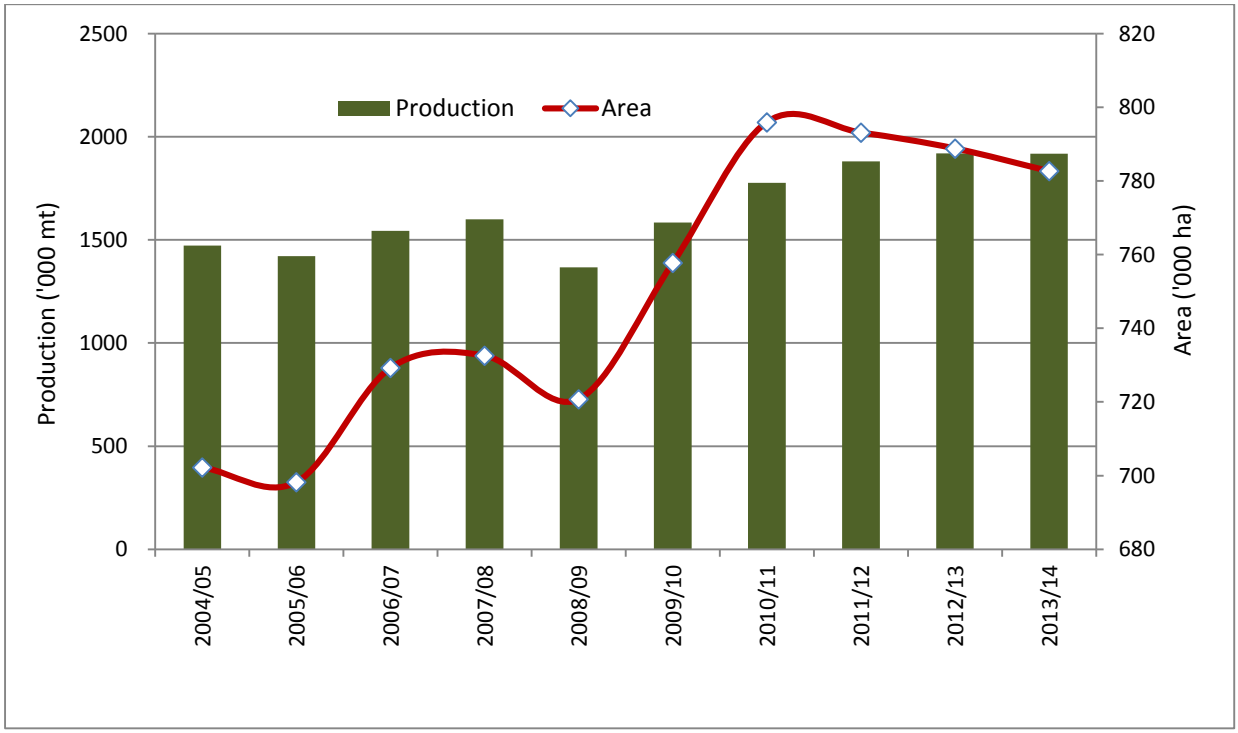


Figure 1: Area and production of winter crops (2004/05 to 2013/14). Source: MoAD

As shown in **Figure 1**, the area and production of winter crops has been gradually increasing since 2004/05, except for 2008/09 when the winter drought significantly reduced the area and production. The area of winter crops was highest in 2010/11 during which it was recorded at 795,960 ha. Production, however, was recorded highest during 2012/13 when the total winter cereal production was recorded at 1,919,193 mt. The 'normal' level, which is an average of area and production over the preceding five years (2008/09 to 2012/13) is 771,287 ha and 1,705,460 mt respectively. Compared to the normal level, in 2013/14, production has increased by 12.46 percent with an area increase of 1.48 percent, which is an indication of productivity gains in the winter crops. Compared to last year (i.e. 2012/13), during which area and production were recorded at 788,832 ha and 1,919,193 mt respectively, both area and production have marginally declined in 2013/14, by 0.78 percent and 0.06 percent respectively.

Wheat

Wheat is a major winter crop and in terms of production it is the third most important cereal crop of Nepal after paddy and maize. It is grown as a winter crop in the hills and the Terai and as a summer crop in the mountains. MoAD has estimated the area and production of wheat at 754,476 ha and 1,883,143 mt in 2013/14.

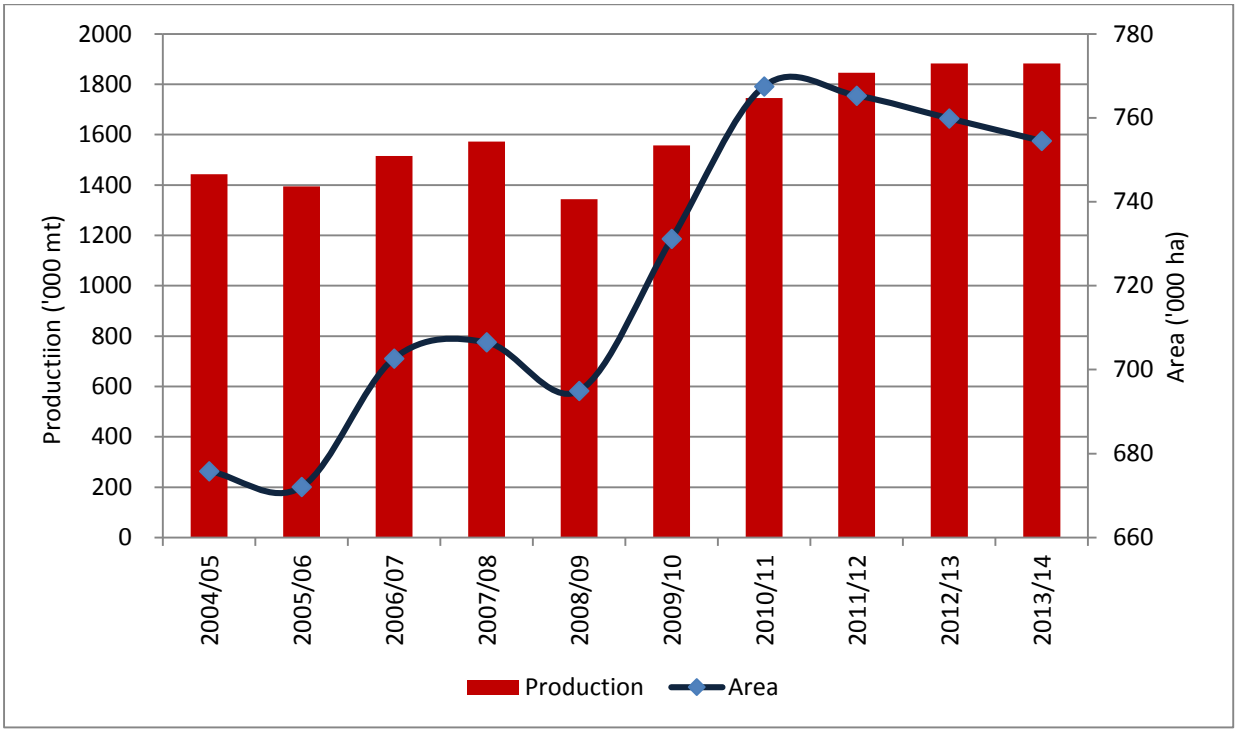


Figure 2: Area and production of wheat (2004/05 to 2013/14). Source: MoAD

Figure 2 shows the area and production of wheat for the last 10 years, i.e. from 2004/05 to 2013/14. As shown in the figure, both area and production have generally increased though with some yearly fluctuations. The drop in area and production of wheat in 2008/09 is attributed to the winter drought that resulted in significant crop losses in that year. In the last 10 years, the highest level of area and production was achieved in 2010/11 and 2012/13 respectively and recorded at 767,499 ha and 1,882,220 mt respectively.

Area and production levels in 2013/14 increased by 1.44 percent and 12.43 percent respectively compared to the normal level. Compared to 2012/13 there was a marginal decrease in area (by 0.71 percent) although production increased by 0.05 percent.

Figure 3 shows the share of total wheat production in 2013/14 among the different development regions. As shown in the figure, the central region is the largest wheat producing region with 615,400 mt of production and its share in total wheat production estimated at 33 percent. The eastern region is followed by the mid-western and western regions, with their share estimated at 20 percent and 19 percent respectively.

