

# ZAMBIA FOOD SECURITY REPORT



**MAY 2018**



Indaba Agricultural Policy Research Institute

26A Middleway Road, Kabulonga, PostNet Box 99, Lusaka, Zambia  
Tel: +260 211 261 194/97, Fax: +260 211 261 199  
Email: [info@iapri.org.zm](mailto:info@iapri.org.zm), Website: [www.iapri.org.zm](http://www.iapri.org.zm)

## Summary

- Although the country is expected to attain a below average maize production of 2,394,907 MT due to erratic rainfall mainly in the Southern half of the country and to a less extent armyworm infestation, the total supply will be more than adequate to meet the annual requirement with a surplus of 341,313 MT. The 2017-18 harvest and some carryover maize from the previous season have generally increased food supply and variety at household level at this time of the year.
- The quantity of maize to be purchased by FRA during this crop marketing season is less compared to the previous season by 25 percent, and is 35 percent of the expected maize sales. While the FRA output price is yet to be announced, maize prices are anticipated to be higher this year, especially in the high demand and low production areas. This is in addition to the expected high demand for maize by neighbouring countries, most likely from Malawi, Zimbabwe, DRC (Mealie meal) and the Great Lakes Region.
- As expected, the increased pasture and improved water availability has improved livestock condition. However, the foot and mouth disease outbreak in parts of Central Province which has resulted in a livestock as well as livestock products movement ban may negatively affect the income of livestock rearing households and revenue for business enterprises such as abattoirs, butcheries and dairy farms.

## Food Supply or Availability

Zambia is expected in the 2017/2018 agricultural production season to have a reduction in maize production from 3,606,549 MT the previous season to 2,394,907 MT (Table 1). This shows a drop of 34 percent and 20 percent below the previous season and five-year average, respectively. Nonetheless, with a larger than usual carryover stock of 844, 244 MT, the total supply at 3.2 million MT is more than adequate to meet the estimated annual requirement of 2,897,838 MT with a moderate surplus of 341, 313 MT which should potentially be made available for export.

**Table 1. National Maize Balance Sheet (Metric Tonnes)**

Item	2017/2018	2016/2017	5 Year Average (2012/13- 2016/2017)	% change compared to last year (2016/2017)	% change compared to 5-year average
Carry Over	844,244	569,317	726,931	48%	16%
Production	2,394,907	3,606,549	2,996,259	-34%	-20%
Total Availability	3,239,151	4,175,866	3,723,190	-22%	-13%
Total Requirements	2,897,838	2,997,350	2,863,897	-3%	1%
Deficit/Surplus	341,313	1,178,516	859,293	-71%	-60%

