



AFRICAN DEVELOPMENT BANK GROUP

# AFRICA ECONOMIC BRIEF

2023 | VOLUME 14 | ISSUE 2  
VICE PRESIDENCY FOR ECONOMIC  
GOVERNANCE AND KNOWLEDGE MANAGEMENT

## COVID-19, Agricultural Growth, and Food Insecurity in Africa

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### KEY MESSAGES

- The number of severely food insecure people shot up by 20.9 percent in 2020, while agriculture served as a buffer sector during the COVID-19 crisis in several African countries, with steady production growth of 2.3 percent.
- COVID-19 pandemic and associated lockdowns played an important role in the rise in staple food prices and food shortages, exacerbating existing structural constraints to food security in Africa.
- High dependence on rainfall, structural disparities in food supply between food-surplus and food-deficit regions, poor infrastructure quality, persistent conflicts, and climate change all make agriculture vulnerable to a global risk such COVID-19.
- Policy solutions include more sustainable social protection, price stabilization for basic foods, agricultural disaster funds, investments to raise agricultural productivity, large-scale agro-fertilizer industries, improved food transport infrastructure, and elimination of barriers to food trade.
- Financial resources need to be mobilized to support agricultural sector transformation, food supply chain enhancement and intra-African food trade and market integration.

### 1 | INTRODUCTION

Paradoxically, while agriculture appears to be a buffer sector during the COVID-19 crisis in several Sub-Saharan African countries with agricultural production (Amankwah et al., 2021; Zeufack et al., 2021), food insecurity in Africa seems to be increasing (Food and Agriculture Organization et al., 2021). The negative effect of COVID-19 in addition to border disruptions and anti-COVID-19 policy measures have impacted all stages of agricultural value chains, from input supply to production, distribution logistics, and consumption,

elevating the risks of food insecurity, hunger, and malnutrition (Morsy et al., 2021). Laborde et al. (2020) point out that all pillars of food security (availability, access, utilization, stability) have suffered from COVID-19-induced disturbances in the global food system. With global food exports barely affected, it was expected that developing economies, particularly those in Africa that rely on food imports, would suffer the worst effects (Espitia et al., 2020). Rising food prices due to import shortages of certain grains, such as rice, were expected to pose a particular challenge to food access and availability. Indeed, recently published statistics by FAO et al. (2021)

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confirm that the COVID-19 pandemic has increased food insecurity in Africa. Compared with 2019, an additional 46 million people in Africa were affected by hunger and 59.9 million by severe food insecurity in 2020.

Food insecurity has long been of grave concern to policymakers (Ibukun and Adebayo, 2021). Over the past few decades, heads of states have taken several initiatives to effectively address the challenges of food insecurity in Africa. The current foundational programme is the Comprehensive Africa Agriculture Development Programme (CAADP), which follows the 2003 Maputo Declaration and the 2014 Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods. The goal is to accelerate investments to transform African agriculture and, by 2025, triple intra-African trade in agricultural commodities and services. While several national agricultural investment plans have now been designed and are being implemented, it appears that very few of them have been successful in addressing the food insecurity issue. As a result, many people, including farmers, feel significantly vulnerable (FAO et al., 2020).

At the continental level, the AfDB has provided much-needed financial and technical assistance to the sector through governments. In particular, in June 2020, it promptly created an institutional framework and launched the Feed Africa Response to COVID-19 (FAREC), a strategic roadmap to safeguard food security against the pandemic's impact by supporting agriculture and creating regional food self-sufficiency (AfDB, 2020). This strategy is aligned with the Feed Africa Strategy<sup>2</sup>, one of the African Development Bank's key priorities (AfDB, 2016). To this end, more than 20 African countries benefited from the FAREC with substantial mitigation of the negative impact of COVID-19.

Meanwhile, the agricultural sector revealed significant resilience, with the capacity to withstand a systemic crisis, even without adequate government and donor support (WTO, 2020; Zeufack et al., 2021). Despite disruptions at various levels of agricultural value chains, this resilience of the agricultural sector is a stark reminder to governments not only of the importance of the sector but also of the need to further reinforce its resilience ahead of future shocks (WTO, 2020). Nevertheless, the overall resilience of the agricultural sector in Africa to the negative effects of COVID-19 may mask individual regional or country effects. And increased agricultural production does not necessarily translate into either increased or decreased food security. Since there are many channels to food insecurity, particularly in this context of the COVID-19 crisis, there is a need to assess it differently by answering the following questions:

Has the COVID-19 epidemic led to greater food insecurity despite agricultural growth in Africa? To what extent is increased food insecurity associated with COVID-19? Are African regions/countries uniformly affected by this crisis? What are the key factors of the current increase in food insecurity in Africa?

In this paper, we examine the potential relationship between COVID-19 and food insecurity despite increased agricultural production in Africa, with a focus on all five subregions' experiences. Prior to COVID-19, agricultural production, despite some fluctuations, was growing, and Africa was still importing food (particularly rice grains) albeit less than in the past. Food security was highly debated in light of demographic pressures and agricultural performance. Although the pandemic may represent an opportunity for the diversification of agricultural crops with massive investment (Koloma and Kemeze, 2021), COVID-19 has exacerbated food insecurity, especially by increasing the number of severely food insecure people (SFIP).

Recent literature has focused on the impact of COVID-19 on food security, the determinants of food insecurity, and household-coping strategies (Dandonougbo et al., 2021; Ibukun and Adebayo, 2021), but few studies have questioned why food insecurity persists despite the decades-long increase in agricultural production. Moreover, current studies focus more on the national or Africa-wide level, and few on the sub-region level. To answer the questions raised above, we draw on a brief literature review and data from various sources, mainly FAOSTAT, the World Bank database, and other public and reputable sources.

This is a crucial public policy issue because it questions the effectiveness of currently implemented policies and how they are targeted. Perhaps current public policies are overly quantitative—i.e., aimed at production growth—and ignore the redistributive dimension of their implementation, failing to search for improved redistribution of the production surplus between excess and deficit areas.

The rest of the paper is organized as follows. Section 2 presents a brief literature review, focusing primarily on studies that discuss the empirical nexus between COVID-19, agricultural growth, and food insecurity. Section 3 analyses some stylized facts regarding trends in agricultural production, productivity growth, food insecurity indicators, and food imports over the last few decades in Sub-Saharan Africa, before discussing the potential impact of COVID-19 on food security. Section 4 reports on interventions by governments and partners to address food insecurity issue. Section 5 concludes and provides policy recommendations.

## 2 | LINKAGES BETWEEN AGRICULTURAL GROWTH AND FOOD INSECURITY

We look at why food insecurity increases despite agricultural growth, particularly in the context of COVID-19. According to FAO (2003), food insecurity refers to a situation where it is physically, materially, and economically difficult to access sufficient food to meet the dietary needs for a productive

<sup>2</sup> This strategy aims to transform African agriculture into a globally competitive, sustainable, inclusive, and business-oriented sector, creating wealth, generating employment, and improving quality of life (AfDB, 2016).

and healthy life. Therefore, the occurrence, existence, or maintenance of food insecurity is determined by several factors.