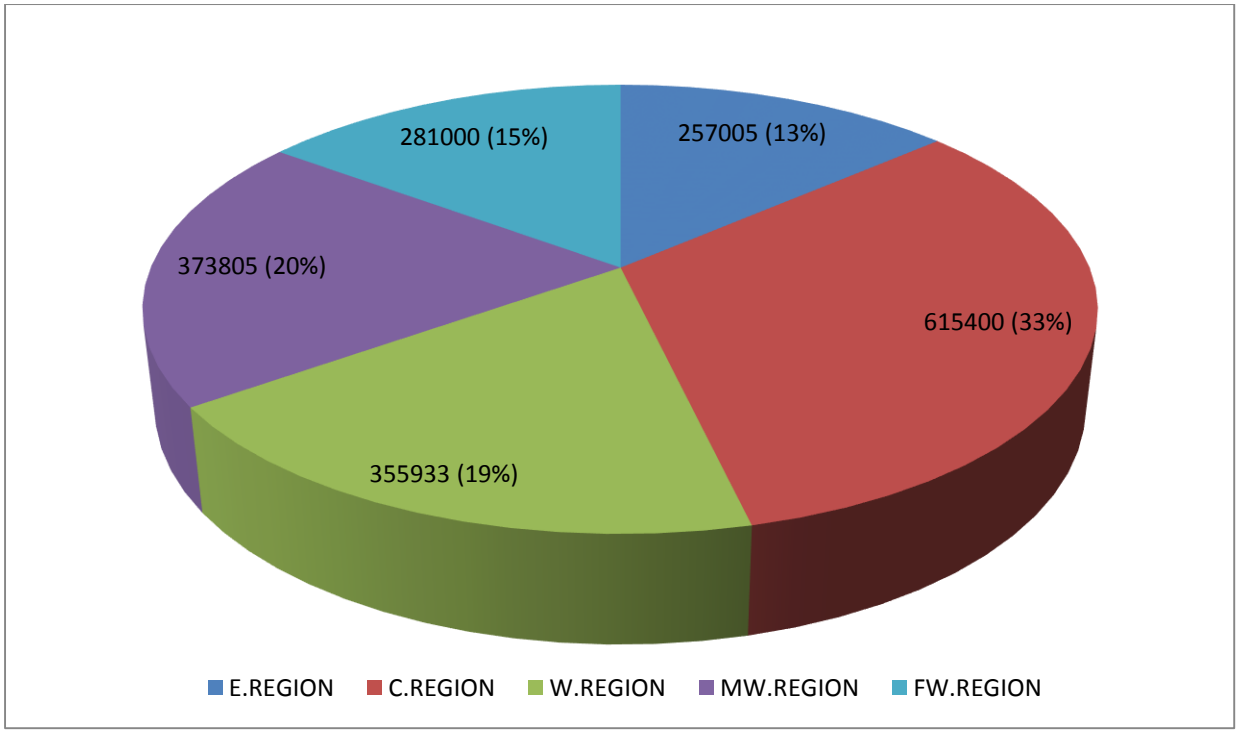


Figure 3: Share of development regions in total wheat production. Source: MoAD

Disaggregation of wheat production across ecological belts reveals the Central Terai as the largest wheat producing belt with production estimated at 483,241 mt, followed by the Western Terai (245,458 mt), Mid-Western Hills (190,606 mt), Eastern Terai (183,900) and Mid-Western Terai (154,367 mt). With regards to the districts, Rupandehi followed by Dhanusa, Bara, Kapilvastu, and Parsa are the top five wheat producing districts in 2013/14 with their respective production recorded at 106,750 mt, 105,000 mt, 93,600 mt, 89,900 mt and 80,680 mt.

Barley

Barley occupies a smaller share of the land and accordingly, makes a marginal contribution to the overall food availability in the country. In 2013/14 barley was grown in 28,202 ha and production was recorded at 34,866 mt.

Figure 4 shows the area and production of barley for the last 10 years (i.e. from 2004/05 to 2013/14). As shown in the figure, the area and production of barley has been generally increasing each year with some notable fluctuations. For example, area and production of barley was recorded the lowest in 2008/09 due to the winter drought. The average production of the preceding five years (i.e. the normal level) is estimated at 30,552 mt. Compared to the normal level, barley production increased by 14.12 percent during 2013/14. However, compared to last year (i.e. 2012/13), during which barley production stood at 36,973 mt, this year's production dropped by 5.70 percent.

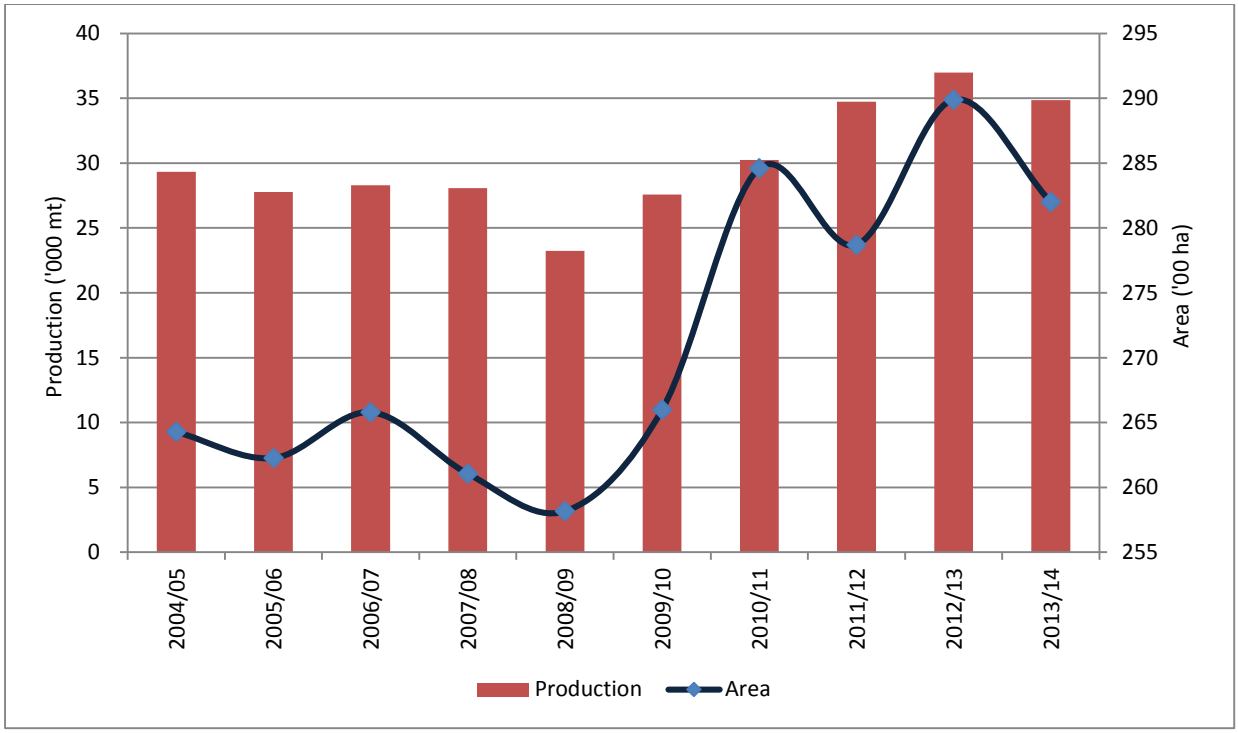


Figure 4: Area and production of barley (2004/05 to 2013/14). Source: MoAD

Growing conditions for 2013/14 winter crops

Growing conditions for 2013/14 winter crops were reported normal. Rainfall was timely and adequate, and the supply of agricultural inputs (seeds and fertilizer) was also reported as normal. Subsidized wheat seeds made available through the Government of Nepal (GoN) have also helped farmers adopt improved wheat seeds.

Rainfall

Almost 80 percent of the rainfall in the country is controlled by the monsoon from June to September. Winter rain, however, is due to the *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 winter crops.

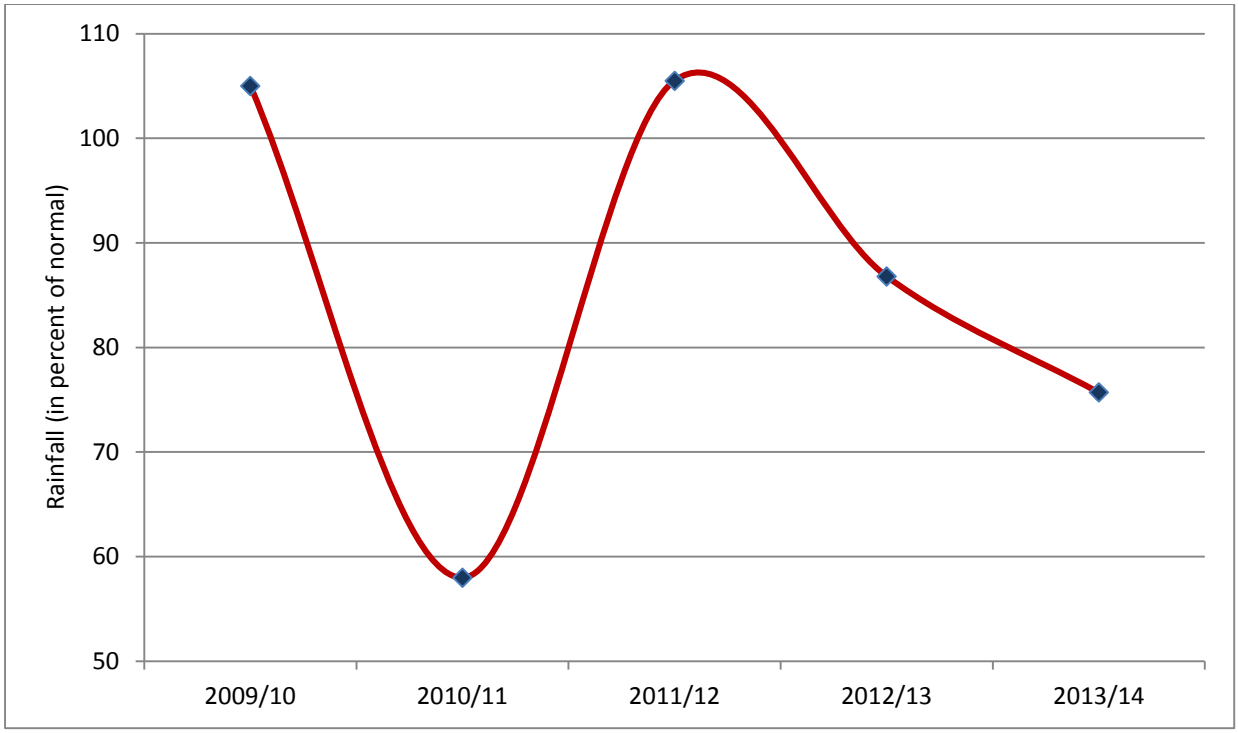


Figure 5: Average rainfall (in percent of the normal level) from October-March 2009/10 to 2013/2014. Source: DHM

Overall rainfall for winter crops was reported as normal. **Figure 5** shows the average rainfall during October 2013 to March 2014. Though average rainfall was only 75.7 percent of the normal level, soil moisture was adequate to allow for germination and crop growth. **Figure 6** shows monthly rainfall (in percentage of the normal level) from October to March (2009/10 to 2013/14). As shown in the figure, there was no rainfall during November and December and rainfall during January was also reported below average. However, this did not significantly impact crop performance.

