Price tracker: Price changes and extreme weather in 2022 as climate emergency hits

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Welcome to the ninth monthly food price tracker. This is an initiative of the Market Observatory of the Centre for Competition, Regulation and Economic Development, at the University of Johannesburg, and its partners. It summarises key trends in prices in East and Southern Africa (ESA) for selected staple food products, with a focus on selected areas. Please also see the previous trackers.

The price tracker is motivated by the need for greater transparency on prices on the ground to smaller market participants. Small producers and agri-businesses are at the heart of growing production and value, yet research shows they often receive unfair prices. Tracking markets is also very important for African countries which face the challenges of growing agricultural production while adapting to climate change.

In recent months we have seen the extreme weather events, such as droughts, heatwaves and floods, in different parts of the region, and it will be very important to track the effects on market outcomes. We also include recently released data on production, which comes out with a delay.

Key developments:

- Zambia removed soybean export restriction in December 2021 and Tanzania soybean prices decreased significantly in January 2022 from their extreme highs.
- Soybean prices in Zambia increased with the opportunity to export; while Uganda prices spiked to US$1200/t, possibly a lag of the high prices which had prevailed in East Africa.
- Uganda, Kenya and Tanzania maize prices remain above international levels, on continued poor rainfall.
- Second year of La Niña linked drought is depressing crop production in key growing areas in Argentina and Brazil.[1]
- Current heatwave across South America is bringing temperatures above 40ºC, along with severe drought. [2]
- Global maize and soybean export prices increased again towards US$300/t and US$600/t respectively on the drought conditions in South America.[3]
- The World Economic Forum identified three climate-related risks as among most severe global risks in next ten years.[4]
- State of disaster declared by government of Malawi for areas affected by tropical storm Ana.[5]
- Tropical storm Ana, rainfall deficits and constrained fertilizer supply in Malawi have sharply curbed the production outlook for 2022, particularly for the southern region.
- Tropical cyclone Batsirai currently progressing from Madagascar and may affect parts of Malawi and Zimbabwe.
- Agricultural production of maize, soybean and rice increased in the region in the latest FAO statistics for 2020.

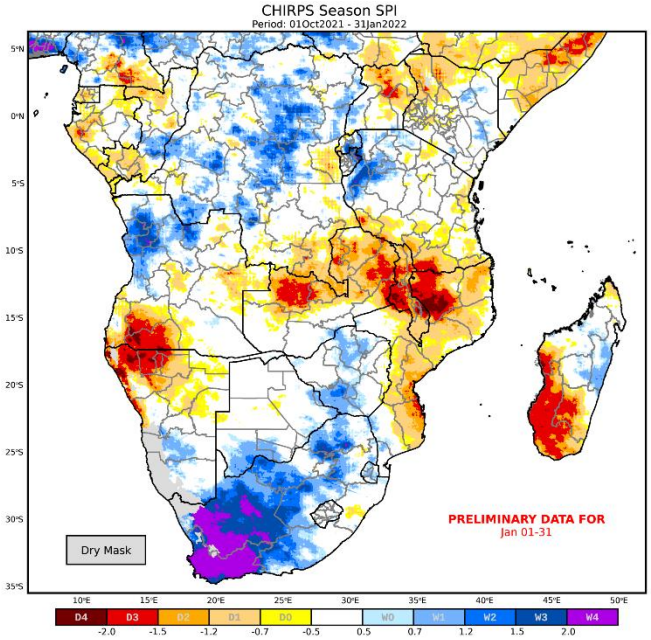
The climate emergency: the future is now!

The climate-induced natural disasters experienced in 2021 and the beginning of 2022 across the world have shown that the climate crisis is not a problem for the future but rather a current and urgent concern. The return of the La Niña global climate event for the second consecutive year is bringing another year of drought to key South American crop growing regions. Two of the top maize and soybean producing countries in the world, Brazil and Argentina, are experiencing a drought that is causing lower crop production. The result of this is that food prices, which have been increasing since the second half of 2021, will remain elevated in 2022, driving global food-price inflation.

For Africa, La Niña means poor rainfall in areas such as the north and east of Kenya while Tanzania and Zambia experience good rains. Climate change has also made weather cycles less predictable, however, and parts of the region have experienced unprecedented rainfall after a long dry spell. Even though heavy rains were expected in most parts of the southern Africa region this season due to La Niña, the severity of localized rainfall underscores the growing unpredictability of the weather.

