



HIGH FOOD PRICES IN AFRICA:

causes, consequences and agenda for action



POSITION PAPER 01

#THECOPWENEED

1. INTRODUCTION

The high food prices across Africa are the outcomes of broken food markets which fail to address the impacts of climate change and deliver increasingly unhealthy results for households and communities. Countries face a 'double burden of malnutrition', that is, high levels of obesity alongside stunting and wasting (Reardon et al., 2021). Food is expensive – prices in African cities have generally been much higher than in other developing regions of the world (Allen, 2017; Nakamura et al., 2016).

COP27, being held in Egypt in November 2022, must prioritise development, investment and inclusion in healthy markets to reverse this trend.

While Russia's invasion of Ukraine has caused global food price increases, the food price hikes in many African countries, including in East Africa, have been much greater than the global increases. International maize prices increased by 40% to a high of just over US\$360/t in March 2022. However, bulk maize prices in Kenya have more than doubled over the first half of the year to historic highs of well over \$600/t by July 2022 and, on some measures, were over \$700/t. This flowed through to prices of the main staple, maize meal.

The extreme drought in the Horn of Africa and East Africa and the availability of imports is behind extreme food price spikes in these regions. However, Africa includes some of the best areas in the world to sustainably expand food production, including regions in East and Central Africa. The fact that African countries are reliant on imports, despite this potential, points to the need to analyse how agri-food value chains and markets are working in practice. We must assess market outcomes against the rapid, major and systemic economic changes required at the local, national and global levels to respond to the climate emergency.

The Russia–Ukraine war has impacted on fertiliser prices, which increased in the second half of 2021 on the back of

spiking gas prices, anticipating the invasion. This has already had an effect on African farmers' planting in 2022 with, for example, reductions in fertiliser-intensive maize in South Africa and Zambia and more soybeans being planted. It points to the need to ensure fair prices to farmers to cover higher costs and the need to move to regenerative farming methods not reliant on fertiliser. However, fertiliser use is already low in most African countries.

Food supply is estimated to account for around a third of greenhouse gas emissions (Crippa et al., 2021). African countries, however, are responsible for negligible emissions and yet face urgent challenges of adaptation to global warming and extreme weather events which threaten production. Areas in the continent are climate 'hotspots' where temperatures are increasing above the global average and rainfall is projected to decline further (Engelbrecht and Monteiro, 2021; IPCC, 2021).

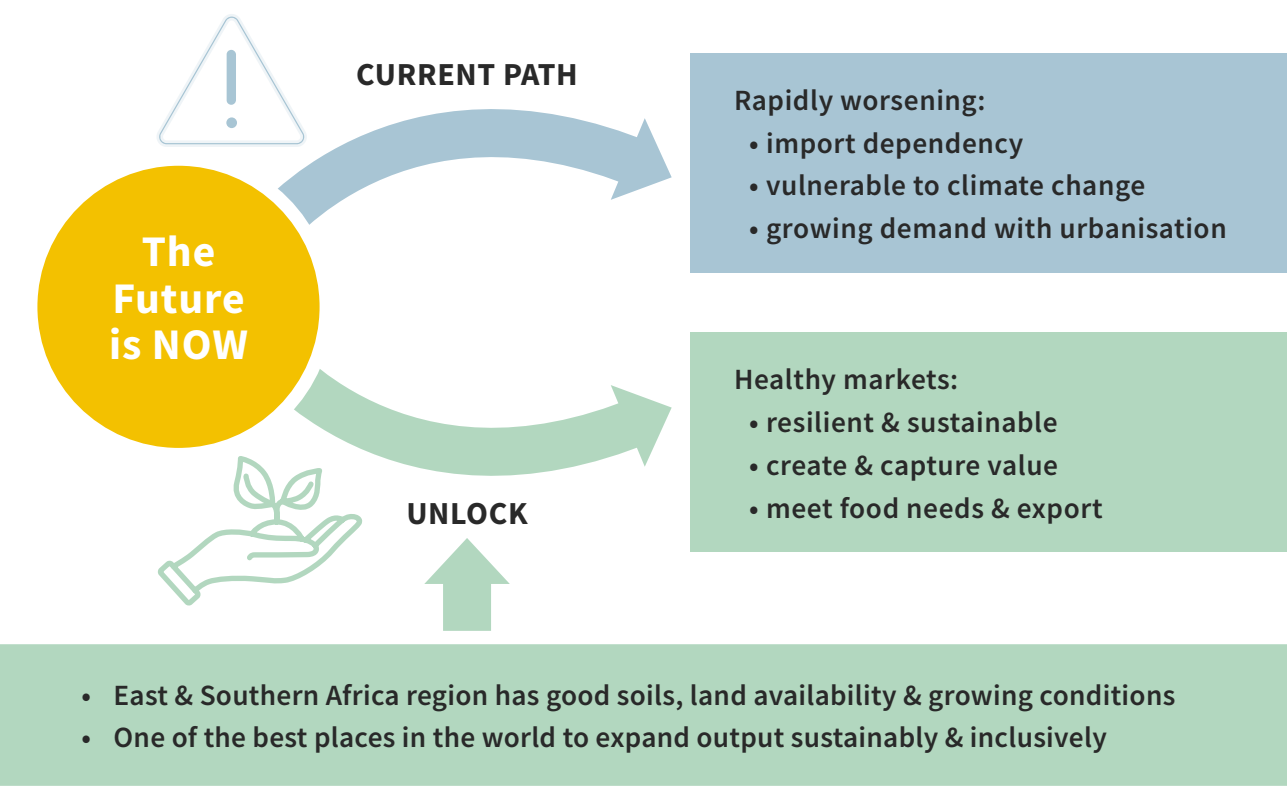
A just transition must address the adaptation challenges of African countries while also moving food systems to a sustainable footing with lower emissions. These changes all work through market mechanisms, which are poorly understood. In addition, agri-food markets are highly concentrated at important levels from inputs through to trading and processing, which means that market outcomes are largely the result of the decisions of a small number of firms. We need to understand, and engage with, the firms that control these markets. What small and medium-scale farmers, who account for the great majority of important crops such as maize, get for their production depends on the costs of inputs and the prices they receive for their produce.

Through a focus on key staple foods in East and Southern Africa (ESA), we explain why prices have spiked so high in cities such as Nairobi and why this is the result of markets which are not working well for farmers across the region. We propose an agenda for action for food security to

change the trajectory (Figure 1). This must address the interconnected and concentrated agri-food value chains and empower groups with limited resources through inclusive and fair processes to ensure healthy markets.

Civil society groups need to mobilise across the continent to pressurise governments for an international package of rules to change how markets work, to ensure healthy, inclusive and sustainable outcomes.

FIGURE 1: UNLOCKING FOOD MARKETS IN EAST & SOUTHERN AFRICA



Source: Compiled by authors

2. AGRI-FOOD MARKETS, CONCENTRATION AND THE GOVERNANCE OF VALUE CHAINS

The four key food security pillars of availability, access, utilisation and stability need to be broadened to include agency and sustainability if we are to incorporate key characteristics of the production and markets which realise these outcomes (Clapp et al., 2021). The importance of small-scale farmers and food producers means that their ability to compete and the sustainability of their production is essential to realising food security, as is the ability of people to exercise agency to make informed choices about what they consume. Smallholder farmers produce 80% of the food in sub-Saharan Africa, while Africa has a quarter of the world's arable land and yet produces just 10% of the world's agricultural output.¹

The potential, and indeed imperative, for sustainable agri-food systems to be at the centre of a just green transition in Africa is being recognised (e.g. AGRA, 2021). The agricultural sector is key to fostering economic growth, reducing poverty and improving food security across the continent. How to achieve this is much less well understood, especially with regard to regional markets and value chains. Rapidly expanding urban populations mean growing food demand and shifts to more meat and fish, as well as more processed foods (Reardon et al., 2021). Meeting this demand means considering where there is abundant arable land and good water availability, which may be across borders. In addition, the increased frequency of extreme events such as droughts, heatwaves and floods, alongside overall warming, means greater localised and regional supply shocks (IPCC, 2021; WMO, 2020). Africa in general is particularly vulnerable to climate change impacts as the continent largely depends on rain-fed agriculture and has little investment in water management and irrigation.