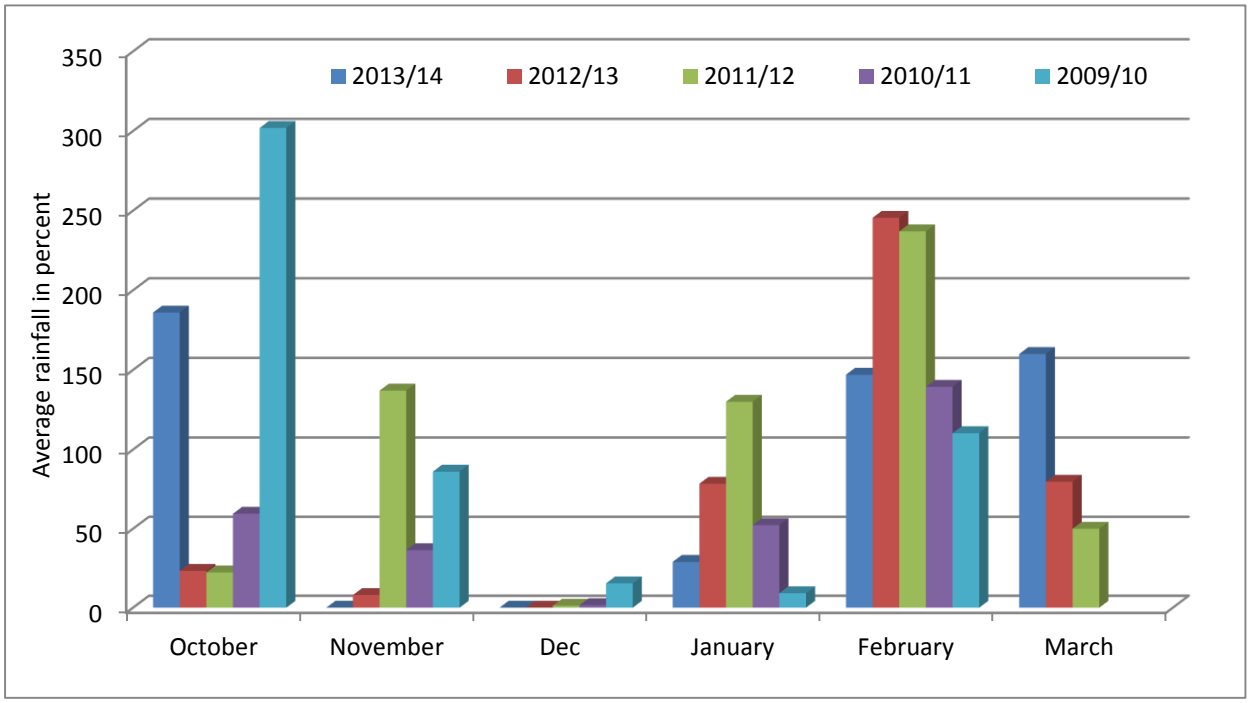


Figure 6: Monthly rainfall (in percent of the normal level) from October to March (2009/10 to 2013/14). Source: DHM

According to the District Food Security Networks (DFSNs), some districts, including Saptari, Siraha, Panchthar, Sankhuwasabha, Ilam and Tehrathum, received moderately lower levels of rainfall for the winter crops. In 34 VDCs of Dailekh and 12 VDCs in Dang, hailstones damaged the standing wheat crop. For the rest of the areas, rainfall and snow was reported as normal for winter crops.

Input supply

The Agriculture Perspective Plan (APP) estimated an annual fertilizer demand of 700 thousands mt for this year. **Figure 7** shows the amount of fertilizer supplied by Agriculture Inputs Company Limited (AICL) and Salt Trading Corporation in different years. As shown in the figure, 135 thousands mt of fertilizer was supplied during July 2013 to March 2014. Since 42,516 mt of fertilizer was supplied during June to November 2013[4], the amount of fertilizer available for the winter crops is 92,000 mt, assuming that the amount supplied during June to November has been completely used for the summer crops.

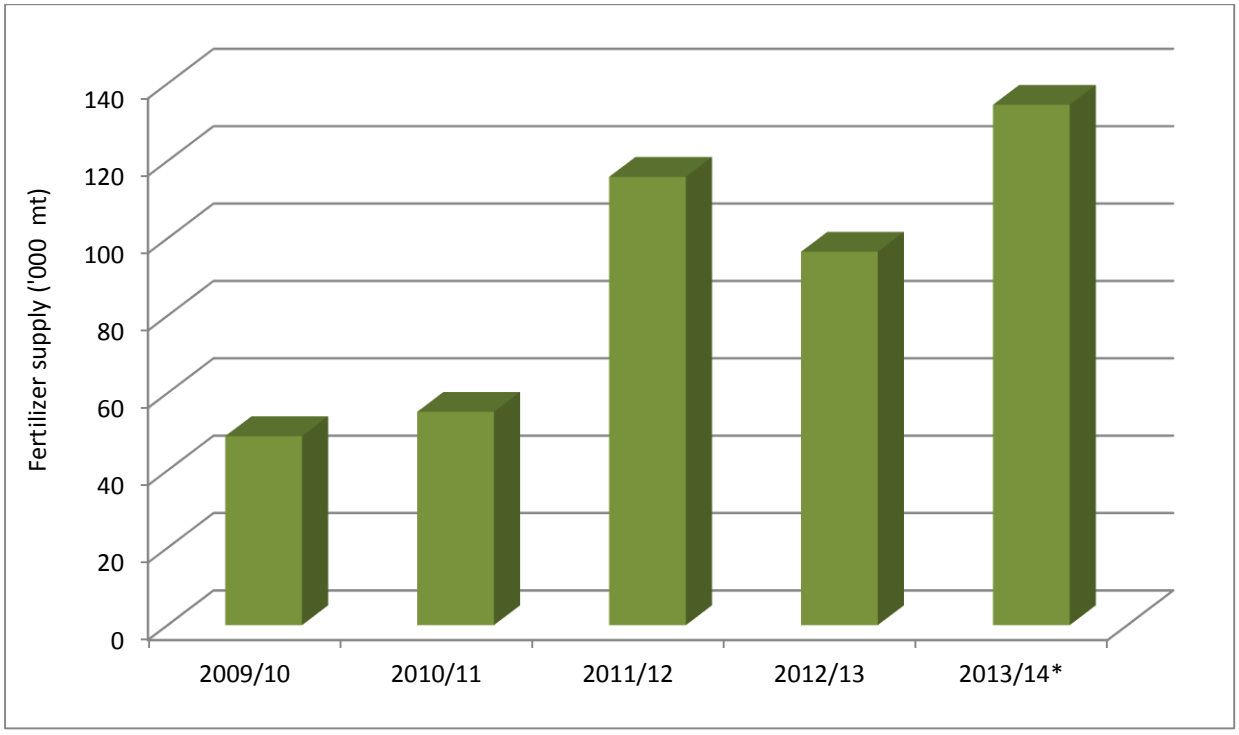


Figure 7: Amount of fertilizer supplied (*June 2013 to March 2014). Source: MoAD

Field interactions undertaken by the crop assessment missions found that the quantity of chemical fertilizer has improved this year compared to previous years. Nevertheless, issues of timeliness and adequacy of supplies remained. In some districts adjoining the India border, farmers were also found to rely on Indian markets for the supply of fertilizers.

[4] Crop Situation Update, Joint assessment mission of 2013 summer crops and outlook of 2013/14 winter crops

Food market situation

Figure 8 shows the price trends for major summer crops, wheat, potato, and lentil from 2011 to 2014[5]. Prices of most crops showed an upward trend over the period with the exception of wheat in 2012. The price of wheat, the main cereal winter crop, increased by 5 percent in 2014 compared to an increase of 21.1 percent last year, while the price of potato sharply increased by 23.8 percent this year compared to a 3.7 percent increase last year. The price of lentil showed an increase of 9.8 percent this year compared to an increase of 8.7 percent last year.

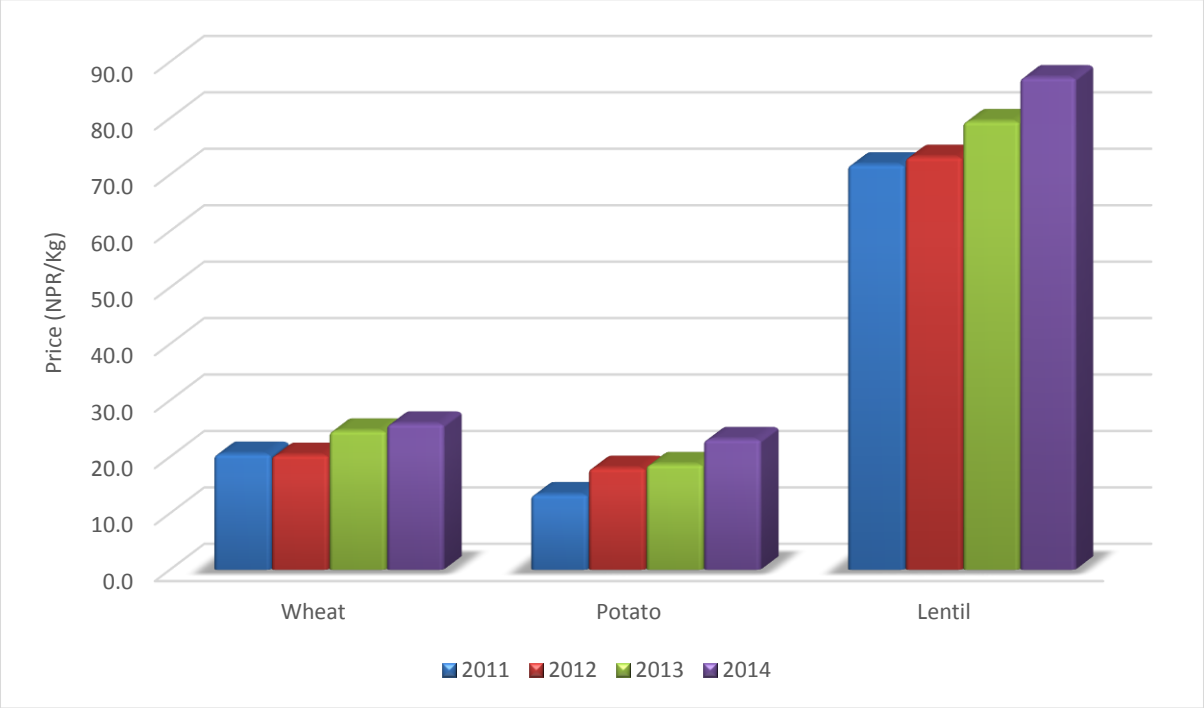


Figure 8: Price trend of major crops (2011-2014). Source: Agri-Business Promotion and Statistics Division, MoAD

Figure 9 presents the wholesale price index (WPI) in May 2012, 2013, and 2014. The overall year-on-year WPI increased by 9.1 percent in May 2014 compared to an increase of 8.1 percent over the same period last year. The WPI of agricultural commodities in May 2014 increased by 11.9 percent, which was 11.1 percent over the same period last year. The WPI of food grains showed an increase of 8.3 percent in May 2014 compared to 9.4 percent increase in 2013. However the WPI of lentil went down by 2.5 percent compared to a sharp increase of 10.4 percent in May 2013.

