



Organic Versus Conventional Farmer Crisis Responses : Implications under Covid and Russia-Ukraine War

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Growing Sustainably

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Table of Contents

Acknowledgements	10
Acronyms and abbreviations	11
Executive Summary	12
Chapter ONE: Background and Context	
1.1 The EOA-I and Biovision Africa Trust (BvAT)	20
1.2 Organic production systems	20
1.3 The COVID-19 Pandemic	21
1.4 Impact of policy pronouncements	23
1.5 Impact of COVID-19 on gender dimensions	24
1.6 Impact of COVID-19 on the agriculture sectors	25
1.7 Stakeholder responses in building resilience against COVID-19	25
CHAPTER TWO: Evaluation Methodology and Approach	
2.1 Purpose and objective of the study	28
2.2 Study objectives	28
2.3 Study themes	28
2.4 Research questions	29
2.5 The evaluation approach and plan	29
2.6 Products value chain analysis	30
2.7 Qualitative data collection methodology	31
2.7.1 Secondary literature review	31
2.7.2 Key Informant Interviews (KIIs)	31
2.7.3 Focused Group Discussions (FGDs)	31
2.8 Quantitative data collection methodology	32
2.8.1 Household data collection	32
2.8.2 Recruitment and training of research assistants	33
2.9 COVID19 Protocol during field data collection	33
2.10 Data analysis and quality control	33
2.11 Assessment of the accuracy of reported results	34
2.12 Study limitation	34





Table of Contents (Cont.)

CHAPTER THREE: Findings of the evaluation

3.1	Household heads and gender diversity	36
3.2	Diversity based on age cohorts	36
3.3	Education and literacy levels	37
3.4	Number of members per household	38
3.5	Production system at the household level	38
3.6	When the household heard of the pandemic	39
3.7	Initial sources of information concerning COVID-19	40
3.8	When the household started feeling the impact of Covid19 post awareness	40
3.9	Adoption of public health measures	42
3.10	Awareness of COVID-19 Vaccines	42
3.11	Impact of Government restrictions and Public Health Measures (PHM) on the organic and conventional farmers livelihood	43
3.11.1	Specific government restrictions and public health measures	43
3.11.2	Impact of government restrictions and PHM on Livelihood sources	44
3.11.3	Impact of government restrictions on livelihoods among conventional and organic producers	45
3.11.4	Impact of COVID19 on Gender parity	46
3.11.5	Household enterprise diversification	47
3.11.6	Impact of COVID19 on the adoption of agroecological technologies	48
3.11.7	Impact of government restrictions on inputs and services that support farming activities	50
3.11.8	Impact of COVID19 on access to extension services	51
3.11.9	Adaptation in access to extension services	53
3.11.10	Impact of COVID19 on access to Input services	55
3.11.11	Factors contributing to challenges in access to inputs	56
3.11.12	Main input types with greatest access challenges	58
3.11.13	Impact of poor access to inputs on production and marketing of agricultural products	59
3.11.14	Adaptation in lack of access to inputs	60
3.11.15	Impact of COVID-19 pandemic on product post-harvest management	61
3.11.16	Adaptation for control of post-harvest losses	63

3.11.17	Impact of COVID-19 on access to product-market access	64
3.11.18	Factors contributing to poor market access	64
3.11.19	Impact of COVID-19 on access to credit services	66
3.11.20	Impact of COVID-19 on access to medical services	67
3.11.21	The cost of accessing health services	68
3.11.22	Impact of COVID-19 on household incomes	69
3.11.23	Impact of COVID19 pandemic on household gross income	70
3.11.24	Reduction in gross income among the enterprises	71
3.12	Impact of COVID19 on Trade	72
3.12.1	Enterprises and experience of the traders	73
3.12.2	Trader's access to credit during the pandemic	74
3.12.3	Effect of COVID19 on businesses and coping strategies	74
3.12.4	Impact of COVID19 on business operations	75
3.12.5	Coping strategies among traders against COVID19 Impact	77
3.12.6	Sources of trade information among the traders during the pandemic	78
3.12.7	Supports suggested by producers during pandemics	79
3.12.8	Supports suggested by traders during pandemics	80
3.12.9	Main lessons learnt on the pandemic among the traders	81
3.13	Impact of COVID19 on the demand and supply of food products	82
3.13.1	Access to food based on the production systems	82
3.13.2	Perception of food availability and supply during the pandemics	83
3.13.3	Food access based on Gender	84
3.13.4	Sources and means of accessing food items	84
3.13.5	Factors contributing to poor access to food	85
3.13.6	Access to fresh foods	86
3.13.7	Access to cereals	86
3.13.8	Impact of COVID19 pandemic on consumer shopping behaviours	87
3.13.9	Impact of COVID19 pandemic on prices of food items	87
3.13.10	Food items most difficult to access at the peak of the COVID19	88
3.13.11	Monthly access to food provision	90
3.14	Preparedness of the stakeholders in the mitigation against impacts of the Covid-19 pandemic	91

Table of Contents (Cont.)

3.14.1	External support in building resilience against COVID19	91
3.14.2	Private sector and civil society response	91
3.14.3	Government responses	93
3.15	Shifts in funding priorities in ensuring the mitigation of the COVID19 impact	95
3.15.1	Shift in funding priorities	95
3.15.2	Donor investment in building resilience against COVID19	95
3.16	Implications of the Farmers' Resilience under Impacts of Russia and Ukraine War	98
3.16.1	Context analysis	98
3.16.2	Impact of the war on livelihoods	100
3.16.3	Responses to the Russia-Ukraine war impact	100
3.16.4	Building resilience against the conflict	101
CHAPTER FOUR: Conclusions and Recommendations		
4.1	Study Conclusions	104
4.2	Impact of COVID19 on the producers' livelihoods	104
4.3	Response among the producers and the implication on food value chains and food security in Africa	106
4.4	Key Study Recommendations	107
List of Annexes		
5.1	Key Informant questionnaire: Partners	112



List of Figures

Figure 1:	Dates when 1st COVID19 cases were reported among the selected countries in Africa	22
Figure 2:	Diversity in respondents based on the age cohorts within the selected countries in Africa	36
Figure 3:	Proportion of youth respondents (19-30 years) participating in organic and conventional production systems	39
Figure 4:	Major sources of information on the COVID19 pandemic	40
Figure 5:	Relationship between the producers' awareness of COVID-19 impact felt.	41
Figure 6:	Public health measures adopted by producers in the selected countries in Africa	42
Figure 7:	Awareness on restrictions and PHM in place to control COVID-19 spread	43
Figure 8:	Diversity in livelihood sources among the producers in the selected countries in Africa	44
Figure 9:	Impact of restrictions and public health measures on income sources	45
Figure 10:	Impact of government restrictions on livelihood sources and income among men and women	46
Figure 11:	Impact of COVID19 on agricultural value chain production	47
Figure 12:	Adoption of agroecological production technologies among conventional and organic producers	49
Figure 13:	Proportion of respondents who reported farming activities support were impacted by the pandemic	51
Figure 14:	Impact of COVID19 on supporting services and farming activities	51
Figure 15:	Effect of government restrictions and public health measures on access to extension	52
Figure 16:	Different on-farm practices affected by the COVID19	53
Figure 17:	Adaptation among producers in access to extension services	54
Figure 18:	Percent respondents reporting challenges accessing inputs in the selected regions due to the COVID-19 pandemic	55
Figure 19:	Proportion of respondents reporting reasons that contributed to input access challenges.	58
Figure 20:	Production inputs that access was impacted by the COVID-19 pandemic	59
Figure 21:	Adaptation among households in access to inputs	61
Figure 22:	Adaptation among producers for control of post-harvest losses	63
Figure 23:	Factors contributing to poor market access during the pandemic	65
Figure 24:	Impact of government restrictions and PHM on access to medical services	68
Figure 25:	Proportion of producers reporting reduction in income due to COVID19	69
Figure 26:	Percent reduction in incomes across the targeted regions in Africa	70
Figure 27:	Percent reduction in gross income among main household enterprises	72
Figure 28:	Business operation status and years in trade (N=129)	73

List of Figures (Cont.)

Figure 29: Impact of government restrictions and Public Health Measures on Credit	74
Figure 30: Impact of COVID19 on busienseses operations and response to the impact	75
Figure 31: Impact of COVID19 on businesses operations	76
Figure 32: Adaptations among traders on how businesses were done	78
Figure 33: Adaptation among traders on information on how to manage the COVID19 crisis	79
Figure 34: Recommendation on how producers would want governments to help them during lockdown	80
Figure 35: Recommendation on how traders would want governments to help them during lockdown	81
Figure 36: Main lessons leant on the pandemic among the traders	82
Figure 37: Proportion of organic and conventional farmers who faced difficulty in securing household food	82
Figure 38: Impact of COVID19 on food insecurity among women and men headed producers	84
Figure 39: _Reasons why producers were not able to access certain food products	85
Figure 40: Producers reporting food insecurity between Jan 2020 and August 2021	89
Figure 41: <u>Impact of COVID19 on Monthly access to food provision</u>	90

List of Tables

Table 1: Area (Ha) and number of organic producers among selected countries in Africa - 2020	21
Table 2: Summary of coronavirus (COVID-19) cases in selected African countries	23
Table 3: Summary of COVID19 cases and government measures in selected African countries by end of June 2020	24
Table 4: Selected food crops and livestock likely to be impacted by the COVID-19 pandemic.	30
Table 5: Producers, Key Informants, and traders reached during the evaluation	32
Table 6: Diversity in respondents based on the age Cohorts (%)	37
Table 7: Proportion of respondents participating in different production systems	38
Table 8: Adoption of agroecological technologies by respondents in Africa (%)	50
Table 9: Comparative analysis of the effect of COVID19 on prices during and before the COVID19 (%)	57
Table 10: How the inability to access inputs affected farm enterprises (N=620)	60
Table 11: Postharvest cases and coping strategies (%)	62
Table 12: Impact of COVID-19 on access to credit and disincentives towards credit access (%)	67

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Acronyms and Abbreviations

BvAT	Biovision Africa Trust
TOR	Terms of Reference
FGD	Focus Group Discussions
KII	Key Informant Interviews
EOA	Ecological Organic Agriculture
CSC	Continental Steering Committee
HDDS	Household Dietary Diversity Score
GBV	Gender-Based Violence
NGO	Non-Governmental Organization
USAID	United States Agency for International Development
IFAD	International Fund for Agricultural Development
AU	African union
SADC	Southern African Development Community
EAC	East African Community
ECOWAS	Economic Community of West African States
PRA	Participatory Rural Appraisal
CBO	Community Based Organization
KOAN	Kenya Organic Agriculture Network
KENAFF	Kenya National Farmers' Federation
KAP	Knowledge Attitude Practice
CAPI	Computer Assisted Personal Interviews
PME	Planning, Monitoring and Evaluation
SPSS	Statistical Package for Social Sciences

Executive Summary

The study on “Organic Versus Conventional Farmer Crisis Responses: Implications under Covid and Russia-Ukraine War”, was commissioned by Biovision Africa Trust (BvAT) on behalf of the Continental Steering Committee of the African Union-led Ecological Organic Agriculture Initiative (EOA-I) in October 2021, to establish the impact of the pandemic on agriculture and food systems in Africa. The study assessed how farmers practising organic and conventional agriculture were affected by the pandemic, and how they were responding to it (adaptation). The study covered the five regions of Africa, with three countries in Eastern Africa (Kenya, Uganda, and Ethiopia), two in West Africa (Mali and Senegal), two in Southern Africa (Zimbabwe and Zambia), two in Central Africa (Democratic Republic of Congo and Cameroon) and two in Northern Africa (Morocco and Egypt).

The study employed a cross-sectional design and a mixed research approach guided by participatory tools and techniques for data collection. For objective comparison 11 Focused Group Discussions (FGDs) were held with organic farmers and 11 with conventional farmers. The study was enriched by interview perspectives from 106 Key Informants drawn from government departments, development partners and donors. Additionally, 129 KIIs were conducted with traders who included wholesalers, transporters, processors, retailers, and exporters. A survey was conducted with 620 farmers (75% male and 25% female) using a mobile-based digital data collection platform, Kobo Collect. Twenty-three (23) enumerators were recruited from the 11 countries of interest and trained virtually. This

organic producers, 54% compared to 63% of conventional producers being affected. While organic producers have adopted Agro-ecological production practices that rely less on fossil energy (synthetic fertilizers), their conventional counterparts depend on these inputs, whose access was greatly affected due to disruption of the distribution systems. Increase in input prices was a deterrent to 70% of the producers' ability to access inputs, while 31% were not able to access their preferred inputs due to closure of agro-dealer shops. Nearly half, 48% producers had restricted access to their nearest Agro-dealer shops due to implementation of social distancing and lockdown. Over a half, 57% of the producers were not able to access fertilizer, 40% could not access pesticides and 34% could not access seed. The impact of poor access to input was observed in loss of income and production, as reported by 66% and 42% of the respondents respectively ($p < 0.05$). Post-

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The study employed a cross-sectional design and a mixed research approach guided by participatory tools and techniques for data collection.

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process and data collection in the ten countries was led by 11 country focal points. The survey data was collected, cleaned, decoded, and analyzed using the Statistical Package for the Social Sciences (SPSS) Version 23, providing valuable descriptive findings. Below the key results are presented.

The impact of Covid-19 on farmers' daily lives and their activities connecting to the common food value chains (farm to fork), shifts in consumer demand and incomes.

The study revealed that the majority (86%) of the producers, both organic and conventional were significantly negatively affected by the pandemic and the inevitable subsequent government restrictions and public health measures. The impact was significantly ($p < 0.05$), felt by 95% conventional producers than organic producers (83%). Whereas everyone was affected, more women (90%) than men (85%) were more vulnerable to the pandemic, though this difference was not statistically significantly different ($p > 0.05$).

Impact of pandemic on access to farming support services: The assessment noted that 81% conventional and 77% organic producing households were not able to access important farming support services ($p < 0.05$). Only 61% were able to access extension services, with 58% conventional compared to 60% organic facing the challenge, though this difference was not significant ($p > 0.05$). More women (66%), compared to 59% of men reported having challenges accessing extension services. The most affected were households producing crops as reported by 40%, compared to 31% livestock producers. Further, 60% of the producers faced challenges accessing inputs, with less

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harvest losses were also accelerated by the impact of COVID19 as reported by 58% of the producers. These were mainly due to pest infestation and loss of market quality value (loss in color). More conventional producers, 58% experienced the challenge compared to organic producers (53%). Access to markets was a challenge among overall 61% of the producers, and specifically with 90% of the conventional producers and 59% organic producers. Organic producers had a specific niche of customers who they supplied produce, compared to conventional producers. Social distancing and closure of fresh food markets reduced access to organic products.

Impact of COVID19 on trade: The pandemic affected 90% of the traders dealing in both organic and conventional products. The 79% traders reduced operating hours due to curfews while 18% closed their businesses as they were not able to pay rent and other services. A smaller proportion

of traders, about 8% started operating online to reach their customers. Reduction in orders by customers/consumers was the greatest impact associated with the pandemic as reported by 64% of the traders. Key Informant Interviews with traders showed most of them started diversifying their markets and products they manage. Some of the traders ventured into value addition and door to door deliveries to reach customers. Adoption of mobile money transfer and integration of ICT in their business to integrate online trading was a game-changer among 33% of the traders, to counter the social distancing and lockdown.

Impact of COVID19 on access to food: The findings revealed that about half (49%) of the respondents were food insecure and were not able to meet their monthly food needs between January 2020 and August 2021. Reduction in food access mainly affected slightly more (59%) of the conventional producers, compared to 57% of organic producers ($p>0.05$). Poor access to food affected both sexes in equal measure, with slightly more (69%) women-headed households faced food access challenges compared to 57% men headed households. Poor access to food was due to loss of products through post-harvest losses, inability to access markets, poor access to inputs and reduction in household disposable income. Generally, 87% of the producers reported reduction or loss of income by 40% due to the pandemic. The loss in income was due to loss in jobs as reported by 56% of the respondents, inability to sell goods and services that affected 46% of the producers. There was no notable significant difference on income loss when organic and conventional producers were compared, with conventional

reporting a 33% reduction in income compared to 32% among the organic producers ($p>0.05$). Producers who have invested in livestock production reported 47% reduction in income, compared to crop producing households who reported a 41% income reduction ($p>0.05$).

Impact of Russia-Ukraine war on livelihoods:

The advent of COVID19 pandemic in 2020 reversed decades of hard-won macroeconomic, socioeconomic and governance gains in Africa, leading to loss of human life, livelihoods, and incomes. The situation has worsened by Russia invading Ukraine in an unprovoked act of aggression on February 24. This has led to suspension of commercial shipping at its ports by Ukraine military, leading to supply disruption from the largest grain and oilseeds exporters. The prices of wheat have increased by 42% in Egypt, 31% in Tunisia, 25% in Nigeria, 24% in Tanzania, and 17% in Kenya. The World Bank estimates that "every percentage point increase in food prices will push 10 million people into extreme poverty." A supply disruption has already led to increase in cost of living in most African countries.

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The advent of COVID19 pandemic in 2020 reversed decades of hard-won macroeconomic, socioeconomic and governance gains in Africa

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Farmers' response to the pandemic and the implication to food value chains and food security in Africa.

Building resilience through adoption of agro-ecological practices: The response of the producers differed from region to region and from country to country. As part of building resilience against climate change, 31% of the organic producing households compared to 21% conventional, adopted at least 11 agroecological production technologies that do not require synthetic inputs. The use of bio-based fertilizers from the farms enabled organic producers not to travel looking for inputs, reducing the impact of social distancing and closure of input stores.

Access to production support services: Producers devised some methods of accessing extension services and agri-information tips such as through their neighbors, electronic and social media. Digital extension service delivery has been used among farmers and have been empowered with high-quality digital information with the potential to increase yields, incomes, and resilience. Inaccess to inputs, adaptations included reducing the frequency and rate of use of inputs against the recommended rates as reported by 47% of the households. This have potential to reduce the input effectiveness and efficiency. Others substituted the input(s) with what is locally available, while others stopped using external inputs completely. Strategies to reduce impact of post-harvest losses included drying of food products such as vegetables and use of improved storage equipment, especially for cereals such as hermetic bags and storage in silos. Value addition of farm products such as milk into yoghurt and fermented milk was practiced increasing the shelf life. SULMA Foods

in Luwero Uganda adopted dehydration technology of pineapples to reduce losses and diversify their markets for dried products, both locally and internationally.

Reducing the impact of food insecurity:

Households adopted different coping strategies to be able to access food. Consumption of less amount of food compared to pre-pandemic period was noted, while some avoided food items which were difficult to obtain. These coping strategies however portend the risk of escalating food insecurity and malnutrition among children under five years. Reduction in portion provided to adults presents risk of reducing the adults' effectiveness at work with consequences of low productivity at workplace and on farms.

Increasing competitiveness among traders:

Adaptations towards integration of ICT in trade reduced contact between the traders and consumers while making products available to consumers. Door to door deliveries of products was also noted as traders diversified their markets to reach more consumers. Product differentiation through targeting new markets and value addition for specific consumers were noted. Dehydration/drying of fruits and vegetables for increased shelf life and export market was evident in Uganda.

Assessment conclusion: The findings suggest that more organic producing households better cushioned themselves against the pandemic, leading to less impact on their livelihoods compared to their conventional counterparts. The resilience among the organic producers was as a result

of adoption of improved agro-ecological practices, which helped reduce the impact of post-harvest losses and dependency on synthetic inputs and eased access to credit and inputs. Conventional producers on the other hand had more access to markets and felt less the impact of poor access to extension services. Diversification in trading through value addition, dehydration of products and exploration of new markets were key to trader's resilience. There have been concerted efforts from the private sector, government agencies and donors to reduce the spread of the pandemic across Africa, through over USD \$ 25 billion investments in health and building social protection. The study noted that most donor focus changed to more of health initiatives to reduce the spread of the virus against other funding lines and therefore, non-governmental organizations need to be more innovative in their resource mobilizations to be in line with the shift.

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Conventional producers on the other hand had more access to markets and felt less the impact of poor access to extension services.

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Key study recommendations

Recommendations for producers

Adoption of Agro-ecological technologies for resilience building: The study has observed that organic production system is based on ecological principles, which positively impacts the environment leading to increased resilience to production systems disruption. There is a need for increased promotion of these principles as part of enhancing resilience among the organic producers and consumers.

Collective aggregation and marketing of products: Access to markets was limited during the pandemic due to inability of producers to collectively transport their produce to the market, especially among the organic producers. Promotion of organic market outlets at the village level will reduce the travel distance among the consumers while at the same time providing market outlets to producers.

Promotion of organic products as healthy products to stimulate demand: There is an opportunity to promote organic products as healthy products through advertisement and sensitization of the population to increase demand as majority of the consumers believe that organic products have the potential to build resilience and accelerate quick recovery among those infected with the COVID-19 virus.

Recommendations for traders

Diversification of products and markets: Traders need to diversify their business operations based on products, raw material sourcing and delivery mechanisms. Building partnerships through contractual agreements with suppliers, would ensure the supply of products consistently based on building relationships and trust. Value

addition of products such as dehydrated/dried products (pineapples, powdered milk, and tomatoes) have the potential to enhance shelf life as they wait for the markets.

Adoption and integration of ICT in trade – creating a marketplace: Traders need to integrate ICT in marketing for access to market intelligence and trading. On-line trading has the potential to enhance social distancing, widening the customer base and increasing sales during the pandemic periods. Products can be marketed through the platform and potential buyers linked virtually without physical contact during negotiations.

Recommendations for the private sector

Strengthen the Agro-dealer networks: The study observed that producers were not able to access inputs due to distance to the nearest agro-dealer shop. There is a need for the private sector, especially those dealing in the inputs supply chain, to establish Agro-dealer networks, at village level which is a cost-effective method of availing inputs to farmers by expanding a commercially viable network of rural retail enterprises.

Recommendations for governments

Farmer-led extension service delivery through the model farms: The study findings show that producers' access to extension services was reduced due to implementation of public health measures. The producers adjusted by partly relying on the neighbors as source of these services. There is need to promote farmer-led extension systems through model farms and strengthening capacity of the host farmer will be important to disseminating best practices.

Promotion of national hospital insurance fund: Farmer access to health was reduced during the pandemic due to lack of cash to pay for the services. There is a need for the government and development partners to promote access to affordable health services through insurance cover such as the National Hospital Insurance Fund (NHIF) as part of resilience building during pandemics.

Recommendations for partners and donors

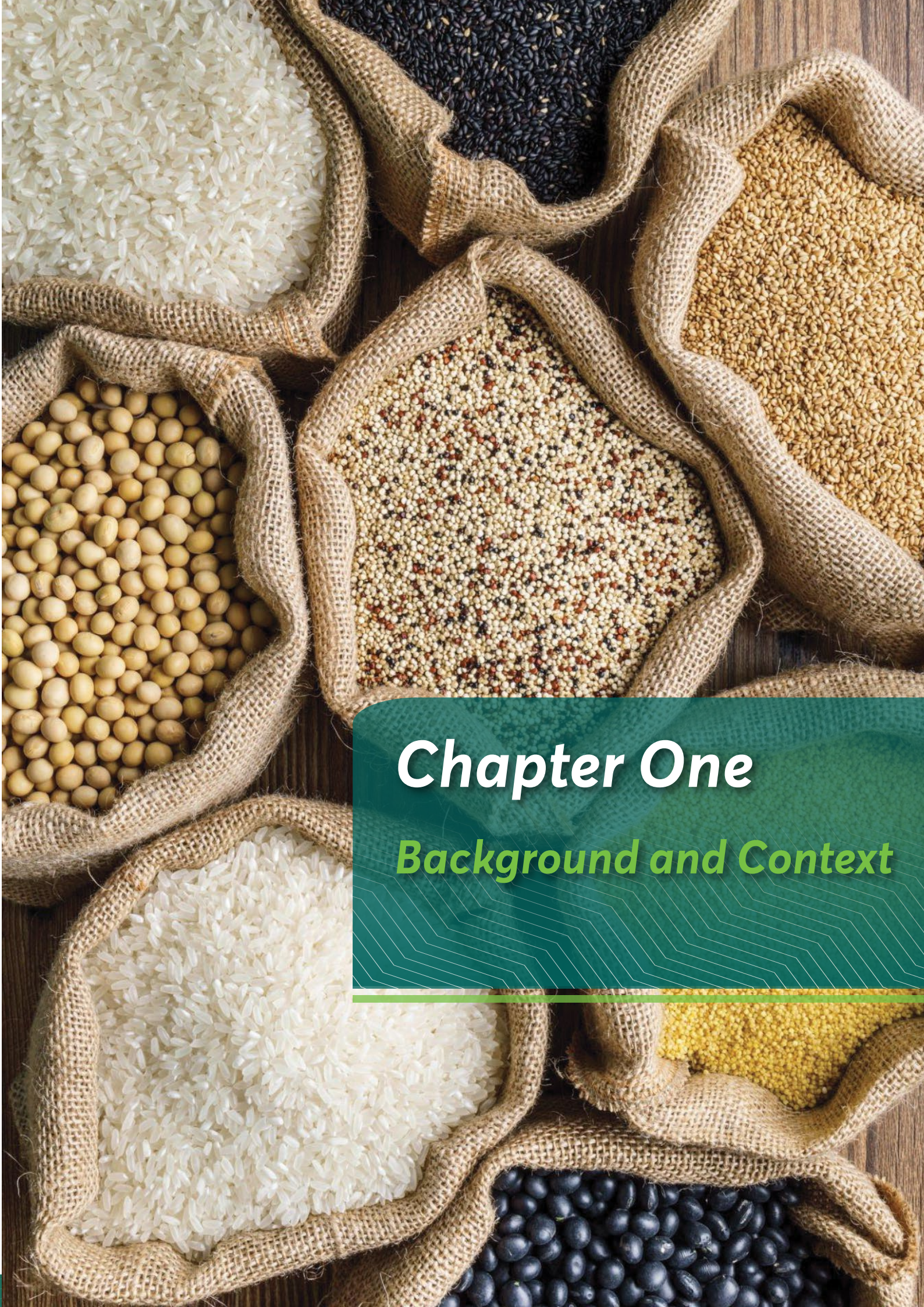
Digitization of extension service delivery: There is a potential role for digital solutions in the future for organic and conventional farming communities and especially in the delivery of extension services and training. Investing in the digitization of the agroecological training extension contents that can be delivered through mobile phones will supplement the face-to-face extension in future, especially at the height of the pandemics.

Digitization of the market and trade systems for improved efficiency: In future, traders and consumers are likely to shift towards digital processes and be accustomed to online transactions. Through this, BvAT and other change organizations will provide reliable, remote, real-time trade facilitation and payment, which are essential to facilitate trade flows.

Improved access to finance through enhancing VSLA capacity: There is a need to enhance the capacities of the organic farmer group savings and loan schemes into effective and efficient financing options for members. This is through enhancing governance, transparency, accountability and financial literacy.

Gender and youth inclusion: There is a need to enhance the support systems that are gender-sensitive, especially during shocks or pandemics, so that participants are not left behind. BvAT needs to undertake a scoping study to identify and document investment opportunities that are gender and youth-friendly, especially during shocks.

On building resilience against the Russian-Ukraine conflict, African countries must take advantage of the world's largest free trade area, by promoting intra-regional agri-food market traders, taking advantage of the African Continental Free Trade Area (AfCFTA), to transform their food systems and increase investments in local food production, value addition, and intra-regional food trade. There is need for African countries to improve their oil and gas production and exploration capability to fill any gaps that may occur as a result of supply chain disruption among the major global producers. Investment towards building climate resilient Africa food systems present major opportunities for the Continent to increase African food production and productivity while building resilience and reducing poverty and hunger. There is urgent need for policy and investment choices to sustain and build viable, resilient, and inclusive food systems on the Continent, to increase home-grown agri-food production and ensure inclusive access to sustainable and nutritious food sources.



Chapter One

Background and Context

Background and Context

1.1 The EOA-I and Biovision Africa Trust (BvAT)

The EOA-I is a continental initiative that holds promise for increasing the productivity of Africa's smallholder farms, with consequent positive impacts on food security. The initiative emerged after a workshop of organic stakeholders was held in Kenya with funding from SSNC in May 2011. The initiative has been implemented in Africa since 2012, first on a pilot basis in six countries namely: Kenya, Tanzania, Ethiopia, Uganda, Nigeria and Zambia. The rollout has risen to nine countries, five in Eastern Africa (Ethiopia, Kenya, Uganda, Rwanda and Tanzania) and four in West Africa (Mali, Benin, Nigeria, and Senegal). The overall goal is to mainstream ecological agriculture into national agricultural production systems, plans and policies. This is to support organic farmers and exporters and to support the establishment of organic agriculture platforms among the Member States of the African Union to access markets, certification, and sustainable development in Africa. Biovision Africa Trust (BvAT) is a not-for-profit organization established in Kenya in 2009 by the Biovision Foundation for Ecological Development in Switzerland and based on the campus of the International Centre of Insect Physiology and Ecology (ICIPE) in Nairobi. The goal of BvAT is to sustainably improve the lives of the people in Africa while conserving the environment as the basis for all life. It is the lead agency for the Swiss Agency for Development and Cooperation (SDC) grant support to the Ecological Organic Agriculture Initiative (EOA-I) which supported this study.

1.2 Organic production systems

Organic agriculture is a sustainable and environmentally friendly production system that is offering Africa and other developing countries a wide range of economic, environmental and social and cultural benefits (UNEP, 2008). It is increasingly drawing attention among the public and private sector stakeholders, due to its potential to address food security, land degradation, poverty, climate change and build resilience to shocks in the region (Amudavi et al, 2021). Organic farming contributes benefits and improvements to the natural environment. It contributes to increased water retention in soils, improvement in the water table, increased Agro-biodiversity conservation, and reduced soil erosion with improved diversity and organic matter necessary for healthy soils and nutrition¹. It makes use of local resources and traditional knowledge and thus strengthens farming communities, better carbon sequestration and increased biodiversity². Organic farming represents a deliberate attempt in creating integrated, humane, environmentally, and economically viable agricultural systems (integrating biological and ecological processes, minimizing the use of non-renewable inputs and making good use of the knowledge and skills of farmers) and promoting a cyclic economy.

