

Policy Brief

Organic Versus Conventional Farmer Crisis Responses

Implications under Covid and Russia-Ukraine War

The case of Zambia

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The impact of the COVID-19 Pandemic on Organic and Conventional Farmers and Mitigation Strategies in Africa assessment was initiated by Biovision Africa Trust in eleven countries in Africa, including Zambia.

Abstract

The impact of the COVID-19 Pandemic on Organic and Conventional Farmers and Mitigation Strategies in Africa assessment was initiated by Biovision Africa Trust in eleven countries in Africa, including Zambia. A cross-sectional design and a mixed research approach guided by participatory tools and techniques for data collection were employed. 22 households, involved in the organic and conventional production of maize and ground nuts were interviewed in Chongwe and Rufusa locations. 5% of the producers were youth, indicating low participation among the youth in the agricultural production systems. 82% of Zambians heard of the pandemic in the first quarter, January and March of 2020. Coincidentally, on 18th March 2020, the government announced the first case of COVID-19 in the country, and at the same time initiating safety nets and protective measures within the initial 120 days to build resilience among the population.

The study observed that 96% of the households, that depend on agriculture as a source of livelihood were impacted by the pandemic. Poor access to inputs among conventional farmers was reported by 63% compared to 54% organic. More conventional producers, 59% reported post-harvest losses compared to 53% of organic producers. 78% of the households confirmed that they had challenges accessing food, due to disposable income mentioned by 67% of the respondents, followed by high prices of food items, mentioned by 56%, while 22% complained of food unavailability.

The study observed that 82% of the producers reported poor access to agricultural extension services with more than 61% of organic producers being impacted, compared to 58% of conventional producers. 94% reported post-harvest losses of their products. 83% of the producers in Zambia were not being able to access inputs. 82% of the producers mentioned that they had partial access to markets, of which 73% had partial access to fresh vegetable products and 59% had partial access to cereals products. 83% of the producers in Zambia faced challenges in accessing inputs for production. 78% of the traders reported that their business was in one way, or another impacted by the pandemic. They reduced their operations in terms of the time of operation. 43% started operating from home, as weekly markets closed.

The study proposes policy interventions to address the impact of COVID-19:

1. Establishment of the Digital marketplace and extension of delivery systems. There is a need to promote a digital marketplace, through which the online market can be promoted.
2. Strengthen the Agro-dealer networks through the establishment of Agro-dealer networks, which are a cost-effective method of availing inputs to farmers, especially fertilizer and pesticides as well as strengthening possible output markets, by expanding a commercially viable network of rural retail enterprises, and
3. Farmer-led extension service delivery through the model farms: Farmer-led extension system has been successful in value chains such as dairy. The establishment of model organic farms within the village where members of the community can consult will improve peer-to-peer learning. Investment in model farms while at the same time improving the capacity of the host farmer will be important.



BIOVISION Africa Trust (BvAT) initiated a study to assess the "Impact of Covid-19 Pandemic on Organic and Conventional Farmers and Mitigation Strategies in Africa" between October and December 2021. Zambia was one of the countries selected to participate in this study. This study employed a cross-sectional design and a mixed research approach guided by participatory tools and techniques for data collection. Qualitative data was collected through the application of the Participatory Rural Appraisal (PRA) methodology. In total, 22 households, involved in the organic and conventional production of maize and ground nuts were interviewed in Chongwe and Rufunsa locations. 5% of the producers were youth, indicating low participation in the maize and groundnut production systems. Organic production is still low in terms of area and households engaged. Generally, organic production occupied 72 million hectares of land globally, of which 2.03 million hectares were in Africa, contributing 2.8% to the global landscape. In 2019, Zambia recorded an area of 848 Ha under Organic production systems, which represents less than 1% of the African continent, with only 8 producers reported to be producing organic products, representing less than 1% in Africa¹.