[5] These prices are the average of price received by farmers in the market centres in nine markets of the country (Dhangadi, Bhairahawa, Nepalgunj, Narayangarh, Pokhara, Biratnagar, Janakpur, Birjung and Kathmandu).

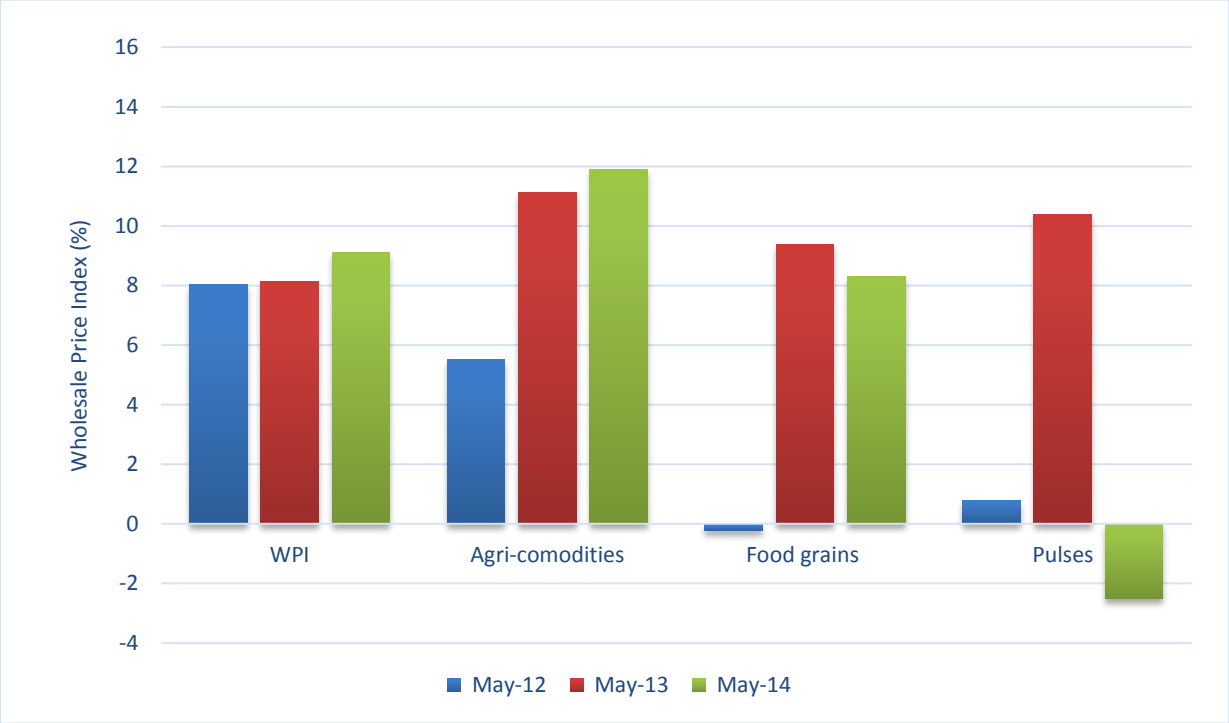


Figure 9: Wholesale Price Index May (2012-14). Source: Agri-Business Promotion and Statistics Division, MoAD

Figure 10 presents the year-on-year wage rate index (WRI) in May 2012, 2013, and 2014. The overall WRI increased by 12.9 percent in May 2014 compared to an increase of 7 percent over the same period last year. The WRI of agricultural labour increased by 8.4 percent in May 2014 compared to an increase of 12.1 percent over the same period last year. The WRI of agricultural female wage increased by 8.7 percent, marginally higher than the agricultural male wage (8.1 percent), which was 16.6 percent and 7.9 percent respectively over the same period last year.

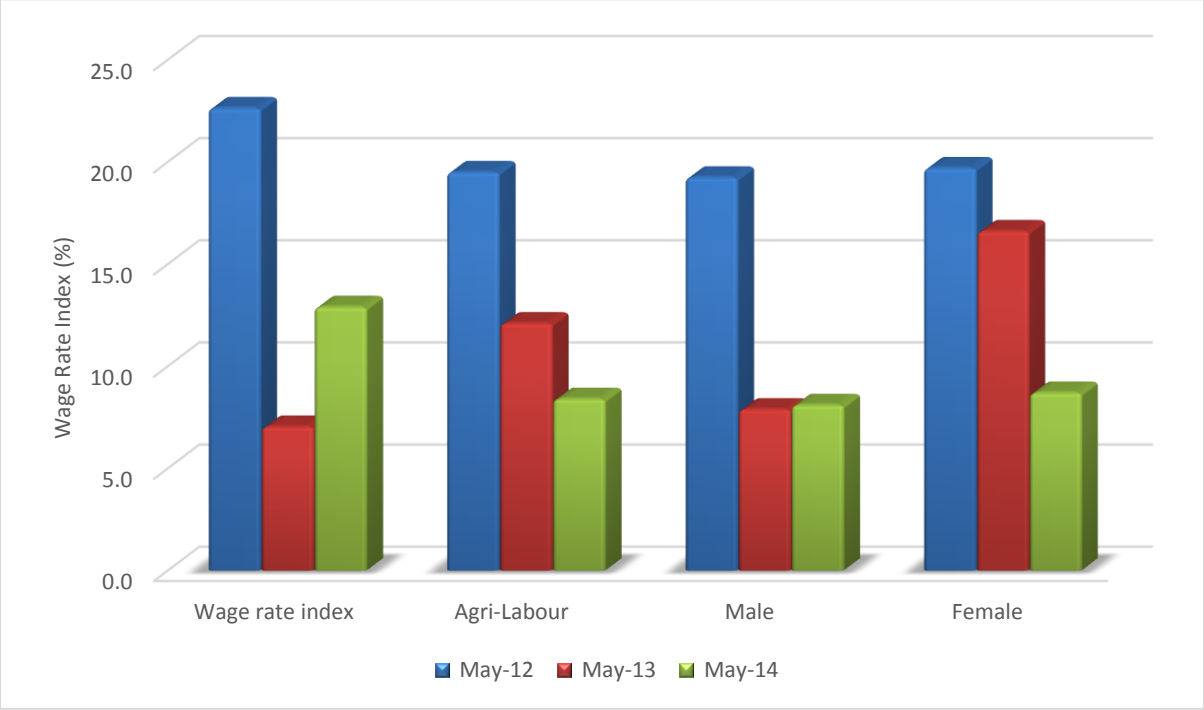


Figure 10: year-on-year Wage Rate Index (May 2012-14). Source: Agri-Business Promotion and Statistics Division, MoAD

2013/14 cereal trade overview

According to the Trade and Export Promotion Centre (TEPC), the value of foreign trade during the first nine months of the fiscal year 2013/14 stood at 592.39 billion NPR, which is an increase of 19.1 percent compared to the same period last year. The share of exports and imports stood at 11.5 percent (68.20 billion NPR) and 88.5 percent (524.19 billion NPR) respectively. During this period, the share of cereal in total imports was recorded at 3.57 percent (18.73 billion NPR), which over the same period last year was recorded at 3.36 percent (14.80 billion NPR)[6].

Figure 11 shows the import volume and value of key food commodities (lentils, wheat, maize, rice, buckwheat and millet) for the first 10 months of fiscal year 2013/13 and 2013/14 (i.e. July 2012- May 2013 and July 2013-May 2014)[7].

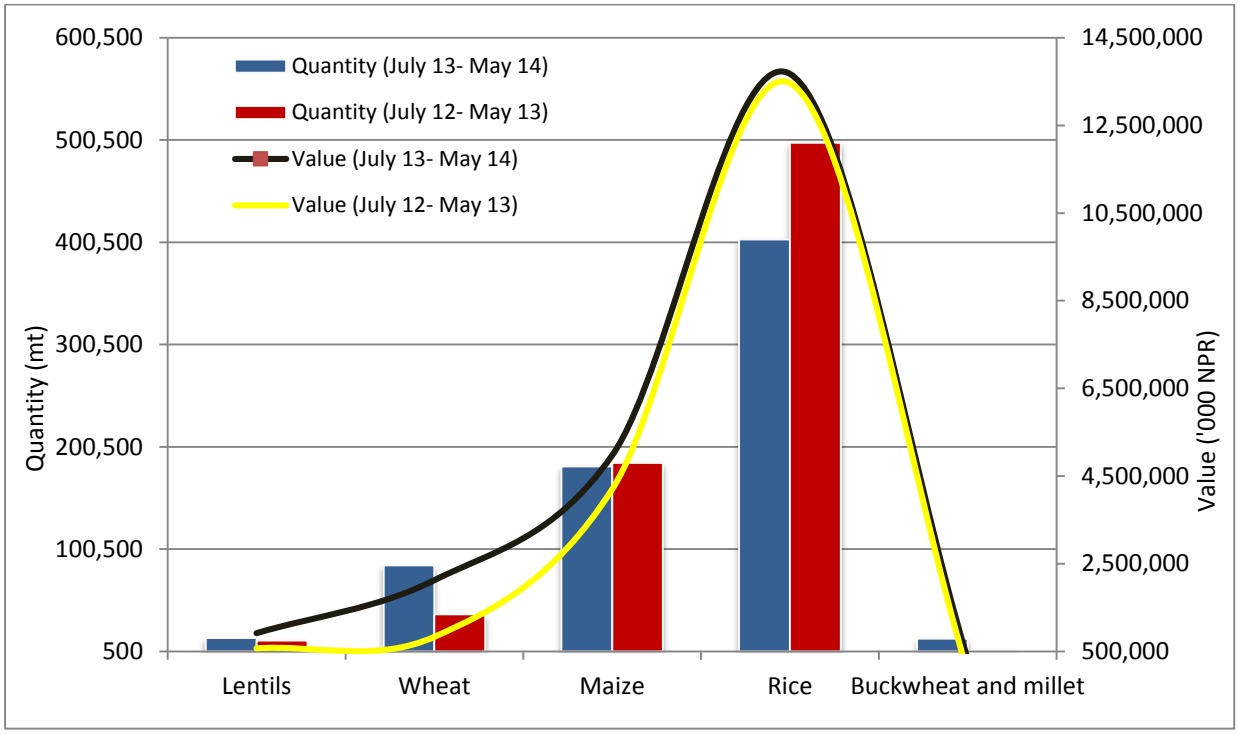


Figure 11: Import volume and value of key food commodities for July 12- May 13 and July 13- May 14. Source: TEPC

