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Covid-19 Bulletin

Maize Grain Price trends in food surplus and deficit areas of Zambia under the COVID-19 Pandemic

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This bulletin focuses on the relationship between maize grain price trends and the actions in response to COVID-19 Pandemic in Zambia.

An understanding of commodity price movement is important for providing guidance on policy interventions that would ensure food security among households and the country at large. Ultimately, the bulletin concludes with recommendations for consideration.

Maize is Zambia's main staple and it is most consumed and produced food at national level. Maize accounts for over 70% of food availability and meets 60% human consumption requirements (FEWS Net, 2017). It is significant to note that Zambia has over the years been a surplus producer of maize (at both national and regional level). Eastern and Central Provinces are the main producers of maize, whilst the major deficit areas include the urban (highly populated), high-consumption centres of Lusaka and Copperbelt Provinces. The majority of maize producers in Zambia are small-scale farmers under rain-fed conditions. Within Zambia, both formal and informal market networks of maize grain trade coexist; however, they have separate well-defined market chains albeit well integrated (FEWS Net, 2017).

The subsequent analysis in this bulletin examines the maize grain price trends (for the period of January, 2019 to June, 2020) for surplus and deficit provinces, as highlighted. The goal is to help determine whether the maize grain prices within Zambia were influenced by the effects of the COVID-19 Pandemic and in which way.

LOCAL STAPLE FOOD MARKET DYNAMICS UNDER COVID

The pandemic is likely to be more disruptive to local food markets and thus have more serious effects on the poorest and most vulnerable groups and communities than any of the crises in recent years. This is because the poor and vulnerable are affected by changes in local food staple prices significantly more than other population groups, not only because of more limited purchasing power but also because of differences in consumption baskets. Moreover, domestic markets for local food staples such as yam, cassava, white maize, cowpeas, millet or sorghum tend to behave differently during times of crisis than global markets for major commodities such as rice, wheat or yellow maize. For instance, the last global food price crisis had much more significant impacts on the latter group of food commodities. Local food staples markets tend to be rather segmented from global food markets. Staple food prices therefore tend to be isolated from global market shocks. The difference with Covid is that the disruption of food supply chains has hit both domestic and global food markets rather badly.

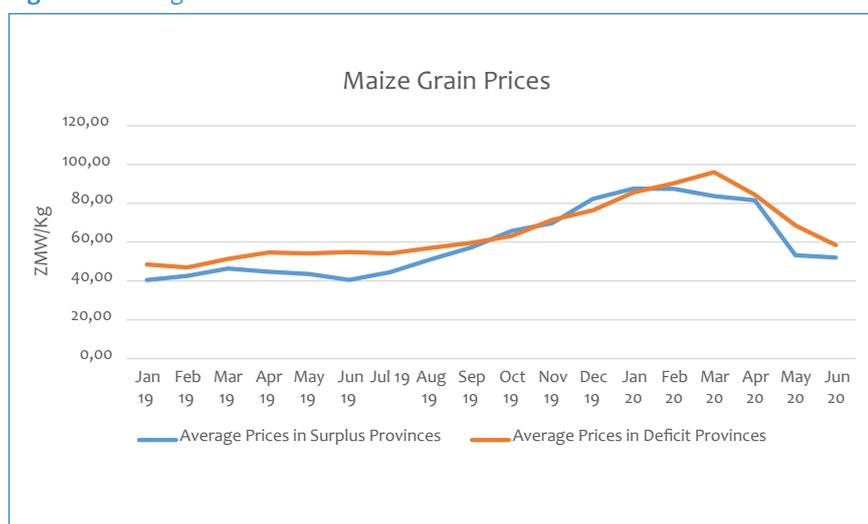
The global nature and complex ramifications of the pandemic make it impossible to avoid the pain from rising food prices, in particular among vulnerable groups. Different staples weigh differently in local diets. Different communities are affected differently by changes in prices of different staples. Some markets are more connected than others and therefore price changes for the same staple food vary across geography and over time. Consequently, a good understanding of how local staples markets behave and close tracking of changes in food prices at community level have to be key elements of any strategy to protect livelihoods. AKADEMIYA2063 scientists and their partners are working to ensure that governments and other national stakeholders have sufficient information to plan and respond to the effects of the pandemic on local markets.