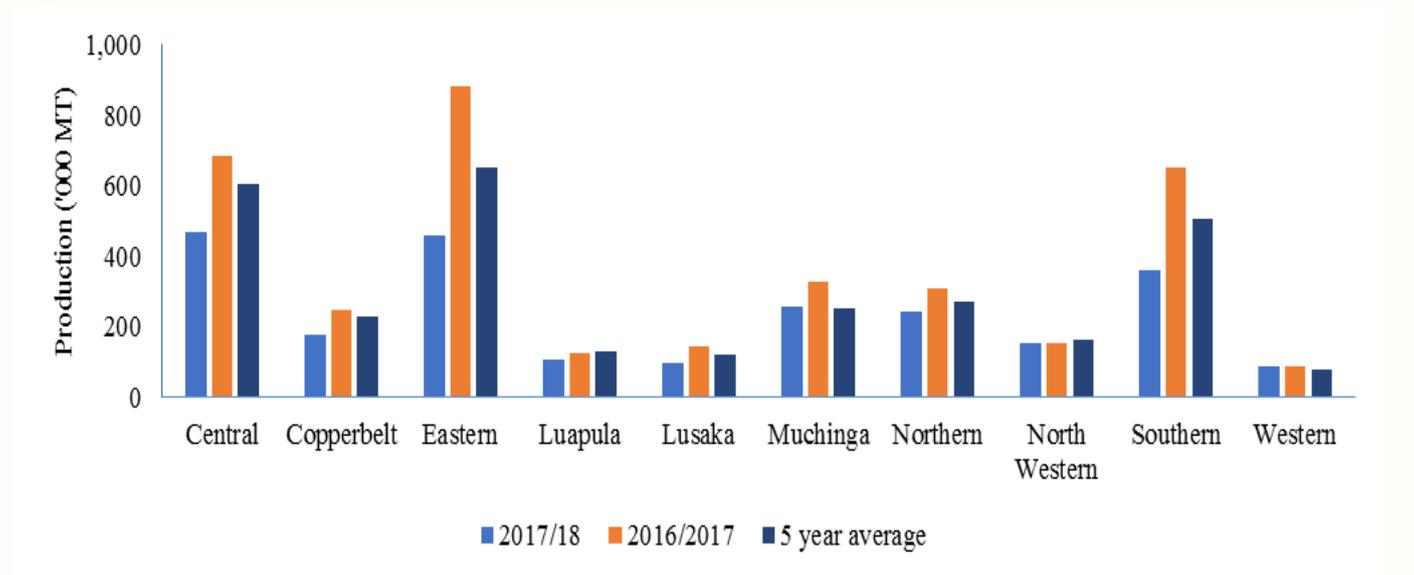
Source: Authors' computation and compilation using the National Food Balance Sheet (NFBS) data

Several major maize producing areas like Eastern, Southern and Central provinces are expected to record the highest drop in maize production with respect to both the previous season and the recent five-year average (Figure 1a). Compared to the 2016/2017 agricultural season, the production is expected to reduce by 48, 45 and 32 percent for Eastern, Southern and Central provinces, respectively. Possible contributing factors to the decrease among others, include deficit rainfall, inability to redeem agricultural inputs on time by some

FISP beneficiaries (E voucher) due to the late commencement of the program among other technicalities, and reduction in area planted.

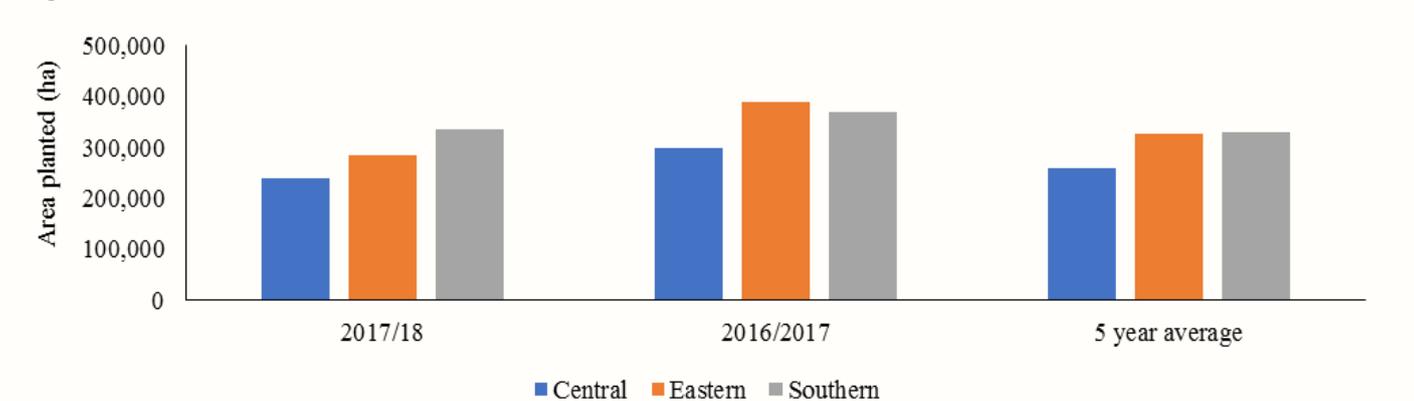
Reduction in the area planted (Figure 1b) was likely triggered by poor output prices, during the previous agricultural marketing season as maize supply outstripped demand pushing down prices. The percentage reduction, in area planted, was greatest for Eastern province, 27 and 13 percent, when compared to the previous season and the five-year average, respectively.