As shown in **Figure 11**, rice constitutes the largest item of food imports to Nepal. Though the import volume of rice dropped by 19.02 in 2013/14 compared to 2012/13, the value increased by 1.59 percent, which illustrates the price increase. Similarly, maize, which is the second largest food commodity imported to Nepal, also demonstrated a marginal drop in volume (1.78 percent) with an increase in value of imports (18.57 percent).

On the export front, lentil contributed to the largest share of food commodity exports with the export volume during the first 10 months of the fiscal year 2013/14 estimated at 14,442 mt, with a corresponding value of 1,724 million NPR (17.24 million USD). During this period, 366 mt of buckwheat and millet was exported, contributing to nine million NPR to the national coffer.

[6] http://www.tepc.gov.np/news-events/details.php?id=23

[7] Based on provisional data obtained from TEPC, which is yet to be published officially

Global and regional production overview

FAO's latest estimate for world cereal production in 2013 stands at a record 2,515 million tons (including rice in milled terms); 9 percent more than the previous year's level. At the current level, wheat production is estimated to account for 716 million tons, 8.5 percent up from 2012, while output of coarse grains is at 1,305 million tons, a year-on-year increase of almost 13 percent. Global rice production is seen to have risen moderately in 2013, by less than 1 percent to 494 million tons, in milled equivalent.

In India, harvesting of the 2014 irrigated *Rabi* (winter) wheat crop began in early March. The third advanced estimate of crop production released by the Government of India projects the 2014 wheat production at 96 million mt, which is 3 percent above last year's bumper output. The increase is mainly attributed to a 2 percent expansion in plantings and anticipated near-record yields, reflecting generally good rainfall during the growing season, as well as adequate supplies of irrigation water, fertilizers and other inputs. The total food grain production (including pulses), as estimated by the third advanced estimate, is 264.38 million mt, which is 7.25 million mt higher than that of last year.

2013/14 total cereal production and national food availability

According to MoAD, the total cereal production (summer and winter) for 2013/14 is estimated at 9.56 million mt, which is an increase of 9.43 percent compared to last year (i.e. 2012/13). However, after deducting losses and other cereal usage (for seed, feed, etc.), the quantity of cereal available for human consumption is calculated at 6.08 million mt. With the national cereal requirement of 5.2 million mt, the country had a national cereal surplus of 0.88 million mt. For the last three years, the country has been able to maintain edible cereal food production above the national requirement. **Figure 12** shows total edible production, requirement and balance of cereals for the last 10 years. As shown in the figure, in the last ten years, 2011/12 and 2013/14 were the largest edible cereal production years.

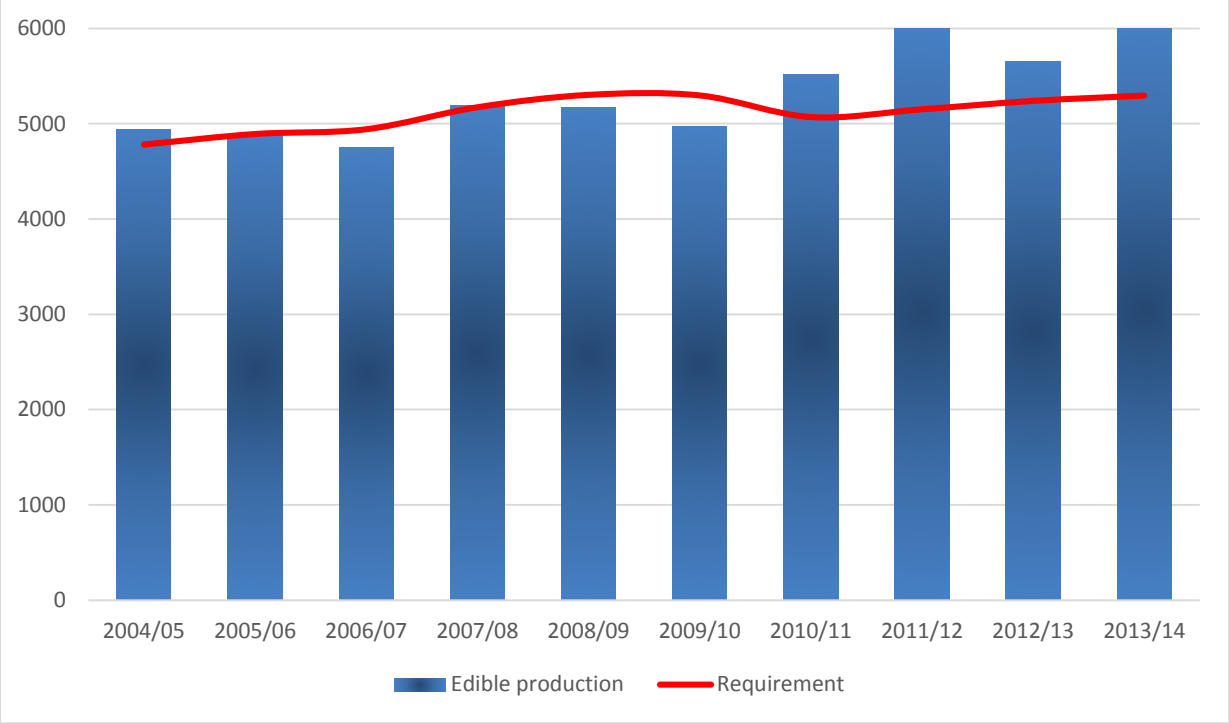


Figure 12: Total edible cereal production and requirement. Source: MoAD

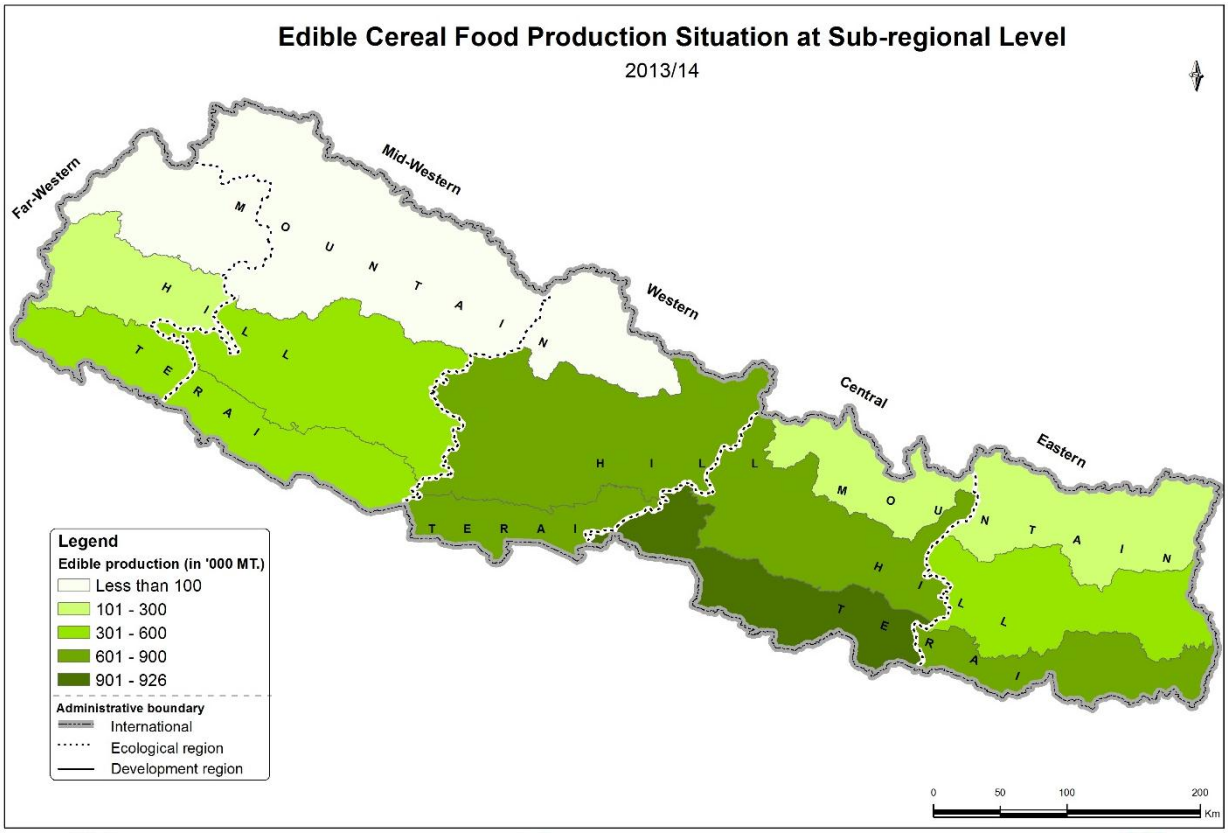
Despite the positive aggregate national cereal balance, traditionally, domestic production has not been enough to meet the rice demand, which is largely attributed to the preference attached to rice consumption in Nepal. Hence, as shown in **Table 1**, a supply gap of 587,830 mt is anticipated for rice. Unlike last year when the country had surpluses of millet and barley, the situation this year reflects a marginal shortage of millet and barley.

