



COVID-19 PANDEMIC IMPACT ON AGRICULTURE AND FOOD SECURITY IN NIGERIA AND OTHER DEVELOPING COUNTRIES: A REVIEW

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Abstract

Coronavirus is a pandemic ravaging the world. It is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Lockdown and restrictions in the movement have been adopted by different countries and cities as a way of ending the spread of the virus. The lockdown however has had its tour on all aspects of the economy including agriculture. In the continent of Africa, the impact of the virus has been felt to a wide range, due to disruption in international markets which have constrained the exportation and importation of agricultural products. The food system in most developing countries has been affected directly by COVID 19 pandemic, due to the hindered distribution of food even as its demand is high at this period. Plant failure which was majorly characterized by the inability of the farmers to maximise the needed farm inputs such as seeds, fertilizers, pesticides in farm operations, and post-harvest activities was as a result of the lockdown measures taken to stop the spread of the virus. The effect is similar in animal production as restrictions in the opening of restaurants, fast food outlets, hotel services, and ceremonial gatherings have been a measure to curb the spread of the pandemic. This in turn is having a great impact on the demand and supply of animal products. Therefore, measures should be looked into in mitigating the long-term effect of the pandemic on agriculture and food security in the country and the world at large.

Keywords; COVID 19, Agriculture, Food Security, Pandemic, Animal Production

Introduction

There has been quite a number of global pandemic that has affected mankind in the past. Every pandemic has its own novelty and tolls on human activities and economic growth of the world (Hanashima & Tomobe 2012). The most recent pandemic ravaging the world presently is COVID-19 (corona virus disease 2019). COVID-19 is an infectious disease caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). The virus is said to have originated from Wuhan town, Hubei province of China (Guo *et al.*, 2020). Due to unavailability of vaccine at the emergence of the virus, non-pharmaceutical measures were adopted such as mandatory lockdown of so many cities and countries in other to slow down the transmission of the virus (Cohen and Kupferschmidt, 2020; Maier and Brockmann, 2020).

Many industries have been disrupted by the virus outbreak this also include the agriculture and food sector, thereby endangering livelihood of many (Shaikh 2020). According to the Food and Agriculture Organization of the United Nations (UNFAO), populations who are already weak and malnourished are said to be more vulnerable to disease during an outbreak which will invariable increase the health crises (Food and Agriculture Organization, 2020a). COVID-19 is a health crisis, but it could also lead to a food security crisis if proper measures are not taken. Most under developed nations are already facing food and nutrition security challenges.

In the continent of Africa, the impact of the virus has been felt in a wide range, due to disruption in international markets which have constrained the exportation and importation of agricultural products (Willy *et al.* 2020). According to an estimation by the United Nations Economic Commission for Africa, approximately 29million Africans will be pushed below poverty line of US\$ 1.9 and 19 million jobs lost as a result of COVID-19 (UN-ECA, 2020).

Food security according to the World Bank policy study in 2006 is the unlimited access of people to enough food for a healthy active life. A household is considered to be food secure when its occupants do not live in hunger or fear of starvation (FAO 2001). According to the United Nations (2020), about 820million people have already been said to suffer from chronic food insecurity prior to the onset of the pandemic. Food security is said to consist of two keys according to Shaikh (2020): economic access of people to enough money to buy food and

the physical access to whether the food is available. The COVID-19 pandemic may cause a food crisis in developing countries due to ongoing and arising issues associated with both economic and physical accessibility. Therefore, this study aims to investigate the impact of COVID 19 pandemic on agriculture and food security and its influence on human lives living in developing nations.

COVID 19 and Food Security in Underdeveloped Nations

Food system can be said to be activities involved in the production, processing, distribution, consumption and disposal of food products that originate from agriculture (Bhavani and Gopinath, 2020 : FAO 2018). Food system in most developing countries is being affected directly by COVID 19 pandemic, due to the hindered distribution of food even as its demand is high at this critical period. Small scale farmers producing for export has mostly lost access to the global market as movement restrictions are imposed in most nations of the world (COOPI 2020) including international flights. According to reports (Mulubrhan et al., 2020; Zurayk, 2020; Torero, 2020; Reardon et al., 2020), supply chain at all levels have been destabilized, thereby creating instability in food supply and prices. The United Nations World Food Programme (WFP) projected that food insecurity will double by the end of 2020 this is due to income remittance losses and the disruption of food system due to the pandemic (WFP, 2020a; WFP, 2020b).

In Nigeria, the food insecurity tends to be more pronounced in the northern part of the country. This is largely due to the significant level of poverty has 75 percent of the country's poverty rate can be seen in the north and also due to fragility of the area (World Bank, 2020b, 2020c). Nigeria majorly depends on importation of her staple foods like rice, and wheat. The prices of these staple foods have reported climbed and this has added financial burdens and thereby affecting food security of most households (World Bank. 2020a). According to the report of Mulubrhan et al., (2020), households and cities with strict government responses experienced an increase in food insecurity indicators. This is because informal markets and labour market activities declined due to movement restriction/lockdown measures put in place to check the spread of the pandemic.