The continental challenges are evident in ESA, which records a food deficit and import dependence despite good soils, land availability and growing conditions in the region (Nsomba et al., 2022). ESA is one of the best places in the world to expand production sustainably and

inclusively, even while including climate 'hotspots' (Annan, Conway and Dryden, 2015; Engelbrecht and Monteiro, 2021). The issues in agricultural markets transcend national borders; however, intra-African trade has only been rising slowly. Furthermore, steps are required to improve regional trade and expand production to build more resilient African food value chains.

There has been a 'quiet revolution' taking place in trading, logistics and processing in many African countries, with the expansion of global agri-food companies (Reardon, 2015; Swinnen, 2015). At the same time as larger-scale operations and greater coordination of activities, there has been increasing concentration and governance over international value chains. It has been part of an international trend, as we discuss below, and poses particular questions for the ESA region. Recent analyses and available data have pointed to markets not working well for smaller farmers in Africa, who receive poor prices, in part due to high volatility (Baulch, Jolex and Mkandawire, 2021; Bell et al., 2020; Bonilla Cedrez, Chamberlin and Hijmans, 2020; Ochieng, Both and Baulch, 2019; Sitko, Burke and Jayne, 2018). Poor information and high apparent levels of concentration at different levels, from input supply to trading and processing, reinforce questions which have been raised about the nature and effectiveness of competition in agricultural markets (Swinnen, 2020; Vilakazi and Roberts, 2019).

Global value chain context

Key markets at different levels of agri-food value chains are dominated by a relatively few companies. From seeds and other farming inputs through to trading, processing and retail, there have been very substantial increases in concentration globally over the past two decades (Clapp, 2021; HLPE, 2017; Howard and Hendrickson, 2020; Klerkx and Rose, 2020; Roberts, 2019; Swinnen, 2020; Torshizi and Clapp, 2021). This means that a handful of

transnational corporations now account for the majority of supply of inputs, trading of agricultural commodities and production in many important categories of food products (Clapp, 2021; Folke et al., 2019; Roberts, 2019). The strategies and decisions of these companies shape markets, including the participation of smaller producers in them.

The concentration internationally is partly due to the large number of mergers, which has seen the expansion of global giants in agrochemicals, trading and meat production. There are also concerns about common ownership dampening competitive rivalry further in concentrated industries (Torshizi and Clapp, 2021). The wave of mergers was almost all approved by competition authorities, some with conditions (see Clapp, 2017). The merger decisions broadly reflected the evaluations made at the time that the balance of arguments was in favour of the claimed efficiencies when set against the likely harm to competition.

For example, in agrochemicals, the top four firms combined account for two-thirds of global sales (Howard and Hendrickson, 2020; Shand and Wetter, 2019). There are also high degrees of overlap with seeds – Bayer-Monsanto, ChemChina-Syngenta and Corteva are all in the top four in both seed and agrochemicals categories. Seven major traders account for a substantial proportion of global agricultural commodity trading and have progressively extended their operations in developing countries (ETC, 2019: 16).² Farmers have therefore become increasingly reliant on a small group of suppliers and buyers, which may be the same companies. It is important to recognise that there are networks of relationships between global and regional companies. In agro-commodity trading, the major companies are integrated upstream and downstream, such as into feed and meat production, including in many African countries (Blas and Farchy, 2021).

The major transnational corporations effectively govern the global and regional value chains. Food systems transformation therefore needs to engage with concentration and integration if it is to address sustainability and inclusion together, through deliberately reshaping value chains for food security, resilience and health. As climate change intensifies production volatility and supply chain disruptions, it means that shocks can be exploited by firms with market power, exacerbating the negative impact. Conversely, regional markets which work well can dampen local shocks through competitive

and efficient regional trade flows from other parts of the region where there is good weather.

The global levels of concentration are reflected in ESA. In the supply of grain seed in South Africa, concentration is among the highest in the world as four or fewer companies account for almost all sales of maize, soybean and sunflower seed (CCSA, 2021; OECD, 2018). There is a similar picture in agrochemicals, globally and in African countries. There has been expansion of multinational trading companies, which some expected to improve market efficiencies across the region albeit while noting concerns about market concentration (Sitko and Chisanga, 2017; Sitko et al., 2018). Concentration levels in processing of key staples appear high across ESA and have increased through mergers (Nsomba et al., 2022). Collecting better data to analyse the concentration levels and links between the major corporate groupings is an important gap that needs to be filled.

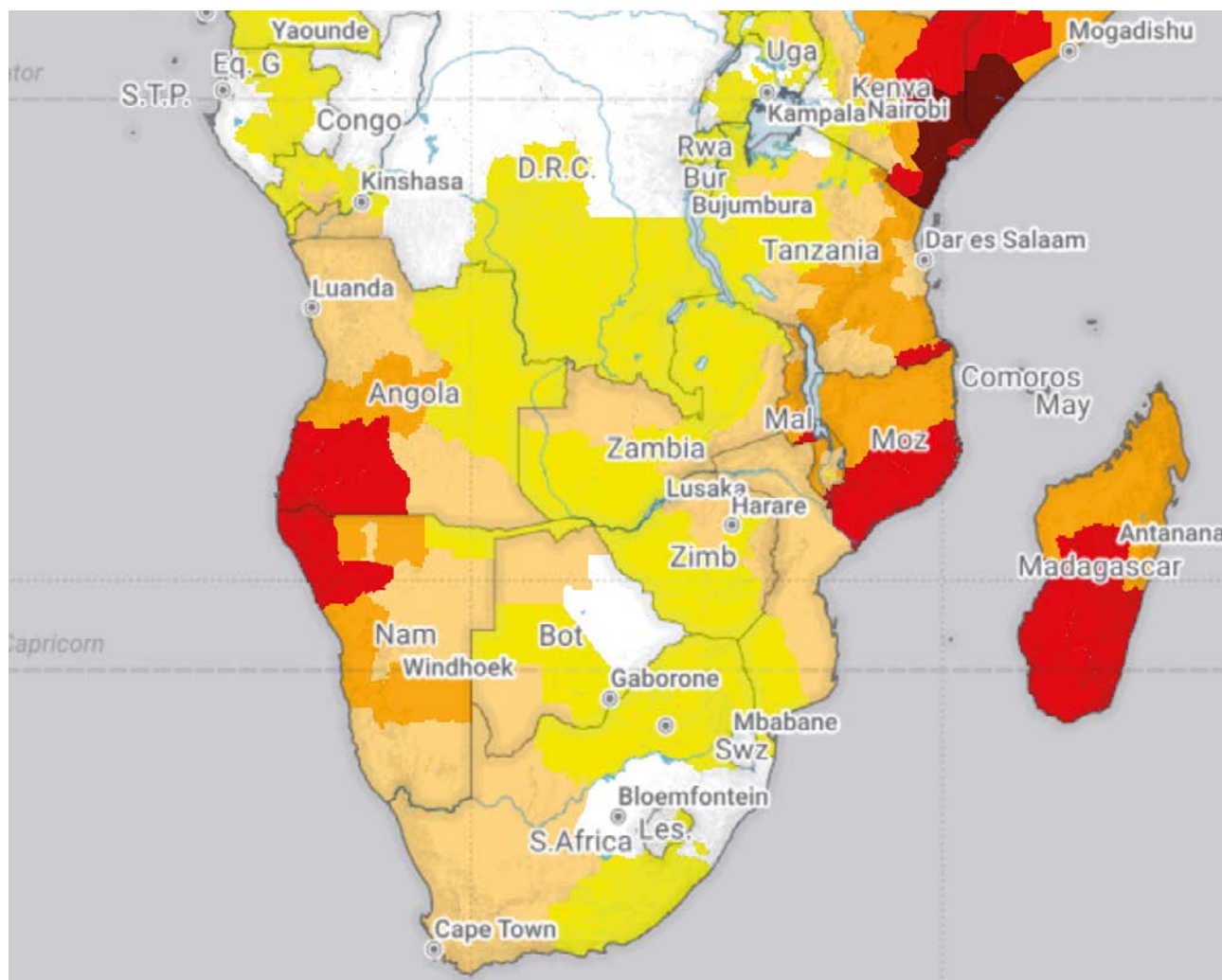
East and Southern Africa: Climate impacts and implications

Southern Africa is identified as a climate change hotspot, with the temperature increases predicted to be double the global average and rainfall to decline further (Engelbrecht and Monteiro, 2021; IPCC, 2021). While the south of the region will also become progressively drier, the central parts of ESA will continue to have good average rainfall.