**Figure 1a. Maize Production by Province**



Source: CFS (2012/13-2017/18)

**Figure 1b. Maize Area Planted for Selected Districts**

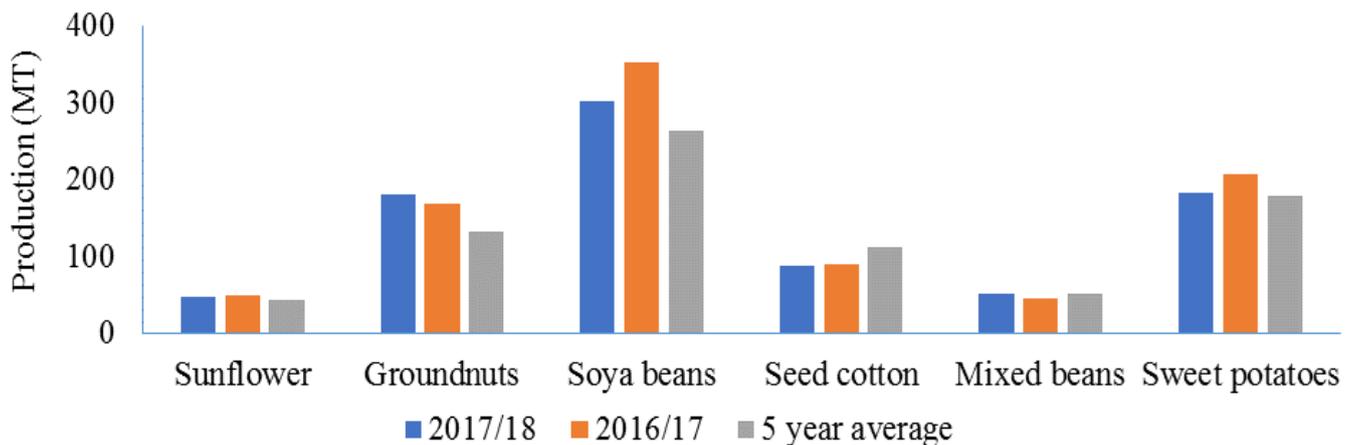


Source: CFS (2012/13-2017/18)

Further analysis shows that production levels for selected major food and non-food cash crops are also expected to decline (Figure 1c). For instance, in comparison to last season, soya beans production levels are expected to drop by about 14 percent. Although, the production is expected to be higher than the five-year average. Sunflower and sweet potatoes expected production levels show a similar trend. The reduction for seed cotton output is marginal, at 1 percent, compared to last sea-

son and nearly a quarter when compared to the five-year average. The decrease in production levels could also be attributed to poor output prices last season and the consequent reduction in the area planted. On the contrary, an increase in production levels is expected for groundnuts. Compared to last season and the recent five-year average, groundnut production levels are expected to increase by 8 and 38 percent, respectively.

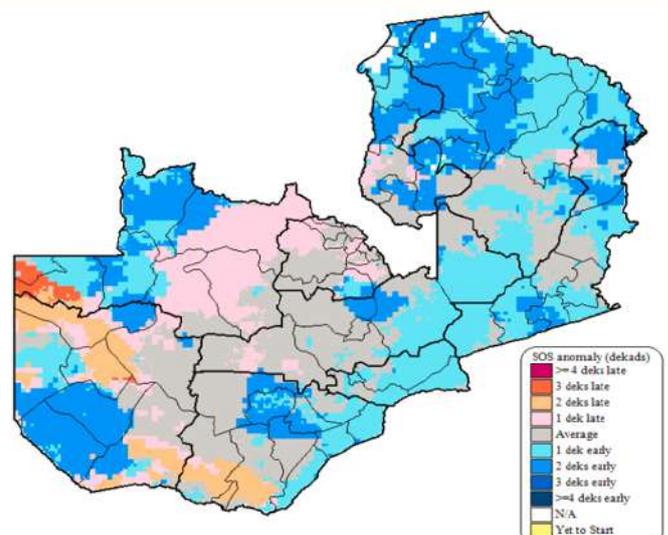
**Figure 1c. Production of Selected Food and Non-food Cash Crops**



