

The effects of COVID-19 on the Market chains of Agricultural products In Uganda:

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Abstract.

The novel Corona Virus (COVID-19) has continued to spread across the world leaving death and economic devastation in its wake. On 21 March 2020, Uganda confirmed its first COVID-19 imported case¹. The containment adopted to curb the spread of the virus in Uganda has affected business operations² and the Market chains of Agricultural products haven't been spared either.

This research paper is a result of various methods of research for the better understanding of the effects. The methods used included; a market chain approach which was used to get information on restriction measures, production, markets and consumer behaviors. Data collection was also a component of this research paper through literature review, 30 phone interviews, and online meetings with stakeholders in civil society, farmer groups, traders and line government institutions and a questionnaire sent by email and answered by 9 respondents. The methods were to observe safety due to Covid-19. Price interpretation was also used as a key methodology in this investigation.

The results indicate that small and big agricultural businesses across the chain have experienced large effects of the risk associated with COVID-19 across the Market chains of Agricultural products. Some of the businesses like coffee shops and restaurants have declined due to their inability to cope with containment measures instituted by government. Specifically, eight out of ten food operating businesses report experiencing an increase in operating expenses and low numbers of clients due to preventive measures instituted by government to curb the spread of the virus. Agriculture enterprises are further hit due to challenges of accessing inputs arising from transport restrictions, increased cargo plane fares(Especially for coffee)³ and the ban on weekly markets. In addition, prices of agricultural outputs have declined due to lost demand and the shift from consumption of fresh agricultural produce to dry rations⁴. However there is higher resilience among agriculture firms because of being among the essential services. There has been temporally loss of jobs in the agricultural mostly at the upper chain of the food and beverages sector⁵.

Key words; Market chains of Agricultural products, Agriculture enterprises, essential services, Price interpretation, economic devastation

1. *Ministry of Health Uganda (MoH)* <https://www.health.go.ug/covid/>

2. *How has the COVID-19 pandemic impacted Ugandan businesses*
<https://eprcug.org/research/education/652-how-has-the-covid-19-pandemic-impacted-ugandan-businesses-results-from-a-business-climate-survey>
3. *Phone interview with Dr. Gladys Kalema Zikusoka, Proprietor of Gollira Conservation coffee and Gorilla conservation café in Entebbe*
4. *How has the COVID-19 pandemic impacted Ugandan businesses*
<https://eprcug.org/research/education/652-how-has-the-covid-19-pandemic-impacted-ugandan-businesses-results-from-a-business-climate-survey>
5. *Dr. Gladys Kalema Zikusoka on the employment of her workers at the coffee shop in Entebbe*

1. Introduction

Since late 2019 early 2020, an outbreak of coronavirus disease 2019 (COVID-19) an infectious disease caused by a newly discovered coronavirus has rapidly spread across the world, Unleashing global health emergency and an unprecedented economic crisis of historic magnitude, devastating lives and livelihoods⁶. By June 9, 2020 corona virus had led to over 6.9M reported cases, including more than 400,000deaths with 216 countries areas or territories with cases (WHO, 2020).⁷ This pandemic has moved rapidly beyond an international health pandemic to heralding a global socio-economic crisis not seen since the Great Depression of the 1930s.⁸ Uganda confirmed its first imported COVID-19 case on 21 March 2020⁹. Since then positive cases have been increasing to 657as of March 9, 2020 with 118 recoveries with no death has been recorded. (MoH)

Although the corona virus pandemic is primarily a health crisis, the disease has led to various economic and social disruptions in Uganda. The reactions of fear caused by the pandemic and the restrictions on gatherings and movement of goods and people have had repercussions beyond the direct impact on health. Behavioral effects related to the way risks are perceived and handled can often be more significant from a socio-economic viewpoint than the effects of sickness and mortality themselves. Similarly, the policy responses implemented to contain the pandemic and protect public health may have perverse effects on other activities (e.g. trade and economics) and lead to higher indirect impacts than the disease itself.¹⁰

A number of corona virus impact studies thus focus on the disease's socio-economic impacts rather than merely the public health consequences. In particular, the corona virus pandemic has strongly disrupted agricultural market chains Uganda that employs over seventy percent of Ugandans. Many different measures qualified hereafter as restriction measures have been established by public authorities and/or community leaders (self-organized control) to limit the propagation of the pandemic: closure of weekly markets, curfews, closure of borders, districts (Border districts) to control entries. All these cause disruption in agricultural products market chains and trade, with potentially significant impacts on those who depend on them for their livelihoods and food and nutrition security. This is of particular concern because food insecurity is already a major issue in Uganda and there is a risk that the pandemic could have negative effects on food security. There is therefore a need to assess and understand coronavirus impacts

on market chains and food security while continuing to address the health problem by preventing human to human transmission.