One of the primary links between agriculture performance and food insecurity is the incapacity of the agricultural sector to provide enough growth in staple food production to the population. In Africa, agricultural performance is generally constrained by climate conditions (rainfall variability, droughts or flooding, locust infestations), deficient infrastructure, low investment in physical capital, the small size of farms, soil erosion, low use of fertilizers, or the extremely low level of mechanization (McArthur and McCord, 2017). Pawlak and Kołodziejczak (2020) argue that constraints on agricultural production and deficient infrastructure play a key role in food insecurity in African countries, where agriculture's share in gross domestic product (GDP) is large. This generally also means the presence of less-skilled labour-intensive agriculture, which appears to be less productive and unable to provide enough food for all as well as generate substantial income for farmers. In addition, the impact of limited public investment and access to financing is exacerbated by the great pressure on food availability and accessibility due to rapid population growth in Sub-Saharan Africa. This often results in increased food insecurity, despite (marginal) increases in cereal yields, for example (Otsuka, 2013). Along these lines, Bonuedi et al. (2020) point out that increasing agricultural production can coexist with extreme hunger. Simply boosting and diversifying food production (and incomes) is not enough to effectively address the problems of food insecurity and malnutrition. The seasonality of staple foods also contributes to transient and even moderate and severe food insecurity. COVID-19 and subsequent countermeasures exacerbated the above mechanism, through various channels, inducing reductions in labor supply and increases in input prices, particularly for already vulnerable farmers (Agyei et al., 2021).

Second, world crises led generally to a shortage in exports and imports of food. The current COVID-19 pandemic is no exception, and reduced Africa's capacity to address food gaps. Food shortages cause an increase in food prices and render it difficult to access food (Agyei et al., 2021). For Paskakis et al. (2020), increases in food prices, food shortages, and income losses cannot be disassociated from the COVID-19 pandemic, which led to restrictions on movements, lockdowns, and frontier closures. In particular, COVID-19 has caused job losses, firm closures, and income losses that have made it difficult for many households to buy food in both rural and urban areas. This is why many governments have deployed accommodative short-term measures to combat the negative effects of COVID-19, using instruments such as food and cash transfers to address food insecurity. For instance, Ibukun and Adebayo (2021) report that 58.5 percent of surveyed households in Nigeria

experienced severe food insecurity due to COVID-19 and 24.5 percent were moderately food insecure. They indicate that socioeconomic variables such as education, income, and wealth are the main determinants of food security during the pandemic. In the same vein, Dandonougbo et al. (2021) show in Togo that households whose head has lost his/her job are more exposed to a drop in income and therefore to a reduction in their food consumption. While cash transfers to vulnerable people have a non-significant effect on their income, recipients are more likely to withstand the effects of the pandemic when the education level of their head of household is high. Arguing along the same lines, Holleman and Conti (2020) show that increases in GDP per capita are correlated with declines in individual food security but indicate that despite economic growth and increases in per capita GDP in Africa, access to food is still a challenge for many populations due to persistent and high levels of income inequality<sup>3</sup>, which keep large numbers of people moderately or severely food insecure. Income inequality tends to compromise the quality and/or quantity of food consumed by significantly undercutting the positive effect of economic growth on individual food security. Consequently, improving income of vulnerable populations, reducing income inequality, and facilitating economic growth should help reduce food insecurity (Holleman and Conti, 2020).

Why does food insecurity persist despite the increase in agricultural growth? First, some African countries and subregions are unable to increase production as fast as the growth of the population, which also tends to become more demanding in terms of quality and variety of food. With increased demand by the African population for food, African agriculture capacity to service this demand through an expansion in the food supply is uncertain (Pawlak and Kołodziejczak, 2020). So, food productions should be sustainable to keep up with the current demand and that for future generations (Mozumdar, 2012). Second, Bonuedi et al. (2020) find that, despite considerable challenges, increases in per capita food production and agricultural productivity have been observed in most African countries, but in the presence of substantial chronic hunger and poor nutrition. They suggest that poor trade facilitation is a significant driver of food insecurity in Africa, preventing the flow of food from surplus-producing areas to consumers in neighboring food-deficit markets. In addition, while trade appears to stabilize food availability and prices for some African countries (World Bank, 2007), the heavy dependency on limited sources of food imports can be a factor of great vulnerability.

Therefore, to increase agricultural growth and productivity and combat food insecurity, we recommend tackling issues related to transportation, logistics costs, conflicts, climate variability, including droughts and floods, infrastructure deficits, high food prices, governance, trade barriers, regional integration, and population growth.

<sup>3</sup> Several countries in Africa (and Asia)—the regions with the highest levels of food insecurity—have seen large increases in income inequality in the past 15 years (Holleman and Conti, 2020).

### 3 | RECENT TRENDS IN AGRICULTURAL OUTPUT GROWTH AND FOOD INSECURITY IN AFRICA

In most African countries, the agricultural sector continues to play a vital role in the livelihoods of more than half of the African population (OECD-FAO, 2016) and for improving food availability and achieving food security (Pawlak and Kotodziejczak, 2020).

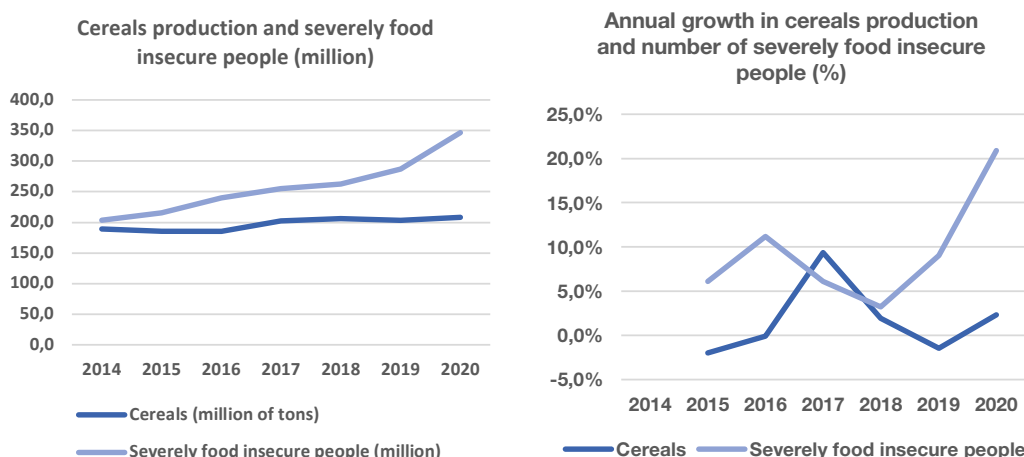
Between 2014 and 2020, agricultural production (expressed as cereal production) and food insecurity (expressed as the number of severely food-insecure people) in Africa both increased, the latter very rapidly (Figure 1). The annual growth rate further illustrates the contrast between food insecurity and food production with different phases. From 2014 to

2016, a 1.04 percent decline in cereals production led to an 8.7 percent in severe food insecurity on average. From 2016 to 2019, grain production increased by an average of 3.3 percent annually, which helped slow severe food insecurity growth by 2.5 percentage points. In 2020, growth in severe food insecurity was 20.9 percent while the agricultural production increased by 2.3 percent.