January 2022 marked the beginning of the delayed rainy season across the region, with heavy rains in some countries. However, Malawi and neighbouring areas experienced harsh dry conditions in the October to December 2021 period (Figure 1). This was followed by localised flooding in January 2022 in southern and parts of central Malawi due to storm Ana, which impacted approximately 115 000 people and damaged about 34 000 hectares of cropland. Meanwhile, some parts of central and northern Malawi continued to receive below-average rainfall.

Figure 1: Climate Hazards Group InfraRed Precipitation with Station data (CHIRPS) for October 2021 - January 2022.



Source: Climate Hazards Centre
Note: The Climate Hazards Group InfraRed Precipitation with Station data (CHIRPS) uses the Standardized Precipitation Index (SPI) to report on the driest (D4) to the wettest (W4) conditions

Main season cereals are currently in vegetative to reproductive stage across the southern Africa region, including in Malawi, South Africa, Zambia and Zimbabwe.[6] Crops are developing under mixed conditions as some parts are experiencing dry conditions and hot temperatures, while others are experiencing heavy rainfall and strong winds.

The tropical storm Ana formed over the Indian Ocean and started moving westwards, passing over northern Madagascar and crossing over to Mozambique, subsequently reaching Malawi, Zambia and Zimbabwe, causing severe flooding. The passage of Ana brought heavy rainfall and strong winds causing rivers to overflow, floods, and landslides, resulting in casualties and a trail of destruction across the region in terms of crops and livestock production, houses and infrastructure. Meanwhile, Tropical

Cyclone Batsirai is currently evolving over the southwestern Indian Ocean and has affected parts of Madagascar, with a possibility that it may affect southern Malawi and eastern Zimbabwe.[7]

The Southern Province of Zambia also experienced flooding in January 2022 while other parts of Zambia experienced heavy rains.[8] Zimbabwe faced a similar situation as storm Ana brought unprecedented rainfall and flooding.

Northern Kenya has been experiencing a drought since September 2021 with less than 30 percent of normal rainfall. Since 1999, droughts in this region have doubled in frequency due to climate change.[9] Meanwhile in Tanzania, climate change has resulted in the regular occurrence of flooding, as well as rising sea levels that pose significant risks across the shoreline.

In South Africa, six of the country's nine provinces have experienced the most rainfall on record since tracking by district began in 1921, resulting in floods and crop damage. In Limpopo, rainfall was at almost four times its 30-year average while other parts of the country saw more than double their average rainfall over the last six months. Reservoirs across the country are overflowing while the heavy rains have caused crop damage and planting delays.[10]

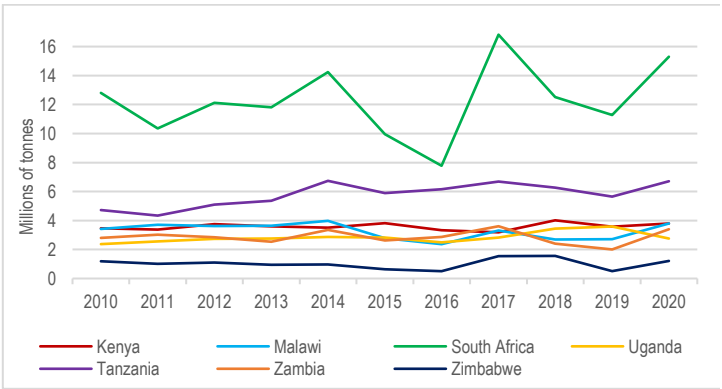
Maize production and prices

Rising food prices worldwide have focused increased attention on global agricultural production and supply chains in the past year. Annual global crop production data is published in arrears and the Food and Agriculture Organization (FAO) has recently published data for 2020. This showed higher global maize production led by the USA along with Brazil and Argentina. However, record droughts and heatwaves in 2021 then hit these countries' production.

In ESA, maize production increased overall in 2020 as expected given the lower prices, although Uganda showed a 23% decline in output in the year (Figure 2). While Uganda remained a net exporter of maize in the region in 2020, the decline in production played a significant role in the subsequent increasing maize price trend that was observed from mid-2021, counterbalanced by the higher production in Zambia, Malawi and Tanzania.

Maize production in South Africa for 2020 improved to over 15 million tonnes, which is an increase of over 35% from 2019. The drought in Zimbabwe in 2019 had resulted in significantly lower maize production. However, the country recovered in 2020, more than doubling production, albeit from a low base.