Table 1: Crop wise actual consumption, requirement, availability and gap

Food Items	Population	Actual Consumption (kg/person/year)	Requirement (mt)	Availability (mt)	Gap (mt)
Rice	27,835,982	122	3,395,990	2,808,160	-587,830
Maize	27,835,982	41.6	1,157,977	1,557,507	399,530
Wheat	27,835,982	17	473,212	1,452,482	979,270
Millet	27,835,982	9	250,524	249,492	-1,032
Barley	27,835,982	0.37	10,299	9,680	-619
Buckwheat	27,835,982	0.29	8,072	8,455	383
Total	27,835,982	190.26	5,296,074	6,085,776	789,702

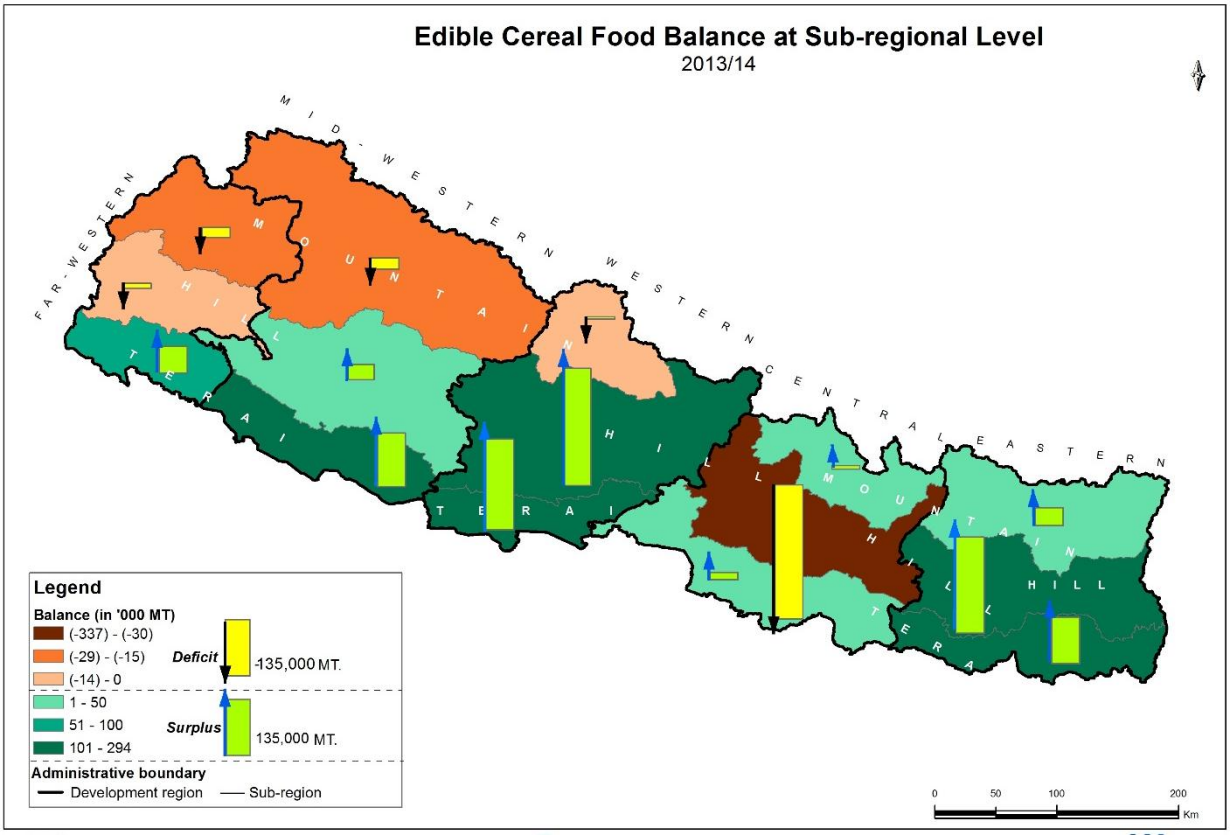
A positive aggregate in the national cereal balance, however, does not imply that food availability is not a concern. In fact, despite the food balance being maintained at the national level, sub-national disparities exist with regard to cereal food self-sufficiency. From the self-sufficiency perspective, even though the hills and Terai have produced enough to meet their requirements, the mountain region still faces a marginal cereal deficiency of 173 mt.

Map 2 shows the edible cereal production at the sub-regional level. As shown in the map, the central Terai region recorded the largest cereal food production this year with total edible cereal production recorded at 926,117 mt. The western Terai, western hills and central hills follow the central Terai. The mountains of the western region, mid-western region and far-western region produced the least amount of edible cereal food this year.



Map 2: Edible cereal production situation at sub-regional level

Map 3 shows the edible cereal food balance (self-sufficiency) at the sub-regional level. As shown in the map, in five clusters of the country (namely, far-western hills and mountains, mid-western mountain, eastern mountain and central hills) local cereal production in not adequate to meet the local demand. In the rest of the clusters, local production is sufficient to meet their demands. As shown in **Map 3**, the western hills, eastern hills and western Terai have the largest edible cereal surplus of 294,325 mt, 241,982 mt and 228,065 mt respectively.



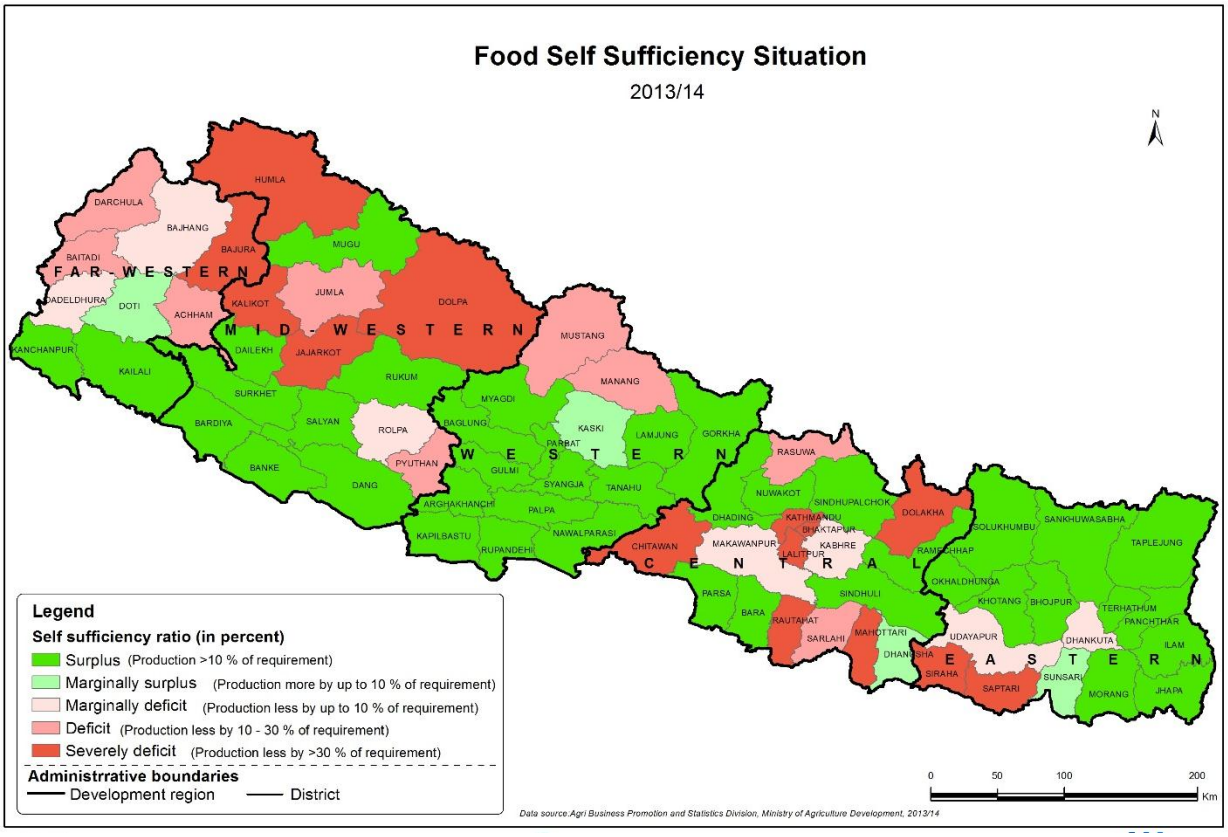
Map 3: Edible cereal balance at sub-regional level

Map 4 presents the food sufficiency[8] situation at the district level. As shown in the map, domestic production is not enough to meet the local demand in 30 districts of the country. This is a marginal improvement over last year, when 33 districts were reported as food deficit[9]. In 2013/14, the central development region had the largest number of food deficit districts. In this region, 11 districts are not able to meet the local cereal food demand with their own production. With the total cereal deficiency of 351,769 mt, Kathmandu district is the least food sufficient district. Other districts observing cereal food deficiency include the following: Dadeldhura, Baitadi, Darchula, Bajhang, Bajura and Achham of the far western development region; Humla, Kalikot, Jumla, Jajarkot, Dolpa, Rolpa and Pyuthan of the mid-western development region; Mustang and Manang of the western development region; Rasuwa, Dolakha, Kathmandu, Lalitpur, Bhaktapur, Kavre, Makwanpur, Chitwan, Rautahat, Sarlahi and Mahottari of the central development region; and Udayapur, Dhankuta, Siraha and Saptari of the eastern development region. Jhapa, Bara and Bhojpur districts, on the other hand, are the districts with the largest cereal food surplus with their edible cereal surplus recorded at 135,481 mt, 134,061 mt and 103,019 mt respectively.

