



CHAPTER 1

Introduction: Building Resilient African Food Systems After COVID-19

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Overall Context

The COVID-19 pandemic has quickly spread across the world over the last two years, causing a significant number of deaths—more than 4.55 million as of October 2021—and hospitalizations as well as economic disruption. This global crisis has triggered a transformation toward a new, elusive “normal that may take years to fully materialize despite the amazingly fast discovery and deployment of vaccines, and more recently, the progress of COVID-19 treatments in clinical trials. The World Health Organization established a global target of 10 percent vaccination by the end of September 2021; although many developed countries have fully vaccinated 50–75 percent of their populations, African vaccination rates have only reached 4.4 percent (Mwai 2021).

Many past pandemics have left behind a trail of heavy damage (Gurara, Fabrizio, and Wiegand 2020): mortality; worse health and education outcomes that depress future earnings; the depletion of savings and assets that force businesses to close—especially small enterprises that lack access to credit—and cause irrevocable production disruptions; and debt overhangs that depress lending to the private sector. The panic caused by diseases can also lead to significant social and economic losses. The Black Death, for example, killed between 75 million and 200 million people worldwide between 1348 and 1350. During that period, it contributed to a 29 percent cumulative decline in GDP and an 8 percent increase in the price of gold. Because of labor scarcity, real farm wages in England cumulatively rose by 116.2 percent. During the 1918–1919 Spanish flu pandemic, around 40 million people were killed worldwide. In the United States, cities with higher influenza mortality rates experienced higher real wage increases. In the United Kingdom, the real wages of construction workers in London cumulatively increased by 34.2 percent, while real GDP in the country declined by 6 percent (Millas 2020).

The same pattern of economic loss seems to be emerging with the COVID-19 pandemic. Across the globe, the immediate priority for policy-makers has been to address the health crisis and contain short-term economic damage. As a result, the global economy is now facing its greatest recession since the last financial crisis of 2008–09. According to the World Bank (2020), the pandemic was expected to have triggered recessions in most countries in 2020, with average incomes falling in the largest share of countries since 1870.

The International Monetary Fund (2020) forecast that the global economy could decline by 4.4 percent in 2020; global trade was projected to fall in 2020 by more than 10 percent and oil prices were projected to drop by 32 percent. Later estimates suggested that the global economy declined by 3.1 percent in 2020 and is set to recover by 5.9 percent in 2021. In Africa south of the Sahara, growth declined by 1.7 percent in 2020 and is recovering at a projected rate of 3.7 percent (IMF 2021); however, the decline in per capita terms was greater and is expected to have resulted in significant increases in poverty and hunger.

While the COVID-19 pandemic is a systemic disruption affecting every country in the world, low-income developing countries (LIDCs) have been hit the hardest by external shocks. These countries have also suffered severe domestic contractions from the spread of the virus and the lockdown measures to contain it (Gurara, Fabrizio, and Wiegand 2020). Since March 2020, LIDCs have been at the center of an exceptional confluence of external shocks: a sharp contraction in real exports; lower export prices, especially for oil; decreased inflows of capital and remittances; and reduced tourism receipts.

As noted by the World Bank (2020), leaders must enact wide-ranging reforms to strengthen longer-term drivers of growth after the current crisis. The early effects of the pandemic have shown that achieving the goal of sustainable healthy diets for all will require food systems—at the local, country, and global levels—that are resilient and capable of withstanding challenges posed by climate, health, political, economic, and all other shocks. The 2021 United Nations Food Systems Summit (UNFSS) clearly signals that food and nutrition security must be considered from a systems framework. Post-UNFSS efforts to transform African food systems must not neglect attention to the effects of the COVID-19 pandemic, which have exposed significant vulnerabilities and will have long-lasting impacts on many areas of food systems. The present ATOR supports these efforts by focusing the discussion on both food and nutrition security and the stresses of COVID-19.

Expected Impacts of COVID-19 on African Food Systems

Even before the COVID-19 pandemic, the state of food and nutrition security was a major problem in Africa. The pandemic has exacerbated already high levels of poverty and vulnerability. Concern is growing that the direct and

indirect effects of the pandemic could be greater in Africa than the rest of the world as a result of the continent's much weaker institutions and health system capacity, large number of poor and vulnerable people, greater exposure to the world trade cycle, high dependence on demand from advanced economies, and more pronounced vulnerability to climate change impacts. Shadmi and colleagues (2020) highlight the inequitable spread of COVID-19 among poor and vulnerable populations due to the high prevalence of chronic conditions or poor access to high-quality public health and medical care. In this context, it is very likely that the state of food and nutrition security will deteriorate following the COVID-19 pandemic, with the poor (especially the urban poor), people living in remote areas, migrant and informal sector workers, people in humanitarian crisis and conflict areas, and other vulnerable groups likely to face the worst consequences.