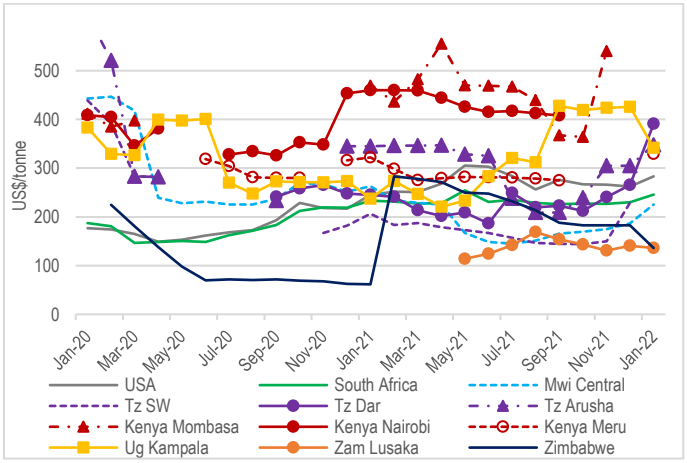
Figure 2. Regional maize production



Source: FAOSTAT. 2017 - 2020 Malawi data is from the Ministry of Trade in Malawi

Maize prices continue to show substantial variations across the countries and month to month. In January 2022, prices in Tanzania have increased, with Dar es Salaam prices breaching Arusha prices while Uganda prices fell (Figure 3). Prices in Zambia remain low, more than US$100/t below South Africa, with expected good production. The price in Zimbabwe continued to decline, to the levels in Zambia, due to depreciation of the parallel exchange rate, while the price in Malawi increased to levels above US$200/t.

Figure 3. Maize prices, ESA and international



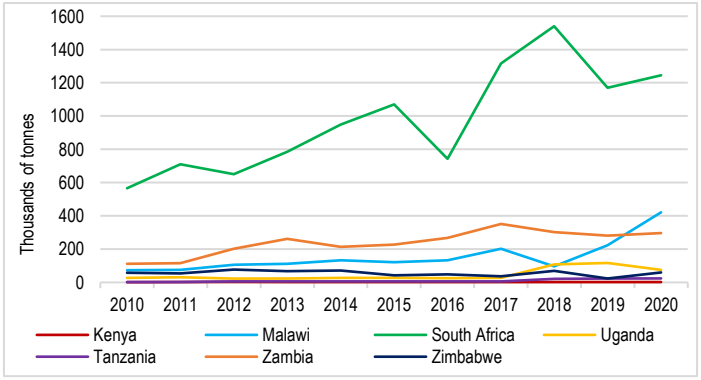
Notes: based on price tracker data from multiple sources

Soybean production and prices

Global soybean production increased by over 17 million tonnes in 2020. Of the top maize producers in the world, the United States, China and Brazil all increased their production, while Argentina and India saw a decline. However, as with maize, the extreme weather will see lower values being recorded for 2021.

Soybean production in the ESA region increased overall in 2020 (Figure 4), largely due to increases in Malawi. Malawi overtook Zambia as the largest soybean producer in the region, with levels up by 89%. This is consistent with the country being a net exporter of soybean and oilcake to the region in 2020. The prices in 2020 and to mid-2021 pointing to higher production levels being sustained last year. Zimbabwe recovered from the impact of the 2019 drought and increased production by 150% in 2020. Uganda, however, saw a decline in production of 36%.

Figure 4. Regional soybean production

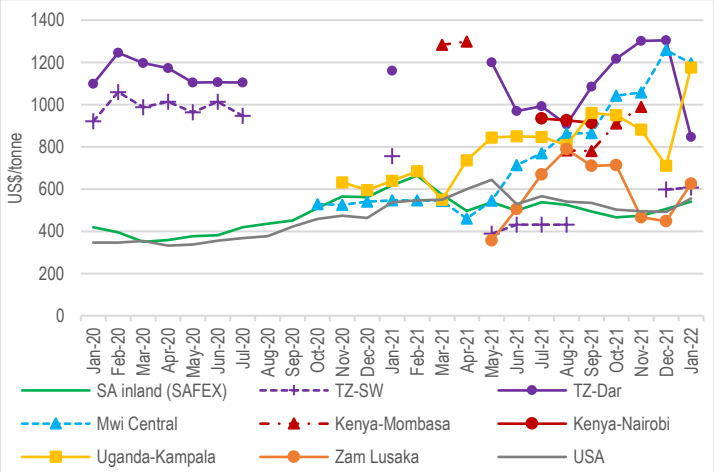


Source: FAOSTAT. 2017 - 2020 Malawi data is from the Ministry of Trade in Malawi

While prices were low in early 2021 in Malawi and Uganda, as well as in Zambia and south-west Tanzania in mid-2021, the second

half of the year saw major changes (Figure 5). Prices in Malawi and Uganda increased substantially even though soybean production in the country had increased significantly, as traders bought up supplies for export.