Ousmane Badiane, Executive Chairperson

Maize Grain Prices Trends in Zambia

Maize grain marketing system, trade flows and pricing in Zambia are much more complex when compared to the other staples due to the high consumption rate of maize across the country. Further complications on the marketing system emanate from the high level of government interventions on maize markets. Maize prices in the country can vary due to the fact that in as much as maize is the main staple, there are other competing staples i.e. cassava, wheat and rice. Cassava is the second highest consumed staple food, with high consumption in the northern and western parts of the country but low consumption in the central, eastern and southern parts of the country. This implies that maize and cassava can be substitutes in some parts of the country i.e. Northern and North Western Provinces. However, as earlier mentioned, some parts of the country have preference of one over the other; the “cassava belt”- Northern Province prefer cassava and the “maize belt”- Central, Eastern and Southern Provinces prefer maize (Tembo et al., 2010).

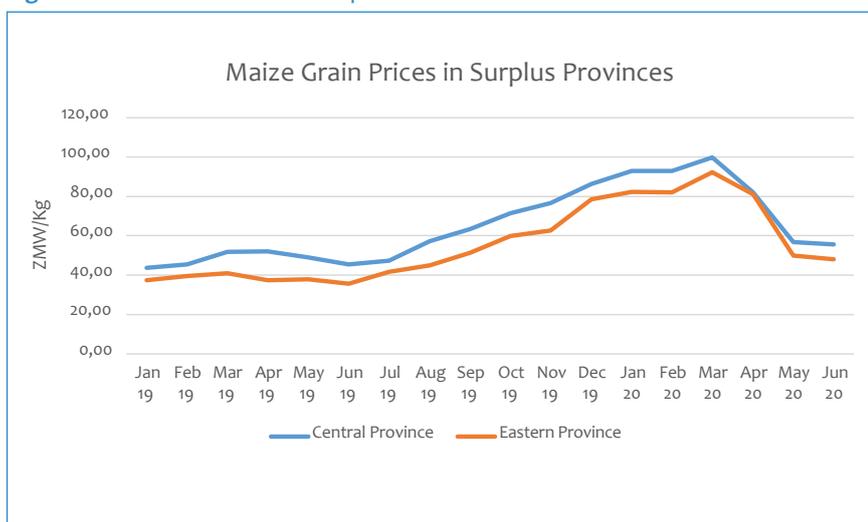
Figure 1. : Average Maize Grain Price Trends in Zambia



Source: Author Computation from ZamStats (CSO) 2020

Figure 1 presents the average maize prices in both surplus provinces and the deficit provinces; the average maize prices in the deficit provinces were slightly higher (averaging ZMW65/Kg) than those in the surplus provinces (averaging ZMW59/Kg) over the study period (January 2019 – June 2020). However, while prices steadily increased throughout 2019, they dropped significantly after February 2020 in both surplus and deficit