[8] Food sufficiency refers to the ability of the districts to meet local cereal consumption demands based on their own production. It is a basic measure of the gap between local demand and local production and hence does not take into the account the amount of food made available through trade and other means. To calculate food sufficiency, net food availability is calculated by applying extraction rates to the gross food (food available after deducting feed, seed, wastage and other uses). The next step entails estimating food requirement, which is done by multiplying population with per capita food consumption (191 kg in mountains, 201 kg in hills and 181 kg in terai). The difference of net food availability and requirement gives the sufficiency status of the area.

[9] Districts are classified as food deficit if the local cereal production is not sufficient to meet the local consumption demands.

District-wise cereal production, total edible cereal food production, requirement and balance are presented in **Annex 3**.



Map 4: District wise food self-sufficiency situation

Conclusion and summer crop outlook

MoAD has estimated the production of winter crops (wheat and barley) at 1.9 million mt, which is an increase of 12.46 percent compared to the 'normal level' and a decrease of 0.06 percent compared to 2012/13. Traditionally winter crop production is dominated by wheat. The share of wheat in the national winter crop production was recorded at 98 percent this year. With 615,400 mt of production, the central region claims the largest share of wheat production (33 percent). At the district level, Rupandehi, Dhanusa, Bara, Kapilvastu and Parsa are among the top 5 wheat producing districts in 2013/14.

Total edible cereal production has been estimated at 6.08 million mt against the national requirement of 5.2 million mt. Hence, the country has recorded a national level of surplus at 0.88 million mt in 2013/14. However, despite the national level aggregate surplus, the country is not able to meet the requirements of rice, millet and barley through domestic production. At the subnational level, 30 districts (6 in the far western region, 7 in the mid-western region, 2 in the western region, 11 in the central region and 4 in the eastern region) were reported as food deficit. In those districts, local production is not enough to meet their requirements.

The South Asia Climate Outlook Forum (SASCOF-5) predicts below normal to normal levels of rainfall in South Asia[10]. As revealed by the forum, the majority of Nepal will receive normal levels of rainfall. Some parts of the far western regions (Kanchanpur, Kailali, Doti, Dadeldhura, Baitadi and Achham) and eastern hills and mountains (Solukhumbu, Sankhuwasbha, Taplejung, Bhojpur, Dhankuta, Tehrathum, Panchthar and Illam) might receive rainfall below the normal level.

As revealed by SASCOF-5, the monsoon is predicted to be weak in most parts of India, which might trigger lower production of summer crops. Major crop growing countries like Australia, Malaysia and Thailand are also expected to observe moderate to lower levels of rainfall thereby impacting crop growth and pushing up cereal prices.

The monsoon, which normally starts on the 10 June in Nepal, is expected to make a late entry in 2014[11]. Delays in the monsoon might affect paddy transplantation. However, with normal levels of rainfall expected in most parts of the country, summer crop production is expected to be moderate to normal.

[10] http://dhm.gov.np/uploads/getdown/1422740694consensus%20statement_2014_23apr14_final.pdf

[11] http://www.mfd.gov.np/content/?id=18

Annex

Annex 1: Sample community interaction report

District: Okhaldhunga

Location: Harkapur VDC-3, Jarayotar

There were 120 households in the community, most of them were Brahmin/Chhetri (80%) followed by other ethnic/caste groups, including Jajanatis like Tamang, Magar, and Rai (15%), and Dalits (5%). The community was in one of the most productive areas of the district and was located at a distance of 7 km from the road head.

The field mission team interacted with the Dhruba Tara Agriculture Group. The interaction revealed that cereal production (paddy, maize, wheat, and millet), livestock, and wage labor were the three main sources of income and livelihoods. Farmers were knowledgeable on improved agricultural farming practices for cereal and they had received good support and services from the District Agriculture Development Office in terms of technical know-how, access to chemical fertilizers (DAP and Urea) and improved seeds. In 2013/14, farmers planted 70 percent of paddy fields with Makwanpur variety and obtained a yield of 5.895 mt/ha. Similarly with the Gautam variety of wheat, they got yields of 3.144 mt/ha. Rainfall for the summer and winter crops was sufficient this year; in addition, a good irrigation facility was also available in the community.

Around 50 percent of households produced sufficient food to feed their family throughout the year. For 25 percent of households, their own production was sufficient for about six months only and 10 percent of households produce food sufficient for 2-4 months. Some 15 percent of households had to rely solely on wage labor opportunities; wage labor was available in the area in agriculture and construction works.

Farmers had started using a power tiller, thresher, and corn sheller with the support from DADO. Now they are expecting trainings on operation and maintenance of the equipment and commercial vegetable farming.

Annex 2: Crop cutting survey results (wheat)

District	Location	Variety	Yield (mt/ha)			Average yield (mt/ha)
			Sample plot 1	Sample plot 2	Sample plot 3	
Okhaldhunga	Narayansthan- 1	Gautam	3.036	3.778	1.669	2.828
Solukhumbu	Kangle-1	*Mudula*	1.331	1.062	1.294	1.229
Rautahat	Bhediyahi- 2	NL 297	3.22	2.07		
Rautahat	Katahariya- 8	NL 297			2.622	2.637
Dolakha	Malu-2	WK 1204	2.1			2.1
Ramechhap	Kathajor- 5	Dhaulagiri	2.125			2.125
Kapilvastu	Maharajgunj- 3	NL 297	3.7	3.5		3.6
Kailali	Chaumala- 1	Aditya	5	5.75		5.375
Bajhang	Bhairabnath-3	Gautam	4.1			
Bajhang	Bhairabnath-3	WK 1204	2.7			
Bajhang	Bhairabnath-3	Local	1.4			2.733
Achham	Baijnath- 5		1.2			1.2
Rukum	Chhibang- 1	WK1204	5.8			5.8
Bardiya	Guleriya - 4	Gautam	4.3			4.3
Jajarkot	Khalanga-3	Pasang Lhamu	2.1			2.1

Annex 3: Area, production and yield of 2013/14 winter crops and cereal balance at national, sub-regional and district level

DISTRICT	Winter crop production 2013/14						Mid population	Edible cereal						Total edible	Total cereal requirement	Balance
	WHEAT			BARLEY												
	Area	Prod	Yield	Area	Prod	Yield		Rice	Maize	Millet	Buck wheat	Wheat	Barley			
TAPLEJUNG	925	2016	2179	200	300	1500	125954	7063	39453	3637	140	1636	84	52013	24057	27956
SANKHUWASHAVA	775	1915	2471	30	30	1000	158726	18197	10250	5988	12	1564	8	36021	30317	5704
SOLUKHUMBU	1250	2550	2040	190	200	1053	105795	1822	25606	2211	121	2062	55	31877	20207	11670
E.MOUNTAIN	2950	6481	2197	420	530	1262	390475	27082	75309	11836	274	5263	147	119911	74581	45330
PANCHTHAR	3120	6732	2158	450	500	1111	195970	16557	21291	7482	29	5462	138	50960	39390	11570
ILLAM	4697	12350	2629	50	50	1000	297941	24754	55194	2455	16	10117	14	92551	59886	32665
TERHATHUM	2500	5675	2270	75	80	1067	98012	15130	19686	2710	24	4617	22	42189	19700	22489
DHANKUTA	1400	3200	2286	5	5	1000	162359	13243	9919	6547	0	2604	1	32314	32634	(320)
BHOJPUR	2510	6024	2400	20	20	1000	177592	26546	103157	4083	10	4914	6	138715	35696	103019
KHOTANG	5530	12060	2181	400	400	1000	201808	23391	56011	19170	322	9790	110	108794	40564	68230
OKHALDHUNGA	2241	4757	2123	100	100	1000	144987	6199	18883	10235	73	3856	28	39274	29142	10132
UDAYAPUR	5120	15826	3091	35	35	1000	331396	29143	14450	4137	16	13050	10	60807	66611	(5804)
E.HILLS	27118	66624	2457	1135	1190	1048	1610065	154965	298591	56820	491	54410	328	565605	323623	241982
JHAPA	7000	22540	3220	6	6	1000	849070	205196	62837	1474	1039	18615	2	289163	153682	135481
MORANG	16345	39900	2441	-	-	-	1000356	186466	23927	1479	57	32575	0	244505	181064	63441
SUNSARI	16300	45110	2767	-	-	-	791967	100961	7843	898	327	37036	0	147065	143346	3719
SAPTARI	16000	44000	2750	-	-	-	667971	50387	0	175	0	30681	0	81244	120903	(39659)
SIRAHA	14750	32350	2193	-	-	-	662865	54705	0	469	0	18613	0	73787	119979	(46192)
E.TERAI	70395	183900	2612	6	6	1000	3972229	597715	94607	4496	1424	137520	2	835764	718974	116790
E.REGION	**100463**	**257005**	**2558**	**1561**	**1726**	**1106**	**5972769**	**779762**	**468507**	**73151**	**2189**	**197194**	**477**	**1521280**	**1117178**	**404102**