Source: CFS (2012/13-2017/18)

The northern part of Zambia (Northern, Muchinga, Luapula, North Western provinces) on the other hand, registered much less drop in maize production in the past five-years. This can be attributed to the rainfall pattern during the 2017/2018 season. The season started late in the extreme south, and parts of Western and North Western Province while an early start was recorded in northern, south east as well as western parts of North Western Province (Figure 2a).

**Figure 2a. Start of Season Anomaly as of March 2018.**

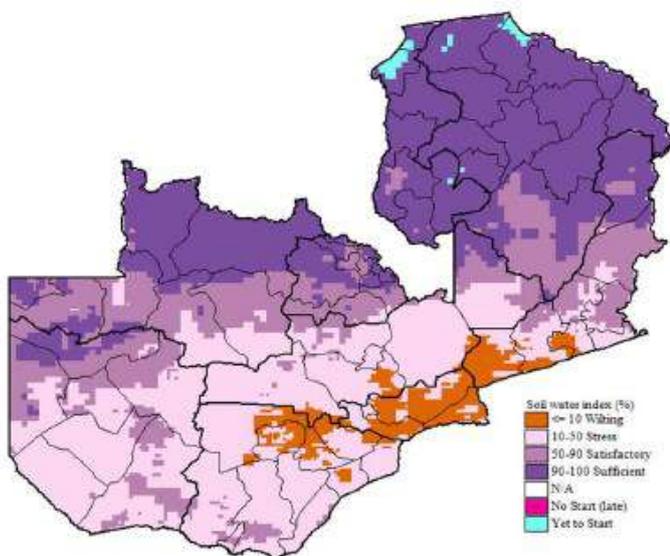


Source: Zambia Meteorological Department (ZMD), 2018.

While good rains were received in the northern half with localized waterlogging/flooding being reported in some cases, the southern half experienced erratic rainfall in December with a prolonged dry spell the whole of January.

The Soil Water Index (SWI) for maize, a measure of moisture condition at various depths in the soil showed that the maize in most parts of the southern half of the country experienced stress with some wilting by the third dekad (set of ten days) of January (Figure 2b). Though rainfall activities improved in February, this was somewhat too late for the wilting crop to recover as well as for replanting most crops other than beans.

**Figure 2b. Maize Soil Water Index as of January 31, 2018**



Source: Zambia Meteorological Department (ZMD), 2018.

While all provinces reported fall armyworm infestation for the second season running, the severity was not much in comparison with the previous season. This was partly due to improved awareness among farmers by early warning systems put in place by the Ministry

of Agriculture (MoA) through its extension service. The awareness efforts were later supplemented with the distribution of chemicals by the government. While this picture maybe gratifying, the fall armyworm is still foreseen to remain among the major pests in the country as they seem to have the ability to affect other crops other than maize.

## Livestock Situation

Sometime within the first quarter of 2018, an outbreak of Foot and Mouth of Disease (FMD) was reported in the Central Province, specifically Chisamba and Chibombo districts. Various measures were put in place by the government to contain the disease (Smith, 2018). For example, the implementation of a livestock movement ban and setting up of disease control barriers. However, while necessary, the livestock and livestock product movement ban are likely to have some negative implications. For instance, livestock producing farm households are highly likely to see reduced income from livestock and livestock product sales. Moreover, with the expected reduction in crop production levels during the 2017/2018 agricultural season, the food security situation of adversely affected rural farming households is likely to be threatened later during the year.