In 2020, organic production occupied 74.9 million hectares of land globally, of which 2.09 million hectares were in Africa, contributing 2.8% to the global landscape. Table 1 provides the area in hectares and the number of organic producers in the selected countries of the study. Ethiopia

1 <https://infonet-Biovision.org/EnvironmentalHealth/What-Organic-Agriculture>

2 Isaac Kojo Arah1 & Ernest Kodzo Kumah Organic Agriculture and Food Security: The Story of Africa. Journal: JOURNAL OF ADVANCES IN AGRICULTURE Vol. 5, No. 1. ISSN 2349-0837

leads in terms of land area under organic production, with 234,648 Ha, followed by Kenya with 123,744 Ha and Congo DRC with 118,254 Ha (Table 1). Ethiopia and Uganda also lead in the number of producers engaged in the production of organic products among the selected countries. Organic production both in terms of land occupation and producers was lowest in Cameroon (Table 1).

Table 1: Area (Ha) and number of organic producers among selected countries in Africa - 2020

Country	Area (Ha)	% Against Africa (Area)	Number of Producers	% Against Africa (Producers)
Ethiopia	234,648	11%	219,566	26%
Uganda	116,376	6%	139,191	17%
Kenya	123,744	6%	42,335	5%
Egypt	116,000	6%	970	0%
Congo DRC	118,254	6%	72,327	9%
Cameroon	345	0%	499	0%
Mali	14,675	1%	11,004	1%
Morocco	11,452	1%	423	0%
Senegal	3,809	0%	18,373	2%
Zimbabwe	1043	0%	963	0%
Zambia	691	0%	10100	1%
Africa*	2,086,858	2.8	833,986	25%
Global	74,926,006	-	3,368,254	-

*Percentage is against Global Data.

Source: FiBL survey 2022 based on data from governments, the 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)³

1.3 The COVID-19 Pandemic

The Novel corona virus (COVID-19), caused by the Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2), first emerged in Wuhan, China in December 2019 and spread rapidly to other regions. The WHO declared a public health emergency of international concern on 30th January 2020, and a global pandemic on 11th March 2020 (Ilesanmi et al, 2020). The disease is one of the biggest pandemics to hit the world in recent times. COVID-19 is the fifth pandemic, following the 1918 influenza virus (H1N1), 1957 influenza virus (H2N2), 1968 influenza virus (H3N2), and 2009 Pandemic flu (H1N1), which resulted in the human deaths of around 50 million, 1.5 million, 1 million, and 300 000, respectively (Liu et al., 2020). The economic consequences of the COVID19 pandemic have ended up hurting more people than the disease itself. The pandemic has caused great havoc in many spheres of life, including educational, health, economic and agricultural sectors, significantly affecting the social, economic and political fabrics of the African countries, bringing their economies to a standstill.

³ <https://www.organic-world.net/yearbook/yearbook-2022.html>

In Africa, the first case of COVID19 was recorded in Egypt on 14 February 2020, followed by Nigeria on 27 February 2020. Early in March 2020, Algeria, Cameroon, Morocco, Senegal, South Africa, Togo and Tunisia reported positive cases (see Figure 1). From then, the virus spread all over Africa as well as the other parts of the globe. By 24th October 2021, 219,456,675 cases had been reported globally according to the data released by the World Health Organization (WHO). Among the 11 countries under study, 2.6 million cases had been reported, with countries in the North (Morocco and Egypt) contributing 49%, Eastern (Kenya, Ethiopia and Uganda) contributing 29%, while Southern (Zambia and Zimbabwe) contributing 13%. Lower cases of 3% and 6% were reported in West (Mali and Senegal) and Central (Cameroon and Congo DRC) respectively. By 24th October 2021, over 61,058 deaths had been reported according to the data released by the World Health Organization (2021).

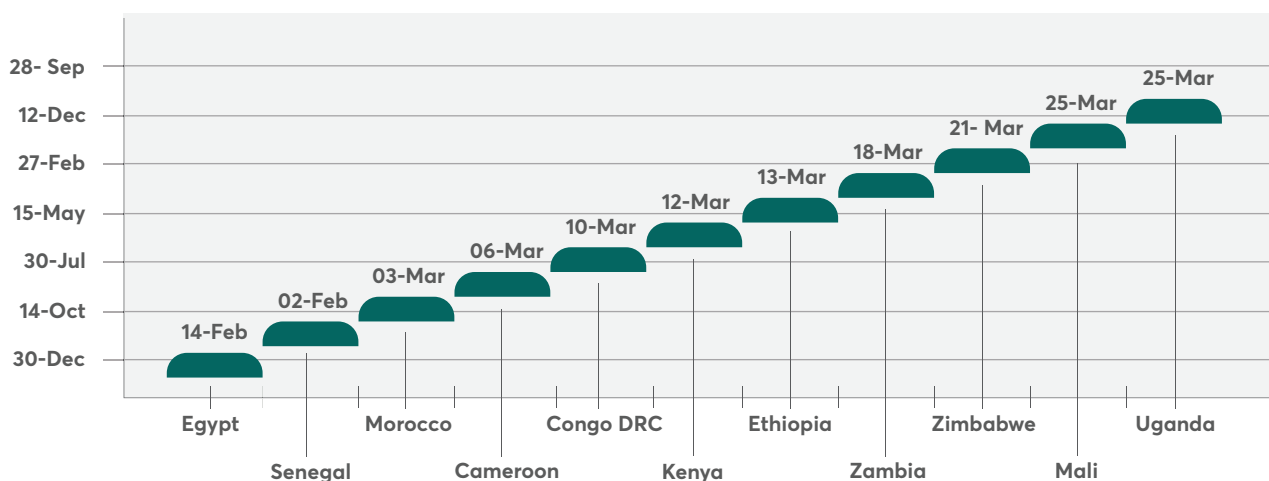


Figure 1: Dates when 1st COVID19 cases were reported among the selected countries in Africa

Source: <https://www.afro.who.int/health-topics/coronavirus-covid-19>; <https://www.who.int/>

The average level of vaccination against the virus across the 11 countries was 9% compared to 38% globally, with a high vaccination uptake reported in Morocco, reaching 59% of the eligible population, followed by Zimbabwe (17%) and Egypt (8%) as outlined in Table 2 below. The respective country governments declared the pandemic a national disaster, and a formidable epidemic disease from the 14th of February 2020 in Egypt to the 25th of March 2021 in Mali (WHO, 2021).

Table 2. Summary of coronavirus (COVID-19) cases in selected African countries

Country	Region	COVID19 Cases	Deaths	Fully Vaccinate	% Vaccinated
Cameroon	Central	100,289	1,600	150,894	1%
DRC	Central	54,009	1,053	36,689	0.04%
Ethiopia	Eastern	362,088	6,347	1,001,920	1%
Kenya	Eastern	252,628	5,255	1,414,202	3%
Uganda	Eastern	125,645	3,198	415,486	1%
Country	Region	COVID19 Cases	Deaths	Fully Vaccinate	% Vaccinated
Egypt	North	323,733	18,242	7,683,710	8%
Morocco	North	944,076	14,606	21,116,355	59%
Zambia	Southern	209,629	3,659	291,947	2%
Zimbabwe	Southern	132,588	4,663	2,550,130	17%
Senegal	West	73,891	1,877	879,073	5%
Mali	West	15,809	558	-257,460	1%
Total		2,594,385	61,058	35,797,866	9.0
Global		219,456,675	4,547,782	2,919,970,417	38%

Source: <https://news.google.com/covid19/map?hl=en-KE&gl=KE&ceid=KE%3Aen> <https://africacdc.org/covid-19/>
 Accessed on 24th October 2021

1.4 Impact of policy pronouncements

The African governments drafted and implemented laws and regulations to manage the spread of COVID-19, through the deployment of Public Health Safety Measures (PHSM) to contain its spread. These included lockdowns, quarantines, social distancing, travel bans, border lockdown and restrictions, masking requirements and shutdowns of non-essential activities (Table 3). Countrywide lockdown measures have resulted in job losses, negatively affecting household income-earning opportunities, reduced their purchasing power, pushed them to resort to negative coping strategies and widened the poverty gap (AGRA, 2021)⁴. Most African governments, therefore, responded with programs to mitigate personal hardship and disruptions to economic life. As much as these legal frameworks were a noble move in containing the spread of the disease, they negatively impacted the food supply, particularly access to essential services, agricultural inputs and outputs markets. The United Nations (UN) acknowledged that mitigation measures to prevent and control COVID-19 outbreaks had already started to affect global food supply chains, as early as April 2020 (UN, 2020). Prohibition on public gatherings hindered the provision of adequate agricultural extension services such as farmer training, agricultural input distribution, field visits and agricultural shows (Mhlanga and Ndlovu, 2020).

⁴ AGRA 2021. A Rapid Analysis of the Impact of the COVID-19 Pandemic on Selected Food Value Chains in Africa

Table 3: Summary of COVID19 cases and government measures in selected African countries by end of June 2020

Country	Region	COVID19 Cases	Total country Lock Down	Governance and Socio-economic Measures	Movement restrictions	Public Health Measures	Social distancing
Morocco	North	944,076		●	●	●	●
Ethiopia	Eastern	362,088		●	●	●	●
Egypt	North	323,733	●	●	●	●	●
Kenya	Eastern	252,628	●	●	●	●	●
Country	Region	COVID19 Cases	Total country Lock Down	Governance and Socio-economic Measures	Movement restrictions	Public Health Measures	Social distancing
Zambia	Southern	209,629	●	●	●	●	●
Zimbabwe	Southern	132,588	●	●	●	●	●
Uganda	Eastern	125,645	●	●	●	●	●
Cameroon	Central	100,289		●	●	●	●
Senegal	West	73,891		●	●	●	●
DRC	Central	54,009		●	●	●	●
Mali	West	15,809		●	●	●	●

Source: AGRA 2021. A Rapid Analysis of the Impact of the COVID-19 Pandemic on Selected Food Value Chains in Africa SYNTHESIS REPORT: **AGRA Regional Food Trade and Resilience Program**, <http://www.fao.org/3/cb1338en/CB1338EN.pdf>

1.5 Impact of COVID-19 on gender dimensions

The COVID-19 pandemic has led to social disruptions, with rural women facing greater constraints than men in accessing productive resources, services, technologies, markets, and financial assets, making them more vulnerable to the socio-economic effects of the COVID-19 pandemic and the measures to contain it (Peterman et al., 2020). Further, COVID-19 increased women's work burden due to school closures and the additional care needs of sick household members. According to Peterman et al (2020)⁵, violence against women and girls increased globally. Crowded homes, substance abuse, limited access to services and reduced peer support are exacerbating these conditions. A recent report

⁵ Peterman A., O'Donnell M. P., Thompson K., Shah N., Oertelt-Prigione S. and van Gelder N. (2020). Working Paper 528 April 2020 Pandemics and Violence Against Women and Children. Accessed from: https://www.researchgate.net/publication/341654631_Pandemics_and_Violence_Against_Women_and_Children/link/5ecd5e984585152945145e2f/download

by Amnesty International⁶ has reported a surge in cases related to gender violence (Shadow Pandemic), especially those targeting women and girl child. Current lockdowns, isolations, quarantine, restricted movement, and social distancing have caused women and girls to spend more time with potential abusers or known abusers.

1.6 Impact of COVID-19 on the agriculture sectors

Agriculture is central to the economies of most communities in Africa and contributes between 24 % and 44% of GDPs to the Africa countries, and it is essential for the livelihood of about 80 per cent of the region's population, contributing to 65 per cent of Africa's employment, of which 38 % are youth⁷. The outbreak of the COVID-19 pandemic was expected to have an unprecedented negative impact on the agriculture sector in general, undoing the progress the continent had made in reducing rural poverty and threatening to exacerbate the already declining food security. While all governments declared agricultural products as essential to ensure movements because of the COVID-19 containment measures, the stay-at-home advice and travel restrictions meant that traders experienced logistic difficulties, which led to supply delays and post-harvest losses. Access to inputs such as feed was affected as the traders no longer supplied village Agro-shops⁸, due to enforcement of social distances. Government and public health restrictions interventions posed a significant challenge to the transformation of smallholder agriculture from subsistence to market-oriented agriculture (Nassary et al., 2020).

A rapid appraisal conducted by IFPRI (April 2020) on the vegetable value chain in the central Rift Valley to Addis Ababa in Ethiopia, indicated that vegetable trade and consumption were reduced, producer prices were on the decline, and farm losses seemed to be increasing due to lack of buyers, shortage of farm inputs and their prices were increasing, and labour was becoming scarce. These led to increased food insecurity cases. On access to agricultural extension and advisory services, face-to-face meetings were severely disrupted as a result of the lockdown, reducing extension staff travelling to meet farmers during the critical crop and livestock production seasons. Labour shortages was also observed due to the stay-at-home policies, negatively impacting the production and food processing.

1.7 Stakeholder responses in building resilience against COVID-19

The fight against COVID-19 has seen concerted efforts by the donors, financial institutions and respective governments investing millions, the largest of its kind at the time to combat the crisis. International financial institutions collectively mobilized a global response package of US\$ 230 billion between 2020 and 2021, to aid the global response to the pandemic, of which US\$75 billion were directed to the world's poorest countries in 2020. The African Development Bank (AfDB) in April 2020

6 <https://www.amnestykenya.org/domestic-violence-the-shadow-pandemic/>

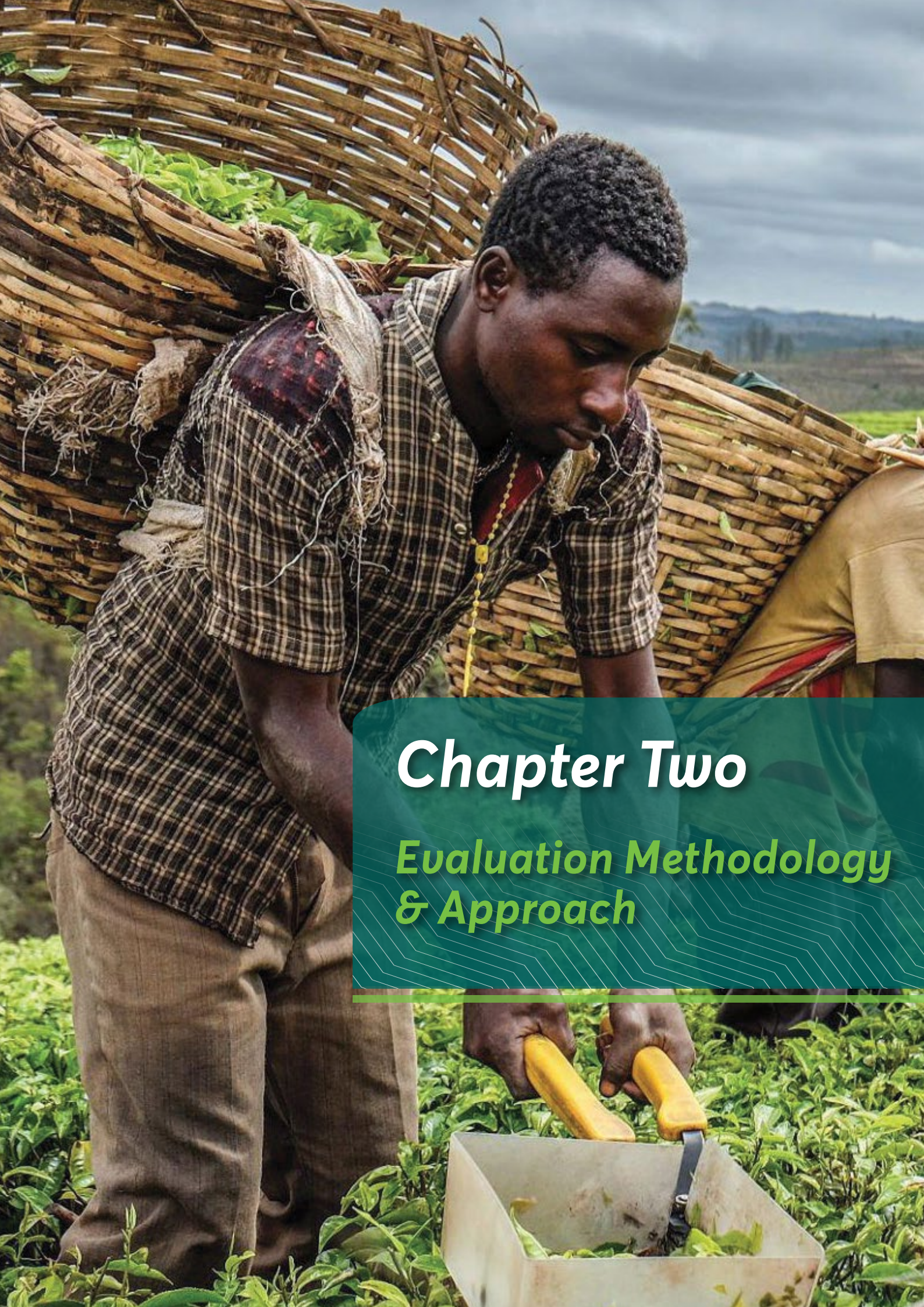
7 <https://www.afap-partnership.org/afap-intervention-on-covid-19-impact-on-rural-livelihoods/>

8 <https://www.newtimes.co.rw/opinions/effects-covid-19-farming-rwanda-fate-poultry-farming>

created the US\$10 billion COVID19 Rapid Response Facility (CRF) and launched a US\$3 billion 'Fight COVID19, Social Bond'. The World Bank on the other hand announced the availability of US\$160 billion which was set to enhance the ability of the beneficiary economies in easing the effects of COVID-19 on small businesses and the vulnerable populations⁹. The IMF approved US\$2.7 billion for COVID-19 related emergency responses in African countries. The European Union (EU) also announced Euro 3.25 billion COVID-19 toolkit for African countries¹⁰. Generally, the pandemic led to a change in donor focus, with the majority of them concentrating on emergency and protective equipment support for prevention interventions.

9 <https://www.worldbank.org/en/news/press-release/2020/04/09/COVID-19-coronavirus-drives-sub-saharan-africa-toward-first-recessionin-25-years>

10 https://ec.europa.eu/commission/presscorner/detail/en/ip_20_604



Chapter Two

Evaluation Methodology & Approach

Evaluation Methodology and Approach

2.1 Purpose and objective of the study

The purpose of this study was to establish the impact of the COVID19 pandemic on agriculture and food systems in Africa and assess how farmers practicing organic agriculture and conventional agriculture have been affected by the pandemic, and how they are responding to it. The study was conducted in five (5) regions in Africa. These included three countries in Eastern Africa (Kenya, Uganda, and Ethiopia); Two in Western Africa (Mali and Senegal), Two in Central Africa (Cameroon and Democratic Republic of Congo) and two in Southern Africa (Zambia and Zimbabwe) and two Northern Africa (Egypt and Morocco).

2.2 Study objectives

- Assess the impact of Covid-19 on farmers' daily lives and their activities connecting to the common food value chains (farm to fork), shifts in consumer demand and incomes. (Compare and contrast the resilience between organic and conventional farmers based on the disruptions of the food supply chains and trade).
- Assess farmers' response to the pandemic and the implication of the pandemic to food value chains (current and in the future) and food security in Africa.
- Establish the shifts in measures, strategies and or policy actions by the governments, private sector, donors, NGOs and other stakeholders supporting farmers in food production and preparedness in post-COVID-19 pandemic.
- Provide recommendations for strengthening farmers' resilience in the -post-pandemic period to prevent health and food crisis.

2.3 Study themes

To achieve the stated objectives, the study developed two themes:

- 1. Impact of COVID-19 on crops and livestock production systems:** The study identified the challenges that smallholder farmers faced at the production level during the COVID19 pandemic. A critical look was on: Access to extension services; Access to inputs; Access to finance; Food security and access (Months with adequate foods, Household Dietary Diversity Scores (HDDS) and supply chains; Productivity, incomes, and post-harvest management practices (Value addition, storage, quality changes). This information was collected through a structured household questionnaire that reached 620 households and findings triangulated through 22 Focused Group Discussions (FGD) and 257 Key Informant Interviews (KIIs) with key stakeholders, across the 11 countries, representing the five (5) African regions.

2. Assessment of public & private institutions' response to COVID19 pandemics: The study assessed the response by the government, donor, private sector and other institutions implementing EOA initiatives to the pandemic. These included information sharing, policy establishment, restrictions, and lockdowns. These were assessed against access to services: extension, product, and input supply chain. The study assessed the early warning systems put in place for consumers and producers to respond to the pandemic and how it impacted them and how new policies and government guidelines affected the food systems.

2.4 Research questions

The study was to answer the following research questions:

1. How have farmers (organic and conventional) been impacted by the Covid-19 pandemic? In what ways have they been affected?
2. What adaptation measures have been made in agricultural practices during the Covid-19 pandemic (conventional and organic)?
3. How have the farmers (organic and conventional) responded to the effects of the Covid19 pandemic? What has been unique in each group's mitigation measures?
4. What common value chains have been heavily affected in the country? How has the demand and supply of food products been affected across various groups of consumers in the country?
5. How is the preparedness of governments, the private sector, donors, farmers and their organizations and other stakeholders in the mitigation against impacts of the Covid-19 pandemic?
6. What shifts in funding priorities, if any, have been put in place by governments, the private sector, donors, NGOs, and other stakeholders in ensuring the mitigation of the COVID-19 impact?
7. What agriculture and food systems interventions and the program should be put in place and supported by governments, the private sector, NGOs, donors, and other stakeholders?

2.5 The evaluation approach and plan

The evaluation applied a mixed-method research design to help address each output using quantitative and qualitative research approaches, through engaging the target population and stakeholders always. This aimed to promote stakeholder involvement and learning as much as possible. A multi-stage sampling methodology was applied with a quasi-experimental pre-test-post-test design adopted by having two study groups be interviewed at the household level. These two groups included farmers producing selected organic value chains and a comparison group of farmers producing crops under conventional production systems, within the same ecological zone. This method enabled impacts (latitudinal comparison) to be assessed.

2.6 Products value chain analysis

The products evaluated during this study were selected in a participatory manner, guided by secondary data and consultation with the organic agriculture promoting associations within the targeted countries and the country leads (Table 4). The study adapted the criteria developed by AGRA (AGRA, 2021) in selecting key-value chains and validated by the respective country leads in consultation with BvAT partner organizations. This was done virtually through key informant interviews. These indicators included: (1) The products by the majority of the producers impacted by COVID19, (2) Value chains that have a high demand by consumers at local levels and with a large local market base, and (3) Food products exported with high export market potential – Large export market demand. In step one of the selection, the participants named the products that are produced under organic and conventional systems and are meeting the criteria. In most countries, many value chains met the conditions. The scoring methodology consisted of analyzing scores given for each criterion from one to five (five representing the most favorable and one representing the least favorable agricultural commodity value chain to engage). Overall sums were obtained out of a possible perfect score of thirty (30). Table 4 below provides a summary of value chains selected in the respective countries for assessment.

Table 4: Selected food crops and livestock likely to be impacted by the COVID-19 pandemic.

Country	Study Location	VC 1	VC 2
Senegal	Niayes	Rice	Onions
Cameroon	Littoral and Southwest regions	Cassava	Poultry
Uganda	Luwero	Pineapple	Tomatoes
DRC Congo	North Kivu (Goma)-Rutshuru	Vegetables	Maize
Zimbabwe	Mutoko	Leafy Vegetables	Tomatoes
Kenya	Kiambu	Avocado	Macadamia
Zambia	Chongwe and Rufunsa	Maize	Groundnuts
Ethiopia	Holeta	Carrots	Potatoes
Mali	Bougouni Region	Cotton	Sesame
Egypt	Damietta City	Cotton	Rice
Morocco	Marrakech and Agadir	Vegetables	

2.7 Qualitative data collection methodology

2.7.1 Secondary literature review

The comprehensive review of the secondary data relied on available studies, undertaken by other organizations and donors' policy frameworks on COVID19. The study reviewed specific country strategic plans on COVID19, and peer-reviewed research studies accessed through google.com. Detailed understanding of Biovision and its partners across the 11 countries based on annual reports and strategic plans were reviewed. A review of the response of other NGOs and donors to the COVID-19 pandemic was undertaken and these included the World Bank, donors such as USAID, Africa Development Bank (AfDB) and IFAD. Finally, we reviewed the role of the Africa AU and regional blocks such as SADC, EAC and ECOWASS, in reducing the impact of COVID-19 in Africa.

2.7.2 Key Informant Interviews (KIIs)

The participatory rural appraisal (PRA) tools were used to determine the most crucial key informants or institutions for the interviews. The consultants in partnership with BvAT and their country-level partner team identified respondents having the key information for this study. The individuals and their respective organizations and countries are presented in Annex 1 of this report. In total 106 Key Informant Interviews (KII) were undertaken involving Government officials, BvAT staff, partners, local leaders, traders and local government departments from the ministries or departments of agriculture and livestock (Table 5). A semi-structured questionnaire was developed and shared with partners via email, who had critical information on the study subject (Annex 2) to sort key information on the pandemic and how it affected their operations.

2.7.3 Focused Group Discussions (FGDs)

Focused Group Discussions (FGDs) were conducted with various categories of producers that included men, women, youth, and other groups within the respective country community. In each country, two FGDs were conducted with organic producers while two were with conventional producers, in both cases producers helped triangulate the household quantitative data. The number of participants per FGD was limited to 10 participants. A mixed group, women-only and participatory approaches were applied at all FGD discussions. A total of 22 FGDs were undertaken, which included 11 mixed groups, and 11 with women only.

Table 5: Producers, Key Informants, and traders reached during the evaluation

Country	Region	Country Population	Target HH	HH Achieved	# KII	# FGD	# Traders
Morocco	North	36,910,560	45	45	11	2	13
Ethiopia	Eastern	114,963,588	124	122	7	2	16
Egypt	North	102,334,404	124	98	10	2	16
Kenya	Eastern	53,771,296	65	65	7	2	13
Zambia	Southern	18,383,955	22	22	9	2	7
Zimbabwe	Southern	14,862,924	18	18	11	2	7
Uganda	Eastern	45,741,007	55	54	8	2	10
Cameroon	Central	26,545,863	32	32	12	2	14
Senegal	West	16,743,927	20	20	11	2	9
DRC	Central	89,561,403	108	119	11	2	13
Mali	West	20,250,833	25	25	9	2	10
Total		540,069,760	654	620	106	22	129

¹Source: <https://www.worldometers.info/population/countries-in-africa-by-population/>

²Sample size was determined at a 95% confidence level and 5% confidence interval applying Fisher's equation, based on the 540,069,760 aggregated population of the 11 countries. This gave a total sample of 654 producers, which was proportionately allocated to each country.

2.8 Quantitative data collection methodology

2.8.1 Household data collection

The quantitative portion of the evaluation was conducted using a cross-sectional household survey, drawn from 11 countries. A total sample of 620 with 57% organic and 43% conventional producers was interviewed. A multistage sampling procedure was applied to the countries being purposely selected after a detailed discussion with BvAT at the inception meeting stage. The organic and conventional producers were randomly selected from the list of registered members in the association, cooperative or cluster membership list within the villages. The traders, transporters and other actors along the value chains were identified during focused group discussions with producers as key product off-takers or trade facilitators within the selected value chains in their locations. The evaluation applied CAPI/ Mobile (Android) phone data collection procedure to collect data at household and traders' level. This involved scripting survey questions in the mobile phone platform for actual data collection, based on KOBO Collect platforms.

2.8.2 Recruitment and training of research assistants

The recruitment of the 23 Research Assistants/Enumerators was done in line with the policy of BvAT, PENGUIN and their respective partners in the selected countries. The 23 enumerators were selected professionally and thoroughly trained in the use of mobile data collection tools, research methodology for field data collection, research protocol and Ethical issues. They collected data under the supervision of the country representatives in line with the etiquette and the rules governing working with communities. The training was done virtually via meetings and zoom, where applicable, by the monitoring and evaluation consultant at PENGUIN, assisted by key team leaders within the Anglophone speaking countries. For the Francophone speaking countries which included Morocco, Congo DRC, Mali and Senegal, the training was done for the respective country representatives, then the Country representative from Senegal, Dr Dauda Ndau, led the training of the enumerators from these countries.

2.9 COVID19 Protocol during field data collection

PENGUIN took steps to ensure that all requirements by the respective country government and ministry of health were put in place at all steps of the assessment. The virtual training ensured that there was no cross-border movement to deliver the training. Follow up training at different locations was in line with the requirements, with all the participants recording their biodata for ease of tracking in each respective country. The 22 FGDs were conducted in an open area consisting of 8 -10 people, keeping a social distance. PENGUIN emphasized to the enumerators and the country managers to ensure that the producers wore masks during the interviews. The study used CAPI/ Mobile (Android) phone data collection based on KOBO Collect platform, using smartphones and this reduced the paperwork that can be conduit for virus transmission.

2.10 Data analysis and quality control

Statistical Package for Social Scientists (SPSS Version 25 for quantitative) data analysis program was used to analyze quantitative data. NVivo Nudist software was used for qualitative analysis and all the information gathered was transcribed. Qualitative data was triangulated and analyzed based on the thematic areas. Quality control during the exercise was ensured through the (1) Recruitment and deployment of qualified enumerators, (2) training on the use of standard tools and forms for data collection, (3) pre-testing and (4) mobile-based data collection which enhanced supervision and quality data entry.

2.11 Assessment of the accuracy of reported results

PENGUIN put in place quality assurance and quality control measures to demonstrate the accuracy and closeness to real results and the precision and or reproducibility of the results. A back-check exercise on 10% of total producers (30) across the countries was done to enhance data accuracy, and credibility and to correct anomalies in responses. The PENGUIN PME monitored data as they were transmitted, to check on inconsistencies. To further enhance quality control, the eleven (11) country leads supervised the enumerators during the interviews to confirm that data collection is done as planned. Enumerators who were professionally selected were thoroughly trained in the use of mobile data collection tools, research methodology for field data collection, research protocol, and ethical issues among other themes for two days, to ensure that the data collected was accurate.