The El Niño Southern Oscillation (ENSO) is one of the most important weather phenomena. It is characterised by three states – ‘El Niño’, ‘La Niña’ or ‘neutral’. El Niño is a warming of the central to eastern tropical Pacific Ocean, with drought in Southern Africa while inducing heavy rainfall and floods in East Africa. In 2015/16 it brought the worst drought in 30 years to Southern Africa.

La Niña is the opposite of El Niño, with cooling of the central to eastern tropical Pacific Ocean. Under the La Niña weather cycle in place from 2020 and expected to continue to 2023, East Africa and the Horn of Africa are currently experiencing the worst drought in four decades. There have been poor rains in areas such as the north and east of Kenya, even while there are good conditions in west Tanzania and Zambia (Figure 2). Brazil has also faced the worst drought in close to a century, while extreme weather in the USA and Canada has seen heatwaves, tornadoes and wildfires. The climate change impacts have compounded the effects of Russia’s invasion of Ukraine, with food prices in East Africa spiking far above world prices (discussed

FIGURE 2: GLOBAL GRO DROUGHT INDEX FOR THE ESA REGION



Source: Global Gro Drought Index (GDI), Gro Intelligence, as at 30 November 2021. The GDI measures drought severity on a scale from “0” (yellow) no drought, to “5” (red) or severe drought.

in section 3). In Kenya, shortages of maize and the costs of importing have seen small-scale millers closing and an escalation in the staple maize flour prices.³

The situation in East Africa should serve as a warning to Southern Africa of the events that will unfold in the region in the next El Niño cycle, which will likely be much worse than the one that brought the drought of 2015/16. Meanwhile, the overall warming continues. The 1982, 1997 and 2015 El Niño cycles were each identified as ‘super’, breaking new average temperature records and triggering catastrophic natural disasters, including severe drought in Southern Africa (Rao and Ren, 2017).

Improved intra-regional trade through broader and deeper markets is therefore essential to mitigate the risks

associated with climate change. When one part of the region experiences poor weather impacting negatively on production, other areas continue to have good conditions for production. Realising the potential gains from better-working agricultural markets also entails supporting smaller farmers and producers and enabling climate-smart agriculture that adapts to the effects of climate change and severe weather patterns (AGRA, 2021). Regional competition is essential along with intra-regional trade and investment in regional food production systems and markets to meet the climate challenges.

Across the region investments are required in water management, irrigation and storage facilities to support more resilient production systems. This investment can generate economic growth while helping to deliver

on the Sustainable Development Goals (Brahmbhatt, Haddaoui and Page, 2016). Making the investment case for agriculture and critical infrastructure depends on market information. We consider how markets have been working in practice through focusing on wholesale maize and soybean prices.

The impacts of the rapidly developing climate emergency and poorly functioning markets can be seen in the prices of these key commodities. Maize prices jumped in some countries in 2015/16, such as Malawi and Mozambique. In 2017, high prices in Tanzania occurred when there were low

prices in neighbouring countries, meaning that trade in more integrated regional markets would have mitigated the impact. In 2019, extreme weather events (such as cyclones in Mozambique), poor rainfall and concerns about drought saw prices spike again. Increased volatility and higher levels of uncertainty can also be magnified by speculation on crop production. Across the continent maize markets have been found to be not working well (Bonilla Cedrez et al., 2021), while major concerns have been identified within countries such as Kenya (Bergquist and Dinerstein, 2021). We examine recent market prices and their impacts in light of these concerns.



3. FOCUS ON MAIZE AND SOYBEAN MARKETS IN ESA IN 2021/22

Maize is a major agricultural crop and staple food across ESA and is produced mainly by smaller farmers in most of the countries. Soybeans are the key source of protein in much of animal feed around the world. By drawing on the price data collected by the African Market Observatory (AMO),⁴ we assess market trends to identify trade and competition concerns within and across borders. This includes insights into measures required to address transport and logistics, storage facilities, investment in infrastructure, water management and other climate change mitigating strategies.

Maize prices

Agricultural markets in the region are not working well. Maize prices in producing and consuming areas (Figure 3) show huge margins between the areas of demand and areas of supply. There are large price differences across countries which are not justified by transport costs (as well as within countries; see Nsomba et al., 2022). Low prices and poor returns for farmers result in lower planting levels, especially given the high input costs. Buyers in cities in East Africa, meanwhile, are paying very high prices compared to producing areas and compared to South African prices. The latter are a benchmark for international prices, as the exchange-quoted prices close to Johannesburg are generally at levels received for net exports into international markets, as long as there have been good rains.

The East African prices in the first part of 2021, (a) on Figure 3, were in line with the costs of importing (import parity prices) from producing areas in Zambia and Malawi or importing from deep sea sources. At the harvest in May 2021, prices in producing areas fell well below US\$200/t, with farmers getting very low returns, substantially lower also than in South Africa. This persisted over the rest of 2021 (b). After a brief dip in March 2022, the prices have climbed even higher (c), with large excess margins of US\$150/t over the import prices after taking into account higher transport costs due to more expensive fuel. Our analysis indicates that prices in July should be 30–40% lower in these East African cities than they were.