## Agricultural Seasonal Progress and Marketing Activities

Harvesting of maize is ongoing and is expected to end within the next two months. As expected, at this point in the season, supply of

maize is just beginning to pick up as the early harvests start coming in, although with high moisture content. There is minimal maize buying activity by private sector players (such as millers and traders), while FRA purchases were expected to start within the first week of June but the moisture content is still reported to be above 12.5 percent (FRA, Personal Communication).

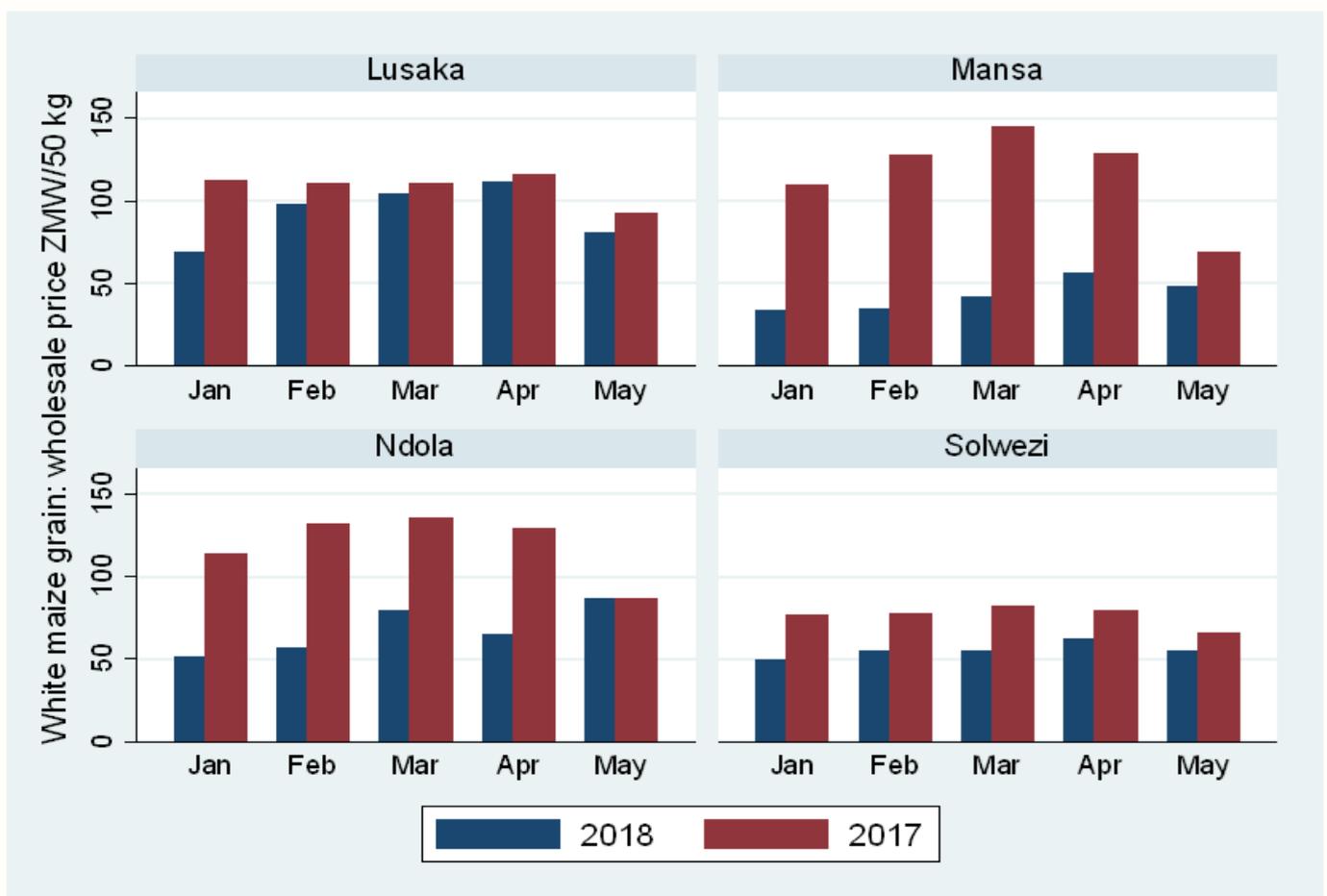
The large maize carry over stock currently being held by the FRA and private sector are somewhat preventing maize prices from rising significantly. Figure 3 illustrates average nominal wholesale prices for white maize grain in selected districts, from January to May in 2017 and 2018. Compared to the same