2.12 Study limitation

The advent of COVID19 has affected the normal living of the majority of the population, especially on mobile, and social gatherings in the effort to keep social distancing in line with the respective government and ministry of health guidelines. This impacted our data collection, especially through focused group discussions (FGD), which limited the diversity of participants due to the limited number of participants allowed in any gathering. The FGDs were therefore done in conformity with these requirements, with participants of up to 10, being done outside the room, which was prone to interference from passers-by. In certain situations, key informant interviews were conducted via mobile phone and email sharing of the data tools. In certain situations, the team had to conduct interviews with translation to local languages. Translation impedes accurate communication and makes it difficult to collect reliable and valid data. The team probed persistently to clarify issues and improve understanding. However, translation inevitably results in a loss of data fidelity.



Chapter Three

Evaluation Methodology & Approach

Findings of the Evaluation

3.1 Household heads and gender diversity

A total of 620 household heads were interviewed, of which 151 were in Central Africa, 243 in Eastern Africa, 143 in North Africa, 45 in West Africa and 40 in Southern Africa. Among the producers interviewed, 86% were household heads and key decision-makers in the family. A majority of 83% were male-headed while 17% were female-headed. The average age cohort was 31-65 years as represented by 75% while 76% had attained basic education and therefore could write and read. The average family size was six (6), with Western Africa reporting the highest number (9) of persons per household. Of the 17% of the female-headed households, Uganda reported the highest percentage of women-headed households, represented by 26%, followed by Kenya and Congo DRC both with 21% respectively. Further analysis showed production system practiced by households was significantly influenced by the sex of the respondents ($\chi^2=7.39$, $p < 0.05$). Women headed producers are said to be more vulnerable to socio-economic shocks that affect their household compared to men (UN Women, 2020)¹¹.

3.2 Diversity based on age cohorts

Results in Figure 2 below show that among the 620 respondents interviewed, 75%, were in the 31-65 years age cohort, while those aged 19-30 years were 14% and considered a youth. There was no significant difference ($p > 0.05$) based on participation of the respondents in organic, conventional and a mix of the two, indicating that the production systems can be done by all age groups. Ethiopia reported the highest (91%) of the respondents in the 31-65 years age cohort (Fig 2). This was followed by Mali with 84%. Congo DRC represented the highest youth group 29% followed by Uganda, 2%.

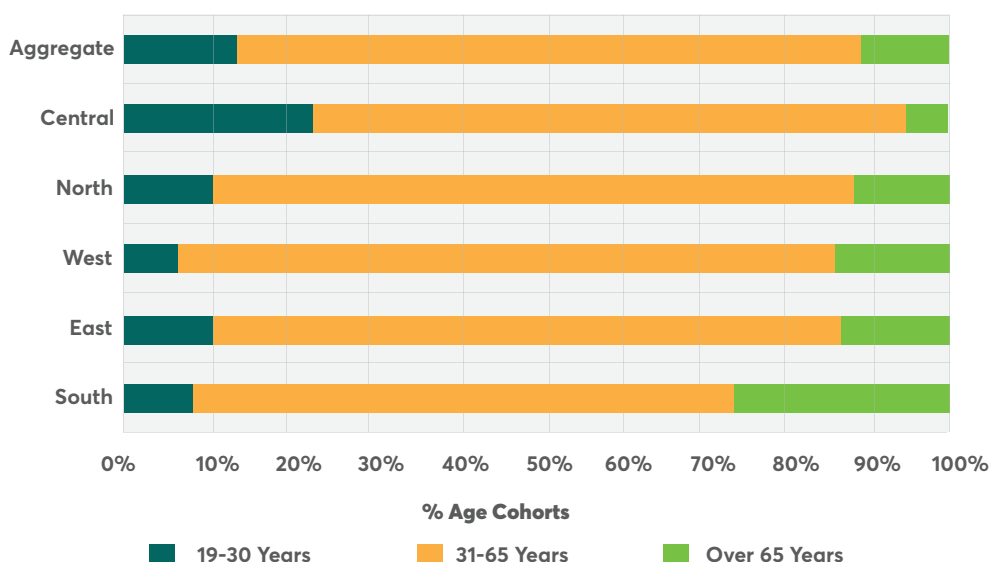


Figure 2: Diversity in respondents based on the age cohorts within the selected countries in Africa

Based on gender, 86% of the respondents were men compared to 14% female ($p < 0.01$). Among those who were above 65 years age cohort, the largest population was reported in Zambia with 36%

¹¹ UN Women 2020. From Insight to Action: Gender Equality in The Wake of Covid-19.

<https://www.unwomen.org/en/digital-library/publications/2020/09/gender-equality-in-the-wake-of-covid-19>

followed by Kenya with 32%, as presented in table 6 below. With the majority of the respondents being in 31 years and above, as represented by 86%, the study targeted the most vulnerable population to COVID-19. With only 14% of the respondents being in the youth age cohort, a clear indication of low youth participation along the organic and conventional production systems. There is need to initiate innovative interventions targeting the youth. In a recent study by Heifer International in Africa, youth lack access to capital, land and access to technology, which affected their participation in agriculture production systems (Heifer international, 2021)¹².

Table 6: Diversity in respondents based on the age Cohorts (%)

Variables	Organic Farming (n=265)	Conventional Farming (n=237)	Aggregate ¹ (n=620)	χ^2	P value
Female	17.3	11.2	13.7	7.39	0.002*
Male	82.7	88.8	86.3		
19-30 Years	11.4	12.5	11.5	5.21	0.238
31-65 Years	69.0	73.9	74.2		
Over 65 years	19.6	13.6	14.3		
No	25.0	27.8	25.7	.57	0.301
Read and write	75.0	72.2	74.3		

¹ Aggregate is the mean value of organic and conventional

* The Chi-square statistic is significant at the .05 level.

3.3 Education and literacy levels

A majority (76%) of the respondents were literate. Of the 24% who were illiterate, majority were in Mali (64%), Senegal (55%) and Morocco (51%). The high literacy level indicated the ability of the household's heads to understand guidelines on the pandemic and communicate to other members within the household. Those who were illiterate benefited from other sources of information such as person-to-person communication, radio, and televisions. The Focused Group Discussion also noted that government and development organizations funded road show and local campaign meetings to disseminate information concerning the pandemic.

The daily briefings through the media channels across all countries in Africa, which was done by senior personnel from the health departments were also important in disseminating information. Based on the level of education, a third (36%) of the respondents reported to have finished secondary level of education, with majority, 61% in Zimbabwe and 59% in Zambia. Those who had finished college and tertiary level of education were 12%. The proportion of those who didn't go to any school was 22%, with 64% being in Mali, 40% in Morocco and 40% in Senegal. These statistics correlate with the findings on proportion of the respondents who were not able to read and write in Mali, Morocco and Senegal. The diversity in campaigns to enlighten the population about the pandemic was therefore relevant.

3.4 Number of members per household

The study observed that on average, there were 6 members per household with Western Africa reporting the highest number of members (9), followed by Central Africa (7), Southern Africa (6) and North and Eastern Africa with each having 5 members respectively. Household size is a significant determinant of household food security (Deressa et al 2009)¹³. A large family size puts an extra burden on food consumption and is more likely to experience food insecurity in contrast to households with a small family size in case of livelihood shocks (Deressa et al 2009) such as the recent COVID19 pandemic. In the face of COVID19, with an average of 6 members in a household, there was pressure for food among other resources. West Africa (Mali and Senegal) with an average of 9 members compared to Eastern Africa with an average of 5 members, was more vulnerable to COVID19 shocks due to increased resource demand.

3.5 Production system at the household level

Among the 620 households reached, 43% practiced organic farming systems, 38% practiced conventional farming, while 19% practiced mixed farming¹⁴, which comprised both conventional and organic farming (Table 7). Male headed households led in all production systems, with the highest participation in conventional production (89%), compared to organic (83%). The organic production system is practiced by 83% of male and 17% of the female-headed households. Further analysis showed that there was a statistically significant association between gender and production systems ($\chi^2=9.66$, $p<0.05$) (Table 7).

Table 7: Proportion of respondents participating in different production systems

Variables	Organic Farming (n=265)	Mixed Farming (n=118)	Conventional Farming (n=237)	Aggregate ¹ (n=620)	χ^2	P value
Aggregate	42.7	19.1	38.2	100		
Female	17.3	11.2	11.2	13.7	9.66	0.008*
Male	82.7	78.8	88.8	86.3		
19-30 Years	11.4	7.9	12.5	11.5	6.14	0.409
31-65 Years	69.0	68.9	73.9	74.2		
Over 65 years	19.6	13.3	13.6	14.3		

¹Aggregate is the mean value of organic and conventional; * The Chi-square statistic is significant at the $p<0.05$ level.

An analysis of intra-household spousal decision-making (Osanya et al 2015)¹⁵, observed that husbands dominate most of the agricultural decision-making, and therefore the production system that the household would want to venture into, whether conventional or organic is mainly decided by the household head, which in this study, making 86% of the respondents, were mainly men. The

¹³ Deressa T. T., Hassan R. M., Ringler C., Alemu T., Yesuf M. Determinants of farmers' choice of adaptation methods to climate change in the Nile Basin of Ethiopia. *Global environmental change*. 2009;19(2):248-255.

¹⁴ Mixed production systems: undertaking both conventional and organic production systems.

¹⁵ Osanya, J., Adam, R., Otieno, D.J., Moti Jaleta, and Nyikal, R. 2015. An Analysis of Intra-household Spousal Decision-Making Intensities on Agricultural Income Use in Kenya: A Multinomial Logit Approach

study showed that only 11% of respondents aged 19-30 years reported undertaking organic, while 13% undertook conventional production systems (Table 7). Those undertaking organic production systems aged 31-65 were 69%, compared to 20% who were over 65 years. The study further showed that while the 11% of organic and 13% of conventional farmers are youth, aged 19-30 years, more youths (22%) (19-30 years) practicing organic production systems are in Central Africa, compared to 18% in North Africa and 11% in Eastern Africa (Figure 3). West Africa recorded 6% youth participation while none was reported in Southern Africa. There is a need to engage youth in organic production systems in future, while at the same time sensitizing them to participate in agriculture production by increasing access to factors of production such as land and finance (Heifer International, 2021). Improving their self-esteem and the feeling that they can make a living in an agriculture production system (FAO, 2014)¹⁶ will be important.

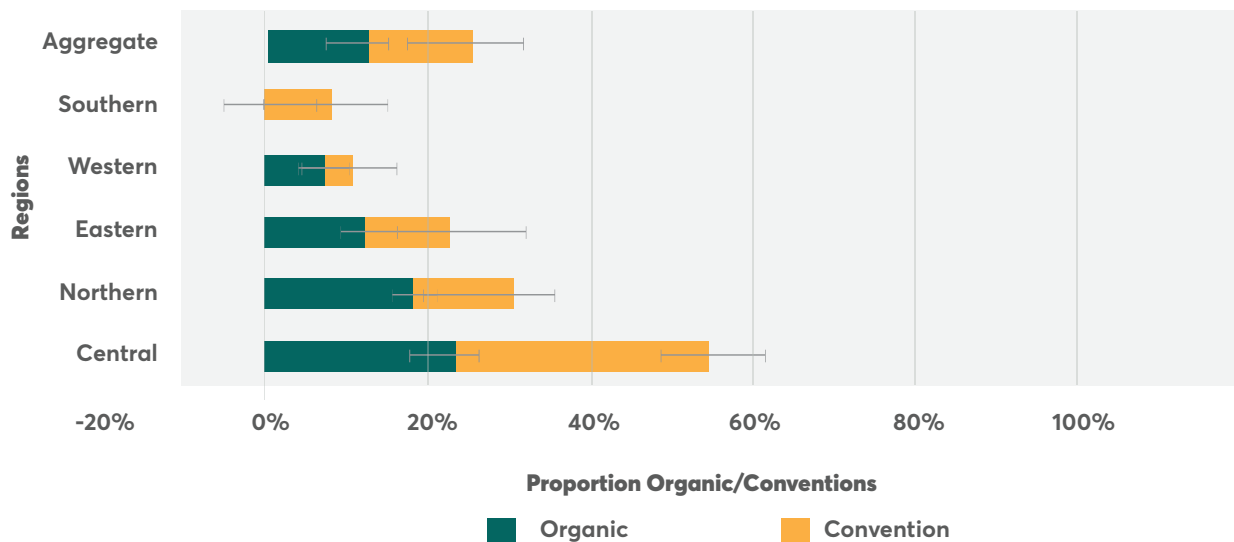


Figure 3: Proportion of youth respondents (19-30 years) participating in organic and conventional production systems

3.6 When the household heard of the pandemic

The assessment showed that 60% of the respondents first heard about COVID-19 between January and March of 2020. This was the period within which most African countries were announcing the first cases and declaring the COVID-19 spread as a pandemic. The majority, 84% who reported to have heard of the pandemic between January and March 2020 were in North Africa, with Morocco reporting the highest, 93% in comparison to Egypt. About a quarter, 23% of the respondents, heard of COVID19 between April and June 2020, with 22% in Central Africa, of which 41% were in Congo DRC. About 8% heard of it in the October-September quarter, with the majority in Central Africa, of which 18% were in Congo DRC. Countries that were the first to report the 1st case of the pandemic, had the majority of those who heard of the pandemic early, in January to March 2020. Countries that reported to the pandemic in the early months of the year, January and March 2020, such as Egypt on 14th February 2020, Morocco on 2nd March 2020, and Senegal on

¹⁶ FAO. 2014. Youth and agriculture: key challenges and concrete solutions

3rd March 2020, reported the highest number of respondents when first heard of the pandemic in the same period. Countries such as Mali, which reported its 1st case later on 25th March 2020, had only 48% who were aware of the pandemic in the January-March quarter. This indicates that the knowledgeability among the local population increased with the governments announcement of the 1st case, preceded by public health measures. There is a need for governments to increase sensitization before even the 1st case, even when it's being reported in other countries as part of population preparedness.

3.7 Initial sources of information concerning COVID-19

The respondents were asked to mention the means by which they initially became aware of the COVID-19 pandemic. About 70% of the sample got the information from radio, while 61% got the information through television. In many countries, governments were releasing daily briefings on total confirmed cases, recoveries and death rates through radio and television. Dissemination of such information enabled the population to comprehend the magnitude of the pandemic and act accordingly. About 37% got the information from their neighbours, while 22% got it through social media. About 20% mentioned that they came to hear of the pandemic at 1st instance when they visited a local hospital/health centre, while only 10% got the information from the newspapers. A high majority, 89% of the population in Southern Africa received the initial information about COVID19 through radio, compared to 93% in West Africa (Figure 4). Those who got the information through the television were mainly from North Africa, as represented by 96% compared to 82% in West Africa.

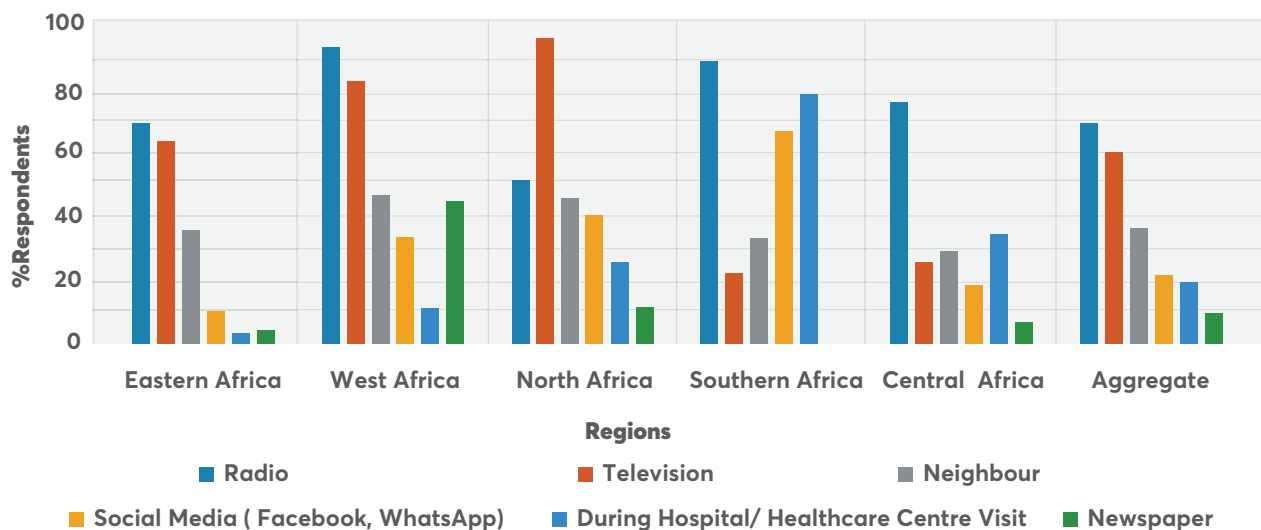


Figure 4: Major sources of information on the COVID19 pandemic

3.8 When the household started feeling the impact of Covid19 post awareness

The study revealed that it took 90-180 days post being aware of a pandemic, for the impact to start negatively affecting the households (Figure 5). The majority of the population became aware

of the pandemic in Jan-March 2020, while the impact started being felt in April-June 2020. A similar observation was observed in April-June 2021, representing the second and third waves of the pandemic. Regionally, 37% of respondents in West Africa, felt the impact of the pandemic from Jan-March 2020, while 41% of respondents in the Eastern region were negatively affected during April-June 2020. In North Africa, in which 84% of its population were aware of the pandemic in January-June 2020, the impact was felt 90-180 days later, in April - September 2020, affecting 53% of the respondents. The impact of the pandemic reduced across all the regions, to 20% after 210 days (July-September 2020), and further down to 11% after 360 days (April-June 2021) of the announcement.

Based on the countries, about half (46%) of the population in Morocco, and 48% in Uganda and Mali started feeling the negative impact of the pandemic within the initial 90 days, post announcement. While 66% of respondents in Kenya, 42% in Egypt, 41% in Cameroon and 38% in Senegal, started feeling the impact of the pandemic after 120-180 days post announcement and initiation of public health measures. We expected that those who initially became aware of the pandemic would be the same who would start feeling the negative impact of the pandemic. This wasn't the case as some countries such as Morocco initiated interventions to build resilience and provide safety nets early enough to absorb the shocks among their population. Generally, therefore, early announcement even before the 1st case was announced and building resilience and providing a safety net within the 90-180 days -post-announcement had the potential to reduce the impact of pandemics.

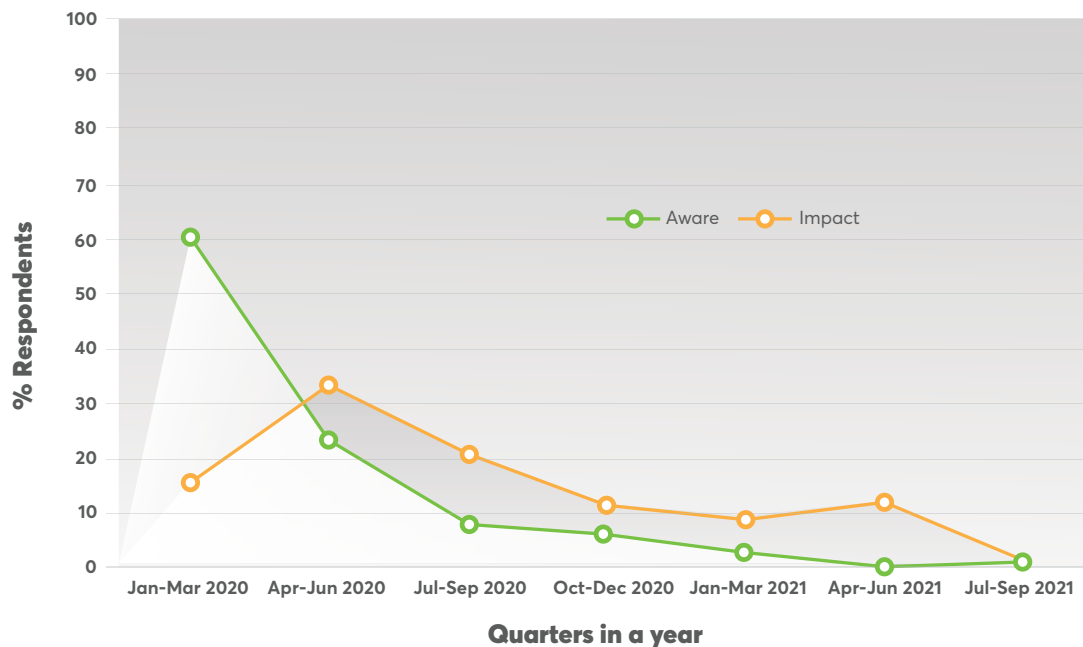


Figure 5: Relationship between the producers' awareness of COVID-19 impact felt.

3.9 Adoption of public health measures

As part of mitigation measures to stop the spread of the pandemic, respective country governments outlined Public Health Measures (PHM) such as hand washing, avoiding shaking hands and avoiding gathering, with enforcement varying in intensity of enforcement from one country to another. A majority (93%) of the population were washing their hands or applying hand sanitizer more often than usual, while 87% avoided shaking hands or other greeting gestures based on physical contact (Figure 6). About 77% avoided gatherings of more than 10 people such as family occasions, parties, religious ceremonies and funerals. The study observed that there were few individuals, 64% avoided gatherings in West Africa, and 68% in North Africa compared to other regions. Southern Africa's population fully complied with all measures compared to all other regions.

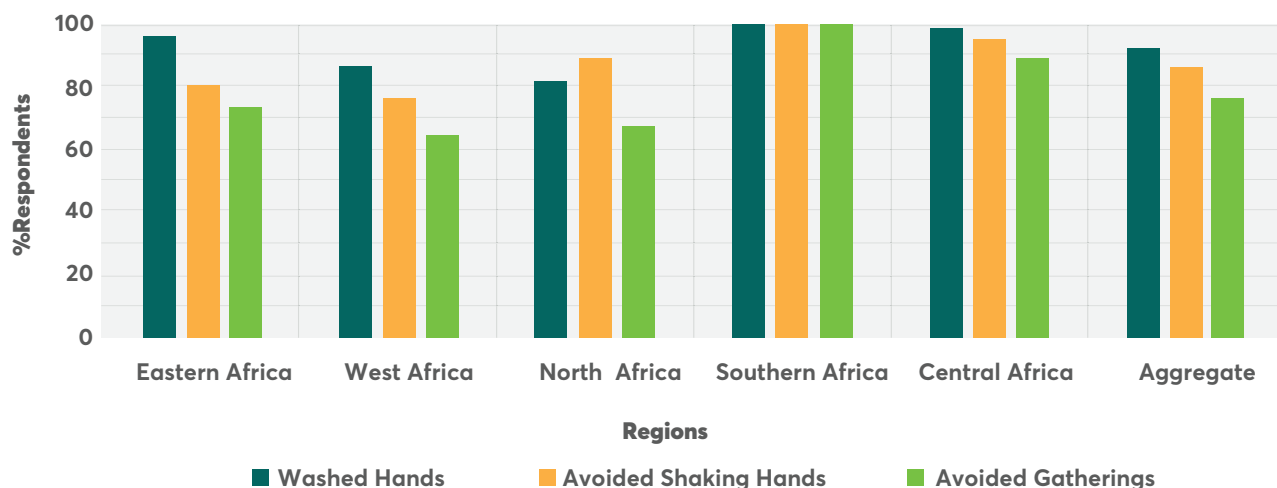


Figure 6: Public health measures adopted by producers in the selected countries in Africa

3.10 Awareness of COVID-19 Vaccines

A high of 87% of the respondents was aware of the presence of the COVID-19 vaccine against the COVID19 Virus. Against this, only 9% of the study sample had been vaccinated, compared to an overall 38% in Africa¹⁷, as of 24th October 2021. The highest number of individuals vaccinated was in North Africa, represented by 34%, followed by 10% in Southern Africa. West and Eastern Africa are still below 5% for those who have been vaccinated in Africa. Among those who have not been vaccinated, the unavailability of the vaccines was mentioned by 30%, while 29% feared perceived side effects based on the information from those who had received the vaccination. Only 8% were not aware of the existence of the vaccine. Asked whether they will go for vaccinations if the vaccine becomes available within their community, 54% confirmed that they would be willing to be vaccinated. The willingness to get vaccinated creates an opportunity for the governments and other development partners to source and distribute the vaccines. Investment in sensitization of the population about the vaccines, especially on the side effects post-injection will be important for increased uptake.

¹⁷ <https://news.google.com/covid19/map?hl=en-KE&gl=KE&ceid=KE%3Aen> <https://africacdc.org/covid-19/> Accessed on 24th October 2021

3.11 Impact of Government restrictions and Public Health Measures (PHM) on the organic and conventional farmers livelihood

3.11.1 Specific government restrictions and public health measures

When the first cases of COVID-19 were reported in various countries in Africa, most governments enacted public health and other restriction measures to stop the spread (Figure 7). In a few countries such as Zimbabwe, the measures posed a severe threat to an already critical food security situation, mainly due to the prevailing poor macroeconomic conditions and consecutive years of drought.

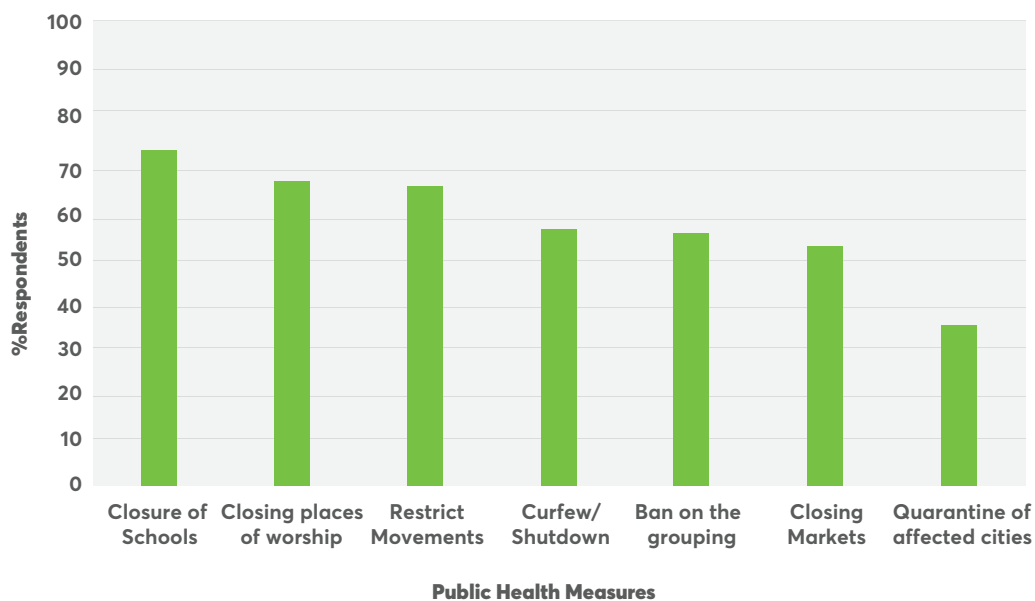


Figure 7: Awareness on restrictions and PHM in place to control COVID-19 spread

In Kenya, the Northern part of the country was just recovering from the Desert Locust invasion that led to the destruction of the crops and pastures, seriously affecting livelihoods. About two-thirds (68%) of the respondents reported that the governments closed places of worship, while an equivalent proportion (67%) reported that there were restricted movements within the country and closure of borders with neighbouring countries. Enforcement of curfews and lockdowns within their localities were reported by 57% of the respondents, which was intermittent and localized within some countries. About 57% reported a ban on groupings of more than 50 people, while 54% reported the closure of markets and restaurants. Closure of schools was the most dominant measure across all the regions, reported by 75% of the respondents. The aftermath of this has been poor coverage of syllabus and increased stress among the children leading to school unrest. The temporary closure of schools has resulted in the suspension of school feeding programs with millions of Eastern African children affected. For example, due to the temporary closure of schools, urban refugee children were eating only once a day (Khan, 2020). But also in the dairy industry, the milk consumption increased at the household level, leading to reduced supply at the cooperatives and processors. This created a deficit within the supply chain, leading to scarcity (Ojwang, et al 2020).

3.11.2 Impact of government restrictions and PHM on Livelihood sources

The study revealed that almost 100% (99.5%) of the respondents depend on farming, which includes crops and livestock production, as the main source of livelihood (Figure 8). About 20% (17%) of the respondents depend on non-on farm sources of livelihood such as business, while about 11% depended on employment for wages and salaries. Only 6% of respondents depended on remittance and assistance from family members and well-wishers. Among those who depend on non-on farm businesses, such as shops, tailoring and salon as sources of livelihood, 35% were in West Africa. Wage employment was the main source of livelihood in Central Africa depended upon by 18%, with the majority of the respondents, 34% in Cameroon.

