



Food Situation Assessment and Crop Prospects for 2017/2018

Onyango K, Bii H, Odhiambo N, Kinyumu E, Kirimi L, & Ayieko M

SUMMARY

Tegemeo Institute conducted its annual food situation assessment for 2017 in September. The assessment which aimed at establishing the general food security situation in the country was conducted in eight counties cutting across Nyanza, Western, Rift Valley, Central and Eastern regions. The findings showed that the long rains season crop was affected by erratic weather characterized by late onset and early cessation of rains, a long dry spell in late May and the whole of June, late and inconsistent subsidized fertilizer supply, fall armyworm infestation and incidences of diseases such as MLND and maize head smut. Even though enhanced rains for the October, November and December forecast could result in a good short season harvest, the overall national production of key staples is projected to decline, with maize production declining by 20 percent from the 2016 harvest. Maize stocks available are low and this, plus harvests from long and short rains would only adequately meet the national demand till early May 2018. In the short term, the country needs to institute strategies to import maize that will cover 3 months (May, June and July) before the next long rains harvests are realized. Long term measures to improve food security include strategies to reduce post-harvest losses, investment in staple production under irrigation to supplement uncertain rain-fed systems, strengthening of early warning systems, increase in surveillance and investment in pest and disease management and control systems in the country, and promotion of diversified production and consumption of other staples, particularly those that are relatively more drought tolerant.

BACKGROUND

In 2016, Kenya and the neighboring countries in the region experienced a devastating drought that threatened the food security status of the nation. The overall national production of key staples like maize, wheat, rice and potatoes were severely affected by the drought leaving the country in a serious food deficit. The low supply of these crucial staples coupled with the unyielding demand led to an upsurge of local commodity prices heavily weighing on the citizens, particularly the poor. In the face of the dire food shortages and hunger, the government instituted various response strategies including importation of maize, removal of tax tariffs on specific food commodities (maize and dates) imported from the region, as well as maize grain and flour subsidy. Food relief services were also rolled out in areas where citizens needed food assistance.

Following the 2016 drought and its overwhelming impact on the national food situation, it became apparent that there is need for close and periodic monitoring of crop performance and food situation in the country. This together with other early warning strategies would enable the country to better prepare and deal with situations such as droughts and food shortages in future. Food situation assessment would provide the government and other stakeholders with the much needed information on food availability and access, price trends of major staples, cropping season outlook and performance reviews as well as projection of food security situation for the country. As a key stakeholder in national food security and as a provider of credible evidence in agriculture and food sector in Kenya, Tegemeo Institute continually endeavors to conduct agriculture related policy research including food situation assessments to inform policy decisions on important issues such as food and nutrition security.

Objectives

The overall objective of the food situation assessment was to establish the general food situation in the country with special focus on maize, rice and other major staples. More specifically, the study sought to:

- Evaluate crop performance in the 2017 long rains (LR) season
- Assess the condition of crops and prospects for short season harvest
- Assess the impact of fall armyworm and other pests and diseases on the performance of the long and short rains (SR) crop
- Establish food security status of the country
- Draw lessons and policy recommendations

Data and Methods

To achieve the stated objectives, eight counties were purposively selected and surveyed based on their importance in contributing to the overall national production of key staples. The counties visited were Kisumu in Nyanza region; Kakamega in Western region; Trans Nzoia, Uasin Gishu, Nakuru and Narok in Rift valley region; Kirinyaga in Central region; and, Meru in Eastern region.

Qualitative and quantitative data was collected through key informant interviews with County Directors of Agriculture (CDA), County Crops Offices (CCO), County Agribusiness Development Officers, Sub-County Agricultural Offices (SCAO), Ward Agricultural Officers (WAO), National Cereals and Produce Board (NCPB) depot managers and individual farmers. Additionally, recent county food situation reports and other relevant county secondary data were reviewed and analyzed. Observations were also made in order to ascertain the condition of the crops in the fields.

Key Findings

Maize performance in the 2017 LR season

Harvesting for the long rains crop has been done in areas that have two cropping seasons in a year, while maize is at maturity stage or near harvest in most parts of North and Central Rift Valley regions. For many counties, the projected/achieved harvests from the long rains are far below long term averages and below the 2016 production.