More specifically, growth in cereal production increased by 3.4 percent over 2000–2019 while average growth in cereal yield was about 1.4 percent (Figure 2). Production of cereals and even root crops increased substantially, mainly thanks to more land being cultivated rather than increases in land productivity (Giller, 2020).

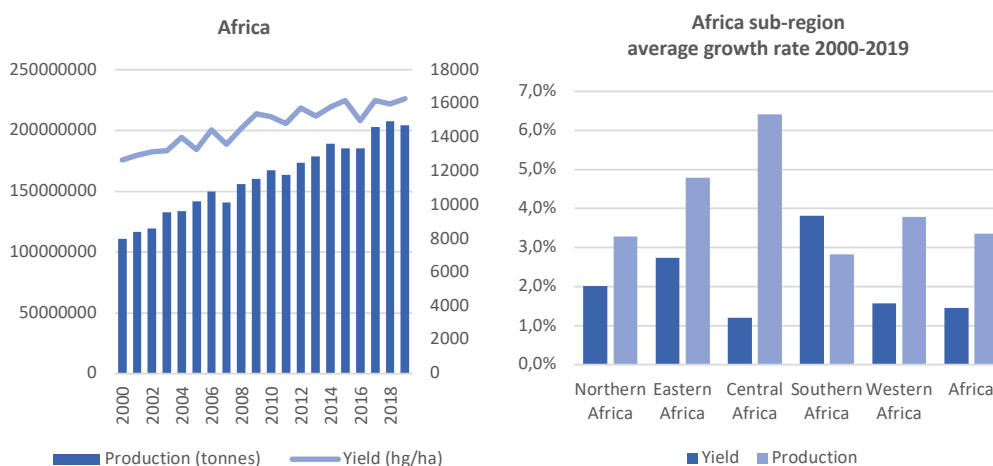
There is variation between regions. Central Africa saw higher growth in cereal production (6.4 percent) on average over the two decades, whereas the Southern region's per-

**FIGURE 1 INCREASE IN CEREAL PRODUCTION AND NUMBER OF SEVERELY FOOD INSECURE PEOPLE IN AFRICA**



**SOURCE** Authors' calculations based on data from FAOSTAT database (accessed November 2021).

**FIGURE 2 INCREASE IN CEREAL PRODUCTION AND YIELD OVER 2000–2019 IN AFRICA**



**SOURCE** Authors' calculations based on data from FAOSTAT database (accessed November 2021).

formance (2.8 percent) was below Africa’s average. By contrast, average yield growth was higher in the Southern region (3.8 percent) and lower in Central Africa (1.2 percent) than in other regions. Data suggests that Central Africa region is the most inefficient region in terms of agriculture production, indicating that increased production is due to land extension rather than intensification. Overall, most African countries and subregions have seen agricultural growth rates above 2.7 percent—which is the average annual population growth rate—over the past two decades.

Disruptions associated with anti-COVID-19 measures have led to logistical challenges, causing problems in supply chains that have had a limited impact on the trend of the production growth. Despite the COVID-19 crisis, the agricultural growth trend remained almost stable in 2020. Production recorded 3.4 percent year-on-year growth in the 4th quarter of 2020 in Africa (Zeufack et al., 2021). This statistic was confirmed with data in Figure 2, which shows that Africa cereal production and yield increased by 2.3 percent and 0.7 percent respectively between 2019 and 2020 (Figure 3). But there is a strong disparity among Africa sub-regions.

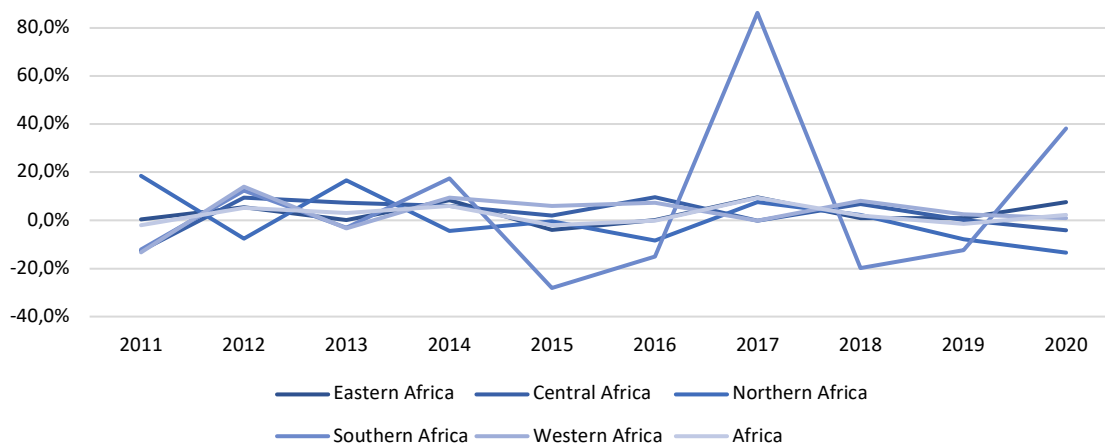
Two groups of subregions illustrate this disparity: those where cereal production increased in 2020, namely Southern Africa (38.2 percent), Eastern Africa (7.6 percent) and Western Africa (1 percent); and subregions where cereal production fell, namely Northern Africa (-4.1 percent) and Central Africa (-13.4 percent). The largest increase in yield was in Southern Africa (10.7 percent) followed by Western Africa (1.4 percent) and Central Africa (0.9 percent) while the decline in cereal yield was observed in Northern Africa (-8.4 percent) and Eastern Africa (-2.9%) (Table A1 in Annex). FAO (2020a) provides some reasons for the difference in performance between these sub-regions. The high production recorded in Southern Africa appears to be the result of favourable weather conditions in the second half of the season that pushed up crop yields and harvested areas. In Eastern Africa, in addition to large-scale locust

control operations, abundant seasonal rainfall had an overall positive impact on cereal crops and total production in 2020. In West Africa, unfavorable weather conditions and persistent conflicts limited the increase in cereal production. In Northern Africa, drought conditions dragged down cereal production in 2020, particularly affecting harvests in Morocco. In Central Africa, protracted conflicts continue to limit growth in agricultural production and conditions were exacerbated by flooding.