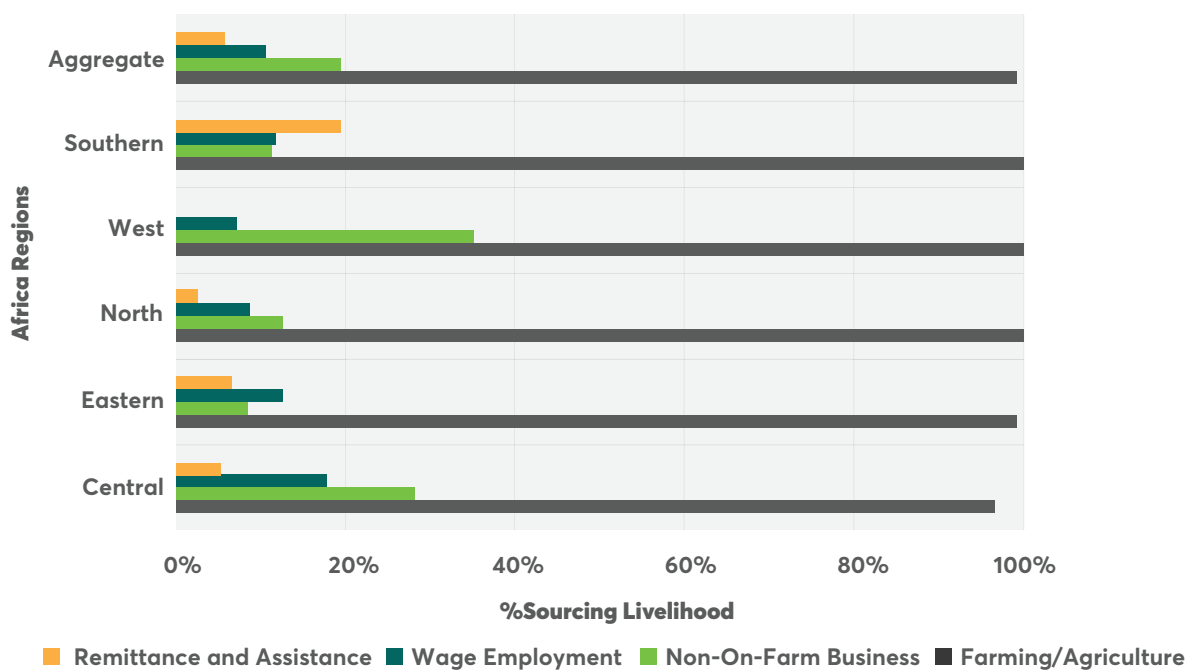


Figure 8: Diversity in livelihood sources among the producers in the selected countries in Africa

Remittance and external assistance were a source of livelihood for 6% of the respondents, with the majority, 19% in Southern Africa, with 39% of the respondents in Zimbabwe. Focused group discussions with respondents indicated that Zimbabweans and Zambians cross over to South Africa to get employment and therefore remittance back to their families in their countries is high. In 2020 at the heart of the pandemic, the World Bank (2020) projected those remittances to Sub-Saharan Africa (SSA) were expected to decrease significantly by around 8.8% between 2019 and 2020, from U\$48 billion to U\$44 billion due to the COVID19 pandemic and restrictions in movement. Estimates by the African Development Bank (2021)¹⁸ indicate that international remittances to Africa fell from U\$85.8 billion in 2019 to U\$78.3 billion in 2020. Those who depend on non-on farm sources of livelihood depend on customers visiting their shops or areas of operation. With lockdown and restriction in movements, access to these services ceased leading to loss of livelihood sources.

¹⁸ African Development Bank (2021, February 7). Weekly Data Flash on COVID-19 in Africa1: The situation as of Sunday. Statistics Department (ECST), African Development Bank, Abidjan.

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

FGD, Rufunza District, Zambia

3.11.3 Impact of government restrictions on livelihoods among conventional and organic producers

The study observed that 71% of the respondents practicing conventional systems and 62% of respondents practicing organic systems had incomes negatively affected by government restrictions and public health measures (Figure 9). There was generally a significant association between income sources and production systems ($X^2=10.86, p<0.05$).

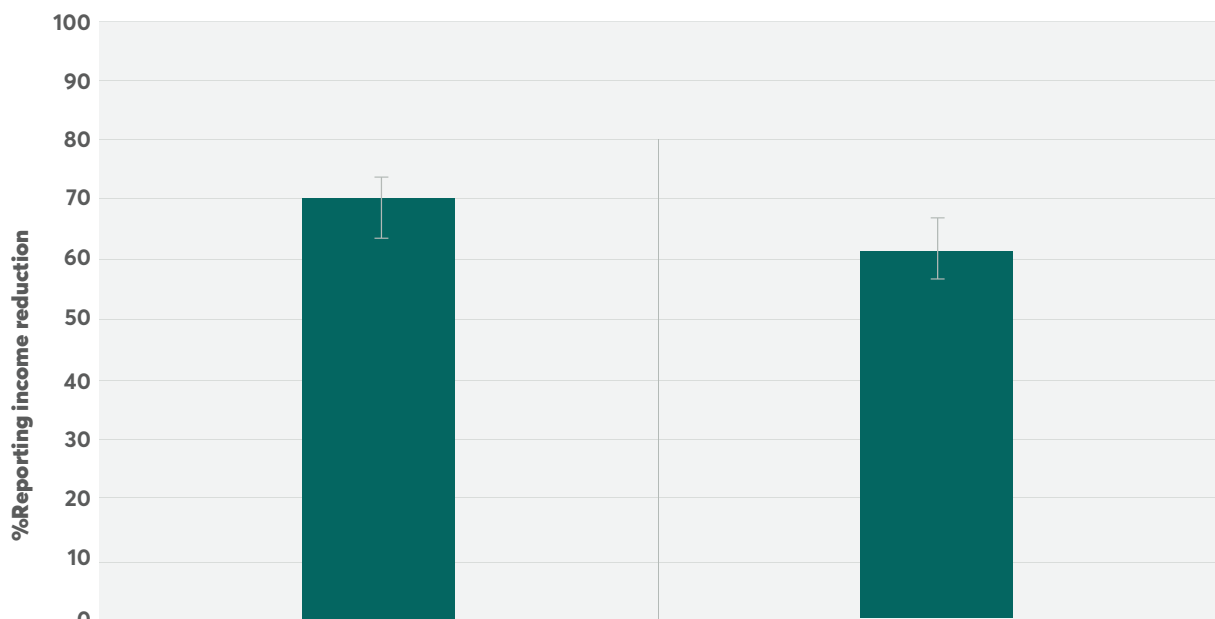


Figure 9: Impact of restrictions and public health measures on income sources

A specific comparison between conventional and organic farmers showed that production systems insignificantly affected income sources among the two categories households ($t=1.104, p= 0.29$). These statistics show that respondents practicing organic production systems were more resilient and had a better ability to cope with disturbances at the farm level caused by COVID 19 pandemic. Focused group discussions indicated that conventional farmers were more vulnerable due to dependence on inputs and external markets which were affected by the pandemic. Lockdown and implementation of social distancing led to the closure of markets and movements, especially for those who are dependent on inputs. In Kenya for example, the establishment of organic markets by PELUM-Kenya at village levels assisted organic producers to market their products.

3.11.4 Impact of COVID19 on Gender parity

The study evaluated the impact of COVID19 on the sources of livelihood among women and men. The majority (90%) of women, compared to 85% men, reported that their sources of livelihood (agriculture, business, services) were significantly and negatively affected by the pandemic (Figure 10). The impact of the pandemic on the actual income indicated that more women, 93% reported a significant reduction in income compared to 86% of men ($p < 0.05$).

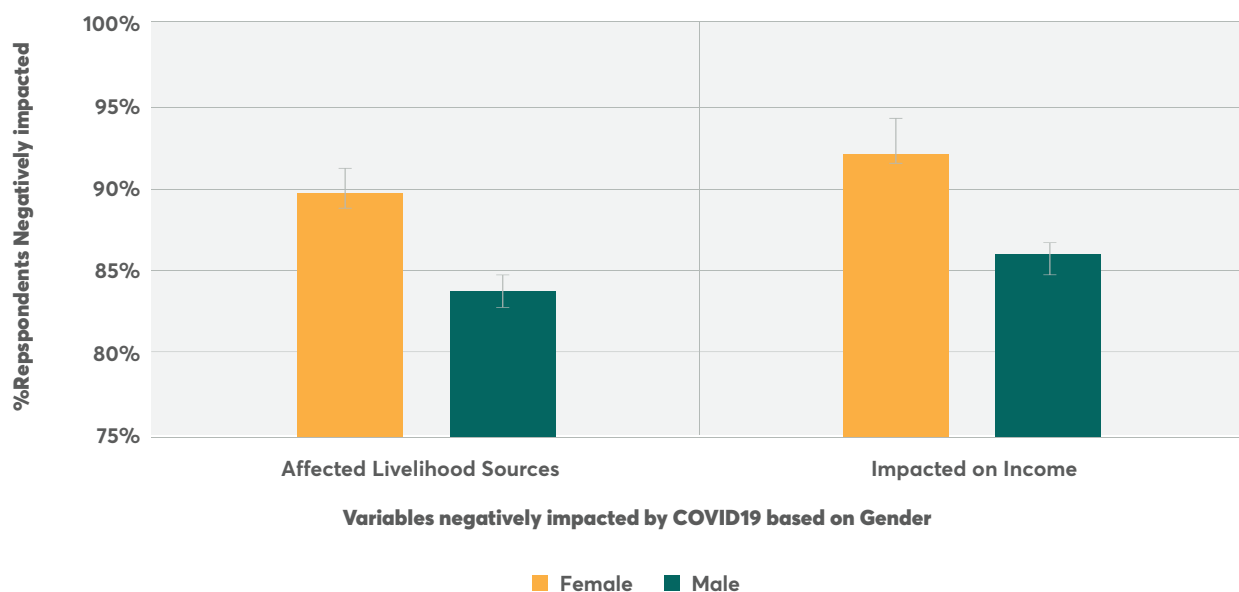


Figure 10: Impact of government restrictions on livelihood sources and income among men and women

Generally, there was a 40% income reduction in household gross incomes during the COVID19 period compared to the same period before the pandemic. The loss of income was contributed by the inability to sell farm produce and manage businesses that were closed following the implementation of government restrictions and public health measures. Women depend on weekly markets to sell their produce (vegetables, fish, cereals, small stock) and men to sell mainly on livestock. The closure of these weekly markets left the majority without any source of income. With the background that most producers depend on agriculture as a source of livelihood and given that in these agricultural systems women play a significant role, then any minor shock affecting this livelihood source negatively impacts Women. A study done by UN Women and UNFPA (2021)¹⁹, observed that more than 60 per cent of women and men in Ethiopia, Kenya, Malawi, Mozambique, and South Africa experienced a complete loss or decline in personal incomes due to the pandemic, with potential to entrenching the gender disparity of women being more likely than men to live in extreme poverty.

¹⁹ UN Women/ United Nations Population Fund. 2021. Impact of COVID-19 on Gender Equality and Women's Empowerment in East and Southern Africa

In my village, even though there was no notable gender-based violence, during the period of restriction and curfew, there was a sharp tension among couples with sometimes physical aggression between couples, as a result of spending time together and stress occasioned by lack of cash.

FGD, Pout Diack, Senegal

3.11.5 Household enterprise diversification

The study reviewed eleven value chains being produced by the households which included local vegetables such as tomatoes and onions, livestock, cereals, livestock products such as eggs, milk and hides, fruits, pulses, nuts, roots and tubers, and vegetable for the export market, cash crops such as sugarcane and spices. The impact of COVID19 on the different enterprises was assessed. Respondents producing vegetables such as tomatoes and onions were the most affected by the pandemic, as reported by 34% of the respondents (Figure 11). Vegetables are an input-intensive product whether being produced organically or conventionally. Poor access to inputs as reported by the majority of producers, and more so, fertilizer had a significant impact on the production of these products. Access to pesticides was also a challenge leading to poor pest management leading to poor yields. Focused group discussions with the producers in Zambia and Ethiopia revealed that vegetables is produced under input-intensive system whether being produced organically or conventionally. Poor access to inputs as reported by the majority of producers, and more so, fertilizer had a significant impact on the production of these products. Access to pesticides was also a challenge leading to poor pest management leading to poor yields.

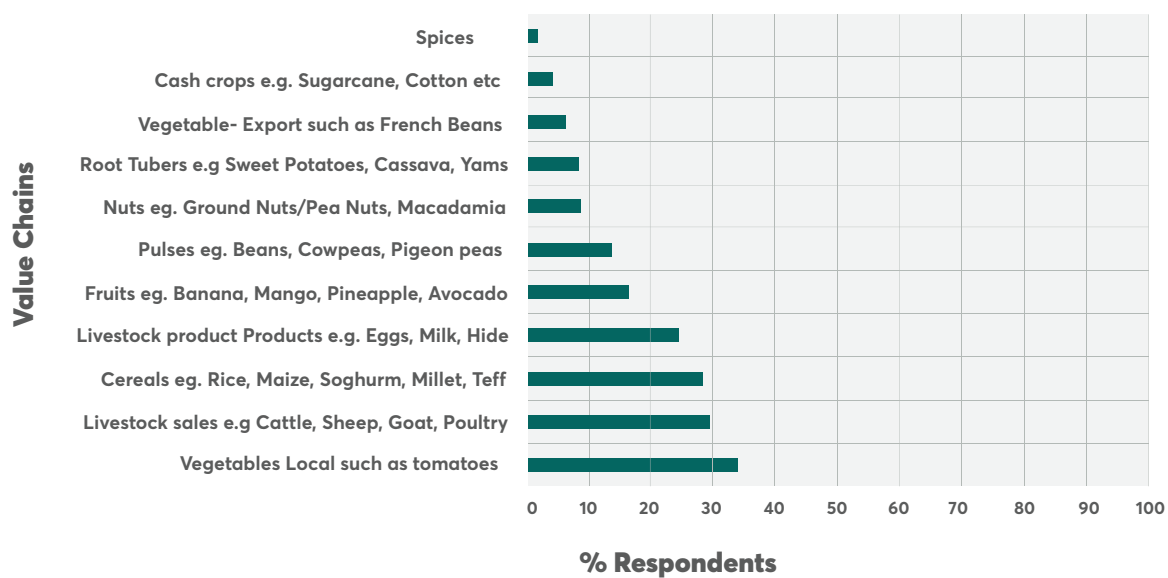


Figure 11: Impact of COVID19 on agricultural value chain production

Livestock production (cattle, sheep, and goats) was the second most affected, as reported by 29% of the producers. Significant impact was in Central Africa, as reported by 51% of producers, with the greatest impact reported in Cameroon by 88%, among the poultry producers. Northern African countries were the second most affected, as reported by 50% of the producers, with the majority in Morocco (47% of respondents). Livestock production was mainly affected by poor access to inputs and feeds, especially the movement of vaccines for poultry and other veterinary medicine for the control of diseases.

The third most affected value chain was cereals (rice, teff, millet, sorghum), as reported by 28%, with a majority, 60% in southern Africa of which 82% producers were in Zambia. Cereals were less affected due to low moisture content and has the capacity to store for a longer time compared to other products. Government restrictions and enforcement of public health measures which also included movement restrictions coincided with planting periods, January- June 2020, for majority of the staple crops in most countries in Africa. The timing of the planting is very important and a delay in planting, due to poor access to planting materials among other inputs during these months, occasioned by movement restrictions may significantly affect crop growth and lead to a food shortage (Ayanlade and Radeny, 2020)²⁰.

3.11.6 Impact of COVID19 on the adoption of agroecological technologies

Adoption of improved production technologies is a prerequisite for building resilience among farmers. There were significant differences in the adoption of agroecological technologies among the respondents undertaking organic and conventional production systems ($p < 0.05$). The study observed that 31% of respondents have adopted 11 organic production technologies which were under evaluation in this assessment, compared to 21% of respondents practicing conventional production systems (Figure 12). The low number of respondents practicing conventional production systems adopting agroecological technologies may be associated with a lack of exposure, making them more vulnerable to climate change and other shocks such as pandemics. The top five most adopted agroecological technologies included crop rotation, adopted by 61%, use of compost green manure by 60%, minimum tillage by 51%, intercropping by 38% and use of cover crops by 31% of respondents (Table 14). Among the conventional producers, crop rotation and minimum tillage were the most adopted technologies, as reported by 63% and 31% of respondents, respectively.

²⁰ Ayanlade, A. and Radeny, M. 2020. COVID-19 and food security in Sub-Saharan Africa: implications of lockdown during agricultural planting seasons. NPJ Science of Food volume 4, Article number: 13 (2020)

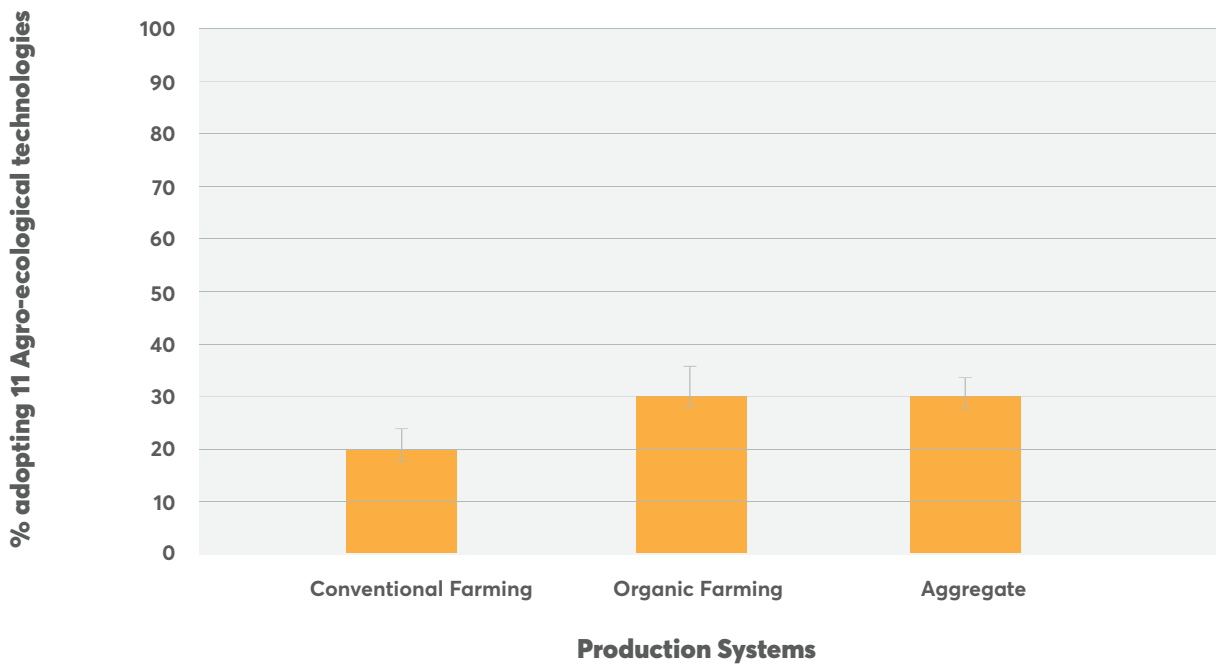


Figure 12: Adoption of agroecological production technologies among conventional and organic producers

Among the organic producers, crop rotation, use of compost green manure and minimum tillage were the most adopted technologies among the respondents practicing these production systems. The majority (100%) of respondents who have adopted crop rotation were found in South Africa, followed by 66% in West Africa (Table 8). The use of compost or green manure was practiced by 60% of the respondents, with the majority, 94% from Southern Africa. Minimum tillage was practiced by 51%, with the majority, 73% in North Africa of which, 90% were in Morocco. Use of crop cover was practiced by 51% of the respondents reached, while intercropping was practiced by 38% with the majority, 88% in Southern Africa.

During extreme weather events like heavy rainfalls or droughts, organic production based on agroecological practices can protect the soil and water in the environment, thereby building resilience against external shocks such as the COVID-19 pandemic. Organic production systems are based on ecological principles, which positively impact the environment leading to strengthening adaptation strategies and therefore enhancing the resilience among the organic producers.

Table 8: Adoption of agroecological technologies by respondents in Africa (%)

Agroecological technologies	Central Africa (n=151)	Eastern Africa (n=241)	North Africa (n=143)	West Africa (n=45)	South Africa (n=40)	Total (N=620)
1. Crop rotation	43.2	63.9	66.4	70.9	100.0	61.4
2. Use of compost/green manure	46.5	62.1	78.1	52.8	93.8	60.3
3. Minimum tillage	33.7	40.9	72.8	39.9	37.5	50.7
4. Intercropping	33.3	55.6	28.8	32.8	43.8	38.0
5. Use of cover crops	19.8	39.0	28.3	53.0	87.5	31.3
6. Planting nitrogen fixing Legumes	23.6%	36.9	40.1	26.3	31.3	29.6
7. Planting hedges	2.4	31.0	13.8	30.8	50.0	20.3
8. Organic and botanical pesticides	12.5	8.8	43.7	28.7	18.8	20.0
9. Disease prevention in livestock	4.0	0.0	35.3	30.8	0.0	12.5
10. Farm improvement plan	1.6	15.3	16.0	8.9	0.0	10.1
11. Natural breeding	9.3	4.3	24.2	31.8	12.5	9.3
12. Restricted use of antibiotics	4.7	0.0	2.7	36.0	0.0	4.1

3.11.7 Impact of government restrictions on inputs and services that support farming activities

The government restrictions and public health measures affected more than 81% of the respondents practicing conventional farming systems compared to 77% of the respondents practicing organic systems (Figure 11). The difference was however not statistically significant ($t=0.74$, $p=0.40$). The inputs and services supporting farming activities included access to inputs, access to extension services, post-harvest management and credit. Given that almost 100% (99.5%) of the respondents depended on agriculture as a source of livelihood, government restrictions and public health measures would negatively impact the production systems, especially on inputs and services (access to markets, inputs, extension services, post-harvest management and labor) that support farming activities. About 81% of the respondents indicated that inputs and services that support their farming activities were affected by COVID19. The majority (95%) of the respondents, whose farming activities were affected were in Central Africa compared to 86% in Eastern Africa (Figure 13). Government restrictions affected access to extension services, access inputs, post-harvest management and access to labour that supports farming activities among 88% of the respondents in Southern Africa, compared to 73% in West Africa and 72% in North Africa (Figure 13). The impact of the pandemic on inputs and services that support farming activities was therefore intensive in Central Africa, followed by Eastern Africa, Southern Africa, West Africa, and North Africa.

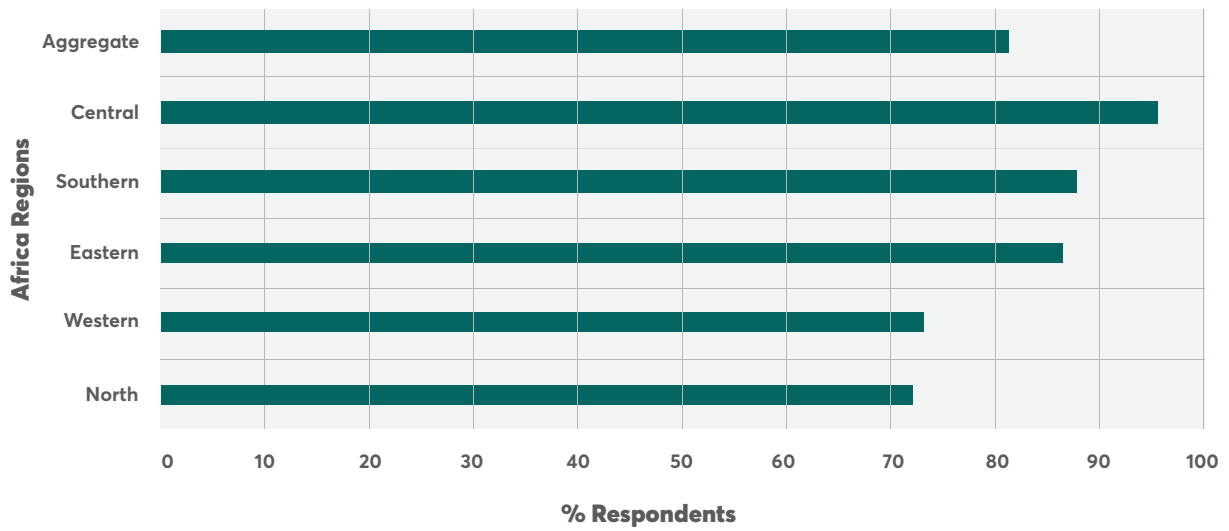


Figure 13: Proportion of respondents who reported farming activities support were impacted by the pandemic

3.11.8 Impact of COVID19 on access to extension services

The study revealed that more than 61% of the respondents practicing organic production systems faced challenges accessing extension services compared to 58% of the conventional (Figure 14).

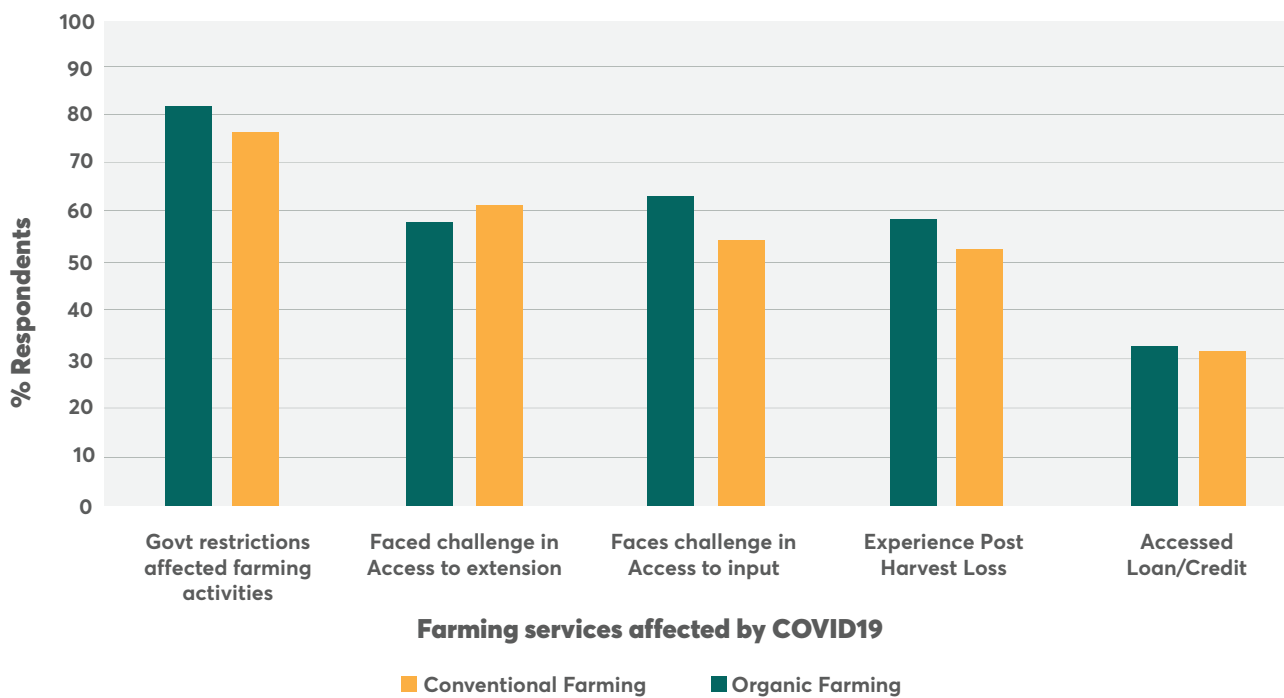


Figure 14: Impact of COVID19 on supporting services and farming activities

The difference was however not statistically significant ($t=5.09$, $p= 0.05$). Based on gender, 66% of women respondents had challenges accessing extension services, compared to 59% of men. Focused group discussions indicated that organic producers relied heavily on extension support through the affiliated organizations. Therefore, any challenge affecting access to extension services would be felt by this group of producers. COVID19 pandemic led to cessation in movement and implementation of social distancing that affected the delivery of extension services. The assessment revealed that two thirds (60%) of the respondents experienced challenges associated with access to extension services, with the majority 85% of the respondents in Southern Africa, followed by 76% in Central Africa, and 66% in West Africa and 61% in East Africa. Only 37% of the respondents who reported to have faced access to extension services challenges were in Northern Africa. (Figure 15)

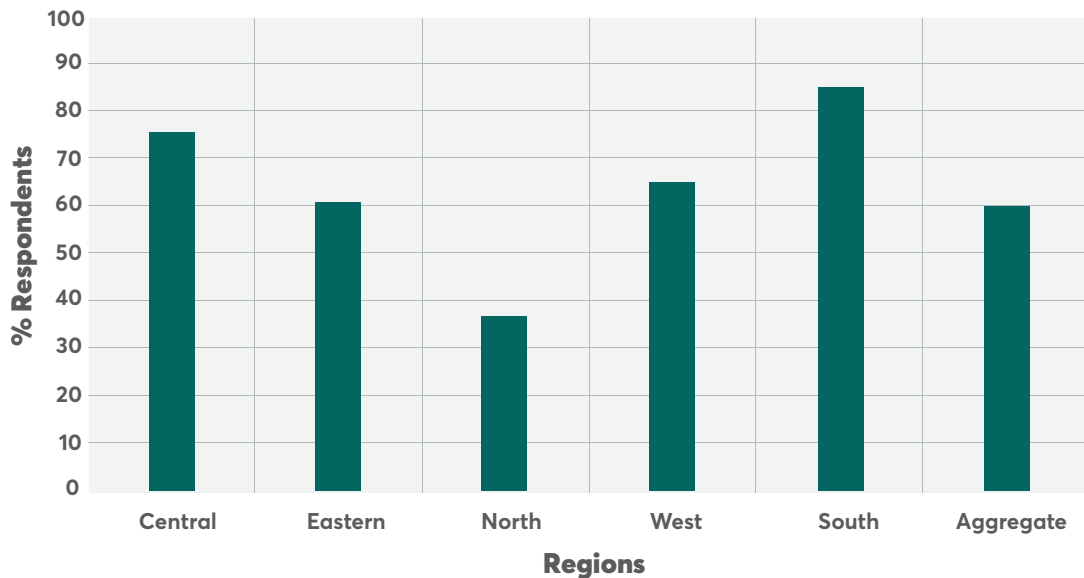


Figure 15: Effect of government restrictions and public health measures on access to extension

Though Zambia was not under lockdown, focused group discussions with farmers indicated that the restrictions were tougher than the lockdown itself. Government restrictions and enforcement of public health measures reduced the mobility of extension officers. Most farmers were not allowing people to visit their farms as they feared contracting the disease. Among the different extension services being delivered to the community, access to crop production extension services was the most affected by these restrictions, as reported by 40% of the respondents. The majority of the crop farmers who were affected were mainly in Zimbabwe, as reported by 89% of the respondents, while 65% were in Uganda and 50% were in Congo DRC. Livestock related extension was the second most affected, with 31% of the respondents indicating they were not able to access the extension services (Figure 16).