Decreased access to food resulting from limited physical access to markets will likely contribute to the negative impacts of COVID-19 on food security, particularly in the early stages of the crisis when lockdown measures were the most restrictive. Retail food outlets such as grocery stores remained operational in most countries, but informal outdoor markets were often closed or subject to limited hours. This likely limited poor consumers' access to food, particularly perishable food, and reduced their purchasing power by forcing them to shop at more expensive outlets (Devereux, Béné, and Hoddinott 2020).

At times, informal food traders were also prevented from operating, posing additional barriers to food access for poor consumers. Informal traders often play an important role in meeting the needs of poor consumers, due to their ability to sell in small quantities, lower prices, provide credit, and operate close to consumers. In South Africa, small-scale traders were initially prevented from operating but later permitted to operate with restrictions, which increased the cost of transit for consumers to buy food (Wegerif 2020).

The Permanent Interstate Committee for Drought Control in the Sahel (CILSS) documented significant market closures in West Africa. Although market operations largely resumed in the months after the crisis began, there were still market closures as of July 2020. As of the end of April 2020, around 40 percent of agricultural markets in Senegal, Burkina Faso, and Chad had been closed, with lower closure rates in other West African countries; all countries showed disruptions to market activities even where markets were open. In some districts in Guinea, Chad, and Nigeria, all livestock markets were closed

(CILSS 2020b). By July 2020, the situation had improved markedly, but disruptions and closures continued to affect crop and livestock markets in most West African countries (CILSS 2020a).

Policy Responses to COVID-19

Overall, African governments responded quickly to limit the spread of COVID-19, imposing lockdowns and sanitary measures to combat the disease. These actions, among other factors, may have contributed to Africa's relatively low death rates from the pandemic (Soy 2020). However, these actions also imposed serious economic consequences. Indeed, in addition to the effects on access to food, movement restrictions affected trade and other sectors. In some countries, governments shut down urban food markets partially or completely and banned or relocated informal traders, reducing access to food for poor consumers who depend on these sources the most (Resnick 2020a; Wegerif 2020).

In some cases, efforts to address the crisis did not sufficiently prioritize the agricultural sector. In a review of COVID-19 policy responses from developing countries across the globe, Resnick (2020b) reports that governments tended to provide less support to agricultural production than to other areas of the economy. In addition, the cross-ministerial COVID-19 response teams established in many countries often exclude Ministries of Agriculture.

The devastating effects of the COVID-19 crisis on livelihoods and incomes have prompted governments around the world to expand social protection in an effort to protect food security. Gentilini and colleagues (2020) find that nearly all African countries scaled up social protection programs in response to the crisis. However, coverage remains lower in Africa than in other world regions. As of July 2020, ongoing and planned social protection programs in Africa south of the Sahara were estimated to reach 11 percent of the population in countries with available data, which represents a 3 percent increase from pre-pandemic coverage. While this is a major increase, it is still by far the lowest rate among all developing regions, for which average coverage rates reach 38 percent.

Case for Building Resilient African Food Systems Post-2020

Building resilient African food systems is part of the seven commitments of the 2014 Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods. Indeed, in

2014, African Union (AU) Member States committed to: (1) re-commit to the principles and values of the Comprehensive Africa Agriculture Development Programme (CAADP) process; (2) enhance investment finance in agriculture; (3) end hunger by 2025; (4) halve poverty through agriculture by 2025; (5) boost intra-African trade in agricultural commodities and services; (6) enhance resilience to climate variability; and (7) strengthen mutual accountability for actions and results.

However, the commitment on resilience is limited to preparedness in responding to present and future climate variabilities and shocks. It focuses on social protection for rural and vulnerable groups. Given increasing climate vulnerabilities, Resilience and Livelihoods was selected as the overall theme of the 2019 Biennial Review report. While the focus on resilience is welcome, the COVID-19 pandemic demonstrates that disruptions take many forms, and efforts to build resilience should consider a range of risks and shocks in addition to those related to climate.