Figure 2: Maize Grain Prices in Surplus Provinces



Source: Author Computation from ZamStats (CSO) 2020

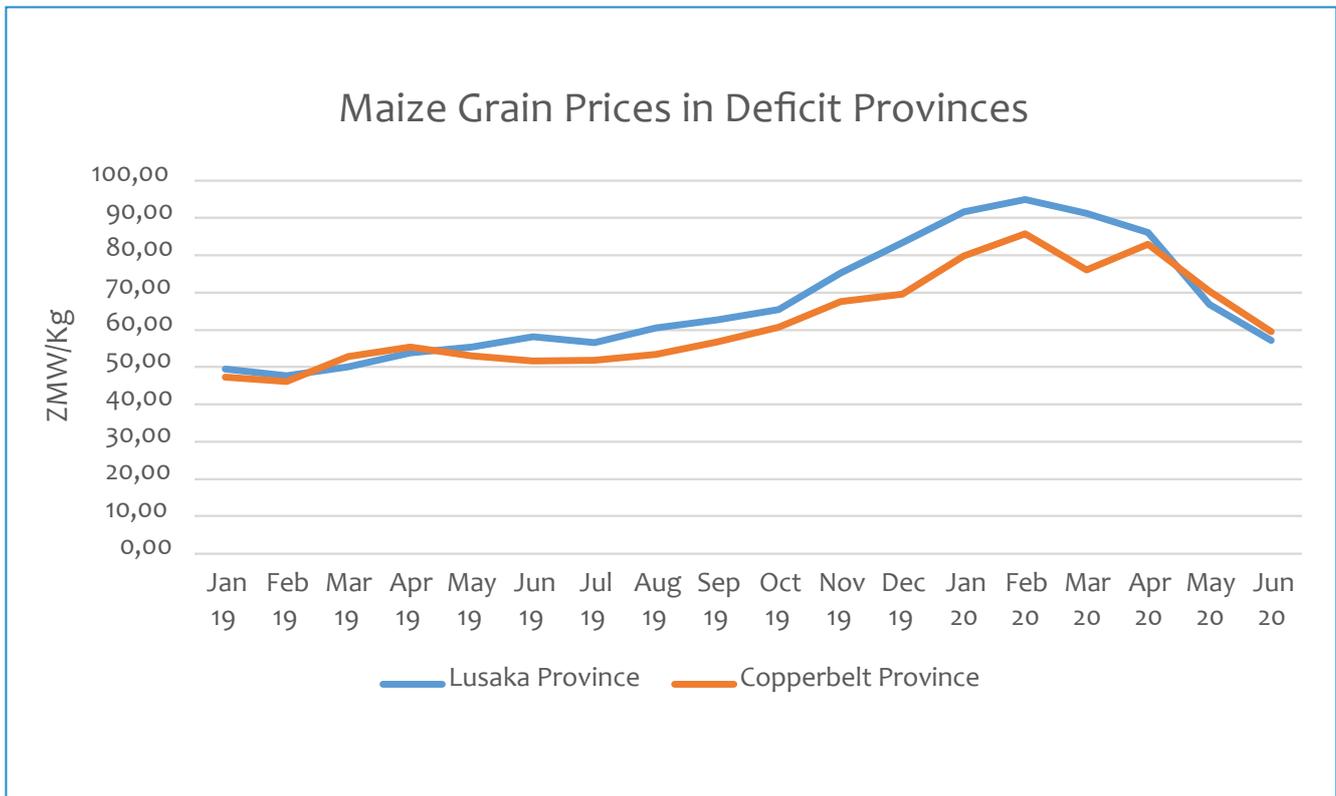
areas. This decrease of prices from February and March 2020 indicates the influence of COVID-19 related market restraints and interventions which resulted in reduced demand for maize. The drop in prices was more pronounced in the surplus provinces than in the deficit provinces. In general, maize trade flows in the country are from the surplus provinces (Central and Eastern Province) to the urban highly-populated centres of Lusaka and Copperbelt Provinces as well as abroad into neighbouring countries (FEWS Net, 2017). It is likely that the restrictions on movements led to more excess supply of maize in surplus areas than in deficit areas leading to a reduction in prices.

In Zambia, the marketing of maize is dominated by the main value chain actors - producers, traders, millers, the government (Food Reserve Agency), and consumers. The largest purchaser of maize grain is the Food Reserve Agency (FRA), followed by private sector actors (such as NWK Agri services, AFGRI Corporation, Zdenakie, CHC Commodities; other large traders such as Aliboo, Shifa and Kavulamungu; medium-scale traders, and a myriad of informal small-scale traders (also referred to as aggregators). The fact that all of these players were faced with restrictions on their activities during the Covid-19 period led to disruptions of on both the demand and supply side of the maize market.

Maize Grain Prices in Surplus Provinces

Eastern and Central Provinces possess fertile soils suitable for production of major crops including maize, with rainfall ranging between 800 – 1000mm (Chapoto et al., 2018). Over time, there has been constant expansion in the area under maize production, which has in turn led to an increase in maize surpluses.

Figure 3: Maize Grain Prices in Deficit Provinces



Source: Author Computation from ZamStats (CSO) 2020

High levels of production in Eastern province result in equally high maize availability, leading to comparatively lower prices of maize than in the Central Province (as depicted in Figure 2).

The main maize marketing period in Zambia lasts from May to November (the peak between June and August). Notably, the prices in both provinces steadily increased throughout 2019 due to the fact that the country was experiencing increasing consumer price inflation (averaging 9.8% in 2019); roughly 3% higher than the previous two years (Zambia Central Bank, 2020). The upward trends in process stopped abruptly after March 2020, when the prices markedly fell to ZMW56/Kg and ZMW49/Kg in Central and Eastern Provinces, from ZMW100/Kg and ZMW92/Kg, respectively. This is also the time when the first Covid-19 cases were reported in Zambia. On the 17th of March, the Government of Zambia shut down all educational institutions and thereafter put in place restrictions on travels. The restriction of

