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COVID-19 Pandemic in Africa: Impacts on Agriculture and Emerging Policy Responses for Adaptation and Resilience Building

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The Technologies for African Agricultural Transformation (TAAT) programme is an initiative of the African Development Bank (AfDB) as a flagship programme of the *Feed Africa strategy*. TAAT aims at facilitating accelerated economic development, poverty reduction in Africa through increased uptake of high impact agricultural technologies along nine value chains packaged as TAAT commodity compacts: Maize, Rice, Wheat, High Iron Beans, Sorghum and Millet, Orange-Fleshed Sweet Potatoes (OFSP), Cassava, Livestock and Aquaculture. The commodity compacts are supported by six enablers: Policy, Enable TAAT (Youth), Soil Fertility Management, Water Management, Capacity Development and Technology Outreach, and Fall Armyworm (FAW). The **TAAT Policy Enabler** facilitates the creation of an enabling environment for technology adoption by farmers through policy reform interventions that help to build strong seed systems and hasten variety release and registration, spur market incentives and efficiency along agricultural value chains, facilitate access to quality inputs through accreditation of agro-input dealers and facilitate domestication and implementation of regionally harmonized regulations for delivery of technologies across similar agro-ecological zones in Africa. The authors are drawn from the following **TAAT Policy Partners and Affiliates**:



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Abstract

The COVID-19 pandemic is expected to have serious health and economic ramifications in Africa. This paper presents a technical position on demand and supply shocks associated with the COVID-19 pandemic within the African context. We document the disruptions associated with containment measures implemented by various governments and their implications on labour mobility, import and export of food commodities, production and productivity of major staples and prices of food items. We also highlight policy needs focusing on containment of the pandemic while adapting African food production and distribution systems in response to the COVID-19 related shocks through concerted efforts to ensuring minimum disruptions on input supply, food production and marketing. Options for achieving this include agricultural sector stimulus programmes to support input access and value chain development, promotion and deployment of resilient technologies and digital agricultural solutions and providing social support to vulnerable communities.

Key Words: COVID-19; Adaptation to Pandemics ; Impact on Agriculture; Resilience; Africa

1. Introduction

The novel coronavirus is admittedly an infectious and highly virulent pathogen that was first reported in December 2019 and has since spread to 210 countries around the world in just 120 days with 4.2 Million confirmed with over a quarter a million fatalities by Mid-May 2020 (“COVID-19 Map - Johns Hopkins Coronavirus Resource Center,” 2020). The first case of corona virus disease (COVID-19) in Africa was reported in Egypt on February 14, 2020 and to date virtually all countries on the continent) have reported cases totaling 67,000 with nearly 52% of them in five countries: Egypt, South Africa, Morocco, Algeria and Ghana. This frightening rate of spread for COVID-19 makes it the latest global pandemic that has affected the world on an unprecedented scale - severely disrupting international travel, trade and commerce; and thus, becoming a subject of highest medical and political attention that is only reminiscent of serious pandemics during the middle ages which ravaged humanity, sometimes changing the course of history and, at times, threatening to decimate entire civilizations.

As we stoically stay optimistic trusting that sooner, Africa shall overcome, most modelling projections seem to indicate that the worst is probably yet to come. This brings forth legitimate fears that the full impacts of COVID-19 could undoubtedly translate into negative economic growth, tenuously overstretched healthcare support and a collapse in food systems. Like all other regions of the world, Africa too will be and has already been impacted by wide-ranging disruptions in international markets which have constrained export of oil and agricultural commodities as well as imports of food stuffs and agricultural inputs. The United Nations Economic Commission for Africa (ECA) estimates that approximately 29 million Africans will be pushed below the extreme poverty line of US\$ 1.9 and 19 million jobs lost as a result of COVID-19 (UN-ECA, 2020). At greater risk will be Africa’s agricultural sector which generates approximately US\$ 100 billion or 15 % of the continental GDP annually and employs 70% of the total work force making it the most important sector for economic development on the continent. Despite the continent only having confirmed a paltry 1.6% of the global COVID-19 positive cases to date, its economy and food security situation is likely to be severely negatively impacted.¹ The continent is particularly vulnerable to pandemics because of over dependence on food imports, high poverty rates and low agricultural productivity. According to

¹ Note that, most African countries have limited testing and tracking capacity. Hence, the actual rate of infection is likely to be higher.