COVID-19 Pandemic

The COVID-19 pandemic, which first emerged in Wuhan, China in December 2019 and spread rapidly to other regions, was declared a public health emergency of international concern on 30th January, and a global pandemic by WHO on 11th March. The first case of the pandemic in Zambia was announced on 18th March 2020. The number of deaths as of October 24th, 2021, was 3,659 from 209,629 infections. So far, only 291,947 individuals have received vaccinations, which represents 2% of the Zambian population. There is a need to sensitize the population on the importance of vaccination as a protection mechanism. There was a relationship between the time the government announced the first case of COVID19 and the awareness level. 82% of the respondents heard of the pandemic in the first quarter, January and March of 2020. The government announced the first case of COVID-19 in the country on 18th March 2020. on which. The impact of the pandemic on socio-economic conditions within 14% of the households was felt in the April-June quarter of 2020. This was approximately 90-120 days post being aware of the pandemic. Initiating safety nets and protective measures within the initial 120 days would build resilience among the population.

Demographic characteristics

The study reached 22 households practising organic and conventional production systems, of which 46% were male. This indicates that agricultural production is driven by women and therefore building resilience among this group against production and marketing shocks will be key. 96% of the respondents were able to read and write indicating that the methodologies used by the government to influence social behavioural change through media, advertisements, fliers and capacity development were spot on, reaching the majority and diverse population within Zambia. Farming is the main source of livelihood among all the respondents. Among them, 39% also depend on remittance and 22% depends also on non farming enterprises. Zambians cross over to South Africa to get employment and therefore closure of borders with South Africa and other neighbouring countries affected the movement of people bringing in support. COVID19 reduced remittances as most immigrants lost jobs. World Bank estimates that as the COVID19 pandemic and economic crisis continue spreading, the remittance flows to developing countries were projected to decline by 7.2% to 508 USD billion in 2020, followed by a further decline of 7.5% to 470 USD billion in 2021 (World Bank, 2020)². This comes at a time when the country also faced a serious macroeconomic crisis because of rising inflation, a high fiscal deficit, a depreciating kwacha, and pressing external debt obligations.

Impact of COVID-19 on household livelihoods

The various measures taken to curb the spread of the virus have affected various sectors in the Zambian economy as well as the Agricultural Sector. The study observed that 96% of the households, that depend on agriculture as a source of livelihood were impacted by the pandemic.

¹FiBL survey 2021 based on data from governments, private sector and certifiers. In The world of Organic Agriculture statistics and emerging Trends 2021. Eds Helga et al, 2021. Research Institute of organic Agriculture (FiBL)

² World Bank. (2020b). Remittance's data, 2 March April 2020. Available at: <https://www.knomad.org/data/remittances.2/16/2200> [Google Scholar]

Based on the value chains, 32% of the Livestock producers, 81% of the cereals, 36% of the pulses and 23% of vegetable producers were significantly impacted in both production and marketing. The study further observed that while the livelihood sources of 95% of conventional producers were negatively impacted, those who practice organic were 83%. Poor access to inputs among the conventional farmers was reported by 63% compared to 54% organic, while more conventional producers, 59% reported post-harvest losses compared to 53% of organic producers. These could have been the main contributors to the negative impact among conventional producers. Generally, 78% of the households confirmed that they had challenges accessing food. Reduced incomes, which was mentioned by 67% of the respondents were the main reason for poor access to food, followed by high prices of food items, mentioned by 56%, while 22% complained of food unavailability.

"All parts of the food economy have been affected as farmers faced impossible choices; stop food production or continue working and risk localized coronavirus outbreaks."

Jajah Coulibally and William Chilufya

Both organic and conventional producers reported a loss in incomes due to closure of business, loss of employment and inadequate access to foods. Generally, there was no significant difference in reduction in incomes between organic, who reported 31.61%, compared to Conventional reporting 31.62%. While 81% of the conventional producers reported a reduction in income by 31%, 77% of the organic reported a similar loss. This indicated that organic producers were more resilient to the pandemic compared to conventional producers. This resilience could have been contributed by the adoption of climate-smart organic production technologies, increased post-harvest management systems, and access to inputs and credit. In addition, 31% of organic producers adopted at least 11 climate-smart production practices compared to 20% among the conventional producers, with crop rotation and compositing, being the most adopted by organic producers.