As shown by Savary and colleagues (2020), the vulnerability of food systems may be analyzed over time and across food security components. Disruptions in the food system may be scaled to consider impacts in the short (0–3 months), medium (3–12 months), and long term (1 year or more). Similarly, a food system's vulnerability to a shock such as COVID-19 may differ between stages of the system. Food systems include the range of activities involved in producing, processing, distributing, marketing, preparing, consuming, and disposing of goods that originate from agriculture, forestry, or fisheries, as well as a variety of ecosystem services with different levels of resilience to shocks. Resilience manifests in varying degrees and may differ across multiple levels and scales (Tendall et al. 2015). Even if a food system is resilient at the macro level, the ability to absorb shocks and disruptions can be distributed unevenly within the system. Moreover, specific communities within a region or a country may be more vulnerable than others due to socioeconomic disparities.

The 2021 Annual Trends and Outlook Report (ATOR) focuses on providing research-based evidence to support the design of post-COVID-19 recovery measures that strengthen the resilience of African food systems. This report explores the vulnerability of African food systems to COVID-19 by (1) assessing the impact of COVID-19 on food and nutrition security, (2)

reviewing policy responses across the continent, (3) identifying measurement issues critical to the establishment of strategies to build resilient food systems at national and subnational levels, and (4) reporting progress on the CAADP agenda.

Impacts of COVID-19 on African countries are examined in four chapters. In chapter 2, Torero examines the impacts of COVID-19 and related containment measures on food security, nutrition, and agricultural trade in Africa. The chapter shows that formal trade in food and agricultural products rebounded in the second half of 2020 after sharp declines in the early months of the pandemic. However, hunger has increased alarmingly since 2019, with the number of undernourished people in Africa expected to increase by 46 million in 2020. An additional 800 million people, or 60 percent of the continent's population, were expected to be affected by moderate or severe food insecurity. Global- and regional-level projections confirm the enormous challenges of eradicating hunger and malnutrition by 2030.

The measures implemented by African governments to control the spread of COVID-19—including business and school closures, movement and market restrictions, and border closures—affected both the supply of and demand for food. In chapter 3, Yade and colleagues explore the impacts of the pandemic on staple food prices by comparing projected prices with actual 2020 prices for a range of local commodities and markets in 12 African countries. The authors find that the price behavior of staple foods differed markedly between areas, with sharp price increases in some markets and steep declines in others. These differences are related to market and commodity characteristics, as well as countries' roles in cross-border food trade. The findings underline the importance of tailoring policy responses to location-specific characteristics and designing health-related measures carefully to avoid impeding market functionality and the movement of food within and between countries.

In chapter 4, Fofana and colleagues shift the focus to global market changes, examining the impacts of COVID-19-related changes in global primary commodity prices and trade volumes on African food systems. Focusing on 23 countries with available data, the authors use computable general equilibrium modeling to translate price and trade volume changes into effects on agricultural production and input use, food processing industries, agricultural and food trade, food consumption, and the macroeconomic

environment. The chapter shows that negative impacts were lower in countries with more diversified export baskets, underlining the need for countries to diversify trade to remain resilient to global shocks. Among the different food system components examined, food processing industries were by far the most vulnerable to negative impacts of the pandemic, as demand for their products is sensitive to declines in income.

Although the COVID-19 pandemic has affected every country in the world, impacts on health and food security vary considerably between locations and households. Chapter 5 examines patterns of vulnerability to the impacts of COVID-19 in western and central Africa at the community and household levels. Ulimwengu, Magne Domgho, and Collins use data on location characteristics to derive an index of vulnerability to the health and food security impacts of COVID-19 at the subnational level, and they use household survey data from Mali to examine the drivers of vulnerability to negative food security impacts at the household level. The authors find that levels of vulnerability differ markedly between as well as within countries, underlining the need for decision-makers to monitor local effects closely and be prepared to intervene in areas with high levels of vulnerability.

The section on **responses of African countries to COVID-19** is composed of three chapters. To mitigate negative impacts in the early months of the pandemic, African governments implemented a range of emergency economic support measures, including direct transfers, in-kind support, and regulatory measures. In chapter 6, Tadesse and Tefera use a descriptive mixed methods approach to assess the performance of African countries in designing and implementing emergency policy responses. The chapter combines public data on economic support measures with data from interviews with policymakers in 17 African countries to assess the responsiveness and implementation performance of countries' economic support policies and to identify best practices for improving emergency response performance.