Despite the overall increase of 2.3 percent in cereal production and 0.7 percent in yield between 2019 and 2020<sup>4</sup>, African countries continue to import food, particularly from outside the continent. Africa imported about 85% of its food from outside the continent between 2016 and 2018 (Akiwumi, 2020). This heavy dependence on global markets is dangerous for food security, particularly during protracted crises (Ali Mohamed, et al., 2021). Over the past two decades, cereal imports have tended to increase, although a slight decline has been observed since 2017 (Figure 4). COVID-19 lockdowns accompanied by movement restrictions, however, have had a negative impact on food trade by increasing net cereal imports into Africa by 7.1 percent in 2020 compared to 2019. During this period, cereal imports increased by 8.2 percent while cereal exports increased by 27.9 percent. While one can guess that a large part of these exports reflects an exchange of food between African subregions, from a surplus Southern subregion (where exports increased by 100.5 percent and imports by 0.6 percent) to a deficit region such as East Africa (where net imports increased by 11.1 percent), it is also possible to point to African food policies that have an impact on the pattern of trade with other regions outside Africa.

On the one hand, some African countries continue to export food, especially cereals, outside the continent, which tends to compromise some, albeit marginal, availability of cereal commodities in Africa (European Commission, 2022; Fundira, 2017). On the other hand, according to Berthelot (2018), the obstacles to Africa’s low producti-

**FIGURE 3 INCREASE IN CEREAL PRODUCTION IN AFRICA, 2011-2020, BY SUB-REGION**



**SOURCE** Calculations based on data from FAOSTAT database (accessed November 2021). (<https://www.fao.org/faostat/en/#data/QCL>)

<sup>4</sup> Authors’ calculations based on data from FAOSTAT database (<https://www.fao.org/faostat/en/#data/QCL>).

ity and competitiveness are paradoxically linked to food policies, which tend to facilitate highly subsidized food imports from the European Union (EU) and the United States, and in relation to Economic Partnership Agreements (EPAs), given that tariffs on food imports from the EU, including cereals and milk powder, are very low and limited to 5%. Furthermore, the difference between African regions shows that North Africa is the largest net importer of cereals, followed by West Africa. Southern and Central Africa appear to be the least grain-importing regions. Among other factors, this difference can be explained primarily by differences in diet, demographic factors, and low agricultural yields or productivity. In particular, the current population growth of 2.3 to 2.5 percent in Africa is putting pressure on agricultural yields and also implies a growing need for imports.

Steady growth in agricultural production and imports has not been enough to circumvent food insecurity in Africa over the past decades (Giller, 2020). Jayne et al. (2018) emphasise that, while cereal yields and national production have increased, welfare benefits have been disappointing and crop responses to fertilizer were weaker than expected. Thus, although aggregate agricultural outputs are estimated to remain around the average growth of the last five years in 2020, the number of severely food insecure people and the prevalence increase steadily in Africa, from 203.5 million in 2014 to 286.7 million in 2019. Also, the prevalence of undernourishment in Africa has increased from 17.6 percent of the population in 2014 to 19.1 percent in 2019, more than double the global average and the highest of any region in the world (FAO et al., 2020).

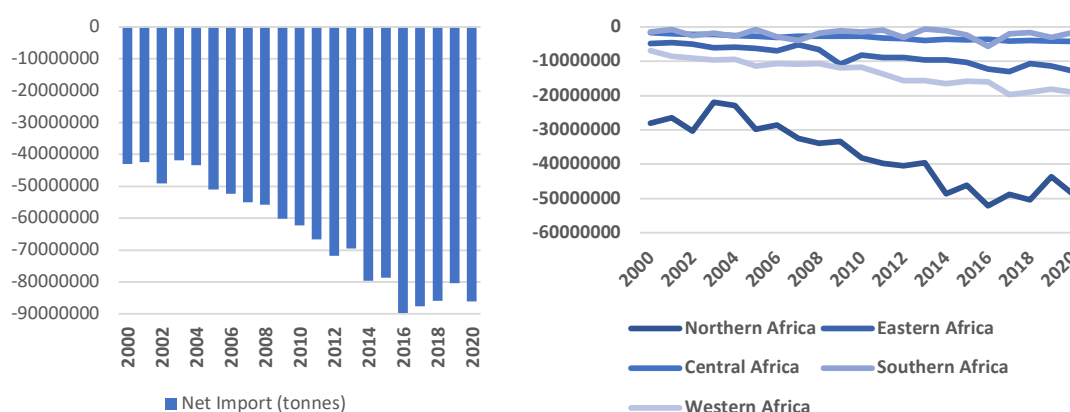
Figure 5 and Figure 6 show that the average annual growth in severely food insecure people was 5.9 percent between 2014 and 2019. North Africa is the only subregion that saw a sharp decline in severely food insecure people since 2018, leading to an average annual growth in that category of -0.5 percent. The West Africa subregion appears to be the most affected, with 17.6 percent average growth during 2014–2019, in contrast with a substantial, perhaps accidental, 9.3 percentage point decline in 2018. With COVID-19, severely

food insecurity shot up 20.9 percent in 2020 to 346.6 million in Africa, well above the average trend between 2014 and 2019 (5.9 percent) or even in the last year before the COVID-19 crisis (9.1 percent in 2019). As usual, the West Africa subregion suffered the highest increase, at 50.8 percent, compared with the 2014–2019 average of 17.6 percent and the 20 percent of 2019. The other regions were also heavily affected but much less so than West Africa. COVID-19 seems to have an important impact on food insecurity in Africa, albeit with some heterogeneity across subregions. Although we find a large difference in SFIP for 2020 compared with previous years, can the stringency of the COVID-19 containment measures explain this difference?

The stringent control measures associated with COVID-19, which include lockdowns, closure of education facilities, cancellation of public events, curfews, and restrictions on domestic and foreign travel act through various channels to make households more vulnerable to food insecurity, including income, price, and employment effects. Containment measures cause food shortages due to mobility restrictions between countries and between regions within a country, even if products are available at the farmer level. The inability of local farmers to move their production from farms to markets has contributed to a food deficit in these markets and has also been a factor in the decline in the incomes of farmers and other actors in agri-food systems. At the same time, global movement restrictions disrupt shipping value chains and make it difficult to access imported food. Together, these factors lead to higher food prices, food shortages, and lost revenues or poor performance in agribusinesses. These difficulties resulted in job losses that have made it difficult for many households in both rural and urban areas to buy food.