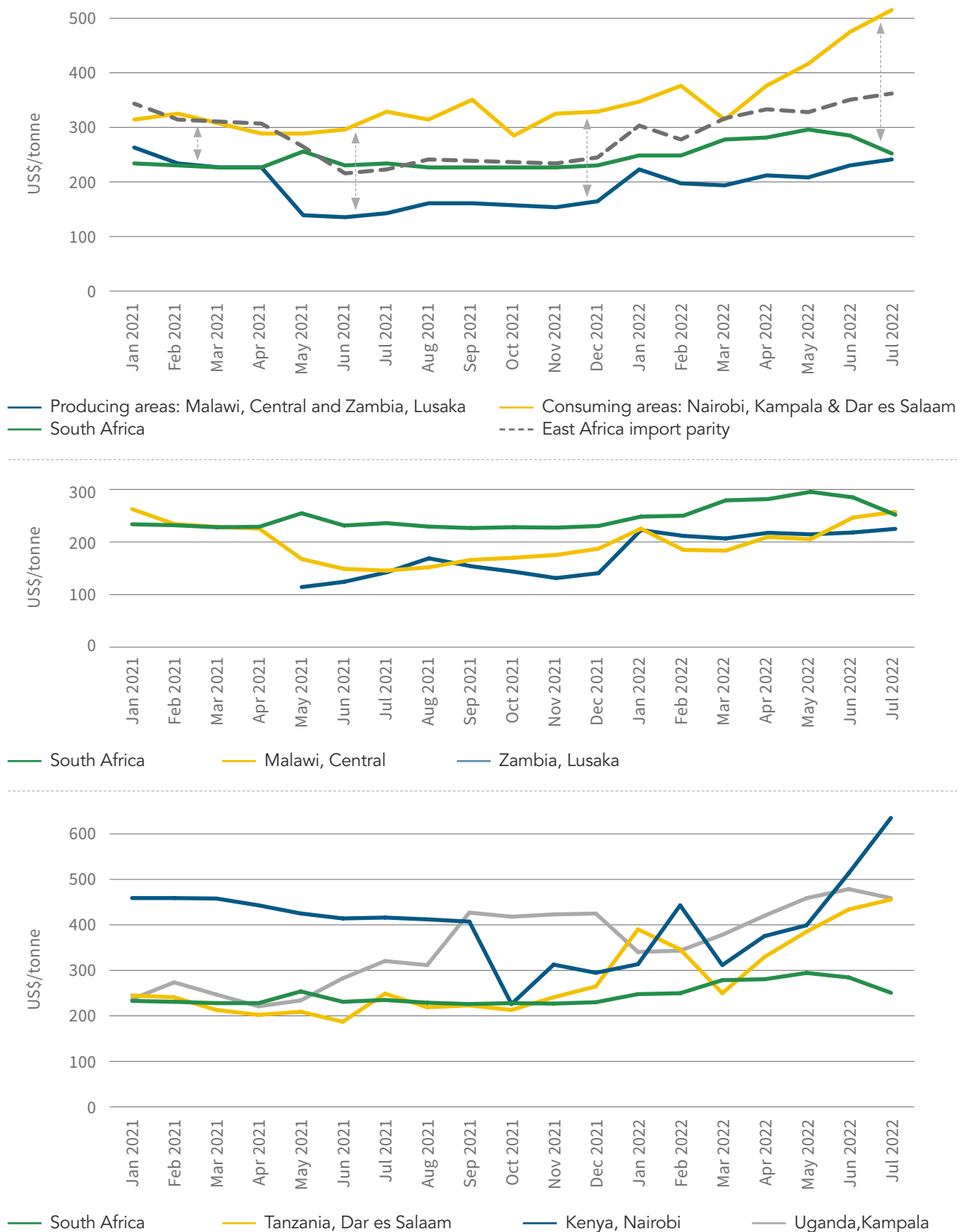
It is also notable that prices in Nairobi increased by even greater amounts. In competitive markets, trading margins would reflect reasonable costs and not super-profits. The difference between the East Africa import parity prices and the prices in the consuming areas is the potential margins that large traders and processors are earning. These profit margins are at the expense of farmers, who receive low prices, while high prices are charged to agribusinesses and consumers in urban areas.

The market outcomes undermined production in the region, weakened resilience and further contributed to high food prices, and compounded reliance on imports. Low-income households are particularly vulnerable to high prices of staples and as those farming households earning low returns. Zambia's production of maize in the 2021/22 season declined by almost 25% to 2.7 million tonnes, with a reduction in the area planted and lower yields as a result of poor returns to farmers and the high cost of fertiliser relative to low maize prices. While farmers have diverted some planting to soybean, which requires less fertiliser, the increase in soybeans is much less than the reduction in maize. As we discuss below, a combination of factors explains the outcomes, including poor policies, lack of support for storage and logistics for smaller producers, and market power at the trading and processing level.

The impact of high maize prices is reflected in maize meal prices at the retail level. Maize meal prices in Nairobi have been double those in Zambia (Figure 4). This was so important for low-income households that the Kenyan government decided to subsidise the price of maize flour through agreeing with the large millers on a retail price of KSh100 for 2kg from 18 July 2022 for four weeks to diffuse public outrage over the high cost of living as Kenyans went into the national elections.⁵ The measure is estimated to have cost KSh8 billion (around US\$67 million).⁶

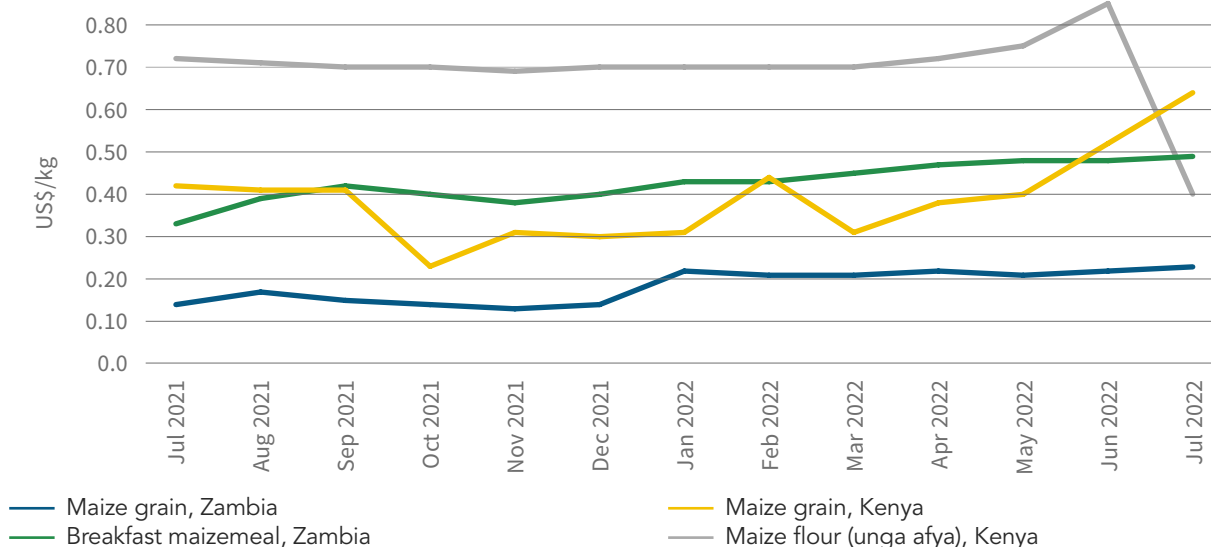
Based on a 30% reduction which could have been achieved through more resilient and competitive regional markets, this suggests that Kenyan consumers could have been overcharged by close to half a billion dollars over a 12-month period, or around US\$40 per household.⁷

FIGURE 3: MAIZE PRODUCER/WHOLESALE PRICES



Source: Based on African Market Observatory price tracker data from multiple sources

FIGURE 4: ZAMBIA AND KENYA MAIZE GRAIN AND MAIZEMEAL PRICES



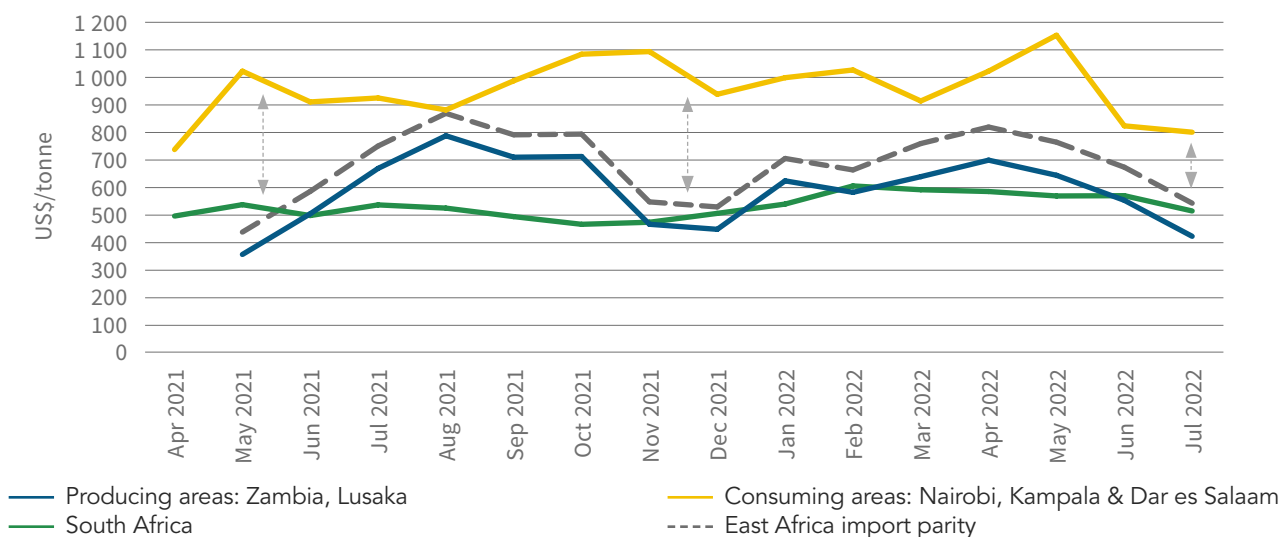
Sources: Kenya and Zambia wholesale maize grain prices from AMO price tracker data from multiple sources. Zambia breakfast maizemeal consumer prices from ZamStat retail prices per 25kg pack. Kenya consumer maize flour prices from Ministry of Agriculture, Livestock, Fisheries and Co-operatives on a per kilogram basis from 10kg pack size. The Zambian prices have been adjusted upwards by 25%, reflecting the difference between 25kg and 10kg pack size prices.