period last year, prices have been low. On average, a 50 kg bag of white maize grain cost around 105 ZMW/50 kg bag in 2017, from January to May, whilst it cost about 65 ZMW/50 kg bag in 2018 over the same period. The high prices observed in 2017 were largely due to the high maize demand experienced in the region (Chisanga et al., 2017).

### FRA Maize Purchases

The Food Reserve Agency (FRA) scheduled to commence the purchasing of designated commodities for the 2018/19 crop marketing season once the moisture content reaches 12.5 percent. The agency plans to purchase at least 390, 000 MT of maize, 2,100 MT of paddy rice

**Figure 3. Wholesale Maize Grain Prices by District**



Source: CSO (2012-2017); IAPRI (2018)

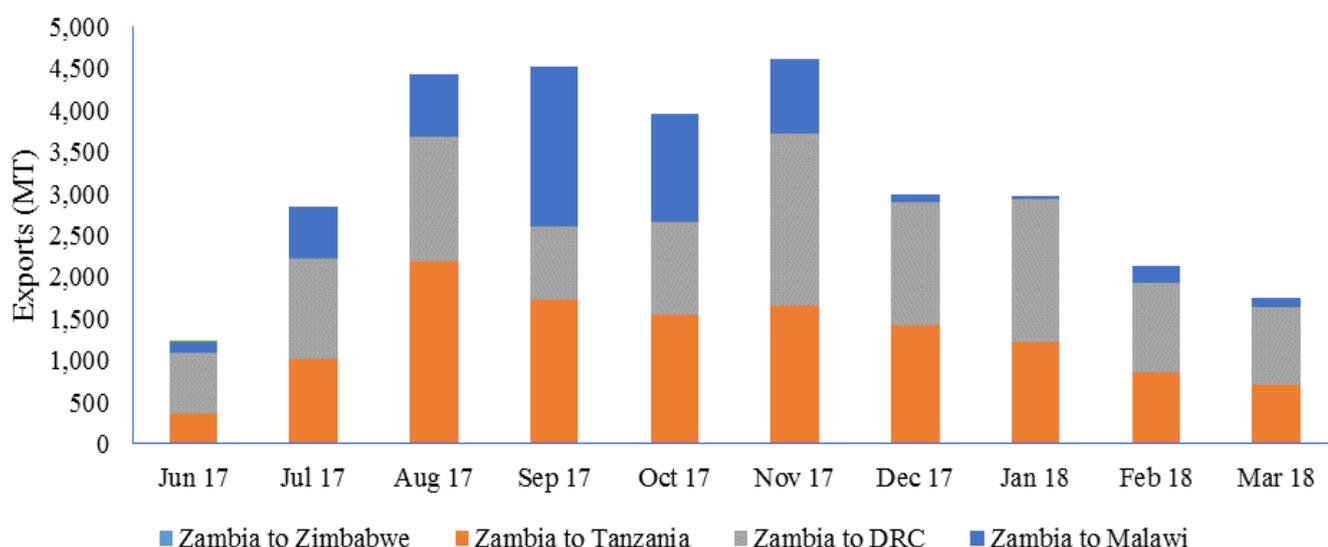
and 10, 000 MT of soya beans. The intended maize purchases by the FRA represent a 25% reduction compared to the last marketing season and 35% of the farmer’s expected maize sales. Moreover, the purchase price is yet to be announced. When added to the existing stocks of about 600,000 MT, this means that FRA will have over 900,000 MT which is more than their storage capacity of 870,000 MT. This raises some concerns about storage costs given that the FRA will have to keep large stocks. This

may also result in physical storage losses. There are further concerns over what the FRA intends to do with the maize i.e. whether they intend to offload the maize on the domestic market or export part of it and how their decision will affect private sector participation.