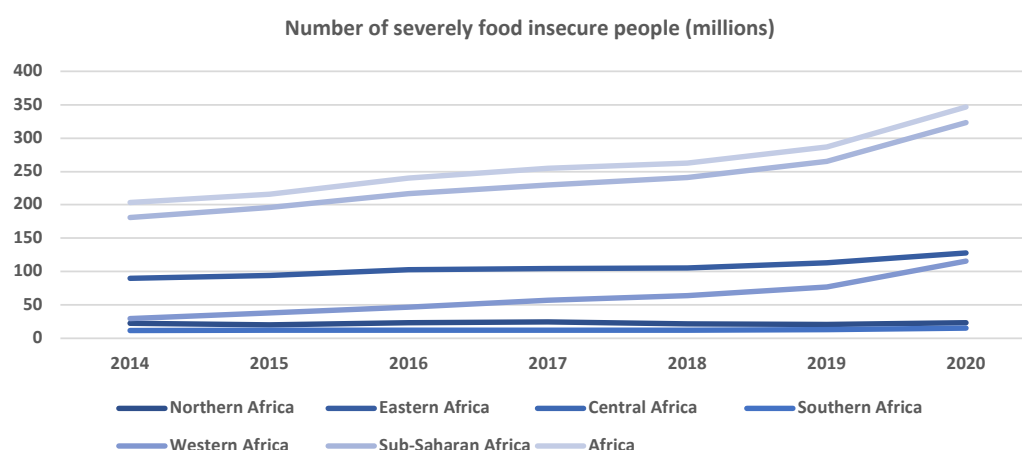
Surprisingly, Figure 7, which shows the association between lockdown stringency<sup>5</sup> during 2020 and the growth rate of severely food insecure people between 2019 and 2020, suggests that African sub-regions that implemented more stringent lockdown measures experienced less food insecurity issues. Only 31.8 percent of the variance in food insecurity is explained by the variance in containment measures. This means that the more sub-regions strengthen contain-

**FIGURE 4 TREND IN NET IMPORTS IN AFRICA AND SUB-REGIONS (TONNES)**



**SOURCE** Authors' calculation based on data from FAOSTAT database (accessed March 2022)

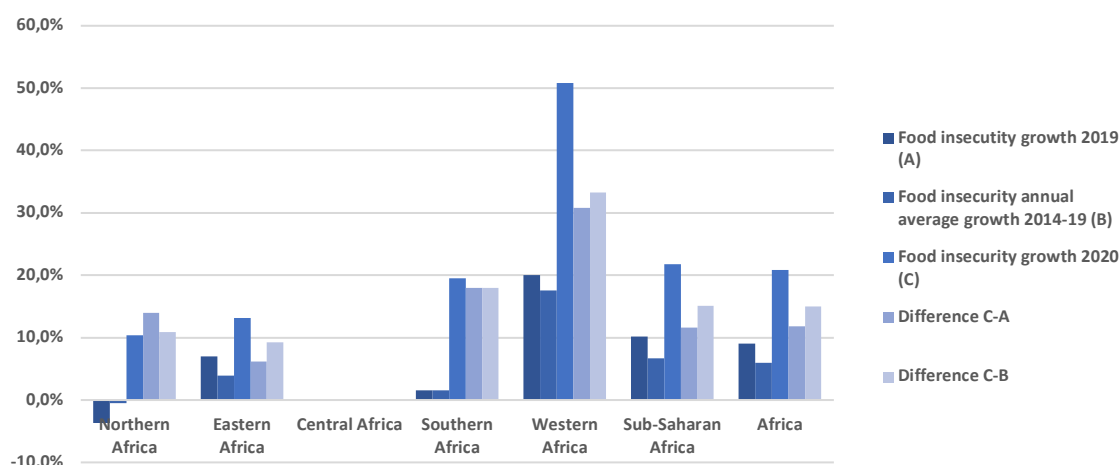
**FIGURE 5 TREND IN SEVERELY FOOD INSECURE PEOPLE IN AFRICA BY SUB-REGION OVER 2014-2020**



**SOURCE** FAO et al. (2021).

**NOTE** Data not available for Central Africa from 2014 to 2019.

**FIGURE 7 ANNUAL GROWTH OF NUMBER OF SEVERELY FOOD INSECURE PEOPLE (% AND PERCENTAGE POINT)**



**SOURCE** Authors' calculations based on FAO et al. (2021) data.

**NB:** Data are not available for Central Africa for 2014 to 2019.

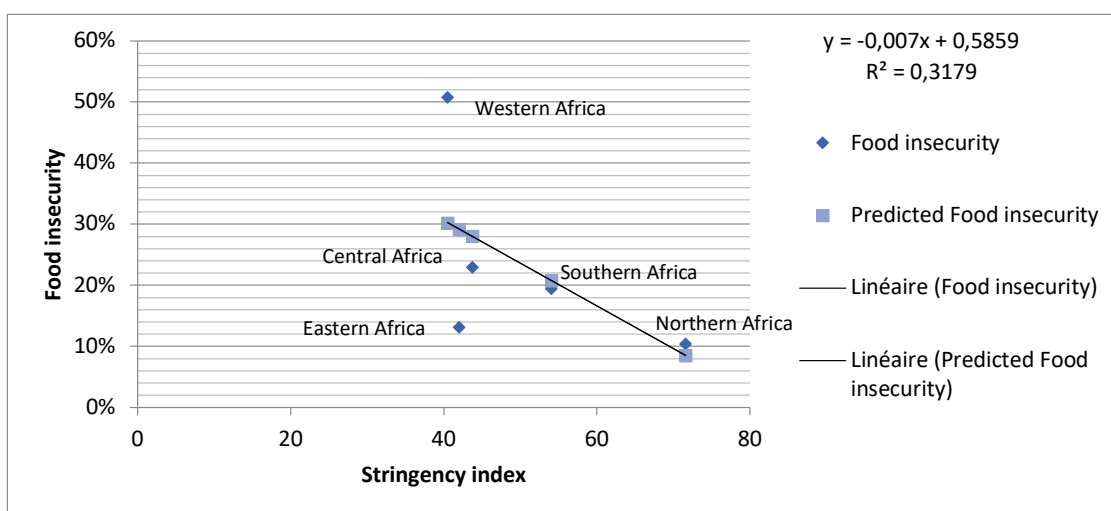
ment measures, the less likely they are to experience additional increase in severe food insecurity. So, what other factors cause some sub-regions to be more affected and others less? The persistent increase in food insecurity is also due to conflicts and displacement in several parts of the continent, particularly in the Western and Central Africa subregions, which continue to drive up food insecurity (World Food Program, 2020). COVID-19 appears to be an aggravating factor, exacerbating the structural imbalance in food availability and accessibility in Africa, particularly by having impacted food prices over 2020.

However, the inverse association between lockdown stringency and average food inflation prices change in 2020 appears strong (Figure 8). This suggests that African sub-regions that implemented stricter containment measures experienced lower food price inflation on average. For instance, food prices increased by 18.7 percent in Central Africa, 14.4

percent in Western Africa, 11 percent in Eastern Africa, 4.5 percent in Southern Africa, and only 0.3 percent in Northern Africa on average over the 12 months of 2020 (Figure A1 in Annex). Food price inflation remained elevated or even accelerated during 2020 due to weaker currencies and food price pressures in many countries or sub-regions (Anyanwu and Salami, 2021). This affected incomes and consumption, making it difficult for many households in Africa to access food.