Coronavirus response should be addressed through multi-sectoral policy: public health policy is a priority but this must be linked to other policies such as agriculture, economic, and food policies. To document the impact of these disruptions this paper has conducted a study with national and local authorities in Uganda. This paper presents an assessment of how market chains of agricultural products have been affected by the corona virus pandemic in Uganda. This paper is based on secondary data, phone interviews, an emailed questionnaire and the outcomes of the online consultation meeting.

This paper presents the conclusions of the assessment and makes recommendations based on the findings. Using the outcomes of the online consultation meetings and building on past studies conducted, the paper presents an analysis of the impact of the coronavirus pandemic on market chains and some recommendations for restoring trade flows and ensuring the smooth functioning of markets while minimizing the risk of disease spread. After the description of the methodology used for the analysis in section two, section three presents a detailed analysis for the market chains. Section four presents recommendations, and concluding remarks.

6. Covid-19 strategy update <file:///C:/Users/duncan/Downloads/covid-strategy-update-14april2020.pdf>
7. “Shared Responsibility, Global Solidarity: Responding to the socio-economic impacts of COVID-19”, United Nations, March 2020: https://www.un.org/sites/un2.un.org/files/sg_report_socioeconomic_impact_of_covid19.pdf
8. Ministry of Health Uganda (MoH) <https://www.health.go.ug/covid/>
9. Uganda Confirms its 1st COVID19 case <https://www.health.go.ug/covid/2020/03/23/uganda-confirms-1st-case-of-covid-19-saturday-21-march-2020/>
10. *Disease Control Priorities: Nita Madhav, and others. (Improving Health and Reducing Poverty 3rd edition)*

2. Methodology

Many studies have now been conducted on the socio-economic impacts of the coronavirus pandemic, including on markets and food security. The different methodologies used, the specific angles addressed, the rapid evolution of data (a characteristic of any crisis) and their occasional contradictions make it difficult to have a clear overview of coronavirus related impacts. The market chain approach adopted in case of this paper is an attempt to provide a detailed description of the impact of the corona virus pandemic at the different stages of market chains in Uganda.

2.1 A market-chain approach

The proper functioning of market chains and flow of agricultural products are key elements for food and nutrition security. Communities are increasingly dependent on markets and their correct functioning for their food and nutrition security. In order to have a better understanding of the mechanisms by which agricultural market chains and trade have been affected by the corona virus pandemic, a market-chain approach was used.

This approach proves particularly relevant and useful to coherently organize different sets of information on production, trade flows, restriction measures, markets and consumer behaviors. The strategies developed by different stakeholders in the market chains to mitigate the difficulties they face with the corona virus pandemic are also considered in this market-chain approach. The recommended response options to address the various bottlenecks along market chains are based, in part, on the adaptation strategies reported from the phone interviews. In these interviews this paper considers the impact of the pandemic of the entire epidemiological context, which has three main elements: the disease itself, the different restriction measures and people's reactions to the pandemic. This paper has analyzed the entire epidemiological context for each stage of the agricultural market chains. Baseline information describing agricultural market chains before the pandemic has been gathered whenever possible to compare it with the situation during the pandemic. Lessons learned from past experiences with restriction measures are also considered.

2.2 Data Collection

This paper is partly based on an extensive review of the literature covering impact studies of the novel coronavirus pandemic as well as food and nutrition security and market chain studies. The literature review was supplemented by 30 phone interviews with stakeholders of selected market chains, researchers and experts in agricultural market chains and trade in Uganda. One technical consultation online (Zoom) meeting was organized and brought together 17 stakeholders and specialists in food security, trade and agricultural market chains, experts in animal health, anthropology, epidemiology, public health and health risks, as well as private sector actors and

members from the civil society. These further were given a questionnaire on mail and 9 of them were returned with feedback.