Table 1 shows the estimated acreages under maize and production across different regions. Overall, an estimated 1.5 million hectares was planted with maize and this is estimated to

produce 29.1 million bags of maize in the long rains season. The estimated production from Rift valley region accounts for 58% of the overall national estimated production.

The decline in production can be attributed to reduced acreage under maize occasioned by effects of drought and conversion of land initially under maize to other crops such as sugarcane, wheat and horticultural crops.

Table 1: Maize performance in 2017 LR

Region	Area	Production
	Ha	Bags (90 Kgs)
Rift valley	627,220	16,841,480
Nyanza	221,872	2,593,850
Central & Nairobi	102,028	1,599,580
Western	215,580	5,620,318
Eastern	208,290	1,508,600
Coast	114,700	915,589
Overall	1,489,690	29,079,417

Key challenges in the 2017 LR season

a. Erratic weather and drought

There was late onset and early cessation of rainfall during the March-April-May (MAM) period. March was characterized by sunny and dry days throughout, while April and early May received below normal rains which were poorly distributed in space and time. Delayed rains led to late planting, reduced crop acreage and poor crop establishment, while the severe dry spell in late May and June led to flower abortion in beans and moisture stress conditions in all crops.

Several parts of Western Kenya and Rift Valley received near normal rains during June-July-August (JJA) period but temperatures were generally higher than the long term average. Moisture stress conditions during the dry spell forced some farmers to convert crop to silage. Short period crops like beans and potatoes were also severely affected by the drought. Return of enhanced rains in July, however, greatly contributed to the recovery of crops.

b. Inputs

Generally, there was increased availability of subsidized fertilizers during the long rains season, which resulted in increased use of fertilizers. The subsidized fertilizer programme was, however, riddled with challenges including late arrival at farmer

access points, bureaucratic access procedures, inconsistent supply and high costs of access given relatively large distances to NCPB depots.

The National government in collaboration with counties is, however, implementing a nation-wide farmer registration exercise to aid in identification of farmers and proper targeting and supply of the inputs. Counties such as Trans Nzoia also had a separate complementary fertilizer subsidy. It procured suitable fertilizer blends (Mavuno basal and top-dress fertilizers) and supplied them to farmers at Ksh. 1,900 and Ksh. 1,600 for basal and top-dress fertilizers, respectively.

c. Fall armyworm

According to FAO (2017), the fall army worm (FAW) was first reported in Western Kenya in March 2017 and confirmed by the Kenya Plant Health Inspectorate Service (KEPHIS) and Kenya Agricultural and Livestock Research Organization (KALRO). The initial counties infested were Busia, Trans Nzoia, Bungoma, Uasin Gishu and Nandi. The worm then quickly spread to other counties including Kericho, Bomet and Narok in South Rift as well as Nakuru and Baringo in Central Rift. The worm infested an estimated 800,000 ha of maize in the long rains season.

Lack of knowledge or skills on identification, control and management of the pest delayed response to the attack. In addition, the dry spell experienced in late May and the whole of June provided a conducive environment for the worm to feed, multiply and spread rapidly, ravaging the maize crop. However, the rains experienced in July and August, and use of various interventions helped contain the pest and, hence only an estimated 10% of the crop has been lost to the worm.

d. Maize head smut

Head smut and common smuts have been identified as emerging challenges in several counties in Nyanza, Western and Rift Valley regions. Spread mainly through seed, wind and soils, the disease could be a major challenge to maize production as the inoculum builds over time. Even though yield losses due to the disease were minimal, increasing incidences are a cause of concern to farmers and agricultural practitioners at the counties. Hence, there is need to guard against the observed buildup of the smut in some of these areas.

e. Maize lethal necrosis disease

Isolated cases of maize lethal necrosis disease (MLND) were reported in various Counties. In Narok and parts of South Rift, farmers who planted maize during the March-July period reported the disease. A closed season for maize is usually recommended to prevent disease buildup.

Prospects for the short rains crop

Figure 1 shows that most parts of the country will experience enhanced and well distributed rainfall in both time and space during October-November-December (OND) period (KMD, 2017). This is likely to lead to better crop performance especially in areas that are expected to receive normal to above-normal rains.