UNCTAD, (2018), Africa is a net food importer while poverty statistics by (United Nations, 2020) indicate that more 350 Million people in Africa live below the extreme poverty line.

While we gain a better understanding on the spread of COVID-19, countries around the world remain in experimentation mode on policy responses for mitigating this disease. With no known internationally proven cure yet for COVID-19, many countries have toyed with a mosaic of policy positions. These range from those that are strictly preventive to those that are relatively less strict yet sufficiently precautionary policy positions to limit and contain disease spread while some other countries have even contemplated permissive approaches with limited policy restrictions to protect the old and other vulnerable sections of their populations. Under the prevailing fluid circumstances, most countries are grappling with a cocktail of containment measures to curtail the spread of the virus including closure of certain sectors of the economy, limiting social interactions, border closures, and imposition of total/partial lockdowns. Although these measures seem to be bearing fruit in some African countries (Burkina Faso, Djibouti, Niger and Senegal) whose COVID-19 infection curves are somewhat flattening, morbidity trends in most other African countries are still upwardly inclined, with South Africa, Egypt, Algeria, Morocco and Ghana being the most affected (“COVID-19 Map - Johns Hopkins Coronavirus Resource Center,” 2020).

Whereas the impact of COVID-19 will be felt all over the world, it is obvious that the pressures on food security caused by the pandemic will not affect all countries or all citizens equally. Developing countries are expected to suffer disproportionately because of their pre-COVID-19 situation. Prior to the COVID-19 outbreak, the economic situation of many countries in Sub-Saharan Africa (SSA) was already weak as many countries were already contending with food shortages instigated by drought in the horn of Africa, locust invasion in Eastern Africa, floods in Southern Africa caused by cyclone Idai and fall armyworm (*Spodoptera frugiperda*), insecurity and terrorism in parts of West Africa. Hence, as the threat of COVID-19 looms large over Africa, many critical questions beg for answers: Which measures could best help authorities to strike the delicate balance between curtailing the spread of the virus and stimulating economic activities to sustain peoples’ livelihoods? How will the agricultural systems adapt to the economy wide impacts as a result of the pandemic and how can lessons from COVID-19 be used to build the resilience of foods systems on the continent to better deal with pandemics in future?

This paper seeks to shed light on these questions and many others that are emerging as a result of the COVID-19 pandemic. The paper attempts to document the expected impacts of the

novel coronavirus on African agriculture in the wake of spread of COVID-19 and proposes policy options for African countries and development partners in managing the pandemic.

2. Impact of COVID-19 on Food Systems in Africa

The rapid spread of COVID-19 has painfully demonstrated how interconnected our global economy is and attendant vulnerabilities to the spread of new infectious diseases and the disruptions that they can cause. The COVID-19 pandemic has brought major disruptions to economic activity across the world (Calderon et al., 2020). World trade is expected to fall around 13% to 32% in 2020 as the COVID 19 pandemic disrupts economic activity around the world (Bekkers et al., 2020). The economic growth in Sub-Saharan Africa will decline from 2.4 percent in 2019 to -2.1 to -5.1 percent in 2020, the first recession in the region in 25 years (Calderon et al., 2020). In Africa, where economic fortunes of many countries are dependent on agriculture, a cocktail of interrelated effects comprising *inter alia* low agricultural production, food import/export of disruptions, restrictions in labour mobility and potential spikes in food prices.