The main services farmers interviewed were not able to access were artificial insemination an important service for breed improvement and general animal health services. General on-farm training affected 25% of the respondents, as extension staff were not able to provide such training due to social distancing and lockdown measures. Access to extension services on soil and water conservation such as terracing affected 10% of the respondents. Focused group discussions indicated that households rely on technical expertise in measuring the slope to determine where to dig terraces on the farm. Restriction in movement and implementation of public health measures reduced interaction with extension staff providing these services. Compared to livestock extension, where the animal health staff is paid for the services delivered, this is not the case under crop extension service provision. The outbreak of the pandemic COVID-19 led to travel restrictions, and reduced farmer-extension worker physical interaction and farmer training, which had the potential to reduce production and productivity at the farm level. Transport availability for the extension staff proved to be the major stumbling block during lockdowns in Zimbabwe (Muvhuringi et al 2021)²¹.

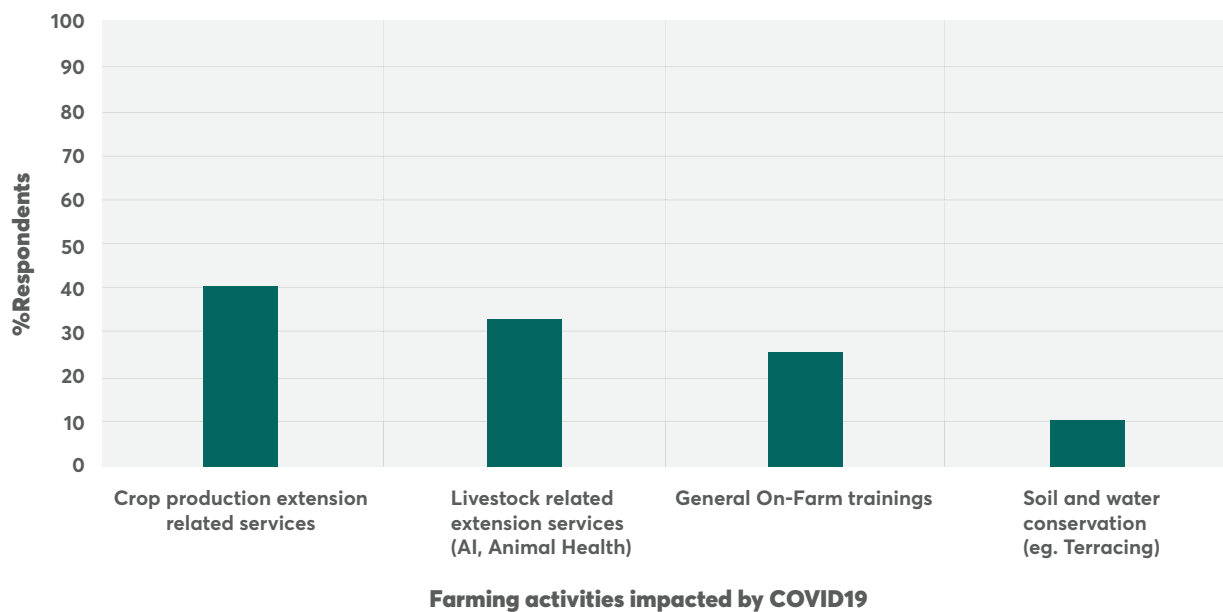


Figure 16: Different on-farm practices affected by the COVID19

3.11.9 Adaptation in access to extension services

During the pandemic, producers adapted different coping strategies to ensure access to extension services was not greatly affected by the pandemic. These adaptations differed between the regions, countries and even within the country itself. Neighbors became an important source of information during the pandemic, reaching 30%. 24% of the producers relied on radio and television to access

²¹ Muvhuringi Prosper Bright, Nyamuziwa Terrence Kudzai & Chigede Ngavaite (2021) The impact of COVID-19 on agricultural extension and food supply in Zimbabwe, Cogent Food & Agriculture, 7:1, 1918428, DOI: 10.1080/23311932.2021.1918428

information (Figure 17). It should be noted that relying on neighbors as the source of extension services comes with its challenges as they mainly base their experience and learning from other neighbors. Such information may be distorted leading to the wrong application. Building the local capacity through the establishment of reference/demo/lead farms and community extension agents will be important in the face of future pandemics. The sites will function as learning points for community members while local extension service providers can deliver extension services. The assessment further found that about a fifth, 22% accessed extension services from social media (WhatsApp and Facebook), while 19% relied on e-extension services. Only 3% accessed extension services through the newspaper.

The advent of COVID19 has led to the revolution of the digital extension service, in pro-poor digital agriculture, and how simple digital tools have been made available to poor farmers for them to access information essential for securing their livelihoods. E-extension through the digitalization of extension manuals will be important in future, especially with the use of mobile phones. The use of e-extensions is still low, against the high adoption rate of mobile phones in Africa. Digitization and distribution of extension tips via mobile phones have the potential to fill the gap during the pandemic. In Kenya, Precision Agriculture for Development (PAD)²² has developed personalized agricultural advice for smallholder farmers through their mobile phones. Farmers have been empowered with high-quality digital information with the potential to increase yields, incomes, and resilience. Adoption of new technologies to help in the delivery of extension services will be important in future not only during pandemics but in efforts to increase efficiency and reach.

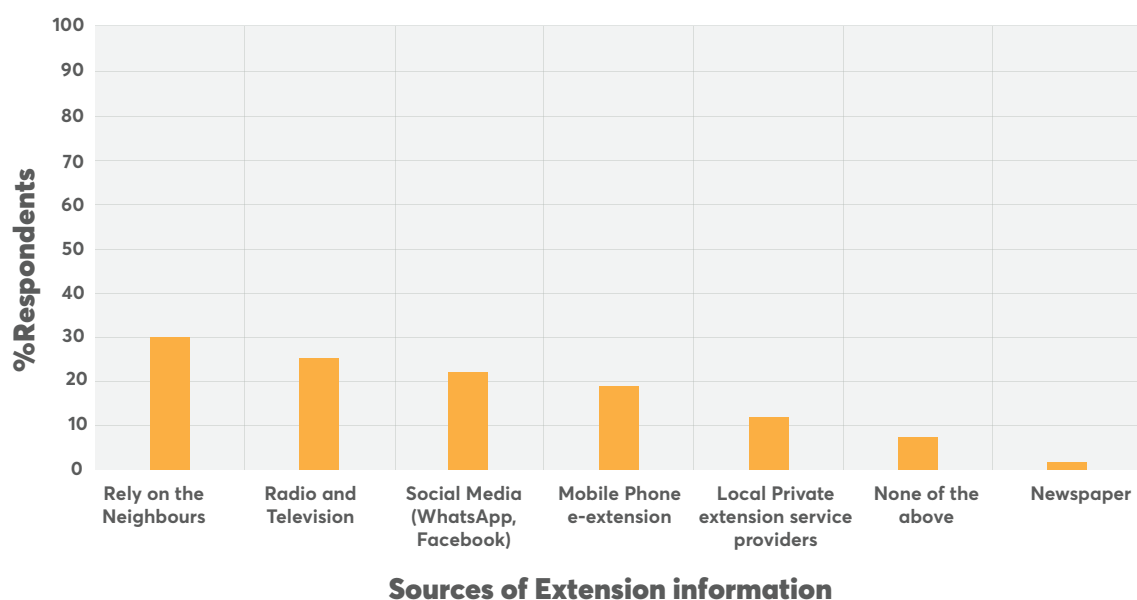


Figure 17: Adaptation among producers in access to extension services

²² <https://www.ifad.org/en/web/latest/-/blog/digital-agriculture-key-to-helping-small-scale-producers-overcome-covid-19-challenges>

3.11.10 Impact of COVID19 on access to Input services

The COVID19 pandemic had a negative impact on access to input services, with an average of 60% reporting that they experienced challenges in accessing inputs across all the locations during the COVID19 period (figure 18).

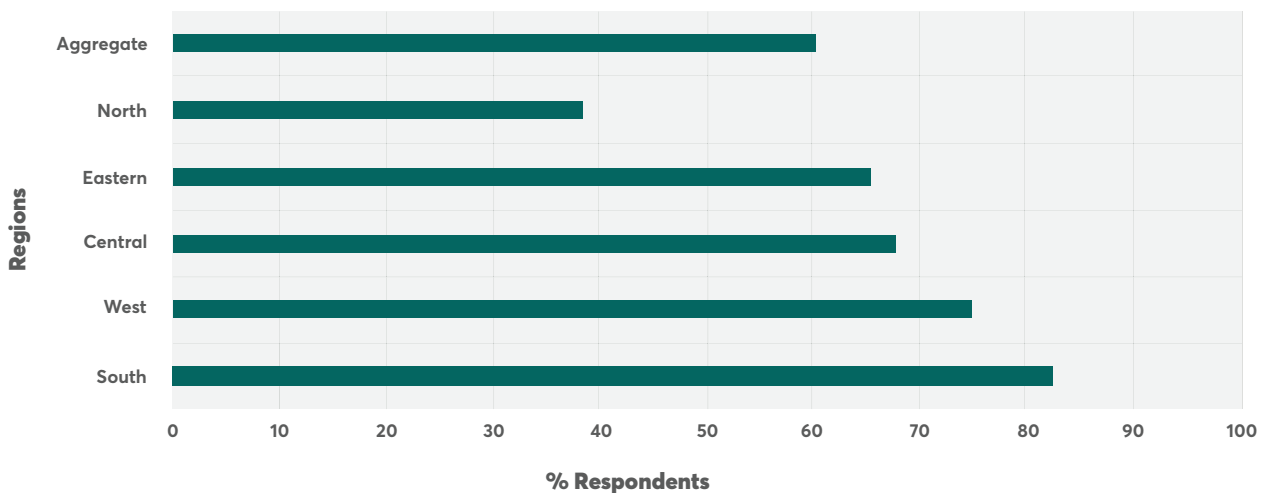


Figure 18: Percent respondents reporting challenges accessing inputs in the selected regions due to the COVID-19 pandemic

Based on gender, more women, 72% than men, 58% faced challenges related to access to inputs. Southern Africa was the most impacted with 83% reporting to have had challenges accessing inputs, with the majority of the respondents, 83% in Zimbabwe (See Fig 18). The high number of producers not able to access inputs in Zimbabwe was due to lockdown and challenges in the importation of seeds from the neighboring countries due to border closures.

The study findings presented in Figure 18 further show that respondents practicing organic production systems were less affected by challenges associated with poor or lack of access to inputs. About 54% of the respondents practicing organic production systems compared to 63% of respondents practicing conventional production systems, faced challenges associated with access to inputs. However, the observed difference was not statistically significant ($t=1.53$, $p=0.22$) In west Africa, 75% of the respondents lacked access to inputs, with the majority of them, 90% located in Senegal. The impact of lack of access to inputs has led to the closure of enterprises as access became a challenge due to movement and increased prices of the products. In Senegal for example, poor access to inputs in Pout Diack made producers who used to do fish and poultry farming abandon these income-generating activities because of increased inputs prices (FGD report, Pout Diack, Senegal). In Central Africa, 68% of the respondents faced a challenge in accessing inputs, mainly due to enforcement of social distancing and restrictions in movements were restricted. The respondents could not travel to urban areas where the shops were located to access the preferred inputs.

Before Covid-19, we ate a diversified diet with food from our farms and those from Uganda and Rwanda. The advent of COVID19 led to border closure, and market closures led to no food coming in. We only ate foods that were produced locally, leading to poor dietary diversity.

Farmer, Congo DRC

The assessment observed that a lower proportion of producers, 39% in North Africa faced challenges in accessing inputs compared to other regions (Figure 18). Focused group discussion with farmers in Sidi Abdellah Ghayat, Morocco, confirmed that the government provided subsidies for materials and packaging, logistic, for products such as fertilizers and agrochemical, which stabilized prices and therefore they didn't see any change in prices of inputs. Further, Key informant Interviews with the department of agriculture in Morocco indicated that the government improved the resilience among the farmers through the provision of subsidies on drip irrigation, and the creation of a packing station reserved for organic production. They created a website, ISOFAR (<https://www.isofar.online/Country-reports/Morocco/>) reserved for the organic associations and cooperatives to promote their productions (KII in Sidi Abdellah Ghayat, Morocco). There were also concerted efforts to cushion producers due to poor access to inputs in other countries. In Kenya for example, in May 2020, the Government channeled USD 30 million for the supply of farm inputs to cushion 200,000 small-scale farmers in 12 counties across the country in the first phase, through the e-voucher system²³. This was targeting maize farmers to access fertilizer whose access was affected by the government restrictions.

3.11.11 Factors contributing to challenges in access to inputs

Input price elasticity: The respondents were interviewed for their views on the price change before and during COVID19, and an average of 51% indicated that prices were higher between January 2020 and August 2020, compared to the same period in 2019 before the pandemic (Table 9). Increase in input prices was reported by 56% of respondents in Eastern Africa and 52% of respondents in Central Africa. In another group, 27% indicated that the prices were much higher, with the majority, 52% and 48% of the respondents in West Africa and Southern Africa, respectively. Only 11% observed that the prices were about the same, with about a third, 29% in North Africa. Seventy (70%) of the respondents were not able to access the inputs they needed due to high prices. Over three quarters, 78% of the respondents in Eastern Africa mentioned that price was prohibitive as they didn't have enough cash to purchase what they needed. Almost half, 48% of the respondents in West Africa were also affected by the high input prices (Table 9).

²³ Working paper: Credit guarantee schemes for agricultural development, The World Bank and Agriculture Finance Support Facility

Closure of preferred input sourcing centres: Lockdowns and enforcement of social distancing prevented producers from reaching their preferred suppliers. Majority of the farmers have specific outlets that stock their preferred products and negotiate for discounts. The closure of such centres was a disincentive to 31% of the respondents in accessing inputs. The majority (62%) of the respondents affected by the closure were in West Africa, followed by Southern Africa, represented by 58% of the respondents. Future promotion of local Agro-dealer networks within the communities would be important with stock capacity what producers prefer.

Table 9: Comparative analysis of the effect of COVID19 on prices during and before the COVID19 (%)

Variables	Central (n=151)	Eastern (n=241)	West (n=45)	North (n=143)	South (n=40)	Aggregate (n=620)
Higher	52.20	55.50	22.80	38.60	38.30	50.80
Much higher	22.40	37.00	51.70	11.30	48.30	27.00
About the same	18.90	4.20	20.00	21.20	10.00	11.00
Lower	2.50	2.40	2.80	28.90	0.00	9.10
Much lower	4.10	0.80	2.80	0.00	3.30	2.10

Lack of money to purchase inputs: Lack of money to buy inputs during the COVID-19 period affected 48% of the respondents, with the majority, 71% of them being in Western Africa (Figure 19). Respondents indicated during the focused group discussions that they lacked disposable incomes to purchase inputs as priority changed to survival measures such as access to food and purchase of protective items such as masks. Sources of income from on-farm and off-farm were affected by the pandemic, with an overall gross income reduced by 40%, as reported by 87% of the respondents of which 87% were organic, while 84% were conventional producers. Therefore, producers experienced low or reduced income to purchase farm inputs occasioned by the inability to access markets for their products due to market closures and reduced remittance from the relatives in the cities.

The area that was most affected by the epidemic was access to inputs, marketing and extension services that almost stopped. Farmers started feeling the greatest impact when decisions were issued to close down and prohibit movement times (curfew). As an organization, we helped them solve these problems through technical support and linkages.

Hanan Mossa, Bright Light Association, Egypt

Movement restrictions: Forty-one (41%) of the producers were not able to access inputs due to movement restrictions occasioned by lockdowns and curfews, as presented in figure 19. Household members were not able to travel to urban centres to access inputs due to fear of contracting the disease as they would interact in transport systems and with customers at the shop.

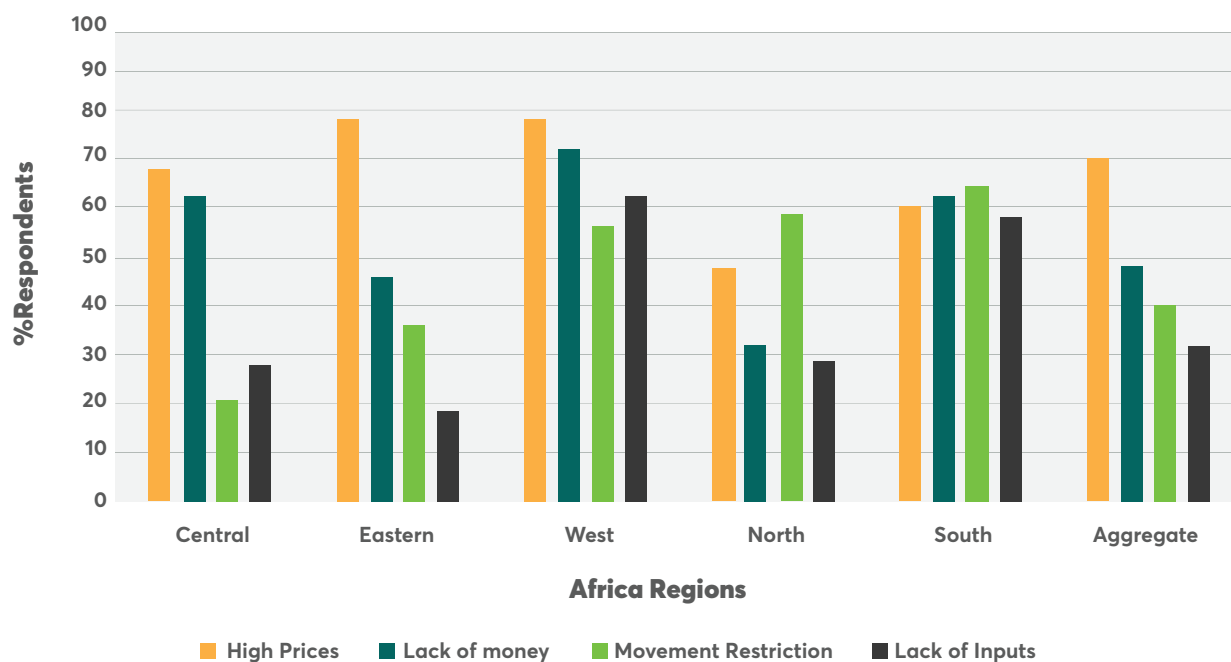


Figure 19: Proportion of respondents reporting reasons that contributed to input access challenges.

Transportation of inputs to rural areas was also affected as most companies reduced the number of trips to these locations due to low input demand. The volume of inputs produced was also reduced due to layoffs and reduced working hours as people complied with curfew hours.

3.11.12 Main input types with greatest access challenges

Fertilizer: Almost a third, 57% of the respondents had a challenge accessing fertilizer on time and in the right volumes. The greatest impact was among 81% of the respondents in North Africa, and 80% in Southern Africa (Figure 17). The majority of African countries depend on fertilizer from outside the continent which was under lockdown for freight and sea services. This affected the supply chain for the product, leading to scarcity.

Due to the government ban on travelling, Welmera Agricultural Producers Cooperative Union faced challenges in procurement, distribution of farm inputs or selling them as they did before COVID. The economic activity in the area (Holeta town) is slow as the farm production was affected leading to poor yield and nothing to sell.

Gashaw Melese, Welmera Union, Holeta, Ethiopia

Pesticides: Access to pesticides was the second most challenging input to access during COVID19, affecting 40% of the respondents, with the majority, 58% of the respondents in Southern Africa (Figure 19). Discussions with producers in Zimbabwe and Zambia indicated that both countries are

landlocked and closing their borders due to COVID19 by their neighboring countries, such as South Africa and Botswana affected the input supply chain. Imported shipments of crop protection products such as pesticides from China and India were severely delayed, and prices were rising²⁴, due to broken transportation systems either by sea or air.

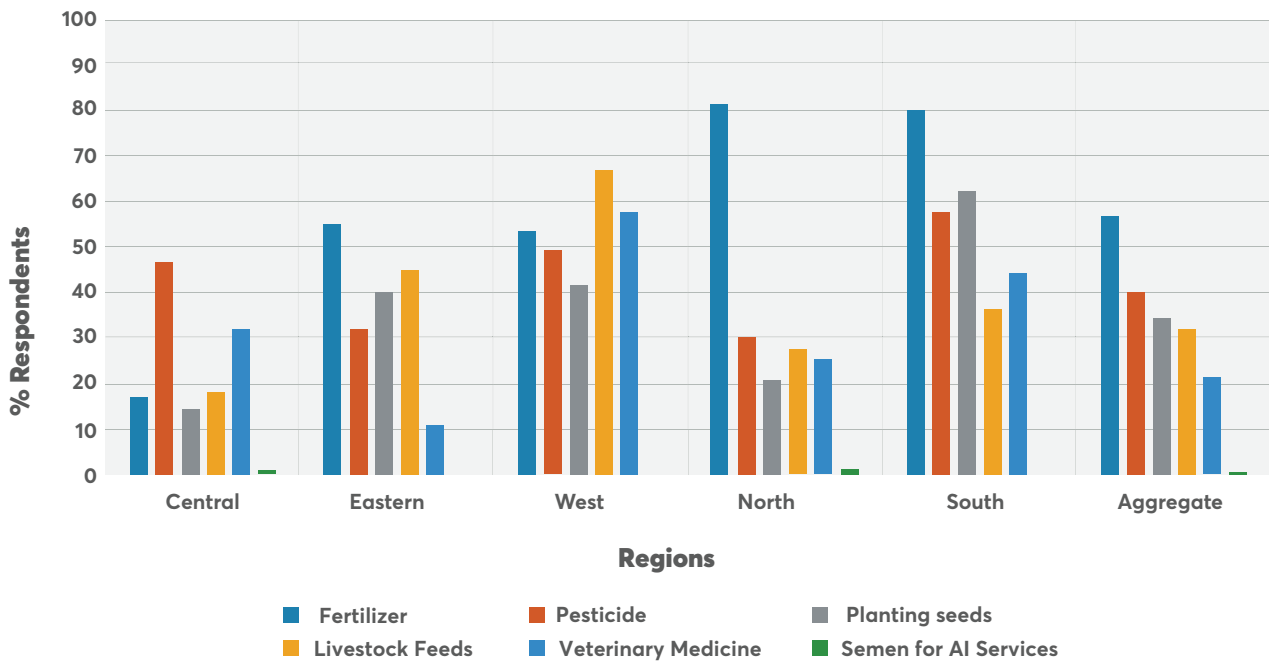


Figure 20: Production inputs that access was impacted by the COVID-19 pandemic

3.11.13 Impact of poor access to inputs on production and marketing of agricultural products

Planting seeds: The third most affected input was planting seeds, whose lack of access affected 34% of the respondents (Figure 20). During sourcing of the seed, the majority of the countries import from either their neighboring countries or overseas. Assessment of seed being imported into the country must be done at the border point. With social distancing, the phytosanitary staff at the border points were overwhelmed as few of them were allowed at these stations, leading to delays. Lockdowns and restricted movements affected seed distributors' supply chain leading to reduced supply and therefore poor access by the producers. In Ethiopia, Key informant interviews with government representatives indicated that difficulty in importing inputs was exacerbated by an extreme shortage of foreign exchange necessary to buy products internationally and the cessation of Ethiopian cargo planes flying to source countries.

The lockdown started in March 2020, when we were preparing to plant beans. We could not access seed due to the closure of shops and border closures.
Farmer, North Kivu, Congo DRC

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

Other inputs that were difficult to access included: Livestock feeds that affected 32% of the households, with the majority, 67% in West Africa and access to veterinary medicine affecting 21% of the households, with the majority, 58% in West Africa (Figure 20). The study revealed that 66% of the respondents indicated having experienced a reduction in production and productivity of agricultural products (livestock and livestock products and crops) due to poor access to inputs, catalyzed by the COVID19 pandemic. Results in Table 10 show that the majority, 82%, who experienced a reduction in production were in Southern Africa, followed by Eastern Africa (79%) and the Western region (77%). Loss of revenue or income at the household level was reported by 42%, due to poor access to inputs, with the majority, 63% and 62% in Western Region and Central Africa region, respectively.

Table 10: How the inability to access inputs affected farm enterprises (N=620)

Variables	Central (n=151)	Eastern (n=241)	West (n=45)	North (n=143)	South (n=40)	Aggregate (n=620)
Reduced yield	45.60	78.70	77.20	55.90	82.20	66.00
Loss of revenue/income	61.60	36.40	62.80	23.20	44.40	42.50
Market loss due to Product quality	43.30	28.90	58.30	22.70	60.60	38.20
Loss due to pest/diseases	36.00	17.70	65.00	14.40	51.70	28.90
Increased farm cost	9.00	37.40	23.90	27.20	18.30	19.80

Increased input prices meant that the investment cost at the farm level increased leading to low profitability and therefore limiting the accrual of disposable income to purchase inputs. As a result, 20% of the respondents reported an increase in expenditures on farm enterprises. COVID19 affected the efficiency of product movement in terms of transportation and delivery to the stores and Agro-dealer shops on time, exposing farmers to loss of products due to delays in pest and disease protection. About 38% of the respondents, experienced post-harvest losses, with the majority, 58% in Western Africa and 60% in Southern Africa regions. About a third, 29% of the respondents lost plants and animals due to pests and diseases, especially in Western Africa by 65%, as they couldn't access inputs to manage these vices.

3.11.14 Adaptation in lack of access to inputs

Producers devised several coping strategies to mitigate challenges to accessing inputs created by government restrictions and public health measures. The majority of the producers, 47% had reduced the frequency and the rate of input application (Figure 21).

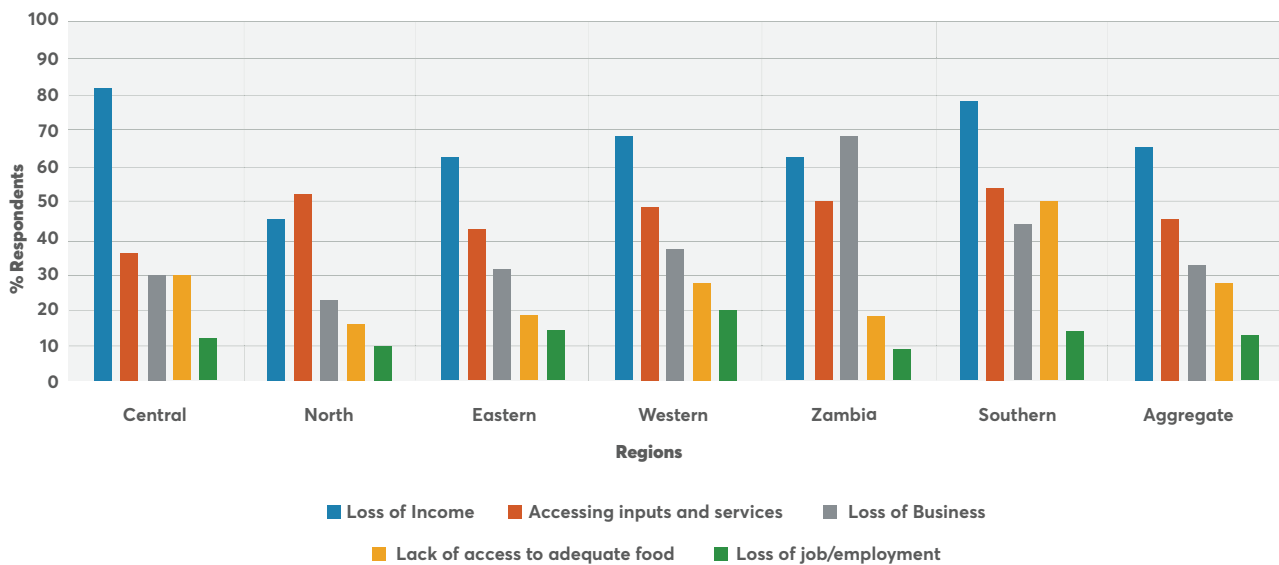


Figure 21: Adaptation among households in access to inputs

This behavior would have affected the effectiveness of the input, further leading to a reduction in yields. About 39% substituted the input(s) with what is locally available, 22% forewent the use of some of the inputs completely while 17% bought and stocked large quantities whenever the input became accessible. Staggering the use of the inputs was practiced by 34% of the producers, taking longer intervals, meaning that the crops and livestock were not receiving the inputs at the right time of development or growth. Reduction in amount and staggered frequency in input application or administration meant that the crops or the livestock were receiving below recommended volumes for treatment of diseases and pests, which has the potential of building resistance, especially with antibiotics and pesticides. Interventions targeting the promotion of Agro-dealer networks at the village level would be important in long run. Partnership with input service providers who can supply inputs at the doorstep will be important. Building the capacity of the farmer groups to diversify into input supply to their members will enhance access to inputs.

3.11.15 Impact of COVID-19 pandemic on product post-harvest management

Results in Table 11 show that fifty-eight (58%) of the respondents reported having experienced cases of post-harvest losses for their products due to public health measures and government restrictions. A comparison between conventional, mixed and organic farmers showed that about 58% of conventional farmers compared to 70% of mixed farmers and 53% of organic farmers reported having experienced cases of post-harvest losses for their products due to public health measures and government restrictions. Further analysis showed that these losses were significant associated with the farming system practiced by farmers ($\chi^2 = 9.56, p < 0.05$).