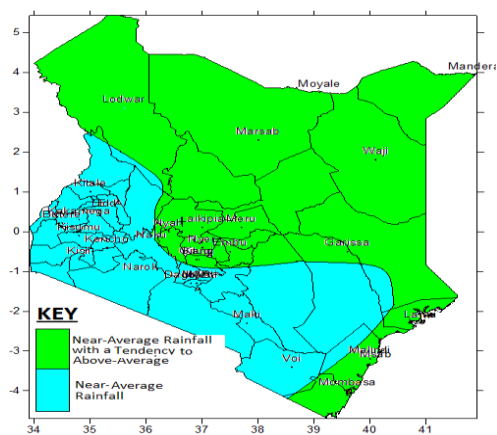


Figure 1: OND rainfall outlook

Farmers in Western and Nyanza counties had planted short season crops at the time of the assessment in September, while those in Central and South Rift regions had prepared land awaiting planting. The projected maize production from the short season is presented in Table 2. Despite the promising weather forecast, the overall expected maize harvest is 2.6 million bags, largely from the South Rift valley region.

Table 2: Projected Maize performance in 2017 SR

Region	Production	
	Area (Ha)	Bags (90 Kgs)
Rift valley	91,419	1,335,210
Nyanza	35,660	333,970
Central & Nairobi	44,322	147,840
Western	28,532	287,490
Eastern	79,050	470,400
Coast	28,981	15,476
Overall	307,964	2,590,386

Source: MoALF July Food situation report, 2017

Imports

The country imports various food grains including wheat, maize and rice to bridge production deficits. Importation of maize increased following removal of import duties in May as a response strategy at a time when the country faced biting food shortages. As shown in Table 3, maize imports increased from 19,780 bags in March to 2.2 million bags in July. Wheat imports also rose from 2.27 million bags in January to 2.59 million bags in March 2017. Wheat imports, however, declined to 1.38 million bags in May but quickly increased to 3.84 million bags in June. Imports are expected to decline since wheat is currently being harvested in the Rift Valley region.

Table 3: Imports in 2017 (90kg bags)

Month	Maize	Wheat	Beans
January	85,271	2,269,189	136,342
February	55,180	2,313,867	37,401
March	19,780	2,558,244	148,535
April	120,335	2,506,305	48,150
May	1,754,049	1,382,722	94,597
June	2,024,638	3,838,577	6,076
July	2,187,110		

Source: MoALF July FSA report, 2017

Bean imports increased from 48,150 bags in April to 94,597 bags in May. With the long rains season harvests, bean imports declined to 6,076 bags in June. It is, however, expected that bean imports will rise again since the crop did not perform well in the 2017 long rains period due to a dry spell during flowering and excess rains at harvest

Domestic stocks

According to MoALF July food situation report, the estimated maize stocks as at 31st July 2017 stood at 5,749,430 bags and were held by farmers, traders, millers and NCPB (Table 4). Farmers held 4,404,580 bags, accounting for 76.6% of the total maize stocks, while traders and millers, and NCPB held 850,000 and 440,850 bags, respectively. Maize stocks are low but with harvesting underway in Western region particularly in Kakamega and Bungoma, and early harvest from North Rift region, they are likely to rise. Nyanza region and parts of Western harvested in July and August and this has boosted the available maize stocks.

For wheat, 3,838,577 bags out of the total stock of 3,958,577 bags, representing 97% of the available stocks, were held by traders and millers. NCPB did not have any stocks of wheat, beans and rice. Following the harvest from the long rains season in many places, bean stocks improved to 2,906,500 bags, which were mainly held by farmers and traders to the tune of 2,570,500 bags and 336,000 bags, respectively.

Table 4: Stocks as at 31st July 2017 (90kg bags)

Food grain	Traders & Millers			Totals
	Farmers	NCPB		
Maize	4,403,580	850,000	440,850	5,749,430
Beans	2,570,500	336,000	0	2,906,500
Wheat	120,000	3,838,577	0	3,958,577
Rice	5,182	621,368	0	626,550

Source: MoALF July FSA report, 2017

Maize balance sheet

The total estimated national maize stock as at end of July 2017 was 5,749,430 bags. The anticipated imports by the government and the private sector by March 2018 will be about 3.5 million bags. Owing to the relatively poor performance of the long rains season, the estimated total harvest could fall to around 25 million bags (excluding maize consumed in July). Table 5 shows that the country is likely to add another 2.6 million bags from the short rains harvest according to MoALF report. With these, an estimated 36,839,816 bags will be available in the country between August 2017 and 31st March 2018.