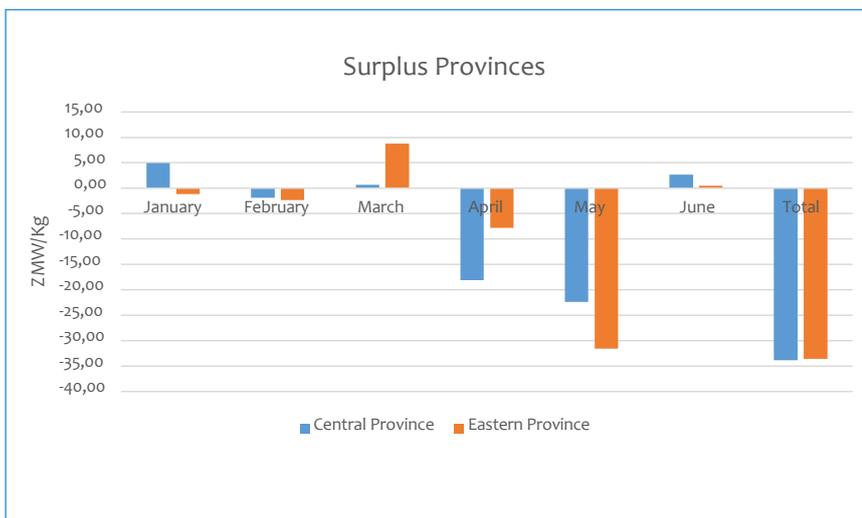
people’s movement resulted in reduced maize demand which in turn led to the drop in prices. The price drop is also related to the maize harvesting season which runs from April – June. The price effect of the change in demand as a result of Covid-19 restrictions, together with the onset of the harvest season, led to excess supply leading to generally lower prices.

Maize Grain Prices in Deficit Provinces

Lusaka and Copperbelt Provinces are the largest maize consumption centres in Zambia; they also exhibit low areas of maize production due to high population densities. As noted from Figure 3, Lusaka Province has notably higher prices (averaging ZMW67/Kg) than the Copperbelt Province (averaging ZMW62/Kg) throughout the study period (January 2019 – June 2020). The Prices in both provinces peaked in February 2020, reaching ZMW95/Kg in Lusaka and ZMW86/ Kg in Copperbelt.

However, the Copperbelt Province experienced a second peak in April (ZMW83/Kg), which may be

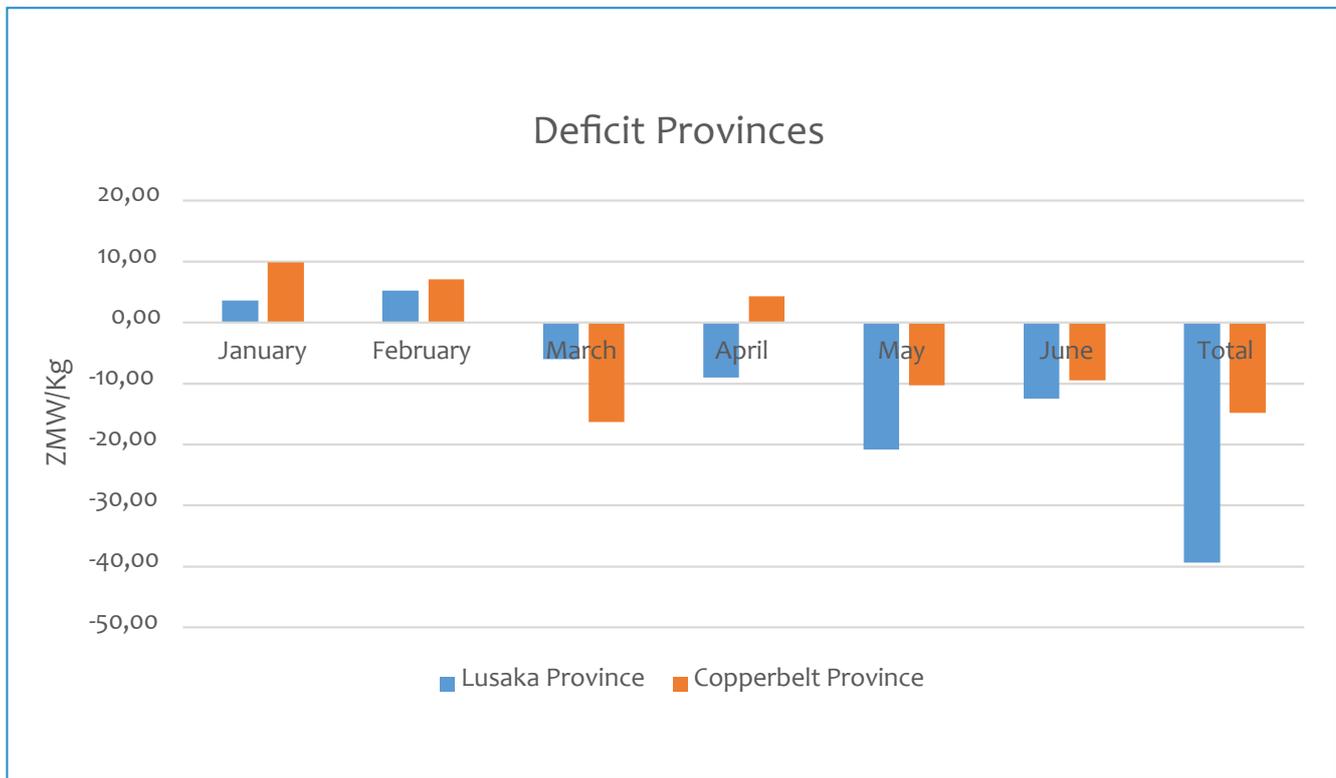
Figure 4: Difference-in-Difference Analysis Graph of the Surplus Provinces