Table 11: Postharvest cases and coping strategies (%)

Variables	Central (n=151)	Eastern (n=241)	North (n=143)	West (n=45)	Southern (n=40)	Aggregate ¹ (n=620)
Experienced post-harvest losses	76.5	56.6	36.1	64.0	92.7	58.2
Which were the major post-harvest losses you experienced on your farm?						
Loss of market quality value	56.1	44.5	55.8	74.0	94.6	53.5
Pest infestation	67.9	29.6	38.5	90.6	70.3	52.4
Product contamination	4.5	35.0	34.3	61.5	13.8	23.5
Milk quality deterioration	15.2	20.1	3.9	30.2	5.0	18.0
What was the major reason for produce loss?						
Travel restriction and Ban	63.7	90.6	45.3	95.8	72.1	70.6
Lock down due to curfew	8.6	67.1	56.2	85.4	73.7	46.8
Shortage of labor a farm level	42.2	30.1	73.0	53.1	7.5	41.0
Prohibition of common market Place	19.1	17.5	9.3	54.2	44.7	24.4
What have been your coping strategies to reduce post-harvest?						
Dehydration of food products	73.2	56.9	3.9	44.8	75.0	53.5
Use Improved storage equip	40.1	28.9	85.4	90.6	37.5	47.1
Value addition – Fermentation	4.9	20.4	6.6	25.0	16.3	15.8
Refrigeration	10.7	11.0	18.0	9.4	2.5	11.6

¹Aggregate for all the regions understudy

The majority of them were from Southern Africa, represented by 93% of the respondents, followed by Central Africa by 77% and Western Africa by 64%. Loss in market quality value (perceived value of a product based on consumer perception – color, taste, smell and appearance), due to change in product colour, was the leading post-harvest loss as reported by 54% of the respondents. The majority of those who experienced this challenge were from Southern Africa as reported by 95%, followed by the Western region with 74%. Discussions with farmers in multiple countries mentioned that due to the closure of markets, they had nowhere to sell their food products, leading to prolonged storage, leading to product quality deterioration. Pest infestation in cereals, legumes and vegetables was the second most major post-harvest loss as reported by 52% of the respondents (Table 11), with the majority, 91% respondents, in West Africa and 68% respondents in Central Africa. The previous finding in this report indicated that 60% of the respondents were not able to access inputs at the right time or applied at recommended rates due to reduced incomes and input access. It was therefore apparent that control of pests and diseases was not being done based on recommendations. These factors contributed to pest infestation, leading to reduced quality, beyond the expectation of the market and consumers.

Other factors that led to product quality deterioration were contamination by soils due to longer storage and poor storage conditions as reported by 24%, with the majority, 62% in Western Africa by 62% (Table 11). Among the livestock products, cases of milk quality deterioration were reported by 18% of the households, with the highest of those affected, 30% in Western Africa. Loss in milk quality is a result of increased bacterial load due to longer storage before delivery to the cooperative. Producers during the focused group discussions in Kenya indicated that due to lack of transport, they would walk for long distances to the cooperatives to deliver milk, contributing to milk quality deterioration.

3.11.16 Adaptation for control of post-harvest losses

It was noted earlier that 58% of the producers experienced post-harvest loss at the household level. Households, therefore, has to adopt different coping mechanisms to build resilience (Figure 22).

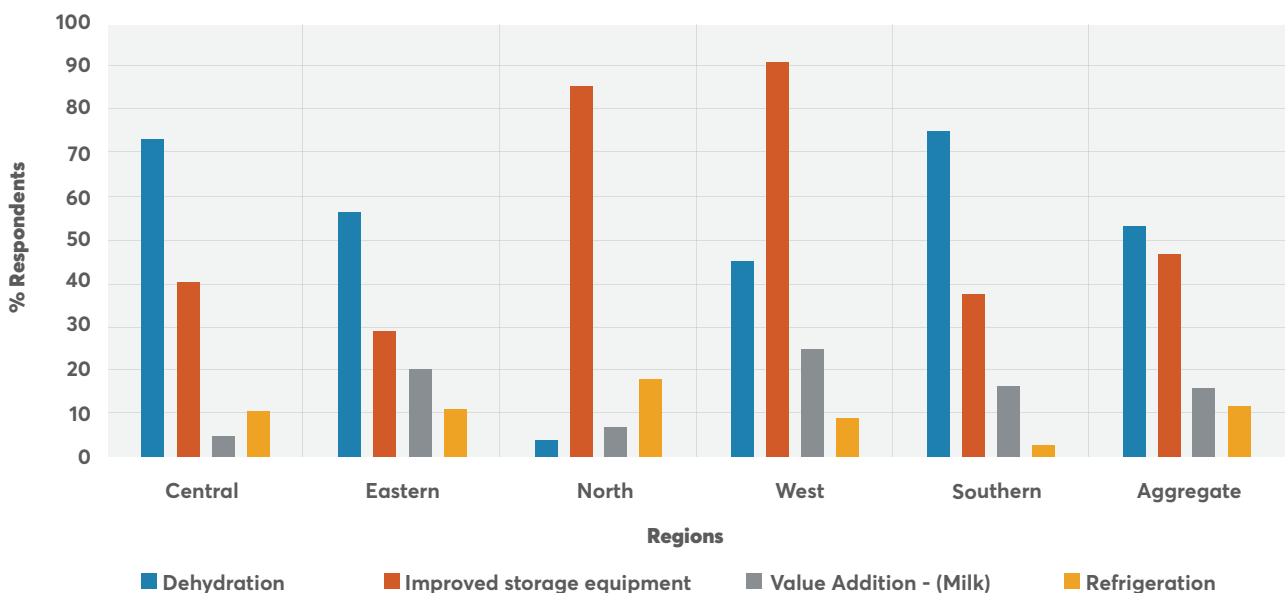


Figure 22: Adaptation among producers for control of post-harvest losses

Dehydration of food products such as vegetables was practiced by 54%, especially in Southern (75%), Central (73%) and Eastern (57%), while the use of improved storage equipment, especially for cereals was adopted by 47% with the majority in Western Africa (91%), while 16% did value addition such as fermentation of milk, with the majority, 25% in West Africa. Only 12% refrigerated their products to reduce post-harvest losses. Dehydration of vegetables reduces the water content, enhancing the shelf life of the leafy and fruit products. Discussions with SULMA Foods in Luwero Uganda indicated that they had to adopt dehydration technology of pineapples to reduce losses and diversify their markets for the dehydrated products, both locally and internationally. The adoption of improved storage equipment such as silos has the potential to reduce pest infestation.

3.11.17 Impact of COVID-19 on access to product-market access

The study noted that about two thirds, 61% of the respondents had partial access to the product market, with 74% of respondents located in Central Africa. About a third, 28% mentioned that the market was always available for their products, with the majority, 59% of the respondents in Northern Africa. A tenth, 10% confirmed that the market was not available, with the majority in Southern Africa, represented by 67% respondents and 43% respondents in West Africa. The widespread closures of food markets impacted small-scale farmers who were accustomed to showing up for weekly markets in rural areas to showcase their local products and to purchase what the household requires. In Morocco, small-scale farmers who relied on the Meknes Annual International Agricultural Fair²⁵ to market their products (including oils, honey, couscous, dried fruits, and cactus-based cosmetic products) were greatly affected by the pandemic-related cancellation. As the fair typically accounts for around 70 per cent of the annual transactions of the country's agricultural cooperatives and associations, its annulment resulted in catastrophic losses.

My community depends on the sale of livestock and crops. During the pandemic, we could not access the market due to restrictions and the closure of weekly markets. We have seen incomes reducing, while at the same time product prices at the market have increased and therefore most of the family members hardly take 3 meals a day.

FGD, Pout Diack, Senegal

3.11.18 Factors contributing to poor market access

The assessment noted poor access to markets for the farm produce due to disruption of the transport system, affecting 57% of the respondents. Disruption in transport systems was due to restrictions in movement, in line with government directives and public health measures (Figure 23). About a third, 31% of the respondents mentioned that market or food stores were closed and therefore were not able to take their products to the market. The closure of such stores leaves them with few options as to where to sell their products. About 26% mentioned that their inability to access the market for their products was due to fear of contracting the disease due to interaction with people from other locations, while 5% of the respondents mentioned that adult members of the households were unwell and were not able to go to the market to access or sale farm produce, given that purchase or sale of products is mainly done by adults. Only 3% mentioned that they couldn't access the market because members of the household were on self-quarantine.

Reduced consumer demand affected 47% of the producers interviewed, the majority of the producers were not able to access the market. Based on production systems, 42% of the organic

²⁵ Kemmas, M. (16 April 2020) 'The coronavirus blows Moroccan small-scale farmer revenues away'. Available at: <https://bit.ly/3s08Dgz> [in Arabic].

producers reported a reduced number of consumers accessing their products compared to 50% among the conventional farmers. The pandemic has intensified the health value of consumers when making decisions about choosing food products. Consumers perceived organically produced products as being able to build resistance making an individual either recover faster when down with COVID19 or not able to contract the disease (FGD, Kenya). These perceptions, led to increased demand for the products compared to conventionally produced products. Post-harvest losses affected 28% of the producers. Organic producers were the lowest affected with 21%, compared to conventional producers (31%). Access to packaging materials affected 11% of the producers. Postharvest losses of fresh produce are closely related to the preharvest field conditions during growth. The rate of natural biological deterioration that leads to quality loss is affected by internal and external factors as well as the postharvest conditions and handling (Prusky, 2011)²⁶. Products produced under intensive input supply face intense post-harvest loss compared to the organically produced

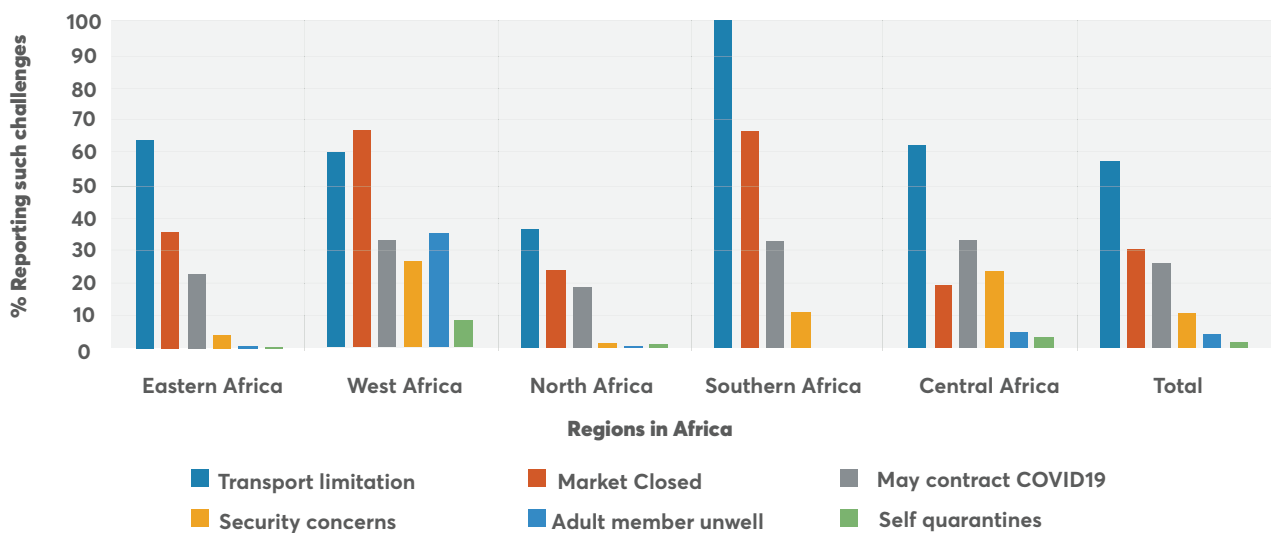


Figure 23: Factors contributing to poor market access during the pandemic

At Africa Union, a continental Ministerial Committee was formed and tasked to ensure that farmers, including organic farmers, were assisted to plant and market their crops and were not adversely hindered by the lockdowns.

Dr Simplicie Nouala, Africa Union Commission

²⁶ Prusky D (2011) Reduction of the incidence of postharvest quality losses, and future prospects. Food Secure 3:463–474. <https://doi.org/10.1007/s12571-011-0147->

Regionally, access to transport services significantly affected producers in Southern Africa (100%), while reduced demand for the products being produced affected producers in Central Africa, affecting 60% of producers and 51% of producers in West Africa. Post-harvest losses affected 56% of producers in Southern Africa and 53% in West Africa.

3.11.19 Impact of COVID-19 on access to credit services

The study observed that only 30% of the respondents were able to access credit or loans between January 2020 and August 2021, the period characterized by high incidences of COVID19 (Table 12). Compared between conventional and organic farmers about 33% of conventional farmers compared to 30% of organic farmers were able to access credit or loans between January 2020 and August 2021. This difference was however not statistically significant ($t = 0.35$, $p = 0.55$). There were more women (31%) respondents who accessed credit during the pandemic compared to men (26%) respondents. Village Savings and Loaning Associations (VSLAs) and merry go round were the main sources of credit, as reported by 42% of the respondents. About 39% of the household accessed loans from their neighbors, while 22% accessed from a formal bank. SACCOs reached only 8% of the respondents. The high number of respondents accessing loans from VSLAs (42%) and neighbors (39%) confirms the negative impact COVID19 had on the ability to travel among the respondents to access loans outside their villages. The fear of contracting COVID19 when they visit formal banks is confirmed by a low number (22%) of respondents who accessed credit from such institutions. About a tenth (9%) feared going to the banks lest they contract COVID19 due to a high number of people at the banking hall. VSLAs have usually established groups within the village and therefore restrictions on movements and lockdown did not affect their access by their members. None of the respondents in Southern Africa reported having accessed loans during the period under review, compared to 36% of respondents in West Africa, 32% of respondents in East Africa, 29% of respondents in North Africa and 29% of respondents in Central Africa, who accessed credit.

My group established a solidarity fund before COVID19 that helped members take out a loan when necessary. During the pandemic, the demand for cash was high to an extent that we shared the entire cash and temporarily closed the group

FGD, Pout Diack, Senegal

Inability to pay was a key reason why respondents were not accessing loans/credit, as confirmed by 57%. While 34% lacked collateral for the loans, 12% mentioned that though they were willing to access the loans from the mainstream banks, the institutions were not willing to lend them due to risk factors associated with the pandemic.

Results in Table 12 reveal that in Eastern Africa and North Africa, the leading reason for not being able to access a loan was the inability to repay as represented by 45% and 48% of respondents respectively. On the other hand, in West Africa, lack of collateral was the main issue, affecting 31% of the respondents. In South and Central Africa, the main challenge faced by respondents was mainly lack of collateral, which affected 78% of respondents and the inability to repay that affected 34% of respondents respectively. In a recent study undertaken by Heifer International (Heifer International, 2021)²⁷ on factors that impede youth and women from participating in agriculture, access to land and finance were key. Increased access to finance, will be important if we have to ensure women and youth participation along the agricultural value chains.

Table 12: Impact of COVID-19 on access to credit and disincentives towards credit access (%)

Variables	Eastern Africa	West Africa	North Africa	Southern Africa	Central Africa	Aggregate
Access to Loans	32.0	35.6	29.4	0.0	29.1	30.2
Sources of Loans						
Farmer group/VSLA	17.8	0.0	0.0	0.0	19.2	41.5
Neighbors	10.0	6.7	18.9	0.0	10.4	38.8
Formal Bank	5.8	28.9	10.5	0.0	0.0	22.3
SACCO	6.2	0.0	0.0	0.0	0.0	8.0
Reasons for not taking loans						
In ability to repay	45.2	17.8	47.6	11.1	33.5	57.2
Lacked collateral	10.4	31.1	28.0	77.8	32.4	33.6
Variables	Eastern Africa	West Africa	North Africa	Southern Africa	Central Africa	Aggregate
Banks were not willing to loan	7.9	6.7	2.8	33.3	15.4	13.2
Fear of contracting Covid	2.5	2.2	15.4	22.2	4.4	9.0
Banks were closed	7.9	8.9	0.0	11.1	1.6	6.3
Area under Lock down	1.2	6.7	.7	11.1	4.4	3.7

3.11.20 Impact of COVID-19 on access to medical services

The study assessed access to public health services in the past 18 months compared to a similar period before the pandemic in 2019. Almost half, 46% of the respondents mainly in Southern Africa (56% respondents) and 46% of respondents in Central Africa confirmed that access to medical services remained the same during the period under review. About 28% indicated that the availability and access to health services decreased, with 43% of respondents in Eastern Africa. Further, a tenth, 10% of the respondents agreed that these services were highly available and accessible, with the majority in North (34%), West (36%) and Southern Africa (33%). Access to health services was mainly affected by fear among the community members that they would contract the disease if they visited health facilities within their areas, as mentioned by 18%, while

²⁷ HPI (2021). The Future of Africa's agriculture - An Assessment of The Role of Youth and Technology

10% associated it with high cost at the health facility. Similar findings²⁸ were reported by Leo (2021), who observed that the fear of contracting COVID-19 among the patients from their visit was the most cited reason for not seeking medical care. Few, 8% said they were impatient as the clinics had a long waiting time, due to having many patients, as the number of medical staff were few and therefore sought alternative means of accessing health services, including self-medication and use of local concoctions (FGD, Kenya). A further small group, 7% were not able to visit the clinics because the health facilities remained closed.

3.11.21 The cost of accessing health services

The cost of accessing medical services increased between January 2020 and August 2021 during the COVID19 period, relative to a similar period in 2019. This was confirmed by 52% of the respondents, with the majority, 61% in Eastern and 51% in Central Africa (Figure 24).

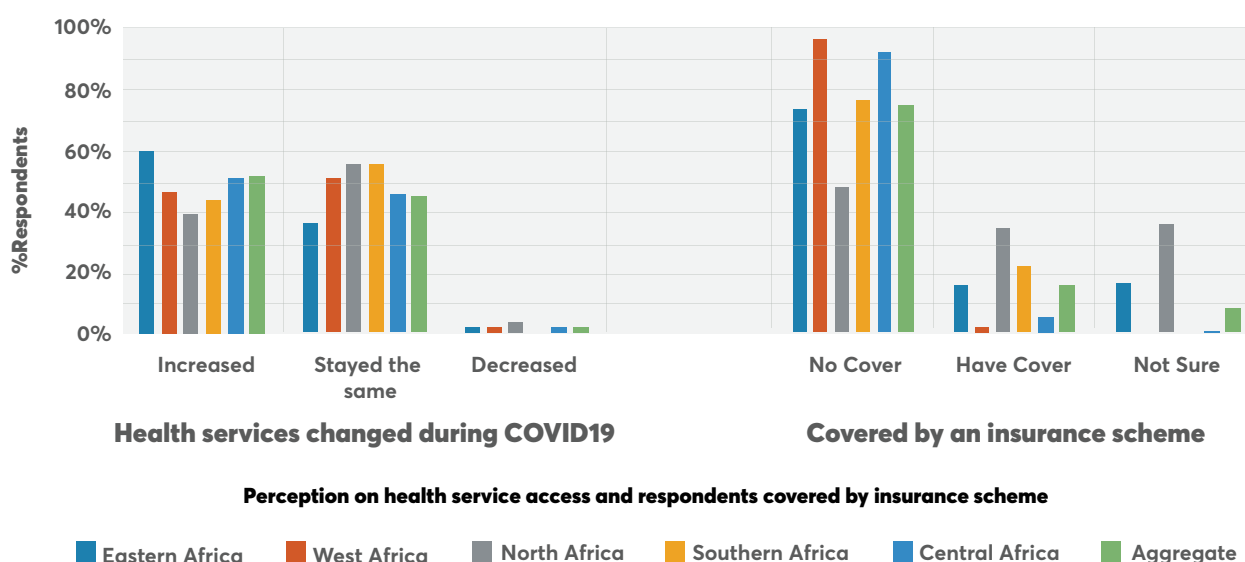


Figure 24: Impact of government restrictions and PHM on access to medical services

Majority of the health centres increased the cost of health due to the reduced number of patients visiting the facilities. About 46% felt it stayed the same, especially among the 56% of respondents in North Africa, 57% in Southern Africa and 51% in West Africa. Only 3% mentioned that the cost of accessing health services reduced in the past 18 months. A small group, 16% of the respondents interviewed across the regions were covered with a medical insurance scheme, with the majority, 35% in North Africa, followed by 22% in Southern Africa. Minority, 8% were not sure about the changes in health care costs. Insurance cover is helpful at the household level as it cushions the family with medical bills.

²⁸ Leo, Holtz. 2021. **COVID-19's impact on overall health care services in Africa**

3.11.22 Impact of COVID-19 on household incomes

The study showed that a majority (87%) of the respondents reported income loss when they compared before and during the pandemic due to the impact of COVID19 (Figure 25). There was a significant relationship between household income and the production system practiced by an household ($X^2=10.06$, $p<0.05$). Farmers practicing mixed farming systems were highly hit (96%) compared to those practicing organic farming (87%) and conventional farming (84%).

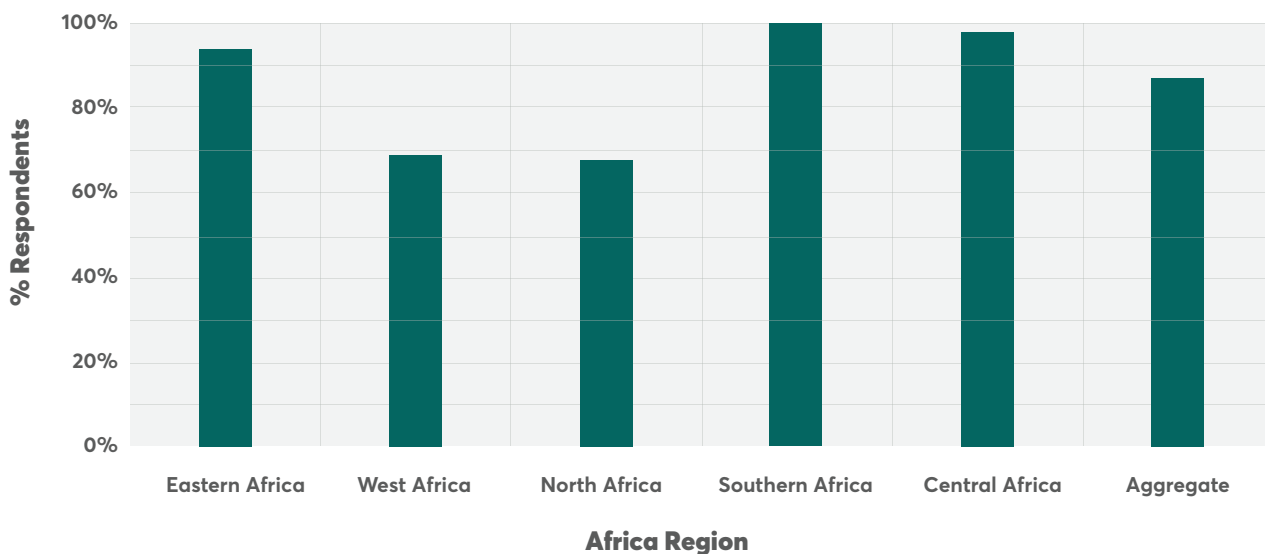


Figure 25: Proportion of producers reporting reduction in income due to COVID19

Majority of producers reporting reduction in income were in Southern Africa (100%), Central Africa (98%) and Eastern Africa (94%). West and North Africa reported the lowest proportion of producers, 69% and 68% respectively, reporting reduction in income. At country level, the proportion of producers reporting loss of income was high in Zimbabwe (100%), Uganda (100%), Congo DRC (98%) and Cameroon (97%). A survey commissioned by ZIMSTAT in Zimbabwe in 2020 indicated that nearly 500,000 Zimbabweans had at least one member who lost her or his job, causing many households to fall into poverty and worsening the plight of the existing poor²⁹.

Over a half (56%) of the respondents reported job loss, while 46% reported a reduction in reduced demand for goods and services they sell, due to a reduction in the number of customers visiting their business for products and services. The reduction was a result of observation of social distancing and the movements were curtailed due to lockdown. Nearly half, 46% of the respondents who were earning a salary or wage, had their salary reduced. Another 46% of the respondents faced a lack of market to sell their products, as food and livestock markets were closed, which led to post-harvest losses as products were being stored for a longer time as producers wait for the market.

²⁹ ZIMSTAT. 2020. Rapid PICES Phone Survey of July 2020

Wage-earners in urban areas were also disproportionately affected by the pandemic, as their pay was cut, or no payment was received at all, leading to reduced or no remittance to rural areas. In West Africa and North Africa, only 69% and 68% of the respondents respectively, reported a reduction in incomes, because of job losses, with a high proportion of respondents in Southern Africa represented by 56%. Focused group discussions in Zimbabwe indicated that immigrants who working across the border, especially those in South Africa, came back home due to loss of employment.

3.11.23 Impact of COVID19 pandemic on household gross income

Both organic and conventional producers across all the five regions reported an average 40% reduction in income due to the government restrictions and implementation of public health measures during the period of the pandemic (Figure 26). Southern Africa region, which included Zambia and Zimbabwe, reported the highest, 77%, reduction in household incomes, followed by Central Africa by 62%. Eastern Africa, West Africa and North Africa reported a 38%, 56% and 39% reduction in income, respectively. Incomes fell due to lack of access to markets, heightened post-harvest losses and poor harvest due to lack of access to inputs. Inability to access inputs by 60% of the respondents, mainly fertilizer and agrochemicals led to poor production, coupled with high production costs.

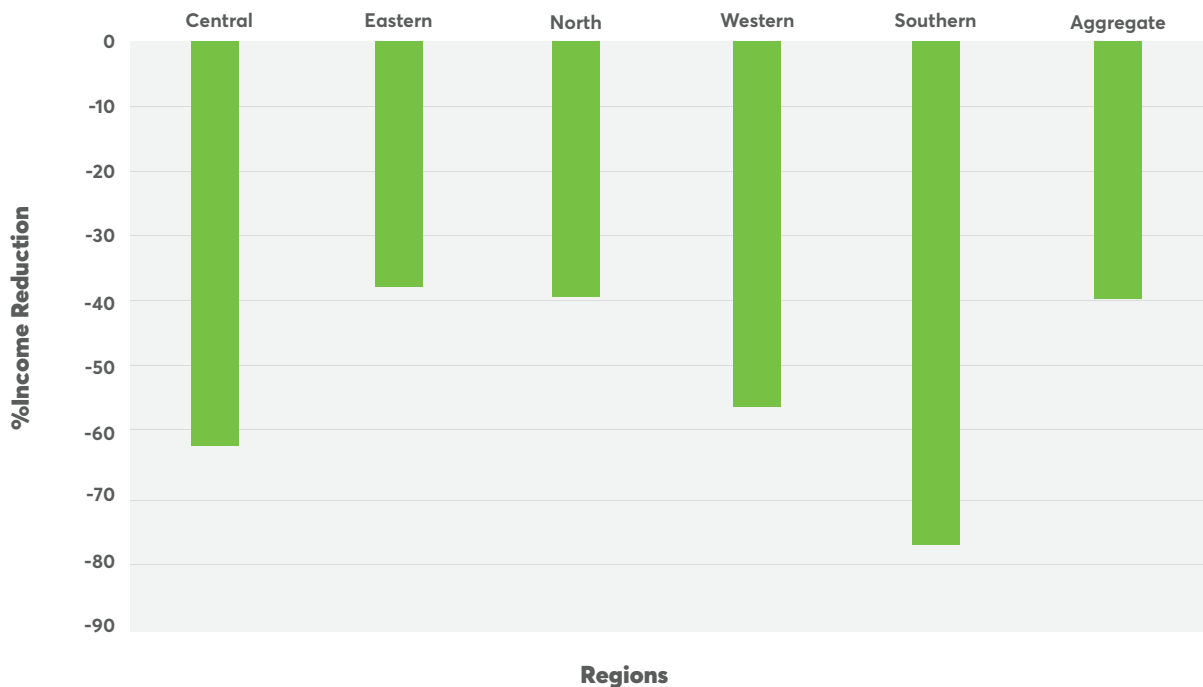


Figure 26: Percent reduction in incomes across the targeted regions in Africa

3.11.24 Reduction in gross income among the enterprises

The reduction in income among household enterprises was determined to assess the impact of COVID19. Income from sale of cattle, including small ruminants, vegetables (local and export), dairy products, income from wages and salary and sale of cereals was determined. Cattle enterprise was the worst hit by the pandemic with 47% reduction in income, mainly in West Africa, by 65%, Northern Africa by 37% and Eastern Africa by 29%, contributed by the closure of livestock markets and mortality rates, as farmers lacked access to veterinary services and feeds (Figure 27). In Cameroon, discussions with farmers revealed that during the lockdown, poultry producers were not able to access vaccines for their chicken due to poor access to extension staff and inputs stores, leading to high mortality rates (FGD, Cameroon). Income from vegetables reduced by 41%, while income from dairy products was reduced by 39%. While wages and salary reduced by 37%, income from cereals reduced by 35%. Reduction in income from vegetables was mainly due to post-harvest losses, closure of wet markets and poor transport systems. In Zimbabwe, discussions with organic farmers revealed that transportation of vegetable products was a challenge due to lockdown and cessation in movements.

The farmers in the area are mainly growing vegetables. Due to the travel ban, they couldn't dispose of their harvest as quickly as they used to once harvested. Traders, who often visited their community to collect produce couldn't come to their village. As a result, the price of products fell below 50% and in some cases farmers were obliged to use the leftover as livestock feed.

**Mekonnen Kebede, Medo Gudina Multi-purpose
Farmers Producer Cooperative, Ethiopia**

The study noted that among the crops, cereals such as rice in Mali and Senegal, maize in Zambia and DRC Congo and teff in Ethiopia, recorded the lowest reduced incomes of 35% (Figure 27), compared to other enterprises. These products experience low -post-harvest loss due to low moisture content and given that they are consumed by the majority of the households in Africa, they are not kept for long. Income from wages and salary reduced by 37% due to the majority of industries trying to stay afloat due to reduced demand for their products by reducing salaries and workforce.