Soybean prices

As with maize prices, there are also huge margins in soybean prices between the exporting countries of Zambia and Malawi, and locations of demand in East Africa (Figure 5). At the harvest around May each year, prices in Malawi and Zambia have been around US\$400–600/t while prices in East Africa, where soybeans are essential for animal feed, have been around US\$1 000/t. These reflect huge excess margins

of around US\$300/t, which are also much bigger than those observed in maize. Again, regional markets appear to be broken, undermining the competitiveness of value chains relying on soybeans, such as for poultry and fish-farming. This reinforces the dependence of the region on imports of frozen poultry and fish, instead of the region realising its potential to meet demand and be internationally competitive with good returns to farmers and fair food prices for households. In addition, there have been particular monthly pricing dynamics in Malawi (see box below).

FIGURE 5: SOYBEAN PRODUCER/WHOLESALE PRICES



Source: Based on AMO price tracker data from multiple sources

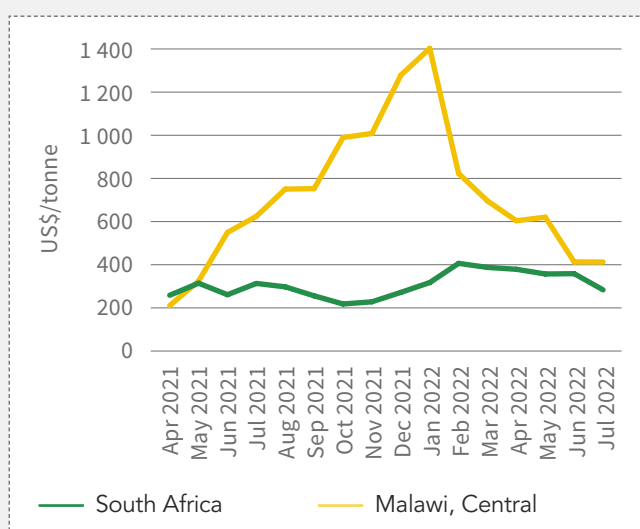
How is this possible? There is a combination of policies which work against realising the potential and the weak position of farmers in relation to large buyers and those who control trading, storage and logistics. It implies that of the more than 400th tonnes produced in each of Malawi and Zambia, farmers have been underpaid by as much as US\$240 million per year. If we used the transport costs and price differences for the similar 2 000 kilometre distances

between the main soybean growing areas and main ports in Brazil of US\$60–90/t, then the amounts would be half as much again. Small and medium-sized farmers in Zambia and Malawi who are producing most of the soybeans have to sell at the harvest due to their need to pay off loans and not having good storage options. Instead of supporting sales by farmers, government export licence requirements have strengthened the hand of the large buyers.

Box: A margin squeeze on animal feed in Malawi?

In Malawi, while farmers sold soybeans at the harvest time around May in 2021 at under US\$500/t, a dramatic change in prices occurred in the following months. Local soybean prices increased massively to exceed international prices, and hit US\$1 350/t in January 2022, as if there was extreme scarcity, at prices far above the prices to import. Animal feed prices also doubled. What can explain this puzzle? Who stood to gain and lose from these prices?

Malawi had a good crop and exported soybeans and derivative products such as oilcake throughout the year. It even meant that some buyers imported product which could have already been exported from Malawi.



First, farmers did not gain from the higher prices as they had already sold their crops at low prices given the pressures to pay off loans. Second, the main users of soybeans were harmed by the extremely high prices. These are the poultry producers and fish farmers for whom soybeans are a major animal feed constituent. At prices double those in South Africa, as well as in producers around the world, local poultry and fish farmers were very uncompetitive, with negative margins driving them under. Third, households were impacted as high soybean costs flowed through to consumer prices for vegetable oil. The feed and breeding stock cost of growing a commercial chicken doubled from the first half of 2021 to the end of the year (see table). While the price of live chickens sold in central Malawi increased, when the costs of production are taken into account (including additional costs on top of feed), the price did not cover costs.

	Jan–May 2021 (Malawi kwacha)	21 Nov–22 Jan (Malawi kwacha)
Day-old-chick	495/chick	800/chick
Animal feed	260/kg	514/kg
Animal feed cost (for 1.9kg chicken; feed conversion ratio of 1.8kg feed per kg of chicken)	889/chicken	1 757/chicken
Feed plus day-old-chick cost	1 384	2 557
Sale price of chicken	2 400/chicken	2 600/chicken

To understand what happened to cause this ‘margin squeeze’ on poultry producers, we need to consider who the main traders and processors are. The main traders of soybeans are the large crushing companies which operate in Malawi and across ESA (Nsomba et al., 2022). These companies are closely linked with those producing and selling animal feed and breeding day-old chicks. It appears as if these companies rapidly increased their selling prices of feed as well as of constituents such as oilcake, even while exporting at a much lower price. For example, an export customer could pay US\$600/t for Malawian oilcake in January 2022, while local customers were being charged prices in excess of US\$1 000/t.

It appears that traders and processors made very high returns over the year while squeezing independent downstream poultry producers, who saw their margins disappear. Small-scale poultry production is an important activity for lower-income households. The implication is that effective competition enforcement for fair markets is required alongside policies to support smaller producers.

The improved pricing information provided by the AMO has proven to be valuable to smaller market participants in 2022. For example, farmer co-operatives across Malawi and now in Tanzania and Rwanda negotiated 30% better prices for exports from Malawi in 2022 due to being aware of the prevailing prices across East Africa.⁸ On sales of 1 500 tonnes, the US\$200/t more amounted to an additional US\$300 000 for farmers in the co-operative. This enables farmers to reinvest in improved and more climate-resilient production. Other small farmers have invested in their own storage facilities and in building links with small poultry producers to ensure alternative markets.

However, the smaller farmers that are at the heart of the agriculture value chains in Africa face an uphill battle. The trading and processing levels of the value chain which are the main buyers are highly concentrated. In trading and processing of soybeans, a few large companies with operations across ESA dominate markets. They have spread through mergers and acquisitions and have cross-shareholdings among themselves (Nsomba et al., 2022). This raises major concerns about the market power which they can exert, as well as their ability to lobby for regulations and policies to favour themselves over smaller producers and buyers.

Fertiliser prices

World fertiliser prices doubled from September to November 2021 (Figure 6), on the back of sharply higher natural gas prices. African countries, which rely on imports, saw prices go even higher. Countries have been faced with importing less and reducing the fertiliser subsidies which have generally been provided to smaller farmers.

In the longer term, the answer includes moving to farming methods which require less fertiliser; however, this requires investments which can only be supported if farmers achieve better prices for their crops.