Source: Author Computation from ZamStats (CSO) 2020.

Note: the bars in the chart represent the difference-in-difference in the prices between a particular month in 2020 from the same month in 2019 i.e. D January 2020 – D January 2019

Figure 5: Difference-in-Difference Analysis Graph of the Deficit Provinces



Source: Author Computation from ZamStats (CSO) 2020. Note: the bars in the chart represent the difference-in-difference in the prices between a particular month in 2020 from the same month in 2019 i.e. D January 2020 – D January 2019

attributed to the COVID-19 Pandemic, because of the restrictions imposed on internal travels as early as in March by the Government of Zambia. Prior to recording the first two COVID-19 cases, the Government of Zambia, through the Ministry of Health, had already gazetted the directives to manage the spread of the Pandemic (i.e. social distancing, limiting public gatherings, washing of hands etc.). The restrictions on people’s movement dampened the demand for maize, hence the drop in prices after February 2020. The prices continued their downward trends in both provinces.

Difference-in-Different Analysis of the Maize Grain Price Trends

Figure 4 compares the price changes in 2020 with prices changes in 2019 over the same period of six months from January to June in order to confirm whether the observed changes in 2020 were unique and different from usual patterns. The analysis focuses on the same categories of markets (surplus and deficit areas) for ease of comparison. The expectation under normal circumstances is that there should not be conspicuous differences between month-to-month price differences in 2020 and month-to-month price differences in 2019. However, with on the onset of the COVID-19 pandemic, the prices spiked in both provinces, implying that the prices were significantly higher in March 2020 than those observed in March 2019. The same phenomenon was observed in June. Prices fell drastically in both April and May 2020, due to the market closures and movement restrictions despite the commencement of the harvesting season, much in line with the earlier finding of falling prices in surplus area markets.

Maize prices in 2020 have shown significant decline when compared to 2019 from the months of March to June. Comparatively, Lusaka recorded stronger negative price changes as compared to Copperbelt and showed more volatility in prices than its counterpart especially from March to June 2020. Again, a combination of the onset of harvesting season and reduced demand due to Covid-19 restrictions led to the observed price decline in 2020.

Key Observations and Policy Recommendations

The travel restrictions imposed by the Government of Zambia in March 2020 had a bearing on constraining maize grain trade flows within and outside the country. The restrictions depressed the demand for maize in and outside the country hence the notable decrease in prices during this aforementioned period.

The travel restrictions and closure of public markets by the Government may have affected the business of small aggregators mainly located in rural communities. The massive price fall after March 2020 in both the surplus and deficit provinces may also imply that small aggregators were in a worse off position.

To limit impacts from similar pandemics in future, the Government should consider enacting the policies that would enhance trade (enforcing personal protective equipment regulations) rather than imposing a full lock down (closure of markets), which

adversely affects food supply and prices. Thereafter government should engage in consultation with market players and neighbouring countries to allow trans-border trade flows. This would decrease the oversupply of maize in the local markets and also stabilise the local prices of maize.

Acknowledgement

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