The strong inverse association between anti-COVID-19 measures and food inflation, and its severe negative impact on incomes and consumption, prompted some governments to implement policy measures to improve food supplies, support the agriculture sector, and provide cash transfers to vulnerable households. In both Northern and Southern Africa, the unexpectedly low level of food price inflation may reflect higher government support for supply and demand. If countries in these sub-regions could afford to adopt strong

**FIGURE 7 COVID-19 CONTAINMENT MEASURES AND FOOD INSECURITY**



**SOURCE** Authors’ calculations based on FAOSTAT data, FAO et al. (2021), and Oxford Coronavirus Government Response Tracker.

**NOTE** The figure shows the relationship between the severity of containment (cumulative over the year 2020) and the growth rate of the number of severely food insecure people between 2019 and 2020.

containment, they were also more likely to mitigate the negative impact of COVID-19 on their food security and food price. In Northern Africa, despite drought and high temperatures affecting grain production in some countries, governments managed to build up adequate grain stocks, (FAO, 2020b). For example, the Egyptian government took steps to suspend exports of all types of pulses for a period of three months and build up reserves of key strategic commodities (FAO, 2020b). And various social protection measures, including cash transfer programs, were implemented to support incomes of the most affected households to enable them to bounce back from economic and health shocks (FAO, 2021). In Southern Africa, countries such as South Africa designed programs to provide food voucher support to the most vulnerable in rural and urban areas and to assist financially distressed small-scale farmers to ensure continued production and food security (Solidarity Fund, 2020). These policies, among others, helped mitigate the negative effect of COVID-19 on their food security and food price.

Just as African countries were gradually recovering from the COVID-19 pandemic, recent global geopolitical issues, including the Russia-Ukraine crisis combined with sanctions against Russia, began derailing the process, disrupting grain shipments and posing a serious threat to food security in Africa. Since the start of the conflict in Ukraine, prices for wheat, sunflower oil, sugar, fertilizers, and other commodi-

ties have skyrocketed around the world<sup>6</sup>. In Africa, for example, wheat prices have soared by more than 45 percent and fertilizer prices by 300 percent, and Africa is facing an enormous fertilizer deficit of 2 million metric tons (AfDB, 2022). Against this background, Africa appears to be one of the most vulnerable regions, as farmers in many parts of Africa have difficulty accessing fertilizers, due to shipping and foreign exchange issues (AfDB, 2022; Headey and Hirvonen, 2022). According to AfDB (2022), if this deficit is not addressed, food production in Africa will decline by at least 20 percent and the continent could lose over USD 11 billion in food production value (AfDB, 2022). North Africa, a major net importer of wheat, mainly from Russia and Ukraine, faces a particularly acute food crisis (Headey and Hirvonen, 2022). And the World Food Programme (WFP) predicts that in West Africa 7 to 10 million additional people could become food insecure due to the war’s implications (Ehui et al., 2022).

Africa’s high dependence on imports of food (wheat) and other commodities from Russia and Ukraine is the result of opportunities associated with improved international trade, lowering real costs, that contributed to stabilizing food availability and prices, especially in most countries that have struggled to improve domestic food productions. But the key issue is that these African countries failed to diversify their import base, making them more vulnerable to the negative effects of this additional shock on top of COVID-19.

<sup>6</sup> Lockdown stringency is based on data from Oxford COVID-19 Government Response index, a measure of how many of the relevant indicators a government has acted upon, and to what degree during the COVID-19 crisis. The index, “Overall government response index,” is composed of four indices (containment and health index, stringency index, economic support index, and risk of openness index) that aggregate the data into a single number from 0 to 100. A higher position in an index does not necessarily mean that a country’s response is “better” than others that are lower on the index but whose responses strengthened over the course of the outbreak. Stringency index records the strictness of “lockdown style” policies that primarily restrict people’s behavior. It includes information on containment and closure policies, such as school closures and restrictions in movement. For more detail, see <https://www.bsg.ox.ac.uk/research/research-projects/covid-19-government-response-tracker>



## 4 | GOVERNMENT AND PARTNER ACTIONS TO ADDRESS FOOD INSECURITY

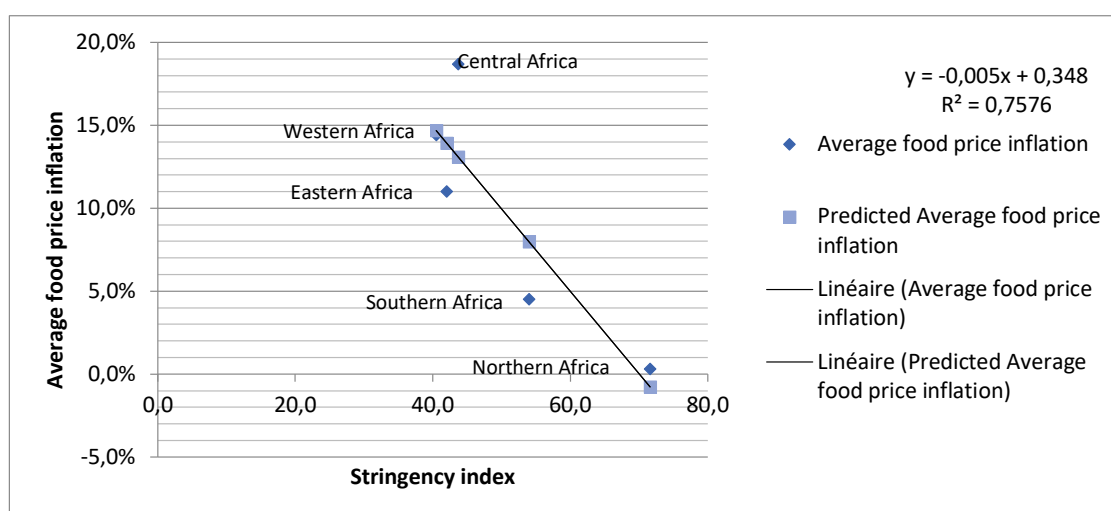
African governments have been able to decelerate the growth in the number of people in severe food insecurity thanks to long-standing efforts and increased financing of agriculture. African governments' total agriculture expenditure doubled from USD 10.1 billion in 1980 to USD 21 billion in 2019 based on constant 2010 USD prices<sup>7</sup> (ReSAKSS, 2021). This public agricultural financing has been supported by donors and development financial institutions (DFIs), including the AfDB, in support of food security and private agro-investment projects in Africa. Commitments and disbursements by donors and DFIs have increased, amounting to USD 4.7 billion in 2018, compared to USD 888.6 million in 2000 and USD 1.5 billion in 2004 (FAOSTAT, 2021). In response to the food crisis of 2007–2008, donors accelerated their support to Africa, with average disbursements between 2007 and 2018 of USD 3.6 billion, compared to 1.4 billion before the crisis (2000-2006). Donor support to agriculture over 2006–2009 alone increased by 75.4%, showing sudden and growing interest of the partners in the agricultural sector in Africa.