Chapters 7 and 8 focus on African countries' social protection responses to the pandemic. In chapter 7, Duchoslav and Hirvonen review emerging literature on the effectiveness of social protection programs in combating the negative impacts of COVID-19. They find indications that social protection positively affected health, risk reduction behavior, business revenue, and food security in some cases. The authors then analyze the targeting effectiveness of

social protection in Ethiopia, Malawi, and Nigeria, comparing pre-pandemic wealth levels with the distribution of social assistance during the pandemic. The chapter shows that targeting effectiveness varied between countries, and that in all cases, large shares of the poorest households did not receive assistance. These findings suggest a need to both increase the resources available for social protection and improve the targeting of support.

In chapter 8, Benammour and colleagues describe how African governments employed social protection to mitigate the adverse impacts of the pandemic on households. Despite substantial expansion in social protection programs, coverage remained generally low and many of the newly introduced programs were of limited duration. The authors review evidence from the literature on the impacts of COVID-19 on incomes and food security, finding that very large shares of households in both rural and urban areas saw declines in income and increases in food insecurity. The chapter highlights key aspects of social protection programs that should be strengthened to aid Africa's recovery from the impacts of COVID-19 and continued economic development.

Measurement issues related to assessing the impacts of the pandemic are covered over five chapters. In chapter 9, Ly, Dia, and Diallo demonstrate the use of emerging methodologies to assess crop production before harvest periods. The availability of high-quality and timely agricultural data for Africa has long been a challenge for decision-makers, and access to data becomes even more problematic during crises such as the COVID-19 pandemic, when up-to-date information is most needed to monitor food supplies. The chapter illustrates the potential for remote sensing data and machine learning techniques to produce detailed crop production forecasts at the pixel level, allowing for early identification of areas that may experience production fluctuations.

Chapters 10 and 11 focus on resilience measurement methodologies. While many efforts to measure resilience focus on climate risks, the pandemic has demonstrated that global health shocks also have the potential to severely affect wellbeing. In chapter 10, Constas, Wohlgemuth, and Ulimwengu develop an indicator to measure countries' capacities to respond to global health shocks. The authors first construct a health systems capacity index and an economic resilience capacity index for African countries using health systems performance and macroeconomic data. Rankings on these indexes are used to derive

a resilience capacities index for global health shocks, which can be used to identify countries in the greatest need of assistance to avoid the severe impacts of health shocks on their populations. Chapter 11 builds on and extends the health systems capacity index constructed in chapter 10, combining it with other macro (country-level) indicators and micro (household-level) resilience data from 11 African countries. Authors d’Errico, Jumbe, and Conostas then use their approach to explore the determinants of food security resilience. The authors find that incorporating macro indicators with micro resilience capacity measures adds valuable information about factors contributing to resilience. The analysis also suggests that countries with stronger health systems have higher resilience capacities and are less likely to suffer from food insecurity.

The impacts of the pandemic on food prices and access to markets are likely to have repercussions for the quality of diets. The measurement of dietary patterns is essential for monitoring and responding to changes in diet composition. In chapter 12, Kwofie, Kwofie, and Ngadi examine different approaches for assessing dietary patterns and diet quality indexes, and they highlight measurement strategies that should be adopted to evaluate the impact of COVID-19 on diets. The chapter provides insight into the design of behavioral change communication strategies to improve diets during the pandemic and the recovery period.

Value chain analysis is a key tool for assessing the resilience of food value chains to shocks such as the pandemic and identifying ways to ensure food security in the face of crises. In chapter 13, Ellis, Kwofie, and Ngadi argue for a consumer-focused approach to value chain assessment that emphasizes linkages with food security. The authors propose a framework for consumer-centered value chain analysis and outlines a methodology for identifying criteria and indicators to assess value chain performance.

The last section of the report considers **progress toward CAADP goals**. In addition to compiling research on key development topics, the ATOR serves as the official CAADP monitoring and evaluation report. Accordingly, in chapter 14, Tefera, Collins, and Makombe review progress in CAADP implementation as well as the status of countries, regions, and the continent as a whole regarding the CAADP Results Framework indicators. The chapter also reviews emerging evidence on how the COVID-19 pandemic has affected Africa’s progress on the indicators discussed.

The 2021 ATOR intends to support reflection on how to build resilient African food systems after COVID-19. As we begin the recovery from this global crisis, efforts must be made to ensure that the new normal is more sustainable and leaves no one behind. The contributions offered in the present volume provide insights and opportunities to better understand how to build resilience across the continent. By presenting a range of empirical findings and offering a selection of newly developed analytical strategies, the authors have helped advance our knowledge of resilience and drawn attention to areas where additional work is needed.