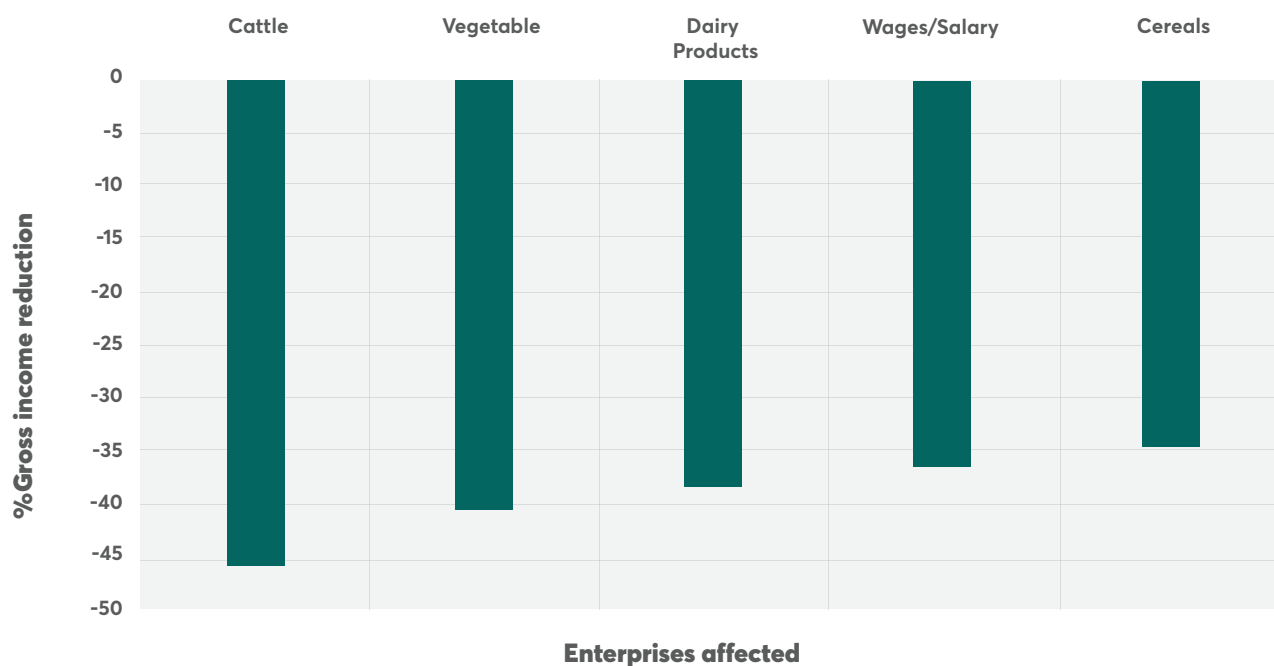


Figure 27: Percent reduction in gross income among main household enterprises

3.12 Impact of COVID19 on Trade

The evaluation of the impact of COVID-19 on traders reached a total of 129 traders and other market facilitators such as transporters and processors. A majority (71%) of the traders were male compared to 28% female (Figure 28). The majority of the female traders were located in Central Africa (74%), while the majority of male traders were in North Africa (97%) and West Africa had 95% (Fig 23). Overall, 78% of the traders were aged 31-65 years, with youth, ranging from 19-30 years being only 18% (Figure 28). Majority of the youths were in Southern Africa, with a majority, 44% in Zambia compared to 17% in Zimbabwe. With a majority of traders being above 30 years, the study reached a cohort that is exposed to many years of trading and was able to have a long-term comparative advantage compared to those below 30 years. The highest education level reached by the traders was secondary education by 49% of them, with a majority, 70% in Central Africa. Zimbabwe had the highest number of traders who had secondary education, as represented by 83% compared to other regions. This mirrors the findings among the respondents' producers based on education level. Those who did not attend any school were 4%, with a majority, 22% in Senegal. A similar trend was also observed among the producers, with Senegal being among the countries reporting a higher number of those who did not go to school. University graduates were 32%, with the majority, 45% in North Africa, of which the majority, 54% were in Morocco, compared to 38% in Egypt.

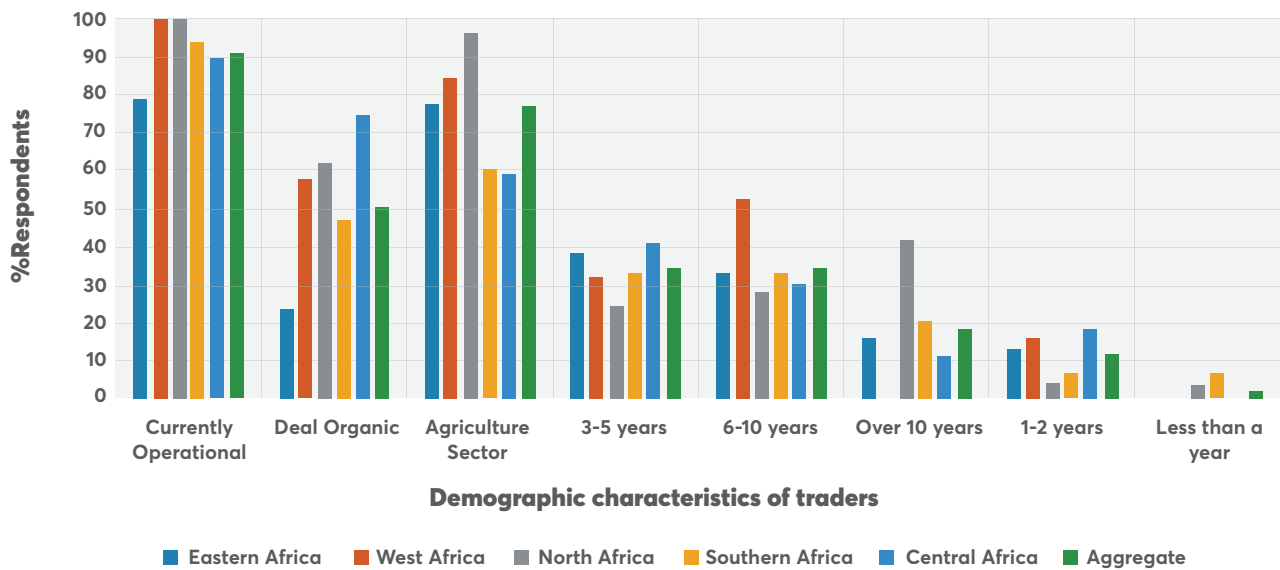


Figure 28: Business operation status and years in trade (N=129)

3.12.1 Enterprises and experience of the traders

The assessment noted that traders are engaged in diverse enterprises in the targeted counties and regions. These included crop, livestock, and non-farm businesses. A high of 77% engaged in crop marketing, while 21% were in livestock and livestock product marketing. This translates to 98% of the responding traders interviewed being in the right sector and providing the necessary information on the impact of COVID19 on agricultural value chains. Among the traders, 19% were in wholesale trading, 16% in the supermarket, business 15% were transporters, 9% in the export business and 8% in the processing business. About 50% of the traders were engaged in business that included organically produced agricultural products. A majority of 91% mentioned that their business was in operation before COVID19 and was still operating during the pandemic. The group, therefore, were well placed to provide a before and during the pandemic

Majority of the traders, 68%, have been in business for 3-10 years, while those who have operated their business for 10 years and more were 19%. Those who have been in business for 1-2 years were 12%, while 2% had operated for less than a year. A majority, of traders who have operated for 3-10 years were mainly in West Africa represented by 84% compared to 90% in Mali and 77% in Senegal. Eastern Africa had 72%, while Central Africa had 70%. Morocco had the highest number of traders who have been in the trade for more than 10 years, as represented by 62%. These findings indicate that most traders had operated their businesses for more than 3 years, and therefore were able to provide the right information based on their experiences and differentiate the changes before and during the pandemic.

3.12.2 Trader's access to credit during the pandemic

The assessment noted that only thirty-one (31%) of the traders accessed loans/credit between January 2020 and August 2021. Among them, only 7% of the traders accessed credit in Southern Africa, with 20% of them accessing loans from formal banks and Microfinance institutions. Generally, 20% of the traders were not able to access loans due to inability re-pay the loan (if they would have taken it), while 16% lacked collateral for the loans (Figure 29). A tenth, 10% mentioned that banks were not willing to loan due to the risk of defaulting, while 6% feared contracting COVID19 when they visited banks' halls. Few, 4% of the traders were affected by lockdown in their locations, reducing their mobility to the nearest banks for credit access. Access to credit trend is similar to that of the producers, especially in Southern Africa where the loan uptake was nil at the household level. This indicates the economic situation in Southern Africa as a result of the significant impact of the pandemic among other factors compared to other regions.

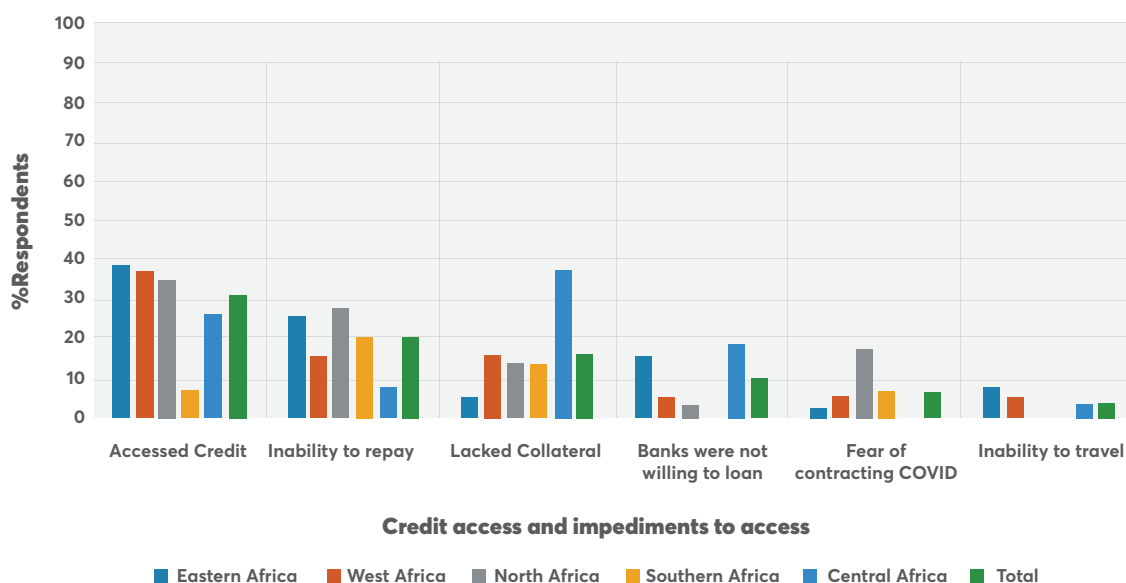


Figure 29: Impact of government restrictions and Public Health Measures on Credit

3.12.3 Effect of COVID19 on businesses and coping strategies

Measures put in place to control the spread of the disease have affected many supply chain-related activities at production, processing, logistics, and retailing. 90% of the traders reported that their businesses were disrupted by government restrictions and public health measures (Figure 29). Traders therefore responded to these changes through many strategies to operate and remain competitive. A majority, 79% of the traders in countries such as Kenya and Uganda started operating their business for a lesser time duration, compared to before the pandemic, due to curfew hours, which would start early at 7 pm. About 18% closed completely (Figure 30), as they were not able to pay for rent and other services with the majority, 36% in Eastern Africa and 54% in Ethiopia compared to 25% in Southern Africa. Only 8% started operating online, with 17% adopting this in Eastern Africa, 17% mainly in Kenya, as reported by 31% of traders. Online trading

has the potential to reduce the movement, especially by consumers as items are ordered online and delivered by a service provider.

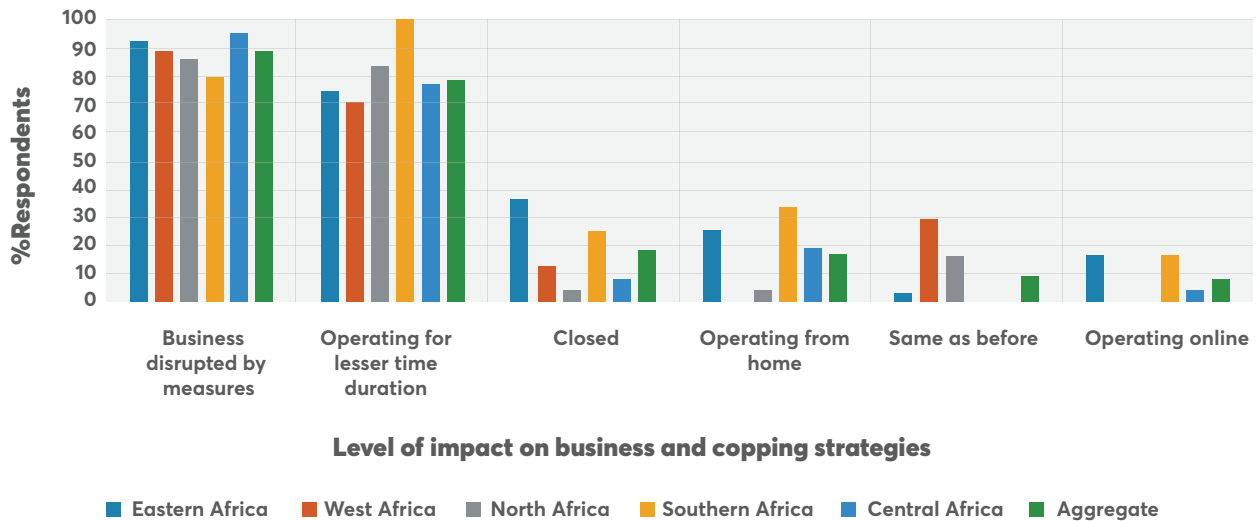


Figure 30: Impact of COVID19 on businesses operations and response to the impact

3.12.4 Impact of COVID19 on business operations

My business has been very affected, and I have been hurt many times to pay salaries to my employees without work as a kind of social responsibility. But in the end, I had to reduce the number of workers and completely close for some-time.

Ebrahim Alatrash, Open-air market Vegetable trader, Egypt

The study noted that Sixty-four (64%) per cent of the business reported a reduction in orders and the number of customers coming for the products leading to a reduction in sales and therefore incomes (Figure 31). A majority, 80% of traders who were impacted by a reduction in orders from customers were from Eastern Africa, with 100% traders in Uganda compared to 92% in Kenya and 56% in Ethiopia.

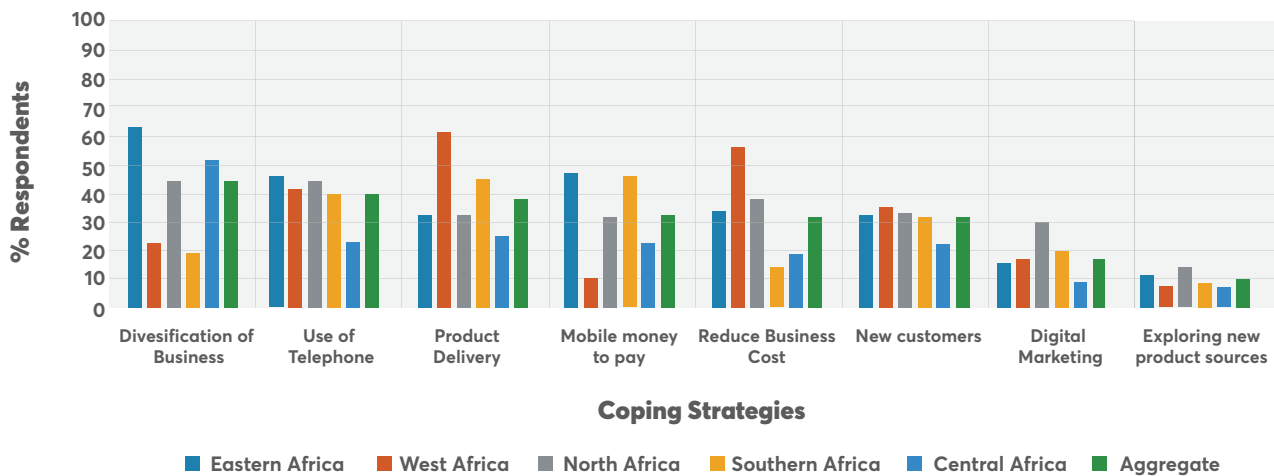


Figure 31: Impact of COVID19 on businesses operations

About 36% experience disruption in transport and export logistics for their products, which affected 51% of traders in Eastern Africa. Companies such as Sulma Foods on Vegetables in Uganda, and Jungle Nuts on Macadamia in Kenya who relied on the export market were affected due to a lack of flights and a reduction in orders from abroad. About 35% of the traders faced a shortage of raw materials, with almost half, 47% in West Africa, 44% in Senegal and 50% in Mali. Access to raw materials also affected 67% of traders in Zimbabwe, 50% in Kenya and 11% in Zambia. Traders in the processing industry mainly rely on raw materials either from abroad or from the neighbouring countries. Border travel restrictions, lockdown in neighbouring countries and lack of flights and sea transport led to limited access to raw materials that were used in feed processing (maize, soya especially in the East African community countries) and other inputs such as seed, pesticides, and fertilizer

The existence of obstacles related to land transport between Egypt and the Arab countries in particular, including not allowing Egyptian drivers to pass through the Jordanian borders, for example, for fear of the Coronavirus, which calls for unloading and reloading the cargo. This means higher costs, delayed delivery and increased losses.

FGD, Egypt

About 35% of the traders faced a challenge in the ability to deliver existing orders to customers as a result of the disruption of the distribution channels (Figure 31). The most affected traders due to the inability to satisfy their customer demands were in Western Africa (47%), North (41%) and southern Africa (40%). An increase in the cost of transport/flight affected 34% of the traders,

mainly in Eastern Africa (51%) who were mainly dealing in Avocado and Macadamia products, as cargo planes stopped transportation of produce due to lockdown in destination countries. Few cargo flights increased flight costs as the demand for their services and the risk involved increased. The reduction in export volumes has been reported by the United Nations Conference on Trade and Development (2020), which estimated that global merchandise export values and volumes fell significantly in the first half of 2020 due to the COVID19 pandemic³⁰.

There was also a limitation in moving products to consumers outside the country, which affected 28% of the export traders, with the majority, 74% in Western Africa. Transport along commodity routes was disrupted by restrictions on cross-border movement, as truck drivers were increasingly becoming a high-risk group for transmission of the disease (Global Voices, 2020), which led to further measures on cargo transport. According to a discussion with the Kenya Revenue Authority

The availability of production inputs was heavily affected as most factories in Lower Egypt were severely affected and many factories reduced production or stopped operating.

Ahmad Mahmoud, The Future for Express Transportation and International Freight and Land Reclamation

staff at the Busia border, truck drivers travelling to Uganda were to undergo mandatory COVID19 testing before crossing the border. They also took time for clearance at the border, which was approximated to be 2-5 hours at the border before crossing. These led to delays in cargo movement, increasing the transportation costs for the traders. Other challenges faced by traders included delays in payment from the customers, which affected 26% of the traders, mainly due to reduced incomes.

3.12.5 Coping strategies among traders against COVID19 Impact

Traders adopted different coping strategies for their business to stay afloat, with about 40% of the traders diversifying their business into other products, diversifying into value addition or exploring new markets for their products (Figure 32). Companies like SULMA Foods in Uganda started value addition, especially for pineapples and explored local markets to supplement the export market.

³⁰ <https://unctad.org/webflyer/trade-and-development-report-2020>

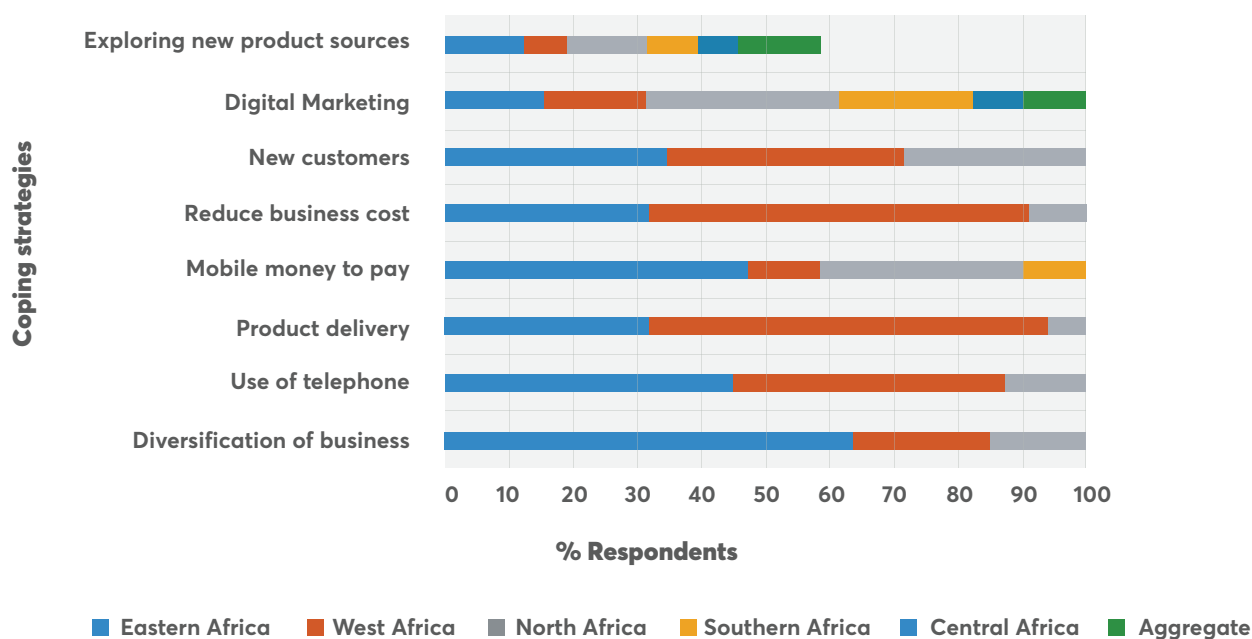


Figure 32: Adaptations among traders on how businesses were done

About a third, 33% of the traders put in strategies to reduce business costs, through laying off staff or staggering their working schedule to accommodate all employees. About a fifth, 18% adopted the use of digital marketing and social media for marketing their products, with the majority, 20% in Southern Africa, 22% in Zambia and 17% in Zimbabwe. About 10% of the traders started exploring new locations to source products, with the majority in Eastern Africa (13%) and North Africa (14%). Countries that had locked their borders affected traders who sourced products from those countries and therefore explored other countries. For example, in Eastern Africa, when the Kenya-Uganda border was closed, the majority of feed manufacturers went to Tanzania to source the raw materials.

3.12.6 Sources of trade information among the traders during the pandemic

The study noted that about 100% (98%) of the Traders were able to access information on how to manage the COVID19 crisis, through multiple sources (Figure 33). The majority 81% were accessing COVID19 information from the media, while 61% got the information from the government, with the majority, 79% in North Africa and 73% in West Africa. Government delivery of COVID-19 information reached fewer traders in Central Africa, reaching only 30% of the traders. The media was also instrumental through frequent advertisements on protection measures and communication government regulations, especially transmitting live weekly briefing broadcasts on the pandemic. Slightly over half, 53% of the traders accessed information via social media, with the majority in North Africa (76%), while 41% sources from the Internet, mainly in West Africa (63%). Local government, Mobile phone, relatives and neighbours and business associations reached 40%, 40%, 33% and 22% respectively. Business associations reached a significant number of traders in

Uganda (70%). Access to information is part of early warning systems for resilience building among the traders. The authenticity and quality of information need to be ascertained for the traders to make a correct decision. With 81% and 61% receiving information from the media and government from which such information is usually validated, ensured traders had the correct information to make a correct decision.

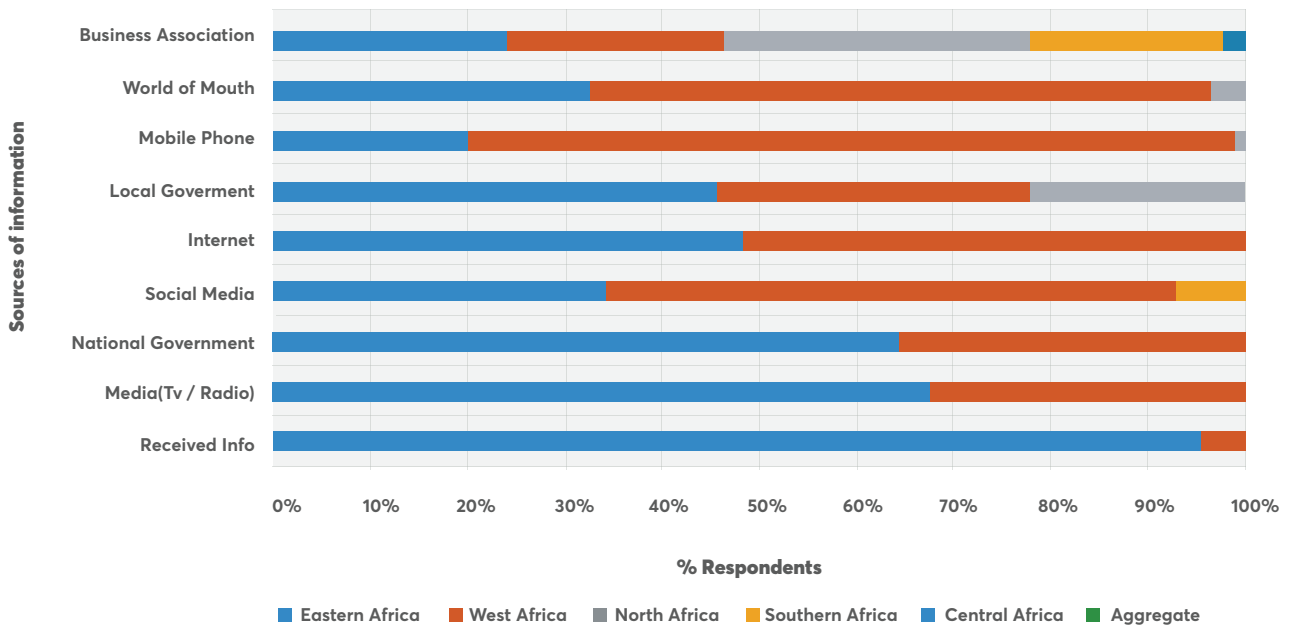


Figure 33: Adaptation among traders on information on how to manage the COVID19 crisis

3.12.7 Supports suggested by producers during pandemics

Asked what they would expect from the government and other development partners to support them in building resilience on food security during future lockdowns due to the impact of a pandemic, 53% of the respondents recommended provision of technical assistance (training and technical advice) to start/restore their livelihoods with the majority, 67% in Southern Africa, 62% in West Africa and 53% in Central and Eastern Africa (Figure 34).

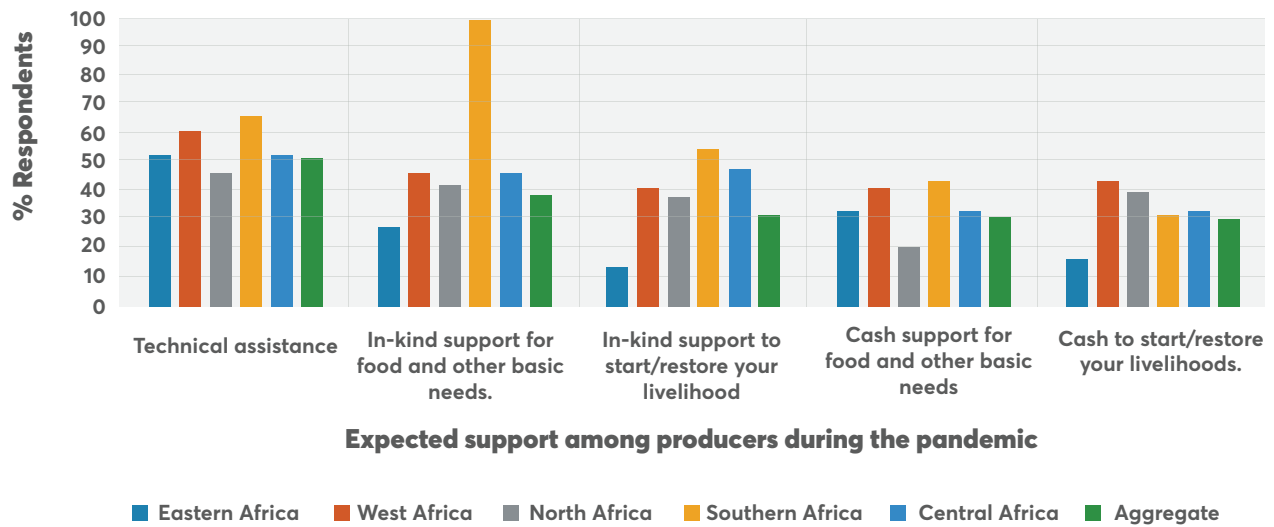


Figure 34: Recommendations on how producers would want governments to help them during lockdown

About 40% recommended that they be supplied with food support and other basic needs, 33% recommended that the government and development partners support in starting or restoration of their livelihoods through the provision of livelihood assets and 32% recommended cash to support access to food and other basic needs. Another 30% felt that the government needs to provide cash to help them restore their lives.

3.12.8 Supports suggested by traders during pandemics

Asked what type of support they may need in future in pandemic situations, 73% of the traders recommended they be given grant and financial support, with majorly, 93% of the traders in central Africa (Figure 35). About 42% of the traders mentioned distribution of personal protective equipment (PPE) and creating awareness of the pandemic. Business training support was requested by 36%, while product marketing was requested by 25%. Traders in Uganda, Congo DRC and Morocco requested grants and financial support, while the supply of protective equipment was requested by 90% of the traders in Mali.