But the sudden pandemic of COVID-19, by exacerbating the existing high level of food insecurity, has challenged the ability of governments to deploy sufficient resources to mitigate the negative impact of the crisis. At the national level, countries have used various instruments, such as food and cash safety nets or input subsidies, to address food insecurity. For example, in North Africa (Morocco, Algeria, Egypt),

South Africa, Nigeria, Kenya, and Côte d'Ivoire, governments have designed specific protections or cash transfers for the vulnerable group. Thus, in most countries in the subregion, the impact of international price changes on domestic markets was mitigated by government subsidies, with prices stabilizing by mid-2020 as consumer stocks declined (FAO, 2020). Indeed, the perceived increase in hunger and malnutrition due to COVID-19 underscored the importance of considering these measures (Dasgupta and Robinson, 2021). Due to huge public finance imbalances caused by COVID-19 pandemic consequences, to help governments address increased food insecurity, partners such as the World Bank and AfDB have provided COVID-19 response facilities. The World Bank, through the International Development Association (IDA), has designed specific support for food security in 11 «hotspot» countries, seven of which are in Africa, with USD 2.5 billion in new commitments between the 2020 fourth quarter and the 2021 first quarter across social protection and agricultural programs (through development policy and investment lending operations), in addition to USD 800 million in pre-existing projects that were adjusted, restructured, or reallocated to social protection and agricultural programs to support short-term emergency measures (IDA, 2020).

At the continental level, the AfDB (2021) has designed a Feed Africa Response to COVID-19 (FAREC), as part of the COVID-19 Rapid Response Facility (CRF), to address specific issues faced by the agriculture sector. Though some of the funding projects predate COVID-19, they have often been restructured to respond to current food emergencies. To this end, the Bank has restructured 39 projects in 21 countries, totaling USD 367.6 million, to support govern-

**FIGURE 8 COVID-19 CONTAINMENT MEASURES AND AVERAGE FOOD PRICE INFLATION 2020**



**SOURCE** Authors' calculations based on Oxford Coronavirus Government Response Tracker & FAOSTAT data <https://www.fao.org/faostat/en/#data/CP> (accessed November 2021).

<sup>6</sup> Headey and Hirvonen (2022) note that Russia and Ukraine account for more than 30% of global grain exports, Russia alone provides 13% of global fertilizer and 11% of oil exports, and Ukraine supplies half of the world's sunflower oil.

<sup>7</sup> But the share of government agricultural expenditure tends to decline in the different subregions.

ments’ response programs through agricultural loans to finance agricultural inputs, create “green corridors” for the free movement of food, and stabilize food prices through targeted food distribution and replenishment of food reserves to ensure food and nutrition security during the COVID-19 pandemic. Table 1 shows some examples of AfDB assistance to countries, most of which are grants while some are loans. The real objective was to respond urgently to the population’s needs, especially the most vulnerable in urban and rural areas.

## 5 | CONCLUSION AND POLICY IMPLICATIONS

Food insecurity has once again become a topic of grave concern with the COVID-19 pandemic and now with the current crisis in Ukraine. It reveals the structural difficulty of African countries to definitively resolve this crucial issue that they face for several decades. One of the major paradoxes with the COVID-19 crisis period is that agriculture productivity and production continue to grow while the number of severely food insecure people increases dramatically. This paradox relies on several sources as well as many implications. In terms of sources, focusing on the COVID-19 pandemic, we can point to the global and regional borders’ closure and its associated effect on rising staple food prices. Apart from border closure, other factors that are considered structural constraints to food security in Africa

include: structural disparity in terms of food supply between regions and cities within a country and between countries and subregions in Africa, including between food surplus and food-deficit countries; the quality of infrastructure and logistics (cold or dry), ongoing or resurgent conflicts in part of Africa, and the highlighting difficulty of strongly increasing agricultural productivity and food availability and access to sustainably meet the needs of the Africa population. We can also add the impact of climate variability, which seems to be having a detrimental impact on agricultural productivity and to which farmers have long been trying to adapt. Hence, the combination of structural factors and the negative impact of COVID-19 resulted in considerable growth—20.9 percent or 40.1 million additional people—in food insecurity in Africa between 2019 and 2020. While COVID-19 appears as an aggravating factor, it appears that any global crisis or external shock impact is generally amplified by internal structural drivers of food insecurity. And the Ukraine crisis is a perfect example of this situation, as the WFP had originally predicted an additional—still tragic but far lower—7–10 million people falling into food insecurity in the West Africa and Sahel region but not elsewhere.

- During the COVID-19 crisis, the need for sustainable social protection for all, especially rural populations, became a major concern. Rural populations lacked the resources to meet their needs, especially when the shutdown occurred between cities within a country. Cash or food transfers helped, but could have been enhanced by recurrent and multipurpose cash trans-

**TABLE 1 EXAMPLES OF COUNTRIES RECEIVING AFRICAN DEVELOPMENT BANK GROUP FAREC**

Countries	Amount (USD)	Purpose	Date of approval
Egypt	500,000 grant	AfDB approved a USD 500,000 emergency assistance grant to Egypt to provide food relief and to contribute to restoring the livelihoods of vulnerable populations severely affected by COVID 19	25 May 2020
East and Horn of Africa	1.5 million grant	AfDB approved USD1.5 million emergency relief grant to assist nine countries—Djibouti, Eritrea, Ethiopia, Kenya, Somalia, South Sudan, Sudan, Uganda, and Tanzania—in the East and Horn of Africa in the control of swarms of desert locusts that were threatening livelihoods and food security	2 April 2020
Niger	35.4 million grant	AfDB approved a grant of USD 35.4 million to the government of Niger to ensure food and nutrition security for 1,470,000 people living in rural areas	30 October 2020
Togo	3 million loan	AfDB approved the reallocation of USD3 million in loan resources to help Togo purchase agricultural inputs to enhance food security in the wake of the COVID-19 pandemic.	18 June 2020
Zambia	1.4 million grant	AfDB has approved a USD 1.4 million grant from the Global Agriculture and Food Security Program to reduce malnutrition among the Southern African nations’ most vulnerable households.	16 June 2021

**SOURCE** AfDB website.

<sup>8</sup> The AfDB launched a USD 10 billion Response Facility to support its immediate needs for liquidity to curb COVID-19.