The impacts of the fertiliser prices are already being felt in the harvests in 2022. Zambia’s maize production in the 2021/22 crop season declined by almost 25% to 2.7 million tonnes.⁹ This drop in production has been attributed to a reduction in the area planted and lower yields as a result of poor returns to farmers and the high cost of fertiliser relative to low maize prices. Farmers have diverted planting from maize to soybean as soybean requires less fertiliser; however, the increase in soybeans of 64th tonnes is much less than the reduction in maize. In South Africa, commercial planting of maize was also down substantially, and farmers shifted to an extent to crops such as soybeans and sunflower. Maize production in the 2022/23 season is predicted to fall by 19% in Malawi and 16% in Tanzania compared with the previous year.¹⁰

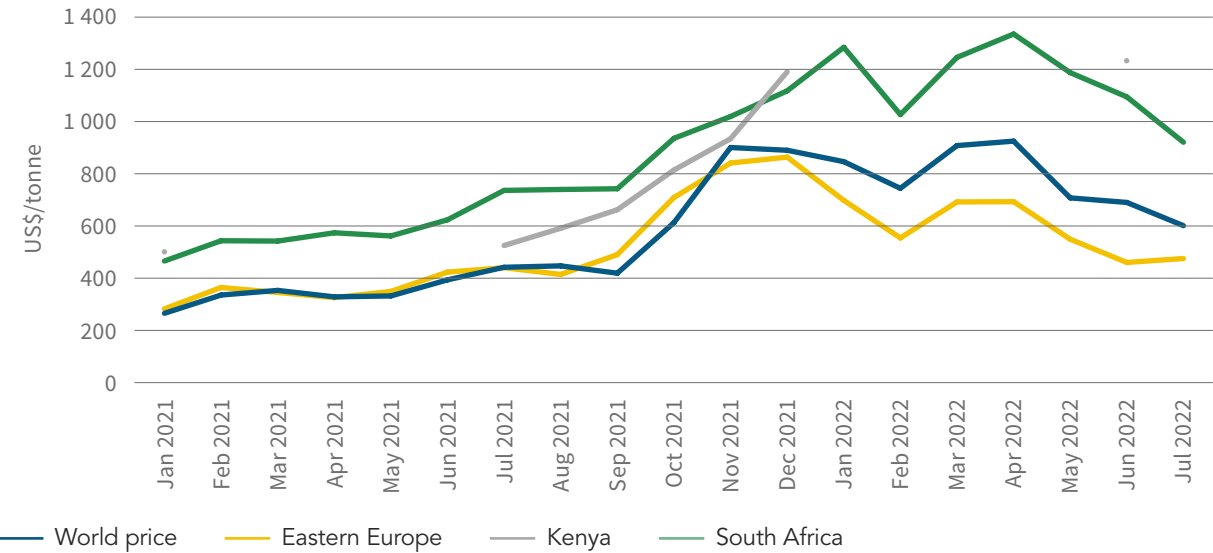
The production changes in responses to global shocks, climate change and poorly working regional markets all reinforce the importance of supporting farmers to grow a diversity of produce and invest in climate resilient and regenerative farming practices. In turn, this requires good and relatively stable prices for their produce instead of the poor and highly volatile prices observed.

The climate emergency, COVID-19 and now Russia’s invasion of Ukraine have all pointed to the importance of ensuring resilient regional value chains in Africa. A regional industrial strategy that takes into account the dynamics of regional (and global) value chains and promotes regional linkages is

necessary. This strategy needs to address: climate change implications; investments in improved water management, grain storage and logistics; better markets working for

smaller farmers; the growing and urbanising population with shifting preferences; and lowering barriers to the entry for smaller agribusinesses.

FIGURE 6: UREA PRICES



Source: World price is from the World Bank. Eastern Europe and 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.

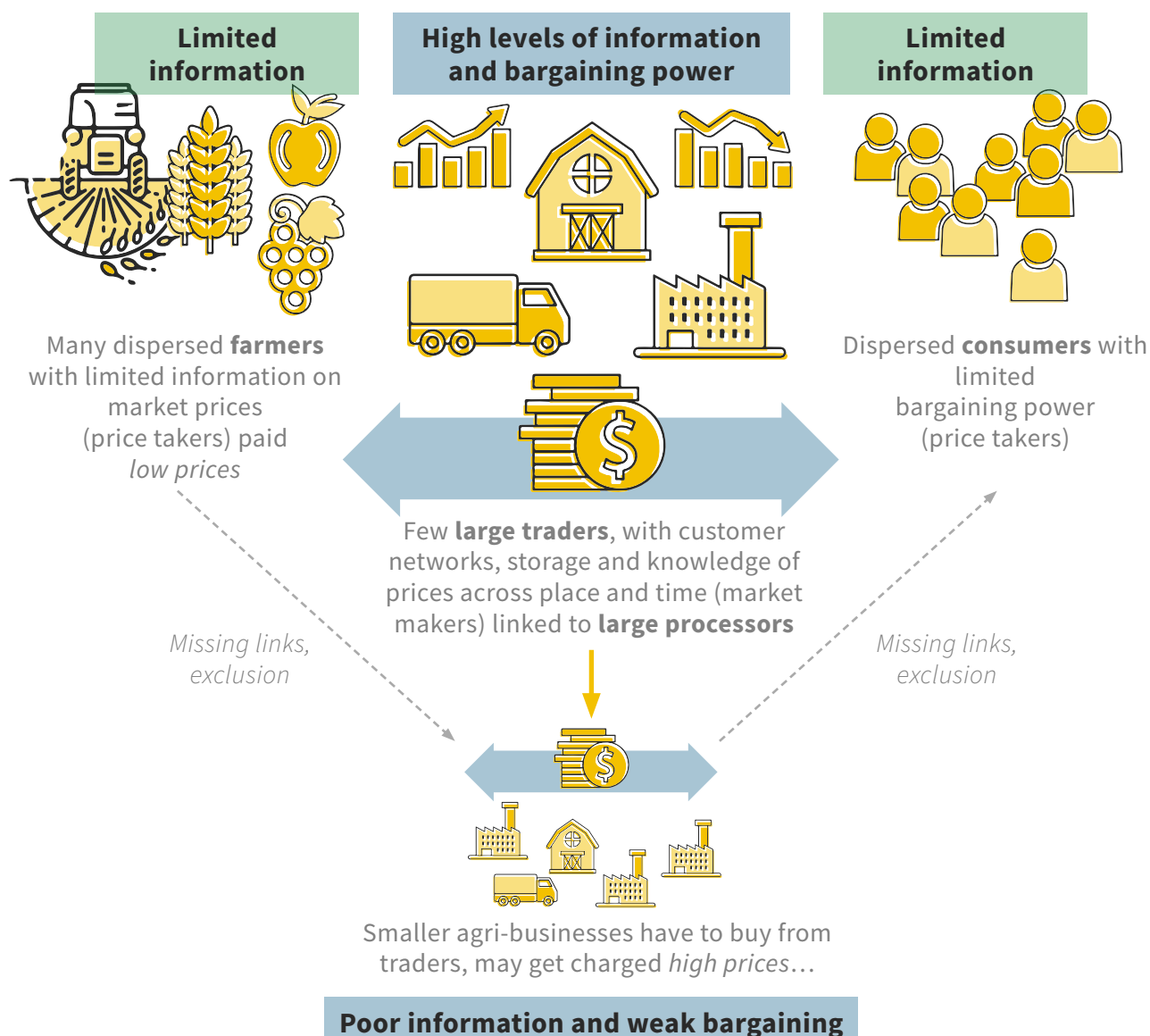


4. CASE FOR THE MARKET OBSERVATORY AND EFFECTIVE COMPETITION ENFORCEMENT

The agenda is necessarily ambitious as time is rapidly running out. We need to urgently reshape value chains and markets through three closely related areas for action.