2.1 Impact on Agricultural Production

In the immediate term, the food production situation in Eastern Africa region may stay normal given that production was already on-going, and supply and demand conditions will take time to adjust. Luckily, the March/April planting season in Eastern Africa (Ethiopia, Uganda, Kenya, Rwanda and Tanzania) was not affected much as most farmers had prepared their land and procured primary inputs before the advent of COVID-19. In West African countries (Ghana, Nigeria, Cote d'Ivoire, Senegal and Burkina Faso) where the planting season is approaching, we also expect minimal disruptions. However, as the pandemic spreads and countries continue to impose containment measures, the COVID-19 pandemic is likely to impact agricultural production and productivity through its disruptive effects on input production and distribution leading to inordinate distortions of the planting calendars. In the event of prolonged disruptions, the pandemic will have adverse effects on the supply chain for fertilizer, seeds and agrochemicals as a result of shrinking capacity in the manufacture of key chemical components for fertilizers and pesticides, their importation and inland transportation. Experience from previous crises has shown that restriction of movements and road closures constrain farmers' access to input markets. Moreover, input processors and importers, are facing reduced working shifts with lower output. The supply shock on the input market will therefore

inevitably result into increase in the prices of important inputs. In addition, fiscal constraints may cause significant budget reallocation and cuts on public expenditure on agriculture, leading to limited extension and farmer training services. As already witnessed in countries which have implemented complete lockdowns, the surge in demand for inputs immediately after relaxing the lockdown conditions is driving input prices upwards. Seed production and processing is also affected as some seed companies must source breeder and foundation seed from neighboring countries, which is constrained by slow border clearance. Distribution of seed from centralized processing facilities is also likely to be affected by similar predicament. Effects of the recession will be reduced economic activities and low earnings for farmers translating to low purchasing power. In the subsequent seasons, farmers will therefore not be able to afford enough quantities of crucial inputs and this will reduce cropped land and crop productivity. This will aggravate a fragile situation considering that agricultural production was already threatened by capricious rainfall with unexpected and/or sporadic droughts and floods, fall armyworm (FAW) (*Spodoptera frugiperda*) invasion across the continent and desert locust pandemic in Eastern Africa.

In the subsequent seasons, farmers will therefore not be able to afford enough quantities of crucial inputs and this will reduce cropped land. On the demand side, the income shocks (losses) due to COVID-19 are likely to depress demand for food and farm inputs along the food supply chain, resulting in low productivity, high unemployment, and significant economic and political instability in the region.

2.2 Impacts on Agricultural Labour

African agriculture is predominantly labour-intensive and labour is very mobile across regions, and therefore containment measures have also affected labour mobility. With the limitation in movements, labour shortages are looming at a time when it is needed most: during planting, weeding and top-dressing of fertilizer. The consequence will be reduced cropped area and yields as de la Fuente et al., (2019) found out in rice sector following the Ebola pandemic in Liberia. Additionally, the strain that pandemics impose on health systems will undoubtedly impact the productive health - the general well-being of agricultural work-force associated with reduced capacity to treat other non-communicable and chronic diseases (Riley et al., 2020). Stretched resources in the health sector in dealing with the pandemic could affect the general wellbeing of the agricultural labour force in rural farming communities that could suffer poor mental health as a result of COVID-19 associated anxieties.

2.3 Impacts on Food Imports, Agricultural Exports and Markets

The World Trade Organization (WTO) projects that global trade will drop by 13-32% in 2020 affecting all sectors of the economy globally (WTO, 2020). Africa will therefore not be spared given that it is a net food importer whose food import bill has been on the rise in the recent past, reaching USD 35 Billion in 2019 (Arment, 2020). Food imports into the continent are dominated by major staple cereals (Maize, Rice, Wheat and Soybean), dairy products and meat and therefore reduced imports have a direct impact on food availability and the nutrition of millions of Africans.

Disruptions caused/induced by the COVID-19 pandemic are now threatening the food security of billions of people globally (Rami Zurayk, 2020) and various analyses have pointed out that global hunger could double due to food supply disruptions, especially in poor nations across the globe (De Sousa, 2020). Moreover, economic lockdowns and restrictions limit access to income generating opportunities in the non-farm sector. According to AGRA, (2019), 60 percent of rural labor time is committed to off-farm activities and therefore millions of Africans who derive their daily wages from the rural and urban non-farm informal sector will therefore lose their jobs with serious implications on purchasing power and food access. Several food-producing countries have imposed trade restrictions on major commodities, while large importers, are hoarding food and scrambling to build up their food reserves, exerting pressure on global and regional markets. Experiences learned for 2007/2008 food crisis highlighted that restricting food exports to boost domestic availability is a wrong response because such measures increased global prices by 13 percent on average and by 45 percent for rice (Pangestu, 2020).