After deducting post-harvest losses estimated at 12%, stocks used as feed (1%), stocks retained as seed (1%) and amount used in the manufacturing industry estimated at 2%, the net available maize stock between August 2017 and 31st March, 2018 is 30,945,445 bags. The national maize consumption for 47 million people is estimated at 3.39 million bags per month. At this rate, a total of 27,155,552 bags will be consumed by 31st March, 2018 leaving a balance of 3.79 million bags, just enough for about one month and a week. This implies that the country is likely to run out of maize stocks by early May 2018. Hence the country needs to import maize to cover the months of May, June and July before the next harvest expected around July 2018.

Lessons and policy recommendations

Food production in Kenya is highly weather dependent and rainfall performance determines the food security situation in the country.

Table 5: Maize balance sheet

Maize Balance Sheet- August 2017 to March 2018	Tegemeo estimates
Stocks as at 31st July 2017 in 90-kg bags	5,749,430
Estimated Imports between August to March 2018	-
i) Private sector/ Relief agencies estimated imports	2,500,000
ii) Government imports (SFR)	1,000,000
Estimated harvests from August 2017 to March 2018	
i) Estimated 2017 long rains harvest	25,000,000
ii) Estimated 2017 short rains harvest	2,590,386
Total available maize between August 2017 & 31st March 2018	36,839,816
Expected total exports to East Africa Community region	-
Expected exports outside the EAC region	-
Post – harvest storage losses estimated at 12%	4,420,778
Amount used for domestic livestock feeds (1%)	368,398
Amount retained as seed (1%)	368,398
Amount used for manufacture (2%)	736,796
Net available maize between August 2017 and 31st March 2018	30,945,445
Consumption @3.39 million bags/month for 47 million people for 8 months	27,155,552
Forecast balance as at 31st March 2018	3,789,893

Source: Authors

Efforts to efficiently produce maize and other staples under irrigation to supplement the uncertain rain-fed systems is desirable. This needs to be coupled with periodic close monitoring of crop performance and an evaluation of potential implications for food security. Early warning systems must also be strengthened to enable early planning for any eventuality.

Reduction of post-harvest losses is critical for food security in the country since an estimated 12% of the total maize harvest (equivalent to one month of national consumption) is lost through this avenue. Investment in on-farm and off-farm storage technologies and promotion of better post-harvest handling and management practices to reduce the losses need to be prioritized.

The long rains were underwhelming and even though the forecast for the short rains season is good, the food situation needs close monitoring. Weather-forecast based decisions in farming systems could mean the difference between huge farm losses and profitability, but this is dependent on accurate and reliable weather forecasts and advisory services.

Pests and diseases are threats to food security. Constant surveillance and concerted efforts to identify and control them will improve productivity. Investment in training of stakeholders on pest and disease surveillance and control is, therefore, critical.

Maize stocks are likely to be exhausted by early-May with next harvest expected in July 2018. Strategies to import maize to bridge the deficit must be instituted early to prevent the country from any food shortages as seen in 2017. In addition, efforts to promote production and access to other food crops as well as consumer sensitization on diversified consumption are needed in order to ensure food and nutrition security in a sustainable manner.

REFERENCES

FAO (2017): Fall armyworm spread to East Africa. Available at: <http://www.fao.org/emergencies/fao-in-action/stories/stories-detail/en/c/882822/> Accessed on 16th September, 2017.

Ministry of Agriculture, Livestock and Fisheries (MoALF): July Food Security and Long Rains Crop Performance Assessment 2017

Kenya Meteorological Department, 2017: The outlook for the October-November-December (OND) 2017 season and review of rainfall during the “Long Rains” (March to May) 2017 & June-July-August (JJA) 2017 Season.

ACKNOWLEDGMENT

Tegemeo Institute acknowledges support for its research programmes from key partners, especially the United States Agency for International Development (USAID). Others include Bill and Melinda Gates Foundation (BMGF), the Rockefeller Foundation, the World Bank, Ford Foundation and the Food and Agriculture Organization of the United Nations (FAO).

Tegemeo Institute of Agricultural Policy and Development
George Padmore Road, Off Marcus Garvey KILIMANI P. O. Box 20498-00200, Nairobi KENYA
Tel: + 254 (020) 2347297/3504316 Cell: (+254) 720 895 454/ 714 895 454/ 714 658 222/ 734 658 222
E-mail: egerton@tegemeo.org
<http://www.tegemo.org/>