2.3 Price interpretation.

At the beginning of the corona virus pandemic, increasing prices were regarded as an indicator of economic disruption and a threat to household food security especially for urban areas. A rising price indicator may reflect supply deficits due to lower production (labour shortage, shortage of inputs in affected and production areas), lower food imports (lack of public resources) or increasing demand due, for example, to the stockpiling of strategic stocks by households or other stakeholders. However, price increases as an indicator may be misleading for different reasons. Price variations must be interpreted in the context of seasonal and geographical patterns. In Uganda, prices vary greatly across time (post-harvest season, lean season) and space (areas of production versus consumption). Moreover, in addition to these structural factors, other factors, independent of corona pandemic, may affect agricultural prices such as climate conditions. On this last point, however, Uganda normally enjoys abundant and regular rainfall. Weather conditions were within normal range in 2019/2020 aside from the floods in the Rwenzori Sub region. Putting this in context this paper analyses the prices and their relationship with the corona virus pandemic.

3. Discussion of the effects on the market chains of agriculture.

The agribusiness sector includes the whole chain of activities from production, processing, transportation and marketing of the different produce. The agricultural products are categorized into the crop and livestock subsectors, where the crop subsector is further subdivided into cash and food crops. The importance of the agribusiness sector has grown significantly as agricultural development strategies have shifted from a pure production-oriented approach to a broader based systems approach involving agro-food chain coordination, value creation and institutional setting under which chains operate (FAO, 2013). The extent of commercialization for any agricultural value chain is strongly linked to existing demand, processing capacity and quality standards and these are the market chains that have been affected by the different factors in Uganda before and during the current coronavirus pandemic

For example Market chains of Agricultural products In Uganda have encountered significant difficulties in the past because of governmental decisions to close borders in case of traders that use the Rwanda borders. In addition to this milk trade to Kenya had hit a snag in the early 2020 causing more challenges to the dairy farmers for it led to confiscation of 54,310 kilos of powder milk valued at \$203,630 and 262,632 litres of UHT milk valued at \$157,106 caused a sustained negative campaign against Uganda's milk and milk products⁹

The perishable nature of most agricultural products is a strong constraint for market-chain function, when restriction measures such as the ones put to prevent the spread of COVID-19 are

imposed. The impact of the COVID related restriction measures on agricultural market chains in Uganda is therefore are from negligible

With the above problems the COVID19 came in and has hit farmers along the market chains measures especially by the drastic reduction in the number of trucks leaving the rural areas and the frequency of weekly transport and closure of weekly markets (Interview). This has led has to spoilage of agricultural products especially the perishables on the farm, post-harvest losses and lower prices for the horticultural products and the milk products.

Representatives of rural farmers reported that the Kampala market was no longer easily accessible, and this has led farmers to sell their produce at the local markets. In local markets, mostly vegetables were available as consumers purchased less, leading to a glut in these markets, and farmers are therefore forced to sell at very low prices. Yet production activities were maintained at higher costs (seed inputs and labour are more expensive), farmers faced a reduction in profitability. With this income loss, the risk is that fewer amounts of vegetables would be produced during the 2020/2021 season (Interviews).

The paper also reveals that there was Significant post-harvest losses due to the difficulty for producers and traders to sell surpluses to urban areas and the neighboring countries has led to significant spoilage and post-harvest losses. This mainly because most farmers lack storage facilities and they produce and go directly to the markets which were this time closed or suspended.

More to the above a significant drop in both producer and retail prices is observed due to the effects of COVID19 restrictions in Uganda for the month of March (Late), April and May 2020 compared with January, February and early March. Looking at coffee alone there was a fall in the value of coffee exports reflected the lower price received in March. The average export price declined to \$1.6 per kilo down from \$1.65 per kilo in February and \$1.63 a year earlier. (Interviews)