Figure 5. Soybean prices, ESA and international



Source: Tanzania and Zambia are from app users; Kenya, Uganda from RATIN; Malawi from IFPRI; South Africa is SA Futures Exchange price; USA is fob prices from SAGIS.

Zambian prices also increased from May 2021, but, fell back with an export ban in August (which exacerbated higher prices elsewhere). When it was lifted in December 2021, prices in export destinations fell back in January 2022. The price in Dar es Salaam reduced to around $850/t closer to the prices in Zambia and southwest Tanzania. In contrast, Uganda has shown a steep increase to almost $1200/t, reaching the Malawi price.

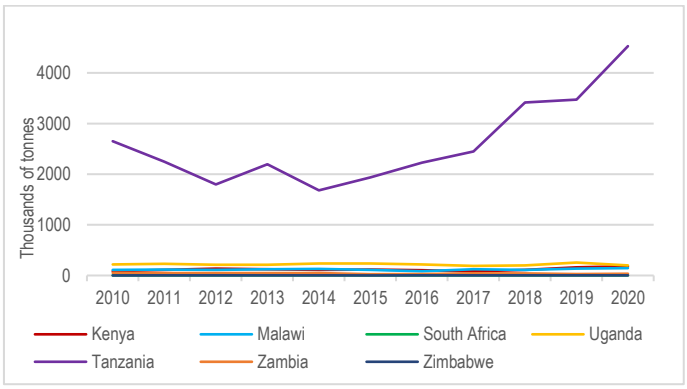
Interviews with participants in Malawi have indicated increased demand, particularly from traders, as an explanation for the continued high prices. However, farmers receive lower prices (just over $800/t), while traders are selling to producers and exporting at approximately $1200/t, suggesting a large price wedge. Discussions indicated an anticipation of increased demand up until the harvest season in June, resulting in traders holding-off in selling to receive the best possible price.

The high prices that prevailed in Malawi over the 2020/21 harvest season have also amplified demand expectations in the coming season, with farmers pushing towards planting more soybean this year.

Rice production and prices

Global rice production rose by 7.5 million tonnes in 2020 with China and India, which account for almost half of global production, both showing increases in their production. Tanzania is the largest rice producing country in the ESA region and its low rice prices can be attributed to the country's high production in 2020 (Figures 6 and 7). Prices in Tanzania went below the world price in 2021, indicating large gains to millions of consumers and illustrating what happens when agricultural production is increased in Africa. In Uganda, production decreased while in other countries in the region, the year-on-year changes were not very significant.

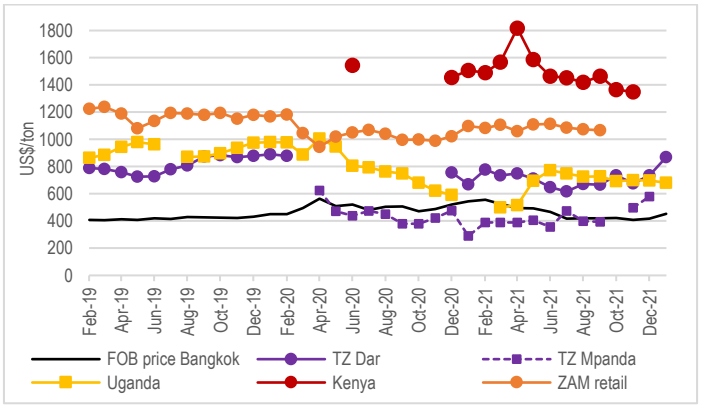
Figure 6. Regional rice production



Source: FAOSTAT

Aside from Tanzania, rice prices in the region have mostly remained far above the international export prices from Bangkok since early 2021. In January 2022, Tanzania rice prices Dar es Salaam increased above $850/t, above Ugandan prices.

Figure 7. Rice prices



Source: Tanzania and Uganda is from WFP(VAM) and Min of Agriculture in Tanzania wholesale prices per 100kg. Bangkok prices are fob from USDA. ZAM retail from ZamStat, per kg.