### Trade and Regional Analysis

#### Informal and Formal Maize Trade flows

**Figure 4a. Informal Maize Trade (MT)**



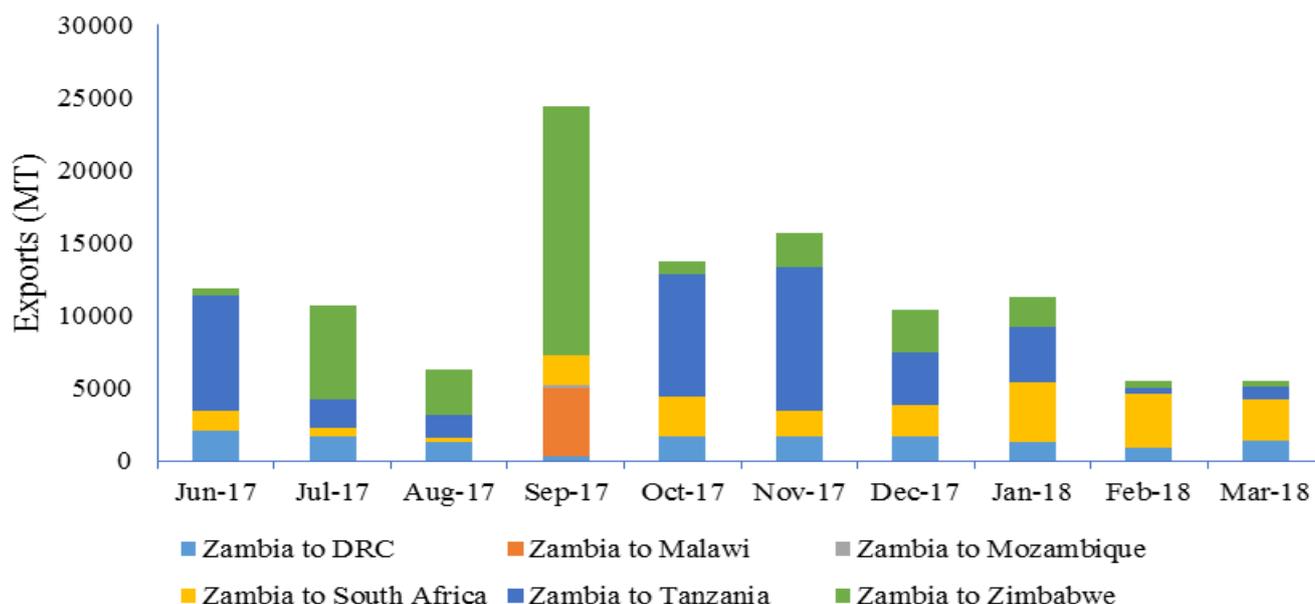
Source: FEWS NET data (2018)

Since the beginning of the 2017/2018 crop marketing season, informal maize exports from Zambia showed an upward trend from June to January, but started to decline up to April (Figure 4a). Most of the informal maize exports have been destined for Tanzania amounting to about 1,226 MT on average per month, followed by Democratic Republic of Congo (DRC) (1,186 MT) and Malawi (less than 1000 MT). Within the first-quarter of 2018, DRC had the largest share of the informal maize exports averaging 1,704 MT in the

month of January. Since then, there has been a significant drop in maize exports to DRC. Early harvests have started coming in for most countries in the region hence the reduced demand for maize since January 2018. With the expected new crop, informal maize trade will mostly likely continue as the new marketing season progresses.