The disruptions on world trade will also lead to reduction in the FOREX earnings from the export of agricultural produce from the continent, mainly Coffee, Tea, Cocoa, Fruits, Vegetables and Flowers to the rest of the world. Africa's exports on these commodities earned the continent approximately US\$ 60 Billion in 2017 and therefore reduced global economic activity and air travel restrictions will reduce these earnings drastically. However, some windfall benefits can be gained in the immediate term, as a result of reduced global supply of some of these commodities in traditional markets such as Europe and Asia. Moreover, Africa is likely to experience delayed or reduced foreign direct investments (FDI) as developed nations redirect capital locally (Jayaram et al., 2020).

On the domestic markets, disruptions related to the pandemic have resulted to closure of fresh produce markets in major urban centers across the continent in compliance with social distancing requirements that contributed to increasing the post-harvest losses because of the limited

storage and processing infrastructure. Further, lock down restrictions and enhanced disease surveillance have led to delays in border clearance and delivery of produce to markets, causing substantial losses as well as increase in transport costs (AFAP, 2020). These effects are likely to result to increased prices of agricultural commodities.

2.4 Impact on Food Prices

According to Hernandez et al., (2020) an increase in the price of essential agricultural commodities is already being reported in some parts of the continent. The COVID 19 crisis has undeniably led to an increase in the prices of staple cereals, mainly wheat and rice due to a combination of demand, hoarding, and trade restrictions. Price volatility, market tampering and stockpiling in some countries, are starting to impact the prices of food, with harmful effects on nutrition of the most vulnerable people (United Nations, 2020). While retail food prices are likely to upsurge all over the world, their effect will be more adverse in African countries where food costs represent a significantly larger share of household budgets. Should lockdowns extend into critical planting periods and beyond, they will affect availability of the agricultural inputs and disrupt farmers' cropping schedules. The production of staple food crops such as wheat and rice, and vegetables will be affected with severe consequences on market operations and prices upsurge for agricultural products.

3. Adapting African Agriculture to COVID-19: Policy Responses, Insights and Strategies

Given the potential negative impacts highlighted above, urgent measures are needed to ensure that food supply chains in Africa remain open and connected so that continental and international markets continue to function and allow the movement of agricultural products and agriculture inputs, which is important in circumventing food shortages and guaranteeing national and global food and nutrition security. Since COVID-19 has occasioned an emergency for which we are still uncertain regarding the scope of its impact on food and agricultural systems, it is imperative that efforts are marshalled in a coordinated policy response arrangement to ensure that international and national efforts to manage the spread and impacts of the disease will not continue to disrupt or cripple commodity supply chains.

As already pointed out, there is a spectrum of policy choices for managing the COVID-19 emergency ranging from those that are strictly preventive on the one hand, through to relatively less strict yet sufficiently precautionary policy positions and even permissive policy response mechanisms at the other extreme. On this spectrum, most countries around the world have so far championed for outright prevention of COVID-19 outbreaks through *cordon sanitaire* measures such as travel bans, closure of schools and public spaces, including even places of worship, complemented by health measures that involve testing and tracing as well as fiscal, financial and macro-economic interventions. The result is that currently, billions of people globally find themselves in lockdowns to enforce social distancing and stop the spread of the disease, mostly in Europe and North America, but also in India and more recently now a norm in many African countries such as South Africa, Rwanda and Uganda among others.

Some other countries such as South Korea, Chinese Taipei and Kenya although initially in the preventive policy bracket, are lately experimenting with other measures, avoiding complete lockdowns, in view of their enormous socio-economic costs, and instead opting for precautionary policy approaches to open certain segments of their economies. This position is shared by Austria, Switzerland, Denmark, parts of China (e.g. Wuhan), and some US states where a process of re-emergence is already cautiously starting to move economies out of lockdowns.