Fertilizer prices

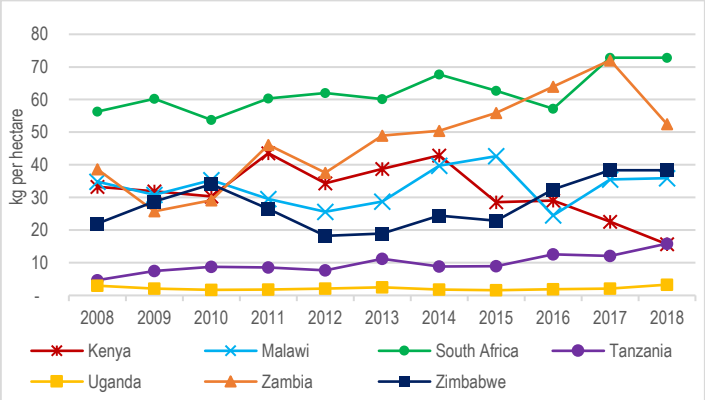
The global fertilizer prices increased drastically from second quarter of 2021 driven by various factors, especially the increase in natural gas prices and freight rates. The challenge for farmers in the region is the huge variation between crop prices and fertilizer prices as well as limited global fertilizer availability. Sub-Saharan Africa is a net importer of fertilizers and disparities in the global market have exposed the vulnerabilities of the agro-input sector in Africa.

Increasing fertilizer prices pose a threat to food security in the region. The International Fertilizer Development Center (IFDC) estimates a 30% decline in fertilizer demand in 2021 and anticipates a further decrease in demand in 2022 should fertilizer prices remain elevated as they are projected to do. The result of this is that crop production will decrease, and food prices will rise. The IFDC estimates that 30 million metric tonnes less food will be produced in sub-Saharan Africa in 2022 should prices remain high. This is equivalent to the food requirement of 100 million people.[11]

The most recent data available on fertilizer in the region indicates that South Africa's use of fertilizer is as high as 73kg per hectare of arable land, similar to levels in Australia, and 53kg per hectare

in Zambia while ranging between 15kg and 40kg in Kenya, Malawi, Tanzania and Zimbabwe (Figure 9). High fertilizer prices are making it more costly for farmers to cultivate their crops. While large-scale commercial farmers may be able to absorb the price increases where they expect higher prices for their crops, the impact of high fertilizer prices will be harshly felt by smallholder farmers that have limited access to finance.

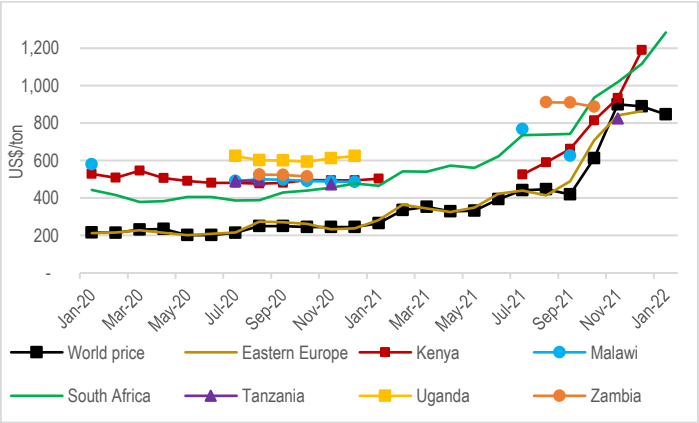
Figure 9. Fertilizer use, kilograms per hectare of arable land



Source: World Bank

There are big gaps in data on fertilizer prices in ESA, with current data being patchy (Figure 10). The international price of Urea has decreased to levels below $900/t in January 2022, after reaching its peak in November 2021. However, the South African price continues to increase and is currently at above $1200/t. App users in Zimbabwe have indicated a high fertilizer price of $1100/t in January. Prices in Kenya have also been increasing.

Figure 10. Urea prices



Source: World price is from the World Bank. Eastern Europe & South Africa prices are from Grain SA. Kenya and Uganda are from AfricaFertilizer. Malawi, Tanzania and Zambia are from AfricaFertilizer and from POKET app users.

Urgent measures are required to support agricultural markets in the face of the current fertilizer crisis as well as the climate emergency. Some countries, such as Malawi, have been reported to have reformed their input subsidy programs and limit beneficiaries to only the most resource-poor farmers, while the Tanzanian government has pulled out of centralized procurement systems altogether.

Making the changes necessary to deal with these challenges requires a regional approach given the differing anticipated impacts within and across different countries, and for groups of producers. Steps can be taken to ensure African food value chains remain resilient and build capabilities to be better positioned in global agricultural markets. The interventions need to be made urgently given the accelerating pace of changes. The market observatory has an important role to play in supporting agricultural value chains and making the case for investment in infrastructure, water management, logistics and storage and support services.

A Market Observatory App

A Market Observatory App has now been launched for crowd-sourcing data, available for download on the Google play store (POKET, only available on android devices), please contact gnsomba@uj.ac.za or +27 65 9965936 for the relevant country code.

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