The Impact of COVID-19 pandemic on Crop Farming and Labour

Crop production is faced with a wide range of challenges, ranging from environmental, soil infertility, availability of fertilizers, sowing and harvest dates amidst others due to the global pandemic ravaging the world (Seleiman. et al. 2020: Meuwissen et al. 2019). Due to different movement restrictions in most countries of the world, there has been immediate or short term effect of COVID 19 on food production. This had prevented farmers, farm service providers and various actors in the food system to perform their task. These restrictions can therefore result in plant failure and also hinder the use of needed farm inputs such as seeds, fertilizers, pesticides in carrying out timely farm operations and post-harvest activities (UNFAO 2020).

An essential part of agriculture is the availability of labour. The mobility of agricultural labour was greatly impaired because of different restrictions on movement imposed by different countries as a way of mitigating the spread of COVID 19 (Willy et al. 2020). The resultant effect of the movement restriction post COVID 19 will be reduced cropped area and yield due to shortage in labour to perform most agricultural requirements such as weeding and top-dressing of fertilizer during planting (Willy et al. 2020). This will have a notable negative impact on the population and also the economy of the nation.

The Influence of COVID 19 on Animal Production

Coronavirus pandemic has no doubt been a public health emergency all over the world. Unlike developed nations around the world, developing countries like Nigeria would have a higher impact due to its poor infrastructure, health care service and economic state. The lockdown periods has raised concern for livestock farmers whose primary means of livelihood is their livestock. Adherence to the government imposed measures is to save their animals from being infected by the virus which would have resulted in a total loss. Poultry and other livestock has been an important sub-sector of agriculture with its role in the supply of animal protein for both vegetarians and non-vegetarians in the country (Biswal et al., 2020). In developed countries like USA, the impact of COVID 19 is being felt in the dairy sector of livestock as restrictions in movement and social distancing between people is enforced. Many industries processing dairy products reduced their buying from farmers as most cannot operate to full capacity. This however, has a significant economic impact on farmers. Farmers dump their milk as there are no buyers. In developing countries, lack of infrastructures and long distance from farm to the urban areas makes it more difficult for animal products such as dairy to get to processing also because of inter-cities lockdown (World Farmers Organization 2020). Other livestock areas such as piggyery, poultry and small ruminants also has its share of the pandemic restrictions. Farmers were compelled

to keep their livestock for a longer production period much beyond the marketing age as there are no marketing opportunities. Such action led to continuous feeding of the animal, thereby incurring economic loss to the farmer (Biswal et al. 2020). Restrictions on opening of restaurants, fast food outlets and ban on ceremonial gatherings as measures to curb the pandemic is having a great impact on the demand and supply of poultry products. Lack of storage facilities for products such as eggs in large layer farms had led to force disposal of products at give-away prices (Biswal et al. 2020).

Impact of COVID 19 on Fish Farming

Fish serve as a major source of protein in human diet and a source of employment among rural farmers. Fish and fish products are widely traded globally as source of food and industrial raw material (FAO 2020). There has not been a report of the influence of COVID 19 infections on fishes and other aquatic lives. However, infection can be spread from human to human as seen in a case of a fish factory in Ghana where infection was spread to about 533 employees through one employee, this necessitate the need to observe occupational health environment in the fish industry (FAO 2020). This interference with demand and lower supplies will have a direct impact on the people involved in all aspects of fish farming Purkait et al. (2020). Transport constraints, closure of restaurants, and retail outlets due to the lockdown measures had negative impact in the demand and supply of fish and fish products leading to massive loss in fish farming and invariably affecting the GDP of the nation (Purkait et al., 2020).

World Bank support

In a report by Flore de Preneuf, (2020), The World Bank Group is working with governments around the world in monitoring domestic and agricultural supply chain, track how the loss of employment and income is impacting people's ability to buy food and ensure that food systems continue to function despite COVID19 challenges.

The World Bank Group is also working to make these countries adopt appropriate food policies responses as listed below:

- Food should be treated as an essential service to keep food moving and opening special procedures ('green channel') for food, trade, and agricultural inputs to ensure supply chains are kept open and functional.
- Incorporating necessary health and safety measures along segments of the food supply chain.
- Supporting the most vulnerable populations via safety net programs, complemented by food distributions in areas where supply chains are severely disrupted.

Conclusion and Recommendations

Restriction in movement and lockdown is no doubt a significant measure in mitigating against the spread of COVID 19 disease. However its impact is been felt in other sectors of the economy such as agriculture and food security leading to increase in hunger amongst the populace of developing nations. It is therefore required that the government strategizes ways of reducing food shortage and increasing its supply as advised by The World Bank. Measures should be looked into to mitigate the long term effect of the pandemic on agriculture and food security in the country and the world at large.

Aside the input by the World Bank, it is also important that proactive measures should be taken, such as, government investing massively in the agricultural sector, employing young people in the agricultural sector, provision of necessary agricultural inputs and machineries without any hindrance to movements of key players in the sector and supply chains.

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