A less explored policy route is one where, a country may opt to be rather *permissive* by not imposing drastic restrictions on daily life on understanding that allowing a virus to run its course of spread will eventually build up sufficient resistance in a population called *herd immunity* (also called *community immunity*) and that ultimately the once infectious disease eventually self-destructs! Medical specialists have posited that to have herd protection, a large proportion of the population (70 – 80%) must either get exposed to the virus and get infected or, immunity induced with the help of largescale vaccination programs. However, the prospects of voluntarily allowing a virus such as the novel coronavirus to infect this many people in a matter of a few months, is manifestly horrible as this would have devastating consequences including putting at risk the lives of many vulnerable sectors of the population (especially those already dealing with underlying health conditions, the old and the young) and unacceptably overwhelm already stretched healthcare facilities leading to high death rates. This permissive policy option would therefore not be advisable for African countries or any other country unless backed by the Holy Grail of promising vaccination trials. To date, Sweden (and to some extent Mexico and Belarus) remains the only country to have come close to taking the permissive policy approach by pursuing an alternative “herd immunity” strategy focused on protecting the most

vulnerable populations while using only limited distancing measures to flatten the curve for others. The success of this strategy remains fuzzy without hard facts coming out to show a clear effect on COVID-19 infections in Sweden whose infection curve is still on the upward trend.

Clearly, what appears to inform policy choices is the counterpoise between the threat posed by further spread COVID-19 and the socioeconomic costs and disruptions emanating from prevailing control measures. It is essential that policy makers in affected African countries have the best available data and understanding of COVID-19 epidemiology to inform any course of policy action. For a disease that has only been around for less than a year, the dearth of such data at moment is only making a bad situation worse. It is important to note that without a clear understanding of when the global health and economic effects may peak as well as a greater understanding of the impact on economies, the forecasts we currently have must necessarily be considered preliminary. Similarly, estimates of when any economic recovery might begin, and the speed of the recovery are largely speculative.

The choice of containment measures must keep in mind the vulnerabilities of livelihoods in most African countries and consideration that most countries on the continent were already reeling from effects of locust invasion and food shortages hence cannot sustain lockdowns for weeks let alone months. While the inclination to shut down in the current COVID-19 pandemic is understandable, lockdowns need to be carefully enforced, through sensitization of population and commitment enough public resources and policy coordination arrangements to sustain societies and economies through such periods to avoid possible mass civil disorder. For instance, Vietnam is a lower middle-income country comparable to many in Africa, that has been successful with a lower cost strategy, informed by local surveillance, testing and contact tracing capacity, managed more targeted lockdowns that involved extensive public information campaigns.

It is important to stress that ensuring food security during the pandemic crises and after will mean deploying food aid where necessary, but also keeping value chains running as much as possible, so that small-scale producers continue operating and are able to find markets for their produce, so that markets don't collapse (IFAD, 2020). In the specific case of COVID-19, strong partnerships and multi-stakeholder (private sector, governments) collaboration and synergy and complementarity are needed to provide robust responses to protect food systems and to supply food to people with emphasis on the most vulnerable.

Therefore, affected African countries should consider embracing a policy climate that targets fast-track movement of food and essential by shortening of processing time and reducing costs better