"We lost income, as our family members living in Lusaka, were unable to remit money to them. We can't blame them. The situation was hard for everybody"

FGD, Rufunza District, Zambia

Impact of COVID-19 on access to extension services

The COVID-19 pandemic became one of the most complicated barriers to achieving sustainable agricultural extension service provision in Zambia. The study observed that 82% of the producers reported poor access to agricultural extension services during the pandemic. A majority of organic producers, 61% were impacted, compared to 58% of conventional producers. The increased intensity in extension delivery to organic producers before the pandemic by development partners and local organic production organizations was felt during the pandemic, compared to conventional, who did not experience equivalent intensity before.

Government restrictions and enforcement of public health measures reduced the mobility of the extension officers. Most farmers were not allowing people to visit their farms as they fear contracting the disease. As part of adaptation, Radio and social media became the main source of extension information for 41% and 46% respectively. This possesses a significant challenge to the quality of information reaching the producers. 27% sourced such information from the neighbours, which is prone to distortion from one person to another. Investment in farmer-led extension delivery and human-centred digital extension service delivery will be a game changer, especially during pandemics, where social distancing is being affected and movement is curtailed by the lockdown. Though human-centred digital extension system is for many farmers, it might take a long time to develop and spread across all smallholder farmers because of infrastructure barriers. Nonetheless, it appears extension systems based on the digital business model have proved to dissect the impediments caused by COVID19 beyond nations³.

Effect of COVID-19 on post-harvest management

Zambian farmers experienced significant post-harvest losses on their produce, as mentioned by 94% of the respondents, due to government restrictions and public health measures to reduce the spread of the pandemic. Producers in the conventional production systems bore the highest loss due to post-harvest losses, as reported by 59%, compared to 53% among the organic farmers. The rate of natural biological deterioration that leads to quality loss is affected by internal and external factors as well as postharvest conditions and handling (Prusky, 2011)⁴. Products produced under intensive input supply face intense post-harvest loss compared to the organically produced. Several factors contributed to the reduction in product quality. Reduction in market quality attributes such as a change in product colour affected the majority, 94% of producers, while pest infestations affected 76% of the producers. 94% of producers blamed travel restrictions as the main post-harvest loss contributor. 82% complained of curfew/Lockdown, while 29% laid the blame on market closures. Discussions with farmers mentioned that due to the closure of markets, they had nowhere to sell their food products, leading to prolonged storage, which led to the yellowing of leaves, a characteristic that is not preferred by consumers.

Market access

The study assessed factors that led to poor access to the market among the producers in Zambia. 82% of the producers mentioned that they had partial access to markets, with 73% having partial access to fresh vegetable products while 59% had partial access to cereals products. Transport was the major challenge that affected all producers, with the majority, 77% being conventional producers, compared to 68% among the organic farmers. Movement restrictions and social distancing affected vehicle movement which negatively affected the transportation of products to the markets. The organic products are mainly sold at farm gates, which cushions the producers against transport challenges. Reduction in product demand mainly due to reduced orders by consumers affected 72% of the producers.

³Siankwilimba, E., Mwaanga, E.S., Munkombwe, J., Chisoni Mumba, C., and Hang'ombe, B. International Journal for Research in Applied Science & Engineering Technology (IJRASET) ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.429 Volume 9 Issue XII Dec 2021- Available at www.ijraset.com.

⁴Prusky D (2011) Reduction of the incidence of postharvest quality losses, and future prospects. Food Secur 3:463–474. <https://doi.org/10.1007/s12571-011-0147->

Consumers were not able to visit the markets due to travel restrictions and fear of contracting the Coronavirus disease (COVID-19). Most of the wet markets were closed and therefore few consumers and producers would access such facilities. This reduced demand and sales of the produce. Post-harvest losses also affected 72% of producers in accessing the market due to damage to produce by pests and changes in product quality due to prolonged storage.

