

Second Advance Estimate of 2016/17 Wheat Production in Nepal using the CCAFS Regional Agricultural Forecasting Toolbox (CRAFT)

8 May 2017

The second advance estimate of 2016/17 wheat production was obtained on 8 May using CRAFT, the CCAFS Regional Agricultural Forecasting Toolbox (see Methods on page 2). According to CRAFT, the total wheat production for the 2016/17 season is estimated to be 1,834,212 mt, a 5.6 percent increase compared to the production level of 1,736,849 mt in 2015/16 and a 1.6 percent decrease compared to the average wheat production of the last five years (2011/12 to 2015/16). The forecast was made with a prediction uncertainty of ± 11.5 percent. **Figure 1** shows the Ministry of Agricultural Development's statistics on wheat crop area and production for 2011/12 to 2015/16 and the latest wheat production forecast using CRAFT. The forecast was made using MoAD's latest estimate of 761,084 ha of wheat crop area (a 0.7 percent increase compared to 2015/16).

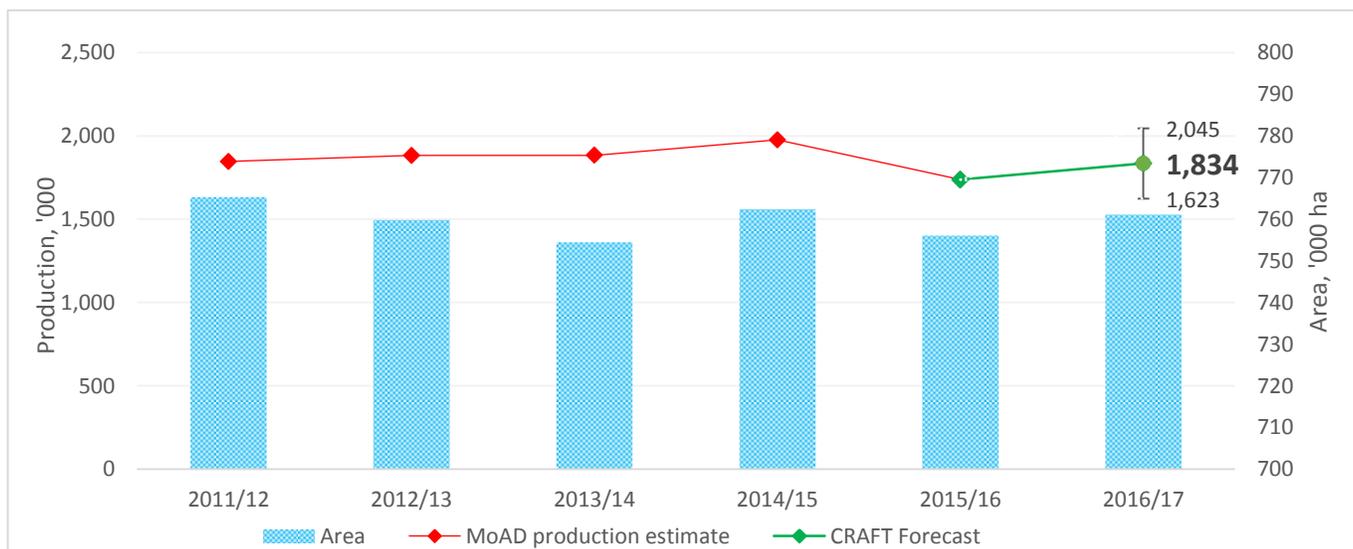


Figure 1: Wheat crop area, production and CRAFT production forecast, 2011/12-2016/17 (Source: MoAD; CRAFT)

The second advance estimate is a small increase compared to the first advance estimate (published on 15 March). This is a result of favorable rainfall during the maturity period of crop growth. According to the Department of Hydrology and Meteorology, rainfall in March exceeded the normal level (30-year average) by 50 percent. This is assumed to have offset the impact of below-normal rainfall in the early stages of wheat growth during November and December. Furthermore, overall crop management practices were assumed to be favorable for wheat production without any significant disruptions in the supply of fertilizers and other inputs this season. As a result of these factors there is expected to be an increase in wheat production compared to the drought-affected 2015/16 season.

This is the final advance estimate for the season.



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RESEARCH PROGRAM ON
Climate Change,
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Background

Under the research theme on Climate Risk Management, the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) developed a crop yield forecasting tool customized for the South Asia Region known as the CCAFS Regional Agricultural Forecasting Toolbox (CRAFT). CCAFS is a strategic partnership of CGIAR and Future Earth, led by the International Center for Tropical Agriculture (CIAT), which conducts research to identify and address the most important interactions, synergies and tradeoffs between climate change, agriculture and food security.

Methods

CRAFT incorporates a crop simulation model (DSSAT), a weather and seasonal forecast module (CPT) and a GIS mapping module (Map Win GIS). The tool provides the support for spatial input data, spatial crop simulations, integration of seasonal climate forecasts, spatial aggregation, probabilistic analysis of forecast uncertainty, and calibration of model predictions from historical agricultural statistics, analysis and visualization.

Acknowledgements

This publication is a joint product of the Ministry of Agricultural Development (MoAD), World Food Programme (WFP), and the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) as part of the Nepal Food Security Monitoring System (NeKSAP). The objective of this collaboration is to strengthen early warning for better food security planning in Nepal in light of the present and anticipated changing climatic conditions. CRAFT provides advance information to stakeholders to better manage within-season climate risks to agriculture. In addition to its use in Nepal, CRAFT is also being used in Bangladesh, Sri Lanka and India.

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NeKSAP collects, analyzes and presents information on household food security, agriculture and markets from across Nepal. NeKSAP is implemented by MoAD with strategic guidance from the National Planning Commission (NPC). WFP provides technical assistance for NeKSAP with funding from UK aid from the UK government.

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