<sup>9</sup> Also, the AfDB and the UN’s International Fund for Agricultural Development (IFAD) hosted a two-day high-level dialogue called “Feeding Africa: leadership to scale up successful innovations” in partnership with the Forum for Agricultural Research in Africa (FARA) and the CGIAR System Organization on 29 and 30 April 2021. The subsequent coalition of multilateral development banks and development partners has pledged over USD 17 billion in financing to address rising hunger on the African continent and to improve food security.

fers to effectively benefit the most vulnerable (Nechifor et al., 2021). Studies have shown that of the safety-net programs employed in Africa during COVID-19, cash transfers and food programs have had a positive impact, but cash safety nets appear to have been more effective in reducing food insecurity (Dasgupta and Robinson, 2022).

- African governments should establish or strengthen existing price stabilization mechanisms for primary staple foods that can be mobilized if a specific threshold of price increases is reached, and then generalize the use of agri-disaster or emergency funds to meet the short-term financial needs of smallholders and the rural population by helping financially distressed smallholders ensure continued production and food security (Popoola and Yusuf, 2021).
- These efforts to prevent and reduce the increase in the number of severely food insecure people will be only effective if some of the ongoing reforms are strengthened and accelerated in the agricultural sector and food supply chain, initiated in recent years in African countries, particularly since the launch of CAADP, to make them more resilient to future shocks and to address food insecurity. In particular, at the farm level, there is a need to accelerate investments to increase agricultural productivity by increasing access, first to training in best practices and then to more modern inputs such as tractors and other specialized machinery, improving large-scale

irrigation systems, providing inputs related to quality fertilizers, and improved natural seeds. At the agro-industry level, especially for fertilizer production, significant support could help create the production momentum needed to meet the fertilizer and improved seed needs of African agriculture. In this regard, the AfDB has launched in May 2022 a USD 1.5 billion facility called the “African Emergency Food Production Facility”<sup>10</sup>, to support 20 million African smallholder farmers with certified seed and increased access to agricultural fertilizer to rapidly produce 38 million tons of food. This assistance must be scaled up tenfold, including massive support for private initiatives or African companies to establish large-scale fertilizer production industries in at least each of the regional economic communities.

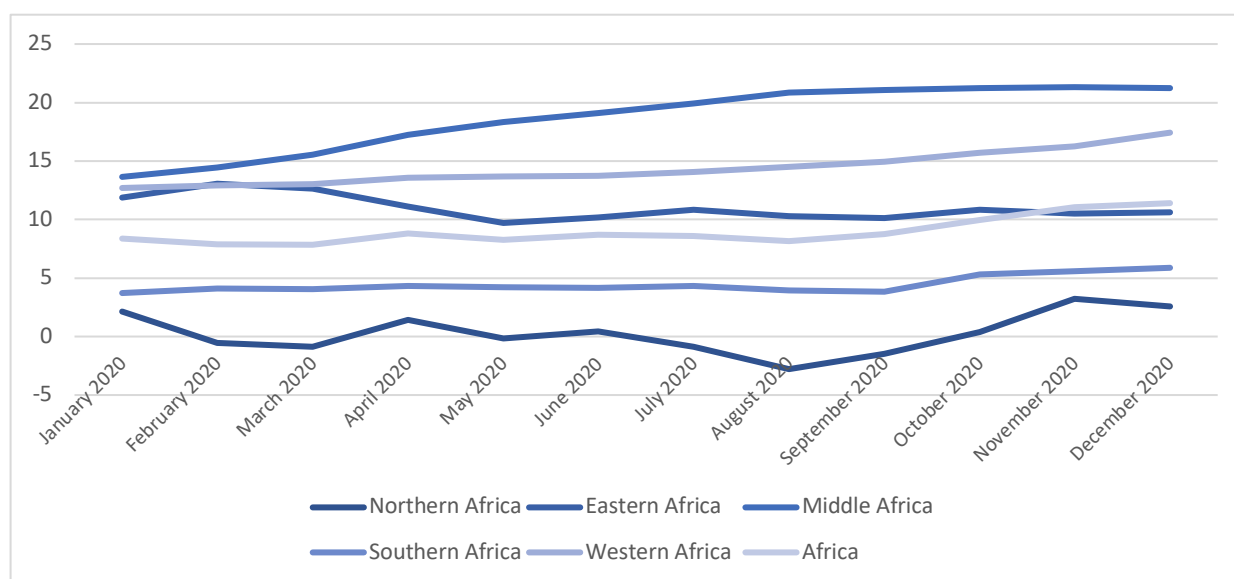
- Then, as long as food distribution and accessibility remain a continuous issue, it is important to reduce infrastructure gaps between localities within a country to facilitate food transportation. At the regional economic community and continental level, the removal of trade restrictions within the continent through a well-functioning African Free Trade Area (AfCFTA), in line with CAADP objectives, will help accelerate and strengthen intra-African food trade and market integration. Facilitating fair competition will expand or diversify Africa’s commodity base by meeting the huge needs of the population and reducing Africa’s dependence on certain food imports while increasing Africa’s resilience to the insecurity of external food shocks.

<sup>10</sup> <https://www.afdb.org/en/news-and-events/press-releases/african-development-bank-board-approves-15-billion-facility-avert-food-crisis51716#:~:text=The%20price%20of%20wheat%20has,bread%20and%20other%20food%20items.>

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**FIGURE A1 FOOD PRICE INFLATION IN AFRICA AND SUB-REGIONS, 2020 (%)**

**SOURCE** Authors' calculations, based on data from FAOSTAT database: <https://www.fao.org/faostat/en/#data/CP> (accessed November 2021).

**TABLE A1 FOOD PRICE INFLATION IN AFRICA AND SUB-REGIONS, 2020 (%)**

Sub-region	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2010-2011
Eastern Africa	-0.6%	2.1%	-0.9%	8.2%	0.4%	-2.3%	9.3%	3.4%	3.3%	-2.9%	2.0%
Central Africa	-1.3%	11.4%	-3.2%	1.4%	1.2%	-0.8%	-2.5%	5.3%	0.5%	0.9%	1.3%
Northern Africa	3.4%	10.3%	-3.9%	-8.7%	19.3%	-23.5%	13.2%	-2.2%	-0.4%	-8.4%	-0.1%
Southern Africa	-3.9%	5.2%	0.0%	9.2%	-20.7%	5.7%	46.3%	-15.8%	-2.4%	10.7%	3.4%
Western Africa	-12.0%	12.1%	-6.6%	7.9%	4.2%	-0.6%	-2.8%	3.8%	2.9%	1.4%	1.0%
Africa	-2.8%	7.0%	-3.1%	3.7%	2.3%	-7.3%	8.1%	-0.1%	1.0%	0.7%	0.9%

**SOURCE** Authors' calculations, based on data from FAOSTAT database: <https://www.fao.org/faostat/en/-data/QCL> (accessed February 2022).