Finally the paper reveals lower incomes for farmers and financial losses because farmers have been forced to sell at a loss or discard their products, production costs haven't been covered. Poultry farmers have been the biggest victims as those involved in egg production sold the eggs at half the price from Ugx 10,000 a tray before the corona pandemic to Ugx5, 000 a tray at the height of the lockdown. Because of lack of feed which is sometimes imported and the hiking prices of the feeds that were available in the country poultry farmers were forced to sale layers for meet at lower prices before they could even get their initial investment in eggs. Fish farmers were also affected in a way that the feeds became expensive and scarce and they harvested immature fish. A bunch of banana that costed Ugx 20,000 at the farm gate before the lockdown went as low as Ugx 4,000 at the height of the lockdown (Interviews). This decrease in farmers' incomes is likely to cause difficulties for loan repayments to purchase farm inputs for the following season Selling at a loss has also limited farmers' ability to build food stocks and pay for services. (Interviews)

3. Conclusions and recommendations

4.1 Conclusion

The coronavirus pandemic has not only affected health systems in Uganda, but has affected all facets of the economy, especially agriculture being the primary industry of majority of Ugandans. The restriction measures imposed by government of Uganda to avoid the spread of the virus have had dramatic consequences on the agricultural market chain Uganda. All market-chain actors, especially producers, have suffered from lower prices due to reduced exports and transport restrictions, the cargo planes have become very expensive especially for coffee exporters and the rosters in Europe are also locked down (Interview).

The domestic market has proved insufficient to absorb production surpluses, especially for coffee and animal products (Especially dairy products, chicken products and fish) whose main market is our neighboring countries, the schools, hotels and restaurants that are locked. As a result, farmers and producer groups have faced financial losses with potential long term effects beyond the 2020 season (online Meeting).

The Covid-19's negative impacts on the market chain were harsh also to horticultural market chains that faced the same constraint of products' perishable nature. Vegetable spoilage as a result of restriction measures (e.g. reduction in the number and frequency of trucks in Kampala) and insufficient demand from urban areas also led to lower prices.

Similarly, the closure of border and weekly markets had repercussions in the rural Uganda. The availability of fruits and vegetables from farms was evident on Kampala and the reduction in prices is telling (interview).

4.4 Recommendations

This paper observes that the pandemic has caused disruptions on the market food chains in the country and the world, in general. The food production networks are uncoordinated, the distribution, logistical and market systems have broken down. With these effects still affecting the food agricultural chains this paper recommends the following as mechanisms to avert the

effects COVID-19 has caused on the agricultural food chains in encouraging and supporting the recovery of activity as the country reopens;

- a. As the country reopens there is need for establishment of safe trade areas and markets based on COVID19 Standard Operating Procedures (SOP) on Public Health mitigation measures along market chain critical control points to allow farmers access markets during this pandemic. This should be done by having information campaigns, hygiene kits and sanitary controls are essential to support farmer group activities and regulate the re-opening of borders and markets. All stakeholders (producer organizations, market authorities, transport unions, trade associations, agricultural extension agents, etc.) should be engaged in this process. Incentives, guarantees and reassuring messages for all market-chain actors are also required.(Interview)
- b. Put in place economic measures that support the recovery of agricultural activity (support to input access, rescheduling loans, etc.). This is because Support for farmers is necessary to counter the financial losses sustained from significant post-harvest losses and steep price drops in prices. Financial assistance for reimbursing loans for inputs, subsidizing inputs for the following farming season and procuring local food for food distribution should be encouraged for the agricultural sector to thrive (interview). Support for farmers is necessary to counter the financial losses sustained from significant post-harvest losses and steep price drops in prices. Financial assistance for reimbursing loans for inputs, subsidizing inputs for the following farming season and procuring local food for food distribution should be encouraged for the agricultural sector to thrive (interview). Operation wealth creation (OWC) should also resume its supply of inputs mainly for rural and poor farmers.
- c. Inter-sectoral political commitment at the national and regional level is needed to ensure coordination for supporting agricultural trade activities in a pandemic context. At national level, inter-sectoral coordination should ministries of health, agriculture, trade, finance, transport and the security agencies. At the regional level, organizations such as World health organization (WHO), East African community (EAC), Customs should collaborate and agree on the best way to implement health and economic measures to allow the movement of goods.
- d. There should be animal restocking specifically for poultry and fish farmers who have sold their products at giveaway prices because of lack of feeds. For crop cultivators quick maturing crops should be supplied to avoid the looming food scarcity due to lack of capital on the farms.

- e. Lastly additional research at the human agriculture ecosystem interface on specific topics (the role of agricultural market chains in spreading the virus, stakeholders' adaptation strategies in a pandemic context, potential changes in consumption modes, etc.).

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