First, we need appropriate policies to support resilient and inclusive regional value chains. This means investing in the necessary infrastructure and support for farmers and

FIGURE 7: KNOWLEDGE IS POWER: CHANGING THE BALANCE OF BARGAINING POWER IN AGRI-FOOD



Source: Compiled by authors

agroprocessors. There must be a substantial expansion in irrigation, storage and logistics. It should be self-evident that investing in better use of water is essential yet much of African agriculture is rainfed and at the mercy of more frequent and severe weather shocks. Better transport logistics is a part of the picture. The price wedge between producing and consuming areas is partly due to the high costs of cross-border transport (although margins have been far in excess of this). Estimates of US\$150–200/t from Zambia to Kenya compare with US\$60–90/t for the similar distances of over 2 000 kilometres in road transport in Brazil from growing areas to the main ports and coastal cities.

Government policies need to support smaller producers, including through cutting down the barriers they face (Vilakazi, Goga and Roberts, 2020). A package of measures should include access to routes to market for these businesses, providing development finance and effective support for skills and technology adoption. These are part of green and inclusive industrial policies tailored to sectors and value chains, investing in shared infrastructure, advisory services and finance as part of a green industrial policy for food (Andreoni et al., 2021). Real economic transformation requires sustained support for the capabilities of African entrepreneurs and farmers.

Second, it is essential to monitor markets in real time as climate change implies more frequent and deeper shocks. Through collating prices within and across countries at different levels of value chains, the AMO can assess where markets are not working well. It can identify where there are excess margins and obstacles which harm smaller producers and consumers in particular (see Figure 7). Through providing a robust knowledge base, the AMO is an agent for change for healthy, inclusive and resilient markets, identifying the mix of policies, investments, regulatory reform and competition enforcement required.

Building the package of measures to change direction will also require trial and error. Both need ongoing information gathering and analysis by public bodies in order to advise government and to improve the bargaining position of smaller market participants in relation to the multinational traders (Fanzo et al., 2021). The monitoring needs to be of production, prices and patterns of consumption to ensure early warning of the impacts of shocks and the tracking of the effects of interventions. Huge amounts of this data are being collated by private market participants. It is necessary that it can be assessed in the public interest (as is the case in observatories such as that of the European Union). Instead,

the concentration of data in the hands of the large integrated firms has increased their lobbying power and enabled them to make large arbitrage margins and speculate in response to climate shocks (Nsomba et al., 2021).

Third, we need effective referees for markets. This is a role for competition authorities. Some African countries have built strong national competition institutions and the Competition Commission of the Common Market of Eastern and Southern Africa (COMESA) has established a regional merger review and is extending its work to enforcement. However, our assessment points to the imperative to ramp up the powers and capacities of these institutions to make regional markets work more effectively. This means tackling cross-border market division and price-fixing cartels, placing the onus on dominant firms to justify conduct which undermines smaller businesses and tackles concentration of economic power. Competition authorities must be active referees updating the rules for changes in technologies and practices, and to ensure that we consider the effects of firm conduct across the economy. The agenda being advanced with regard to digital platforms shows the way, with changes to place the onus on ‘gatekeeper firms’ not to distort competition in mergers and abuse of dominance cases. We need to go further if we are to square up to the reality of the past three decades and the enormity of the transformation challenge posed by climate change on top of the entrenched levels of inequality. We need to incentivise investment in new productive capabilities in sustainable food supply, with a diversity of approaches and business models (Mondliwa, Goga and Roberts, 2021).

These three main areas are mutually reinforcing if we are to achieve healthy, growing regional food systems based on investment in the future and inclusion. The opportunity to adapt and grow must take advantage of the abundant water resources within the region and the fact that when there are extreme weather events in some parts of the region, conditions remain good in others. The reality, however, is fragmentation, national agendas and beggar-thy-neighbour policies. Political leadership is urgently required and civil society mobilisation must demand this.

A ‘farm to fork’ strategy for the continent requires concrete actions in key value chains, not policy pronouncements without follow-through. This is essential for the investments in improved farming practices, regenerative agriculture, and diversified seeds and crops. Without fair markets and prices to farmers, they are not able to make the longer-term investments required.

REFERENCES

- AGRA. 2021. Africa agriculture status report. A decade of action: Building sustainable and resilient food systems in Africa (Issue 9). Nairobi, Kenya: Alliance for a Green Revolution in Africa (AGRA).
- Allen, T. 2017. The cost of high food prices in West Africa, *West African Papers* No. 8. Paris: OECD Publishing, <https://doi.org/10.1787/c2db143f-en>
- Andreoni, A, P. Mondliwa, S. Roberts and F. Tregenna. 2021. Towards a new industrial policy for structural transformation. In A. Andreoni, P. Mondliwa, S. Roberts and F. Tregenna (eds), *Structural Transformation in South Africa: The Challenges of Inclusive Industrial Development in a Middle-Income Country*. Oxford: OUP, pp.337–361.
- Annan, K., G. Conway and S. Dryden. 2015. African farmers in the digital age: How digital solutions can enable rural development. *Foreign Affairs*, November/December (special issue).
- Baulch, B., A. Jolex and P. Mkandawire. 2021. A new method for crowd-sourcing ‘farmgate’ prices in Malawi. IFPRI, Lilongwe, 23 June.
- Bell, J., J. Fleming, S. Roberts and T. Vilakazi. 2020. Maize and soybeans markets in the Southern and East African regions: The case for a regional market observatory. CCRED Working Paper 2020/2.
- Bergquist, L.F. and M. Dinerstein. 2020. Competition and entry in agricultural markets: Experimental evidence from Kenya. *American Economic Review*, 110(12), 3705–3747.
- Blas, J. and J. Farchy. 2021. *The World for Sale*. London: Random House Business.
- Bonilla Cedrez, C., J. Chamberlin and R. Hijmans. 2020. Seasonal, annual, and spatial variation in cereal prices in sub-Saharan Africa. *Global Food Security*, 26, <https://doi.org/10.1016/j.gfs.2020.100438>.
- Bosiu, T., R. das Nair and A. Paelo. 2017. Part VI: Case Studies Chapter 1: Insights from selected value chains in South Africa. In I. Lianos, *Global Food Value Chains and Competition Law*. BRICS Draft Report, Centre for Law Economics and Society, UCL.
- Brahmbhatt, M., C. Haddaoui and J. Page. 2017. Green industrialisation and entrepreneurship in Africa. *Working Paper*, <https://newclimateeconomy.report/workingpapers/wp-content/uploads/sites/5/2017/10/Green-Industrialisation-and-Entrepreneurship-in-Africa.pdf>.
- CCSA (Competition Commission South Africa). 2021. *Measuring Concentration and Participation in the South African Economy: Levels and Trends. Main Report*. November 2021. <https://www.compcom.co.za/wp-content/uploads/2021/12/Concentration-Tracker-Main-Report-1.pdf>.
- Clapp, J. 2017. *Bigger Is Not Always Better: Drivers and Implications of the Recent Agribusiness Mergers*. Waterloo, ON: Global Food Politics Group, University of Waterloo.
- Clapp, J. 2021. The problem with growing corporate concentration and power in the global food system, *Nature Food*, 2, pp.404–408.
- Clapp, J., W. Moseley, B. Burlingame and P. Termine. 2022. Viewpoint: The case for a six-dimensional food security framework. *Food Policy*, 106, p.102–164.
- Crippa, M. et al. 2021. Food systems are responsible for a third of global anthropogenic GHG emissions. *Nature Food*, 2, pp.198–209.
- Engelbrecht, F.A. and P.M.S. Monteiro. 2021. The IPCC Assessment Report Six Working Group 1 report and southern Africa: Reasons to take action. *South African Journal of Science*, 117(11/12), Art. #12679. <https://doi.org/10.17159/sajs.2021/12679>.
- ETC. 2019. Plate tech-tonics: Mapping corporate power in big food. ETC Group, https://etcgroup.org/sites/www.etcgroup.org/files/files/etc_platetechtonics_a4_nov2019_web.pdf.
- Fanzo, J. et al. 2021. Viewpoint: Rigorous monitoring is necessary to guide food system transformation in the countdown to the 2030 global goals. *Food Policy*, 104, <https://doi.org/10.1016/j.foodpol.2021.102163>
- Folke, C., H. Österblom, J.B. Jouffray et al. 2019. Transnational corporations and the challenge of biosphere stewardship. *Nature Ecology and Evolution*, 3, pp.1396–1403.
- Howard, P.H. and M.K. Hendrickson. 2020. The state of concentration in global food and agriculture industries. In H. Herren, B. Haerlin and IAASTD +10 Advisory Group (eds), *Transformation of Our Food Systems: The Making of a Paradigm Shift*. Berlin: Zukunftsstiftung Landwirtschaft.
- IPCC. 2021. *Sixth Assessment Report*. IPCC. Retrieved from <https://www.ipcc.ch/report/ar6/wg1>.
- IPES-Food. 2017. Too big to feed: Exploring the impacts of mega-mergers, concentration, concentration of