Effect of COVID-19 on access to inputs

Producers faced a challenge in accessing inputs for production, with 83% of the producers in Zambia reported not being able to access inputs, due to government restrictions and public health measures to reduce the spread of the pandemic. 63% of the conventional, compared to 54% among the organic producers were not able to access inputs. High product prices affected 67% was the main impediment in access to inputs, while the inability to move and procure the products affected 56%. Majority of the producers, 78%, adopted through substitution of the products they normally use with other available products. This could have led to the use of low-quality products with high chances of yield reduction. Discussions with producers in Zambia indicated that the country is landlocked and closing of the borders due to COVID-19 by their neighbouring countries, has the potential to affect the input supply chain. Imported shipments of crop protection products such as pesticides from China and India were severely delayed, and prices were rising⁵.

As part of the coping strategy, 50% of the households reduced the rates of application, while 11% forgo some of the products and staggered the use of the products. Staggering the use of inputs may have led to the development of resistance due to low and infrequent dose application, especially in animals. Among the inputs, access to fertilizer was the key input that was impacted. Fertilizer supply mainly comes from outside Zambia, especially from Europe, which was under lockdown for freight and sea services. Access to pesticides affected 56% of the producers, compared to 44% who reported poor access to seeds. Discussions with producers indicated that due to being a landlocked country and closing of the borders due to COVID-19 by their neighbouring countries, they faced challenges input the supply chain. Imported shipments of crop protection products such as pesticides from China and India were severely delayed, and prices were rising⁶.

Effect of COVID19 on access to credit

The COVID-19 pandemic and the subsequent government restrictions and public health restrictions affected 23% of the producers, accessing credit. 61% of the producers were unbackable as the banks were not willing to provide credit due to high-risk factors associated with the pandemic. 89% had no collateral to be able to guarantee the loans they would want to apply for, while 39% were not able to access the banks due to fear of contracting the virus as they would interact at the banking hall. Digitization of credit access will be important in future, while the adoption of mobile banking and paperless loan application and their entrenchment in the financial policy will unlock access to credit among the producers, especially in the face of the pandemic.

⁵<https://agrilinks.org/post/covid-19-impacts-agri-input-systems-east-and-southern-africa>

⁶<https://agrilinks.org/post/covid-19-impacts-agri-input-systems-east-and-southern-africa>

Effect of COVID-19 on trade

The study observed a significant impact of COVID19 on trade. 78% of the traders reported that their business was in one way, or another impacted by the pandemic. All traders reduced their operations in terms of duration within a day, due to curfews, while 43% started operating from home, as weekly markets closed. Only 14% closed their businesses to concentrate on other issues. The reduction in operation time and moving business to homes may have disoriented the frequent customers in their locations, leading to a reduction in the number of customers as mentioned by 67%. due 11% of the traders faced challenges in accessing raw materials of inputs for their business, while another 11% reported increased cost of transportation due to a reduced number of transporters.

Government intervention in building resilience

Zambian government initiated several measures to protect its 18.3 million Zambians, against the COVID19 Pandemic. There was the shutdown of all educational institutions and foreign travel restrictions on 17th March 2020, followed by border closure on 10th May 2020, partial lockdown, partial closure of non-essential businesses, social gatherings ban, and suspension of cross-border passenger and cargo transportation service. The government further set up an Epidemic Preparedness Fund under the Ministry of Health amounting to K57 million (\$3 million). The cabinet also approved a COVID-19 Contingency and Response Plan with a budget of K659 million (\$36Million) under the Disaster Management and Mitigation Unit. The African Development Bank helped communities in Zambia acquire goods worth around \$450,000 since mid-2020 to cushion vulnerable people from the impact of COVID-19 . In the Nakonde district on the Tanzanian border, the Bank authorized the Zambian government to set aside \$200,000 from a livestock project that was near completion to procure and distribute COVID-19 relief packages of food, livestock, farming inputs and medical materials. The relief packages included 600 goats, 44 cattle, 2,000 chickens, 13 metric tons of chicken feed, 520 kilos of pasture seeds and two egg incubators. The assistance targeted 75 cooperatives and benefited 161 livestock farmers. Medicine, hygiene supplies and food were distributed to community health workers and people affected by COVID-19. The provisions included food rations, hand sanitisers, liquid detergent, cleaning materials and medical equipment such as thermometers and surgical masks.