Overall, a similar up-and-down pattern is observed in the formal maize grain and maize product<sup>1</sup> export market (figure 4b).

**Figure 4b. Formal Maize, and Maize Product Exports ( MT)**



Source: FEWS NET data (2018)

Export volumes were highest for Zimbabwe reaching about 17, 200 MT in the month of September. Similarly, Tanzania has been a large export market for maize and maize products with some of the maize destined for the Kenyan market. Generally, export volumes traded formally reduced as the 2017/2018 agricultural season commenced. Even so, regional maize demand is expected to be high later on during the year considering the poor rainfall performance in neighbouring countries like Zimbabwe and Malawi. In fact, the Southern Africa food security outlook shows deterioration in food security outcomes in drought affected areas (FEWS NET, 2018).

#### *Vulnerability Assessment*

As a result of the prolonged dry spell and waterlogging/ flooding – due to excessive rains

received later in the season, the Zambia Vulnerability Assessment Committee (ZVAC) is undertaking a vulnerability assessment. The assessment is being carried out in 9 provinces, with an exception of the Copperbelt Province. Typically, the findings are used to determine the extent and severity of the aforementioned livelihood shocks. This forms the basis for deciding whether affected areas will require relief food and/or non-food items or not.

### **Food Security Implications**

For the most part, food supply is expected to be adequate before the next lean season. Early foods such as seasonal roots and tubers, vegetables, pulses and legumes have improved food availability and variety. This is in addi-

<sup>1</sup> Maize products analysed include: Maize (corn) flour, Groats and meal of maize (corn), Maize(corn) pallets, Other worked grains of maize (corn), Brans, sharps and other residues of maize

tion to carry over grain stocks from the previous season. While food availability at national level is definite, food availability and accessibility at household level are likely to be undermined by the prolonged dry spell and water-logging/flooding, in areas hard-hit by these shocks. Rural farm households that are mainly dependent on rain-fed crop production, are more likely to be worse-off as output levels will be lower than normal. Reduced output levels imply limited household participation in agricultural output markets, which further entails reduced income levels. Food markets are equally likely to be thin resulting in food price increases. This will make food affordability a big challenge for poor households, and may force employment of coping strategies such as selling of household and/or livestock assets. As a consequence, their resource base will be reduced further weakening their resilience against future livelihood shocks.

## Recommendations

Seeing how unpredictable rainfall activities have become, agricultural diversification has become imperative. Farmers, especially smallholders, should set-up their diversification efforts from rain-fed crop enterprises to irrigation, and commercialized livestock enterprises. Such a shift will further strengthen household resilience against negative livelihood shocks, as a result of unfavourable weather patterns, pests and market factors, by increasing and/or stabilizing their agricultural output and incomes through increased market participation.

Like crop production, livestock production is of great importance among smallholder agri-

cultural producers both as a buffer against livelihood shocks and nutrition purposes. Therefore, there is need to carry out a cost-benefit analysis of the Food and Mouth Disease (FMD) control in the affected parts of the Central Province. This analysis should be done along the livestock value chain – input supply, production, processing, marketing and consumption. The findings will not only quantify losses suffered and/or costs incurred, but will also inform the need for effective preventive and cost minimization measures.

## Acknowledgements

The Indaba Agricultural Policy Research Institute (IAPRI) is a non-profit company limited by guarantee and collaboratively works with public and private stakeholders. IAPRI exists to carry out agricultural policy research and outreach, serving the agricultural sector in Zambia so as to contribute to sustainable pro-poor agricultural development. Financial support for this report is provided by the United States Agency for International Development (USAID) and leveraged by core support from the Embassy of Sweden. Continued technical and capacity building support from Kivu and Michigan State University Department of Agricultural, Food and Resource Economics is also acknowledged.

## Main Authors

Alefa Banda, Mitelo Subakanya and Brian Chisanga

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Image Source [www.irforum.org](http://www.irforum.org)