phrased as "zero wait time in and out of the port," "zero wait time for operation," and "zero wait time for delivery,". Other complementary COVID-19 policy management interventions in the short and long term would also include (1) creation of strong demand for and access to agricultural inputs through smart input farmer subsidies; (2) promotion of measures for prevention of food price hikes for instance by releasing food from government grain reserves and implementing anti-hoarding policy, (3) provision of recovery strategy stimulus support to key supply chain players like logistics companies and farmers, (4) tax reliefs/provision of small grants - reducing or even abolishing taxes for businesses and people affected or providing them with grants and loans with reduced interest rate, (5) effective regulation of all input and output markets - monitoring food prices and strengthening market efficiency and equity, and (6) mass testing and widespread awareness creation on basic sanitation measures and enforcement of social distancing coupled with strengthening of Sanitary and Phytosanitary (SPS) measures especially for wild meat consumption to avoid zoonotic diseases. These strategies can be complemented by the deployment of digital agricultural solutions and existing partnership platforms to make the food production and supply chain more resilient to the adverse impacts of COVID-19. Two important digital solutions lend credence for facilitating the delivery and marketing of farm inputs and perishable food items during times of emergency. The first is the input *demand tracker app*, akin to the seed tracker tool of the International Institute of Tropical Agriculture (IITA) and the second is the *aggregator app* that facilitates aggregation and transportation of large quantities of inputs from urban to rural areas and perishable food items and grains from rural to urban markets. At the regional level, countries could collaborate either bilaterally or through their regional groupings to harmonize border processes and procedures to avoid delay in cross border movement of inputs, food stuffs and other essential supplies. As was recently affirmed by the African Development Bank (AfDB), to rebound from the COVID-19 pandemic, Africa must maintain adequate food and inputs reserves, avoid protectionist policies and promote value chains that link domestic and international markets, while promoting intra-Africa trade.

4. Conclusions and Recommendations

COVID-19 is a pandemic like no other which has spread to almost all the countries of the world. Indeed, looking at the now well-known Johns Hopkins University online dashboard, it seems that COVID-19 will be with us longer and affect us deeper than what we were ready to accept. With the global total crossing 4.2 million confirmed cases worldwide by mid May 2020, this is way far from

anybody's initial expectation. The battle against COVID-19 is widely compared to a war. It is not enough to win the war; we must also win the peace - to ensure that development progress is not eroded (Haga, 2020).

There is clearly a noticeable impact on global economic growth. Estimates so far indicate that COVID-19 induced economic contractions could be as much as 2.0% per month if current conditions persist. Global trade could also fall by 13% to 32%, depending on the depth and extent of the global economic downturn. The full impact will not be known until the effects of the pandemic peak. The International Monetary Fund (IMF) Chief Kristalina Georgieva recently concluded that the global economy would experience its "worst recession since the Great Depression, surpassing what was seen during the global financial melt-down a decade ago".

Policymakers, however, are being overwhelmed by the quickly changing nature of the global health crisis that appears to be turning into a global trade and economic crisis whose effects on the global economy are escalating. Although consensus has emerged around the use of physical distancing (which has invariably turned into imposition of lockdowns) to slow transmission in many high-prevalence settings, this cannot be sustained in the longer term. On-going restrictions on travel through lockdowns, border closures and other measures notably large-scale social distancing can, at best, only reduce new infections and deaths, and mitigate pressures on existing healthcare support systems, but do not constitute a cure for COVID-19. On the contrary, rushed imposition of rigid lockdowns has unleashed widespread social instability and economic uncertainty in some African countries such as Malawi and Zimbabwe where many vendor traders have staged protest marches against shutdowns.

African governments will need to urgently find local, context-specific workable solutions to enforce social distancing that would allow crucial economic activities to flourish. During COVID-19 and after, governments must consider establishing a universal basic income grant and formally recognize the importance of informal economic activities as being integral to Africa's social and economic wellbeing and development. If the right measures are not taken in the current time period, the post-COVID-19 era may be difficult with many African states struggling to meet the growing expectations of citizens whose livelihoods will have been severely disrupted or irretrievably destroyed by the unintended consequences of enacting unworkable lockdowns. In this regard, the following recommendations are underlined (i) circumscribing the impact of the COVID-19 and supporting a shock-resilient food system through implementation of sound food policies and short to long term actions including quality agricultural input provision of recovery, (ii) stimulating key supply chain

operation, food market system strengthening (iii) strong partnership platforms establishment for key food system players (iv) promotion of resilient technologies and deployment of digital agricultural solutions and support for scientific research and innovations that could deliver a vaccine sooner rather later. (v) implementation of comprehensive national, regional, and continental Knowledge Management System & Compendium on COVID 19 implications in agriculture and food system to guide the policy-making process. According to MarketWatch, (2020) Duke University economics professor Campbell Harvey indicated that.. “It’s a Biological event, and the solution is also clear, another Biological event”. In principle, the biological event that will end COVID-19 will be in the form of a vaccine.

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