- power in the agri-food sector. Available at: www.ipes-food.org (Accessed 2 November 2020).
- Klerkx, L. and D. Rose. 2020. Dealing with the game-changing technologies of Agriculture 4.0: How do we manage diversity and responsibility in food system transition pathways? *Global Food Security*, 24, <https://doi.org/10.1016/j.gfs.2019.100347>.
- Mondliwa, P., S. Goga and S. Roberts. 2021. Competition, productive capabilities and structural transformation in South Africa. *European Journal of Development Research*, 33, 253–274.
- Nakamura, S., R. Harati, S. Lall, Y. Dikhanov, N. Hamadeh, W. Oliver, M. Rissanen and M. Yamanaka. 2016. Is living in African cities expensive? World Bank Policy Research Working Paper 7641.
- Nsomba, G., S. Roberts, N. Tshabalala and E. Manjengwa. 2022. Assessing agriculture and food markets in Eastern and Southern Africa: An agenda for regional competition enforcement. CCRED African Market Observatory Working Paper.
- Ochieng, D., R. Both and B. Baulch. 2019. Structure, conduct and performance of maize markets in Malawi: Synopsis. MaSSP Working Paper 29. Lilongwe, Malawi: International Food Policy Research Institute.
- OECD. 2018. *Concentration in Seed Markets: Potential Effects and Policy Responses*. Paris: OECD.
- Rao, J. and R. Ren. 2017. Parallel comparison of the 1982/83, 1997/98 and 2015/16 super El Niños and their effects on the extratropical stratosphere. *Advances in Atmospheric Sciences*, 34(9), pp.1121–1133.
- Reardon, T. 2015. The hidden middle: The quiet revolution in the midstream of agricultural value chains in developing countries. *Oxford Review of Economic Policy*, 31(1), pp.45–63.
- Reardon, T., D. Tshirley, L.S. Liverpool-Tasie, T. Awokuse, J. Fanzo, B. Minten, R. Vos et al. 2021. The processed food revolution in African food systems and the double burden of malnutrition. *Global Food Security*, 28, <https://doi.org/10.1016/j.gfs.2020.100466>.
- Roberts, S. 2019. (Re)shaping markets for inclusive economic activity: Competition and industrial policies relating to food production in Southern Africa. In R. Kanbur, A. Noman and J.E. Stiglitz (eds), *The Quality of Growth in Africa*. New York: Columbia University Press, chapter 10, pp.295–321.
- Sitko, N. and B. Chisanga. 2017. How multinational investments in grain trading are reshaping Zambia's market. In J. Klaaren, S. Roberts and I. Valodia (eds), *Competition Law and Economic Regulation: Addressing Market Power in Southern Africa*. Johannesburg: Wits University Press, Press, pp.151–171.
- Sitko, N.J., W.J. Burke and T.S. Jayne. 2018. The quiet rise of large-scale trading firms in East and Southern Africa. *The Journal of Development Studies*, 54(5), pp.895–914. DOI:10.1080/00220388.2018.1430773.
- Swinnen, J. 2015. Changing coalitions in value chains and the political economy of agricultural and food policy. *Oxford Review of Economic Policy*, 31(1), pp.90–115.
- Swinnen, J. 2020. Competition, market power, surplus creation and rent distribution in agri-food value chains – Background paper for the State of Agricultural Commodity Markets (SOCO) 2020. Rome, FAO.
- Torshizi, M. and J. Clapp. 2021. Price effects of common ownership in the seed sector. *The Antitrust Bulletin*, 1–29.
- Vilakazi, T. and S. Roberts. 2019. Cartels as 'fraud'? Insights from collusion in southern and East Africa in the fertiliser and cement industries. *Review of African Political Economy*, 46(161): pp.369–386.
- Vilakazi, T., S. Goga and S. Roberts (eds). 2020. *Opening the South African Economy? Barriers to Entry, Regulation and Competition*. Cape Town: HSRC Press.
- WMO (World Meteorological Organization). 2020. *State of the Climate in Africa 2019*. Geneva: WMO.

ENDNOTES

- 1 <https://www.ifad.org/thefieldreport/>
- 2 See also IPES-Food (2017) for estimated international shares; Blas and Farchy (2021); Bosiu, Das Nair and Paelo (2017).
- 3 See AGRA Food Security Monitor, no. 26, June 2022.
- 4 www.competition.org.za/africanmarketobservatory
- 5 <https://www.bbc.co.uk/news/world-africa-62241225>
- 6 <https://www.businessdailyafrica.com/bd/markets/commodities/cost-of-flour-set-to-shoot-up-as-subsidy-ends-next-week-3911624>
- 7 Based on 12.2 million households from the latest census in 2019 and a US\$482 million overcharge over 12 months.
- 8 The Clinton Development Initiative is working with around 35 000 farmers in Malawi, 35 000 in Rwanda and 24 000 in Tanzania.
- 9 <https://www.iapri.org.zm/government-announces-the-2021-2022-crop-forecast-survey-results-and-food-balance-sheet/>
- 10 <https://ipad.fas.usda.gov/countrysummary/default.aspx?id=MI&crop=Corn> <https://ipad.fas.usda.gov/countrysummary/default.aspx?id=TZ&crop=Corn>, accessed 4 September 2022.



ABOUT THE AFRICAN CLIMATE FOUNDATION

The African Climate Foundation (ACF) is the first and only African-led and fully African-run climate change re-granting organisation on the continent. Through its grant making and thought leadership, the ACF seeks to support interventions at the nexus of climate change and development that have the greatest potential to deliver long-term socio-economic transformation and inclusive development in Africa.

ABOUT THIS SERIES

This report forms part of the ACF's African Food System Transformation Collective thought leadership series. The African Food System Transformation Collective is a network of African scholars, researchers and campaigners working on the structural, environmental and political factors impeding food security on the continent. It seeks to identify interventions to rapidly improve the resilience of Africa's food systems to ensure that they meet the needs of current and future generations.

ABOUT THE AUTHORS

Simon Roberts is a Professor of Economics at the University of Johannesburg, in the Centre for Competition, Regulation and Economic Development (CCRED) and a Global Practitioner at Strathclyde University. He has been an economics director at the UK's Competition and Markets Authority and the Chief Economist at Competition Commission South Africa. His current focus areas are: competition, markets and sustainability; and, industrial development and regional value chains in Southern and East Africa.

Ntombifuthi Tshabalala is an Economist and Assistant Lecturer at the Centre for Competition, Regulation and Economic Development (CCRED) at the University of Johannesburg. She is currently completing a Master of Commerce degree in Development Economics from the University of Johannesburg. Her research interests include competition policy, food value chains and cartels in Southern and East Africa.

ABBREVIATIONS AND ACRONYMS

ACF	African Climate Foundation	ENSO	El Niño Southern Oscillation
AMO	African Market Observatory	ESA	East and Southern Africa
AGRA	Alliance for a Green Revolution in Africa		
COMESA	Common Market of Eastern and Southern Africa		



The opinions expressed in this paper are those of the authors. They do not purport to reflect the opinions or views of the ACF.