DISTRICT	Winter crop production 2013/14						Mid population	Edible cereal						Total edible	Total cereal requirement	Balance
	WHEAT			BARLEY				Rice	Maize	Millet	Buck wheat	Wheat	Barley			
	Area	Prod	Yield	Area	Prod	Yield										
DOLAKHA	4650	6280	1351	175	180	1029	182568	2986	6834	3490	318	4930	50	18608	34870	(16262)
SINDHUPALCHOK	7010	7862	1122	200	200	1000	282941	14561	42158	17429	0	6059	55	80261	54042	26219
RASUWA	740	1856	2508	173	190	1098	43236	1661	3388	680	0	1517	53	7300	8258	(958)
C.MOUNTAIN	12400	15998	1290	548	570	1040	508745	19208	52381	21599	318	12506	157	106169	97170	8999
RAMECHAP	4460	8716	1954	173	190	1098	201917	14191	45685	3590	16	7031	53	70566	40585	29981
SINDHULI	5600	14100	2518	50	75	1500	297341	25817	46944	7757	218	11528	21	92285	59766	32519
KAVRE	9900	18900	1909	750	825	1100	388671	16728	35152	2865	495	15225	228	70694	78123	(7429)
BHAKTAPUR	3100	10800	3484	50	50	1000	333169	14983	6309	126	0	8943	14	30376	66967	(36591)
LALITPUR	4000	10900	2725	65	70	1077	518876	14682	19436	471	43	8943	19	43595	104294	(60699)
KATHMANDU	4529	13138	2901	5	5	1000	2065241	25125	26709	697	4	10807	1	63344	415113	(351769)
NUWAKOT	5470	17500	3199	200	225	1125	274127	34953	45167	8047	185	14449	62	102864	55099	47765
DHADING	4800	10100	2104	350	350	1000	333315	26566	36537	5691	0	8183	96	77073	66996	10077
MAKWANPUR	4200	12007	2859	20	26	1300	436093	21163	53031	2696	155	9871	7	86924	87655	(731)
C.HILLS	46059	116161	2522	1663	1816	1092	4848750	194208	314971	31941	1116	94982	502	637721	974598	(336877)
DHANUSHA	39500	105000	2658	1	1	1000	796891	65101	0	246	0	84401	0	149748	144237	5511
MAHOTTARI	26800	62312	2325	10	10	1000	675019	35840	0	0	0	44923	3	80766	122178	(41412)
SARLAHI	22500	63750	2833	75	75	1000	812471	62843	8609	777	0	52391	21	124641	147057	(22416)
RAUTAHAT	15450	48000	3107	5	5	1000	750739	53456	0	42	0	35699	1	89199	135884	(46685)
BARA	29100	93600	3216	85	90	1059	750780	146232	46313	86	0	77296	25	269952	135891	134061
PARSA	23600	80680	3419	39	40	1026	636192	89039	3119	70	0	66768	11	159007	115151	43856
CHITWAN	8550	29899	3497	40	45	1125	597437	56310	0	1309	0	-4827	12	52804	108136	(55332)
C.TERAI	165500	483241	21056	255	266	1043	5019531	508821	58041	2531	0	356651	73	926117	908534	17583

DISTRICT	Winter crop production 2013/14						Mid population	Edible cereal						Total edible	Total cereal requirement	Balance
	WHEAT			BARLEY												
	Area	Prod	Yield	Area	Prod	Yield		Rice	Maize	Millet	Buck wheat	Wheat	Barley			
C.REGION	**223959**	**615400**	**24868**	**2466**	**2652**	**1075**	**10377025**	**722237**	**425393**	**56071**	**1435**	**464138**	**732**	**1670007**	**1980302**	**(310295)**
MANANG	276	615	2228	100	215	2150	5883	0	127	0	293	500	61	981	1124	(143)
MUSTANG	604	1110	1838	273	506	1853	13386	0	382	0	843	892	142	2259	2557	(298)
W.MOUNTAIN	880	1725	1960	373	721	1933	19268	0	509	0	1136	1392	203	3240	3681	(441)
GORKHA	3900	7334	1881	108	119	1102	262414	22717	35264	11442	324	5903	33	75682	52745	22937
LAMJUNG	500	1375	2750	28	27	964	165708	25883	42918	6149	16	1129	7	76101	33307	42794
TANAHU	1900	3705	1950	6	6	1000	333215	32333	55982	4665	153	2989	2	96124	66976	29148
KASKI	6820	15503	2273	130	110	846	530625	44464	40247	14187	13	12612	30	111554	106656	4898
PARBAT	2604	6044	2321	95	86	905	143138	14547	23816	6443	30	4922	24	49782	28771	21011
SYANGJA	5798	10150	1751	6	5	833	278284	35117	62285	15436	140	8131	1	121110	55935	65175
PALPA	6200	13853	2234	26	37	1423	267831	19473	30118	2118	342	11260	10	63321	53834	9487
MYAGDI	3045	6422	2109	304	395	1299	112765	6863	32544	2816	81	5204	110	47617	22666	24951
BAGLUNG	7011	16546	2360	965	1206	1250	268545	10404	46566	18038	96	13486	335	88926	53978	34948
GULMI	8095	14866	1836	370	666	1800	277991	13864	41674	2373	207	11946	187	70252	55876	14376
ARGHAKHANCHI	7335	12952	1766	350	420	1200	196853	14469	38507	498	196	10382	116	64168	39567	24601
W.HILLS	53208	108750	2044	2388	3077	1289	2837369	240133	449921	84166	1597	87964	856	864636	570311	294325
NAWALPARASI	18010	48808	2710	10	10	1000	656463	110524	5369	422	103	40037	3	156457	118820	37637
RUPANDEHI	30400	106750	3512	100	210	2100	949041	185437	0	102	0	85030	59	270629	171776	98853
KAPILBASTU	31000	89900	2900	200	350	1750	596926	131746	0	0	0	67775	98	199619	108044	91575
W.TERAI	79410	245458	3091	310	570	1839	2202430	427707	5369	524	103	192842	160	626705	398640	228065
W.REGION	**133498**	**355933**	**2666**	**3071**	**4368**	**1422**	**5059067**	**667841**	**455799**	**84690**	**2835**	**282197**	**1219**	**1494581**	**972632**	**521949**

DISTRICT	Winter crop production 2013/14						Mid population	Edible cereal						Total edible	Total cereal requirement	Balance
	WHEAT			BARLEY				Rice	Maize	Millet	Buck wheat	Wheat	Barley			
	Area	Prod	Yield	Area	Prod	Yield										
DOLPA	2590	5420	2093	300	459	1530	39172	301	0	231	565	3649	128	4874	7482	(2608)
MUGU	4335	8237	1900	1540	1540	1000	59324	1924	0	4049	414	6190	424	13001	11331	1670
HUMLA	1018	953	936	686	807	1176	54671	489	0	950	492	-183	224	1972	10442	(8470)
JUMLA	2453	4611	1880	4000	7400	1850	115163	3317	4431	3509	70	3711	2080	17118	21996	(4878)
KALIKOT	5430	9611	1770	1000	800	800	155589	3039	3081	1061	128	7705	218	15232	29718	(14486)
MW.MOUNTAIN	15826	28832	1822	7526	11006	1462	423919	9071	7513	9800	1669	21072	3073	52197	80969	(28772)
RUKUM	10600	27550	2599	980	1200	1224	217057	5477	23906	1300	0	22558	333	53573	43629	9944
ROLPA	8560	21400	2500	500	700	1400	231119	6455	18938	1046	98	17491	195	44223	46455	(2232)
PYUTHAN	8640	20760	2403	510	816	1600	241167	10855	12242	1642	12	16936	228	41916	48475	(6559)
SALYAN	15108	30635	2028	1265	1460	1154	252336	13513	24341	1636	58	24768	404	64721	50720	14001
JAJARKOT	11550	13321	1153	650	360	554	186203	5930	6459	1887	16	10297	95	24684	37427	(12743)
DAILEKH	21500	31175	1450	200	250	1250	275815	14009	27643	2167	15	24622	69	68526	55439	13087
SURKHET	16255	45765	2815	1030	1360	1320	385013	32798	27628	2331	0	37601	378	100737	77388	23349
MW.HILLS	92213	190606	2067	5135	6146	1197	1788711	89037	141156	12009	200	154273	1704	398380	359533	38847
DANG	12655	29109	2300	50	49	980	589206	87792	22922	16	16	23696	13	134455	106646	27809
BANKE	18022	52758	2927	10	10	1000	531716	72118	3845	0	0	43414	3	119380	96241	23139
BARDIYA	19500	72500	3718	10	10	1000	439027	111994	0	0	0	51211	3	163207	79464	83743
MW.TERAI	50177	154367	3076	70	69	986	1559949	271903	26768	16	16	118321	19	417043	282351	134692
MW.REGION	**158216**	**373805**	**2363**	**12731**	**17221**	**1353**	**3772579**	**370011**	**175437**	**21824**	**1885**	**293665**	**4797**	**867619**	**722853**	**144766**

DISTRICT	Winter crop production 2013/14						Mid population	Edible cereal						Total edible	Total cereal requirement	Balance
	WHEAT			BARLEY												
	Area	Prod	Yield	Area	Prod	Yield		Rice	Maize	Millet	Buck wheat	Wheat	Barley			
BAJURA	4950	7583	1532	1072	1059	988	144777	4096	0	2136	11	5344	291	11877	27652	(15775)
BAJHANG	10982	24959	2273	3726	2938	789	205401	11744	1035	1679	3	20305	798	35566	39232	(3666)
DARCHULA	4480	12096	2700	1200	1560	1300	136355	5445	3607	723	67	9921	434	20196	26044	(5848)
FW.MOUNTAIN	20412	44638	2187	5998	5557	926	486534	21285	4642	4538	81	35570	1524	67639	92928	(25289)
ACHHAM	15335	22932	1495	505	566	1121	265307	18963	5005	2805	0	18158	157	45087	53327	(8240)
DOTI	15950	33510	2101	240	370	1542	211881	12206	652	5048	10	27147	103	45166	42588	2578
BAITADI	12000	24500	2042	1000	1800	1800	256164	8562	15722	807	0	19816	506	45412	51489	(6077)
DADELDHURA	8710	14420	1656	195	176	903	145812	9928	6350	246	0	11506	48	28078	29308	(1230)
FW.HILLS	51995	95362	1834	1940	2912	1501	879164	49658	27729	8906	10	76627	814	163743	176712	(12969)
KAILALI	34500	70000	2029	425	420	988	823778	117122	0	311	20	47038	116	164607	149104	15503
KANCHANPUR	31433	71000	2259	10	10	1000	465066	80245	0	0	0	56052	3	136301	84177	52124
FW.TERAI	65933	141000	2139	435	430	989	1288843	197367	0	311	20	103090	118	300907	233281	67626
FW.REGION	**138340**	**281000**	**2031**	**8373**	**8899**	**1063**	**2654541**	**268310**	**32371**	**13755**	**111**	**215287**	**2456**	**532290**	**502921**	**29369**
NEPAL	**754476**	**1883143**	**34486**	**28202**	**34866**	**6019**	**27835982**	**2808160**	**1557507**	**249492**	**8455**	**1452482**	**9680**	**6085776**	**5295886**	**789890**

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