The impact of the Ukraine-Russia war on organic and conventional farmers and mitigation strategy in Zambia

Zambia did experience food supply chain disruption due to the Ukraine-Russia conflict hence further escalating food and livelihood insecurity caused by COVID-19. The government depends on food imports from Ukraine and Russia especially wheat flour, and barley among others to supplement the local food production. Shortage of fuel especially from Russia also shot up the inflation rates hence the movement of essential goods to farmers a nightmare and increasing the cost of production. General prices of essential commodities like wheat increased by about 30%. Some of the response strategies put up by the government to address COVID-19 also came hand in hand to address some impacts of the Ukraine-Russia conflicts. These include Economic Recovery and Stimulus Package to offer relief for households, businesses and industries, and the Contingency and Response Plan worth USD36 million among other strategic and policy responses. included food rations, hand sanitisers, liquid detergent, cleaning materials and medical equipment such as thermometers and surgical masks.

²<https://www.worldometers.info/population/countries-in-africa-by-population/>

⁸ <https://www.afdb.org/en/success-stories/zambia-bank-helps-cushion-impact-covid-19-livestock-and-aquaculture-projects-42458>

Policy recommendations

To address such huge disruption in agricultural production in Zambia, the government need to take action on key policy recommendations to cushion the farmers and the general population from acute food and livelihoods security:

1. **Digital marketplace and extension delivery systems:** 82% of the producers mentioned that they had partial access to markets, due to government restrictions and the closure of weekly markets. There is a need to promote a digital marketplace, through which the online market can be promoted. This will be successful if the government partner with the private sector to expand its telecommunication network and establishment online payment systems for supermarkets, Agro-input providers among other traders.
2. **Strengthen the Agro-dealer networks:** 83% of the producers in Zambia reported not being able to access inputs, due to government restrictions and public health measures to reduce the spread of the pandemic, as a result of high prices, closure of Agro-dealer shops and movement restrictions therefore not able to reach Agro-dealers located far from the village. There is a need to establish Agro-dealer networks, which is a cost-effective method of availing inputs to farmers, especially fertilizer and pesticides as well as strengthening possible output markets, by expanding a commercially viable network of rural retail enterprises. This will involve the identification and or establishment of Agro-dealer networks within the communities through strengthening their business and technical skills to better serve the needs of smallholder farmers.
3. **Farmer-led extension service delivery through the model farms:** The study observed that 82% of the producers lacked access to extension services during the pandemic, with access 61% of the organic producers being impacted, compared to 58% of conventional producers. While consulting their neighbours cannot be phased out, improving its content will be important. Farmer-led extension system has been successful in value chains such as dairy. The establishment of model organic farms within the village where members of the community can consult will improve peer-to-peer learning. Investment in model farms while at the same time improving the capacity of the host farmer will be important.
4. The government to allocate more funds to support farmers to produce more cereals for local consumption and also for exports within Africa.
5. There is a need for an active Contingency and Response Plan within the Ministry of Agriculture to offer timely action in case of any disruption in the supply chain of agricultural production
6. There is a need to work with development partners like African Development Bank, and World Bank among others to build the capacities of farmers to be self-reliant in terms of agricultural inputs, providing marketing information systems and storage of excess agricultural products.
7. Promoting intra-regional agri-food business, taking advantage of the African Continental Free Trade Area (AfCFTA)

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