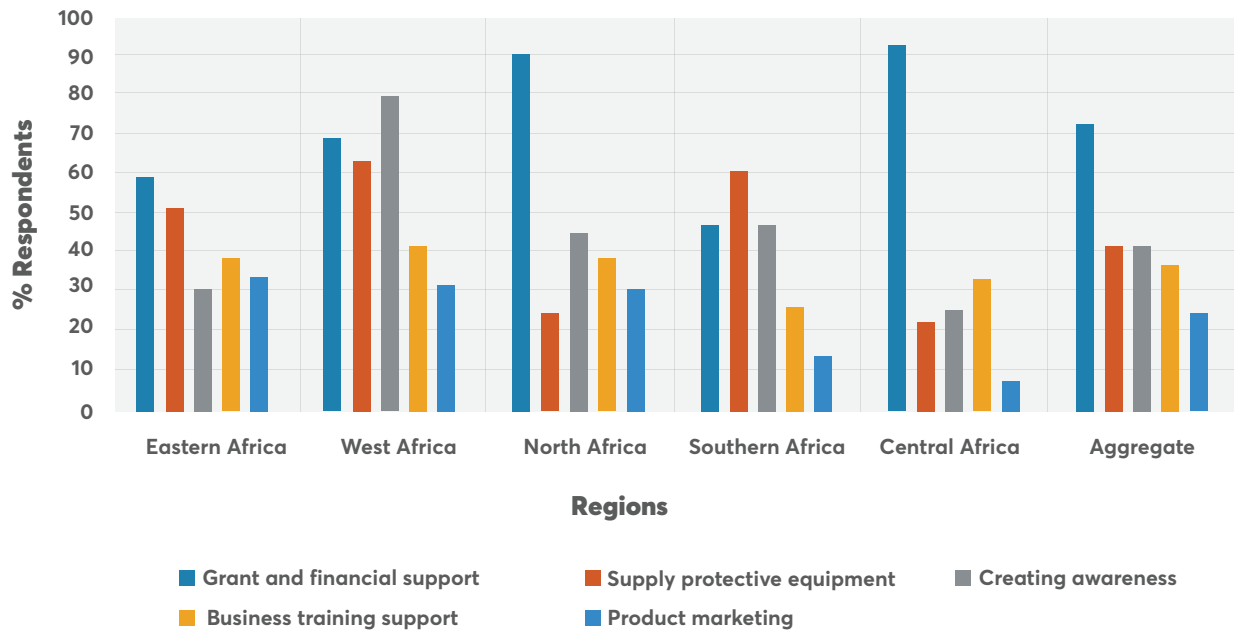


Figure 35: Recommendation on how traders would want governments to help them during lockdown

3.12.9 Main lessons learnt on the pandemic among the traders

Traders were probed on what three key lessons they had learned from COVID-19 that would prepare their businesses for future shocks. Over two thirds, 66% agreed that it's important for a business to save cash for future eventuality, with a majority, 72% of the traders in Eastern Africa, with Uganda (100% traders), Kenya (69% traders) and Ethiopia (56% traders) (Figure 36). Diversification of their business was the second most mentioned lesson learnt, by 64% of the traders, mainly 77% in Eastern Africa and 67% in Southern Africa. The diversifications mentioned included: value addition, exploration of new markets within and outside the country, exploration of different product sourcing points and adoption of technologies that would facilitate trade. Maintaining hygiene and the importance of partnership were the third most important lessons, as mentioned by 40%, as consumers would visit locations that are clean and are comfortable with the hygiene. Building partnerships through contractual agreements with suppliers was a key lesson in Egypt, which would ensure the supply of products due to building relationships and trust. Other lessons learned by traders included maintaining an efficient and reliable supply chain as mentioned by 35% of the traders, integration of ICT in marketing as mentioned by 33% need for adequate stocking mentioned by 28% and preparedness through sourcing for information as mentioned by 16% of the traders.

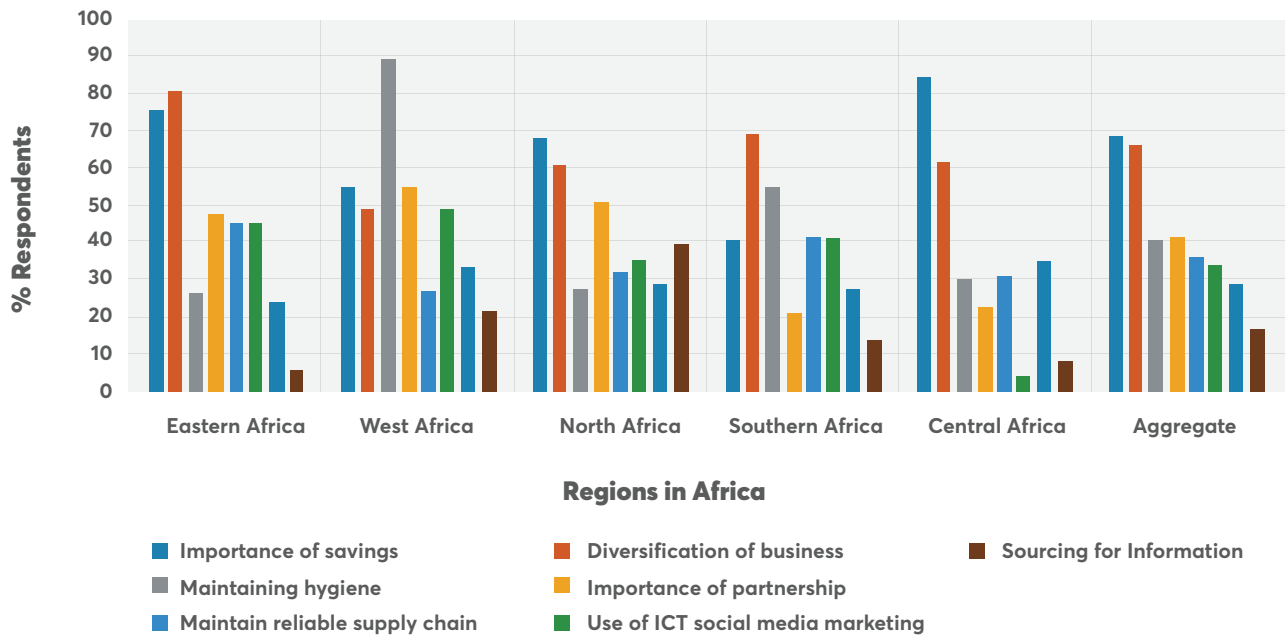


Figure 36: Main lessons learnt on the pandemic among the traders

3.13 Impact of COVID19 on the demand and supply of food products

3.13.1 Access to food based on the production systems

The assessment reviewed the response of both conventional and organic producers on how the pandemic affected their access to food and food diversity. They therefore treated as the consumers in this study. The study noted that over half, 59% of the respondents reported a decrease in food access during the months of COVID19 (January and August 2021) compared to the same period in 2019.

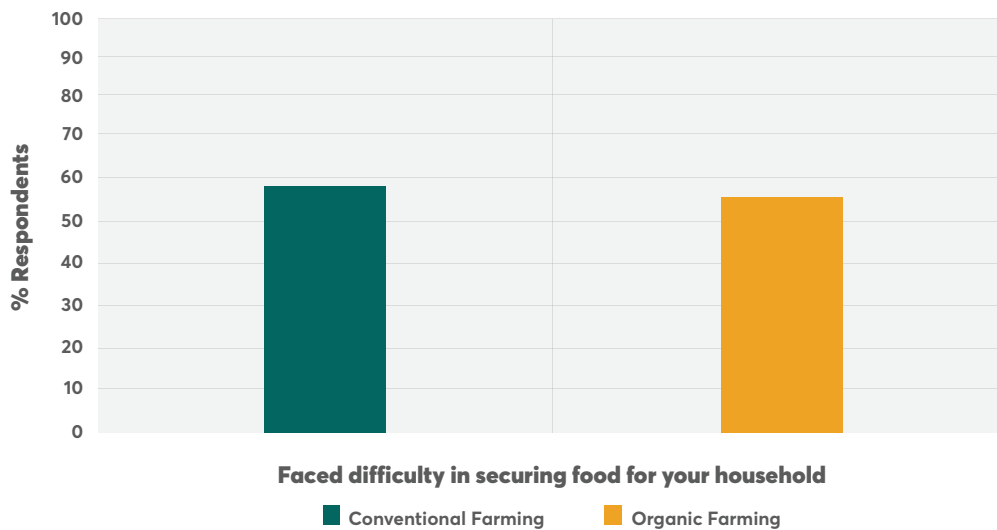


Figure 37: Proportion of organic and conventional farmers who faced difficulty in securing household food

Among them, about 59% of them were conventional farmers who expressed difficulty accessing foods for their producers compared to 57% of the organic farming producers and 63% who were practicing both production systems (Figure 37). This led to reduction in incomes as those practicing organic reported 32% reduction in income, compared to 33% among the conventional producers. Organic producers therefore had extra income to purchase foods compared to the conventional producers. Organic producers also adopted agroecological practices, which helps build their resilience due to better harvest and reduced post-harvest losses.

3.13.2 Perception of food availability and supply during the pandemics

A fifth, 21% of the respondents agree that access to food increased while 48% of the respondents said it remained the same compared to the pre-pandemic year. Across the regions, a high number of respondents, (who were treated as consumers), 67% who reported a decrease in access to food were in Southern Africa, compared to 9% in West Africa, 24% in East Africa and 40% in Central Africa. Based on production systems, 21% of organic farmers agreed that food access increased compared to 20% among conventional farmers. This difference was however statistically insignificant ($p>0.05$). About half, 49% of the organic agreed that access to food remained as it was pre-pandemic, compared to 46% among the conventional farmers. This difference was however statistically insignificant ($p>0.05$). Households practicing organic production systems have adopted agroecological technologies that enhance the adaptation of the crops to climate change, making them more resilient to changes in food access.

The impact of COVID19 on access to food due to market closure was felt in the reduction in the number of meals consumed per day, from three meals per day before the Pandemic to 1 meal or two. This was because of limited access to cash to buy other food items not locally grown by the farmers and the unavailability of diverse food items. Producers would cope by eating fewer meals in a day.

FGD, Mutoko, Zimbabwe.

3.13.3 Food access based on Gender

Household food preparation in African societies is the role of the Woman, and therefore any shocks that affect access to food directly affect women. The study showed that about 69% of women faced challenges accessing food compared to 57% of men (Figure 38).

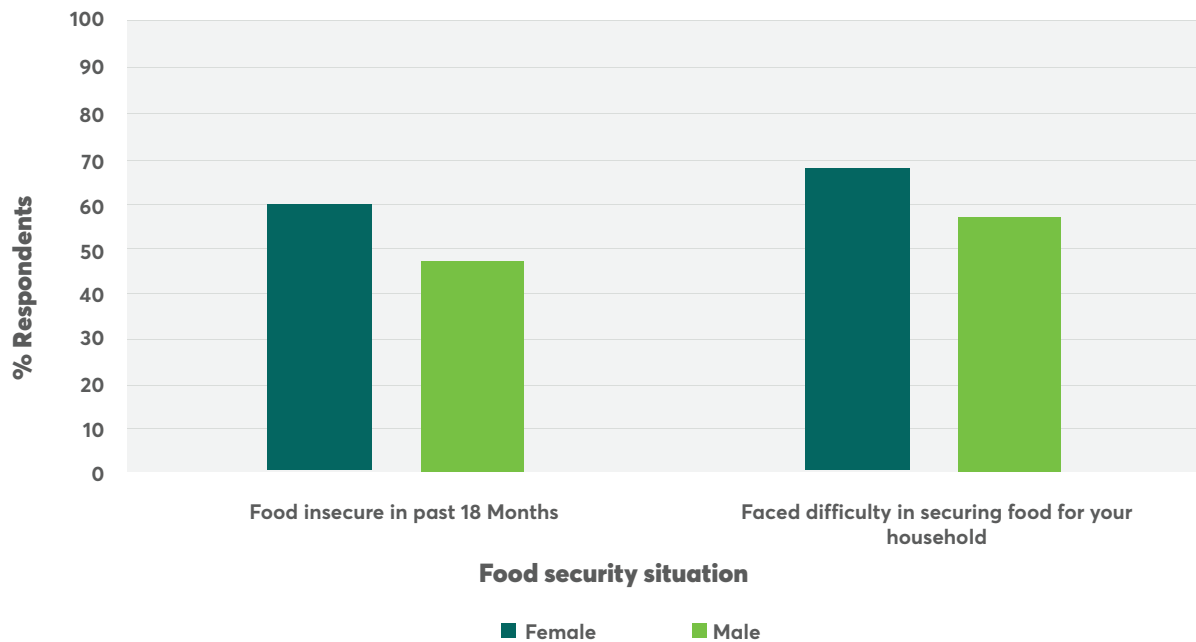


Figure 38: Impact of COVID19 on food insecurity among women and men headed producers

This difference was however statistically insignificant ($p > 0.05$). The closure of the markets, low productivity at the farm level due to poor access to inputs, high post-harvest losses, and enforcement of social distancing led to poor access to foods among women. As a result, 60% of women compared to 47% of men reported food insecurity during the 18 months of the COVID-19 pandemic.

3.13.4 Sources and means of accessing food items

During the months of COVID19, between January 2020 and August 2021, local markets were the main sources of the food items to the majority, 67% of the respondents, especially in North Africa 94% of the respondents, in West Africa 67% and in Southern Africa 67% (Figure 39). Over half, 53% relied on their production of food items, mainly in Southern Africa as mentioned by 89% of the respondents, West Africa by 78%, East Africa by 64% and Central Africa by 61% of respondents. Two fifths, 39% purchased from the roadside, while 15% visited the supermarket. Only 4% relied on home deliveries, while 2% did online purchases.

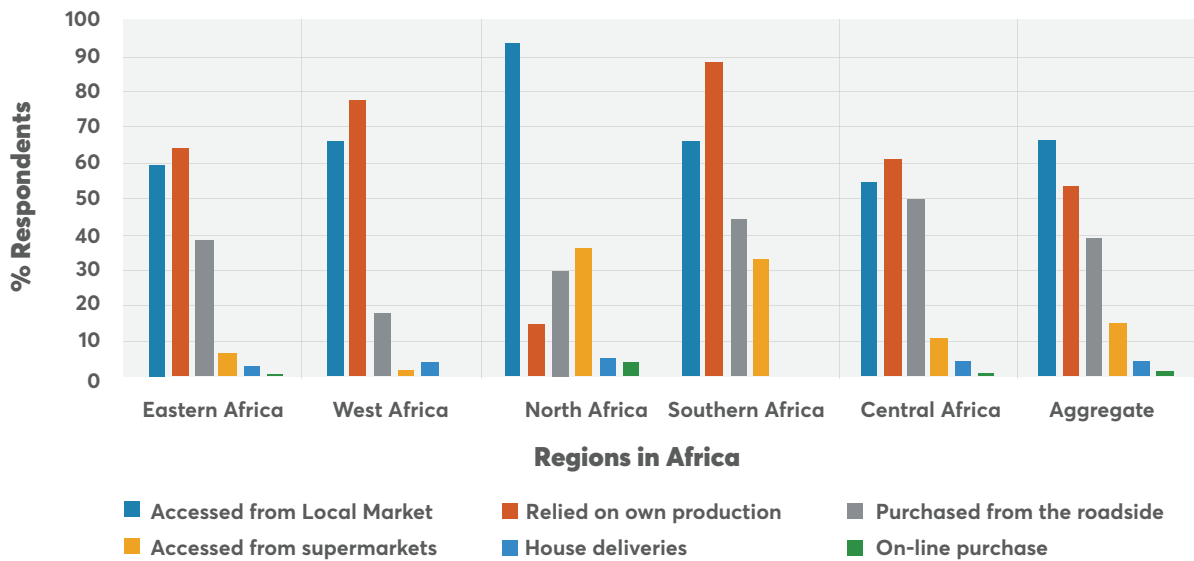


Figure 39: Impact of COVID19 on means of accessing food items

3.13.5 Factors contributing to poor access to food

The government movement restrictions led to increased food prices due to disruption of transport systems, affecting 41% of the respondents who were not able to access foods and food types that they wanted, especially in Southern Africa in which 56% of the respondents were not able to access foods due to high prices. Inadequate income to access food affected 36% of the respondents, with the majority of respondents in Southern Africa, 67% and Central Africa, 62% compared to North Africa with only 14% of respondents. The high production costs of inputs, loss of jobs and reduced remittance from relatives in the urban areas affected the ability of 22% of respondents to access foods, with the majority, 47% in East Africa and 42% in West Africa. Only 23% were affected in North Africa due to inadequate household incomes. Generally, with the gross income reduced by 40%, the majority of the households were affected in accessing foods both in supply and diversity. The closure of borders due to lockdown and restrictions in movements affected cross-border movements of foods between countries. Kenya, especially in the Western region, depends on eggs, soya beans and maize from Uganda, while Uganda depends on Kenya as the gateway for the imported products. Closure of the borders affected the flow of commodities further increasing food insecurity. In Zimbabwe, food prices soared since the second half of 2019 due to a combination of weak national currency and below-average domestic food supply (KII, Zimbabwe). The annual food inflation rate in Zimbabwe was 865 per cent in August 2020. The price of a maize meal bag, a key staple food, increased by 1,300 per cent between June 2019 and June 2020³¹.

31 FAO: <https://www.fao.org/3/cb4333en/cb4333en.pdf>

“The buyers and the sellers couldn’t meet; the food and the consumer couldn’t meet. Someone has the money but is unable to spend it, another one has food but is unable to sell it”.

Mekonnen Kebede, Medo Gudina
Multi-purpose Farmers Producer Cooperative, Ethiopia

3.13.6 Access to fresh foods

The study observed that 51% of the respondents had partial access to fresh food items such as eggs, meat, and vegetables from the markets and preferred stores, at the peak of COVID19 (Table 15). About 39% mentioned that these fresh products were always available, while 8% indicated unavailability during the pandemic. Regionally, fresh foods were partially available to 65% of the respondents in Central Africa, 64% in Eastern Africa and 56% in Southern Africa, while 76% of the respondents in Northern Africa had access to fresh foods, compared to 47% in West Africa. Vegetables were partially compared to cereals available due to high post-harvest challenges, reducing their storability due to high moisture content. Cereals on the other hand, with a moisture content of 10-13% are easily stored for a longer time without damage. Investment into cold chains at the market level, managed by groups may be an option in future, especially in West Africa and North Africa for the vegetable products.

3.13.7 Access to cereals

The study noted that 51% of respondents confirmed that cereals were always available. Among the cereals, 43% of the respondents reported that cereals such as maize, teff and rice, were partially available during the pandemic periods (Table 15).

Table 15: Impact of government restrictions and public health measures on food availability in the Market (%)

Variable	Eastern Africa (n=241)	West Africa (n=45)	North Africa (n=143)	Southern Africa (n=40)	Central Africa (n=151)	Total (n=620)
Fresh food items (eggs, meat, and vegetables) were available during the peak of the COVID19						
Partially/Sometimes	63.9	13.3	21.0	55.6	65.4	50.6
Always available	24.1	46.7	76.2	22.2	28.6	39.0
Not available	9.1	37.8	2.8	22.2	3.3	8.2
Don't know	2.9	2.2	0.0	0.0	2.7	2.1
Cereals (e.g., Maize, Teff, rice) currently available in markets/stores?						
Always available	38.2	62.2	86.7	33.3	37.4	50.8

Variable	Eastern Africa (n=241)	West Africa (n=45)	North Africa (n=143)	Southern Africa (n=40)	Central Africa (n=151)	Total (n=620)
Partially/sometimes	56.0	8.9	13.3	55.6	57.1	43.1
Not available	4.6	28.9	0.0	11.1	2.2	4.7
Don't know	1.2	0.0	0.0	0.0	3.3	1.5

Cereals were always available to 87% of the respondents in North Africa, 62% of respondents in West Africa and 38% of respondents in Eastern Africa. The product was partially available to 57% of the respondents in Central Africa, 57% in Southern Africa and 56% of respondents in Eastern Africa. Almost all, 99% of the respondents in Kenya, 98% in Morocco and 80% in Senegal mentioned that cereals were always available during the peak of COVID19. Different countries responded differently to the reduced supply of certain food products. In Egypt for example, the government imported huge quantities of wheat, corn, and leguminous grains and therefore, during the pandemic period, producers did not witness a shortage of these materials or abnormal increases in prices (FGD, Egypt).

3.13.8 Impact of COVID19 pandemic on consumer shopping behaviours

The study noted that consumers have changed their shopping behaviour in response to government restrictions and public health measures, with 38% of the respondents started to purchase cheaper or less preferred foods than usual, especially among 52% of respondents in Eastern Africa. This may mean purchasing non-balanced food with low nutrient content, as majority of the respondents looked for quantity rather than quality. About 38% started purchasing food products in smaller quantities than usual, especially in Southern Africa (67%) due to reduced disposable income, while 19% purchased larger quantities than usual, especially in West Africa (33%) and Southern Africa (33%), to keep as stock just in case lockdown is announced or the products run out of stock in the shops due to increased demand. With a reduction of 40% in income at the household level among the producers, it became difficult to buy the equivalent amount of food items that they used to purchase before the pandemic. Only 7% changed the stores they used to purchase the products, as they looked for outlets with better prices and those that are in proximity to where they are living to avoid being caught during curfew. Among the products which were bought in bulk and stored included dairy (pasteurized long life and powdered milk), cereals and legumes such as rice, beans and maize, due to their storability and longer shelf life.

3.13.9 Impact of COVID19 pandemic on prices of food items

The study noted that 60 % of the respondents reported that the prices of purchasing food items increased during January 2020 to August 2021 period, compared to the same period in 2019, with a majority, 78% in Southern Africa and 74% in Eastern Africa. About a third, 29% confirmed that the cost of food remained the same, especially in West Africa confirmed by 44%. About a tenth, 11% agreed that food prices decreased, especially in North Africa, as reported by 25% of

respondents. Besides the loss of remittance and income, most participants in this study cited that the increase in food prices was one of the main reasons leading to food insecurity amongst a majority of the household members, as they couldn't purchase what they needed or were forced to purchase them in low quantities.

3.13.10 Food items most difficult to access at the peak of the COVID19

The study observed that among the food items, meat was the most difficult to access as reported by 57% of the respondents. A majority, 78%, of those who had challenges in accessing meat were in Southern Africa, while 76% of the respondents were in North Africa and 63% in the Eastern region. The closure of the weekly livestock markets affected access to beef animals for slaughter by the abattoir. Key informant interview with Manager at Nyongara Slaughter facility in Dagoreti Kenya alluded to broken transportation systems due to lockdown of the Nairobi Metropolitan and increased documentation for the animal crossing the borders to Nairobi.

'Beef animals are not like vegetables or cereals that one can sell at the roadside. They have designated locations where they are bought and sold, which during the peak of the pandemic were closed.'

Kennedy, Manager Nyongara Slaughter facility in Dagoreti Kenya

Dairy products such as milk were the second most impacted food type, with 33% of the respondents not being able to access them. More specifically, 56% in Southern Africa and 49% in West Africa were the most impacted. Access to milk collection centres were restricted, which led to low volumes of milk being collected by the processors for packaging and sale. Producers were shying away from the milk collection centres in fear of contracting the disease as many producers meet at these places as they supply their milk. Milk processing volumes therefore were reduced as a majority of the producers in the dairy production areas reported increased consumption, due to school closures, coupled with reduced productivity as producers faced challenges accessing inputs and animal health services. Cereals such as maize, teff and rice, were the third most difficult products to access affecting 28% of the respondents. The study also noted that 19% of the respondents faced difficulties accessing leguminous products such as beans, cowpeas, and soya beans. Access to Roots/tubers and vegetables was a challenge to 17% and 16% of respondents, respectively, mainly due to disruption of transportation systems and closure of markets.

'My household used to eat fish, rice and vegetables every day before COVID19. Now, we only eat them just two (2) times a week. For products of animal origin (meat), we only manage to eat just during religious holidays. The reduced incomes are not able to sustain the consumption of these products.'

FGD, Pout Diack, Senegal

Poor access to foods was mainly due to a lack or reduction in disposable income, as reported by 62% of the respondents to purchase these food items. The majority of those who were affected by lack of, or low disposable incomes were in Southern Africa as reported by 89% of the respondents while 73% of respondents were in Central Africa. This study observed a reduction in gross household income to a tune of 40%, which was reported by 87% of the respondents, leading to reduced disposable income for food item purchases.

Many children suffered from undernutrition and unhealthy food in Upper Egypt, and as a result of the closure of schools during the pandemic, school feeding programs that contribute to a large extent to achieving food security for children have stopped.

FGD Participant, Egypt

Unavailability of food to purchase within the local markets was mentioned by about a third, 31% of the respondents due to disruption of transport systems that would deliver the food products from other regions. About 38% of the respondents confirmed that restriction of movement (stay home) during COVID19, made it difficult to access foods (Figure 40). Few, 13% attributed to lack of access to foods due to market closures. Discussions with farmer representatives confirmed that it's only in the markets that they can access a diverse number of food items and in situations where they are closed, they are restricted in diversity and quantities.

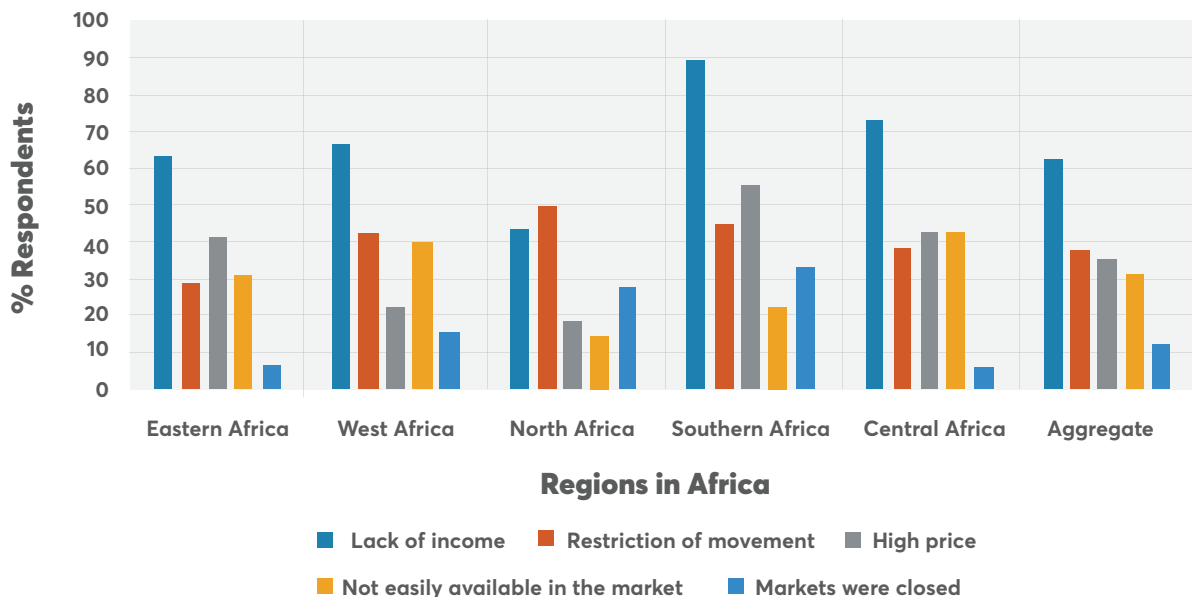


Figure 40: Reasons why producers were not able to access certain food products

3.13.11 Monthly access to food provision

The study revealed that 49% of the respondents were food insecure, based on monthly food access, and were not able to meet their monthly food needs between January 2020 and August 2021, due to government restrictions and public health measures (Figure 41), with a majority, 78% of the respondents located in Central Africa and Southern Africa.

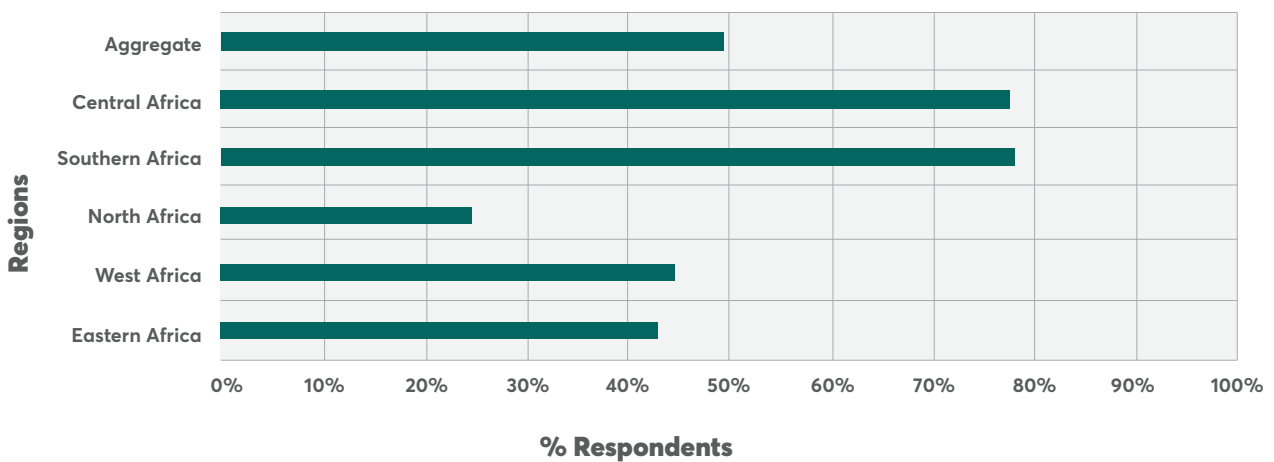


Figure 41: Producers reporting food insecurity between Jan 2020 and August 2021

There were two peaks of food insecurity during the 18 months under assessment. These were May to July 2020 and May to June 2021. These months coincided with the first and second waves of COVID-19 in Africa. The months of March-August 2020 were the most difficult months among the respondents in accessing foods, with May 2020 being the peak of food insecurity, in which 31% were food insecure (Figure 41), of which 30% were conventional while 28% were organic producers. This also coincided with the months that the majority of the respondents reported having been greatly impacted by the pandemic, precisely 90-180 days from the time the first case was reported, and government measures effected in most of the countries. There was regional parity on proportion of respondents that experience poor access to food across the year. In Eastern Africa, 29% of the respondents experienced food insecurity in April 2020, while 42% in August 2020. Similar observation was observed in 2021, with 27% of the respondents being food insecure in April 2021 and 30% in August 2021 (Figure 42). In West Africa, 30% were food insecure from May to June 2020, while in North Africa, only one peak was observed in 2020 between May and June with 34% and 31% being food insecure respectively. Southern Africa was the most affected region with respondents reporting food insecurity from May 2020 in which 57% were food insecure to February 2021, when 71% of the respondents were food insecure. A similar observation was made in Central Africa with the majority of the respondents facing food insecurity between March 2020 and May 2020, as reported by 31% of the respondents.

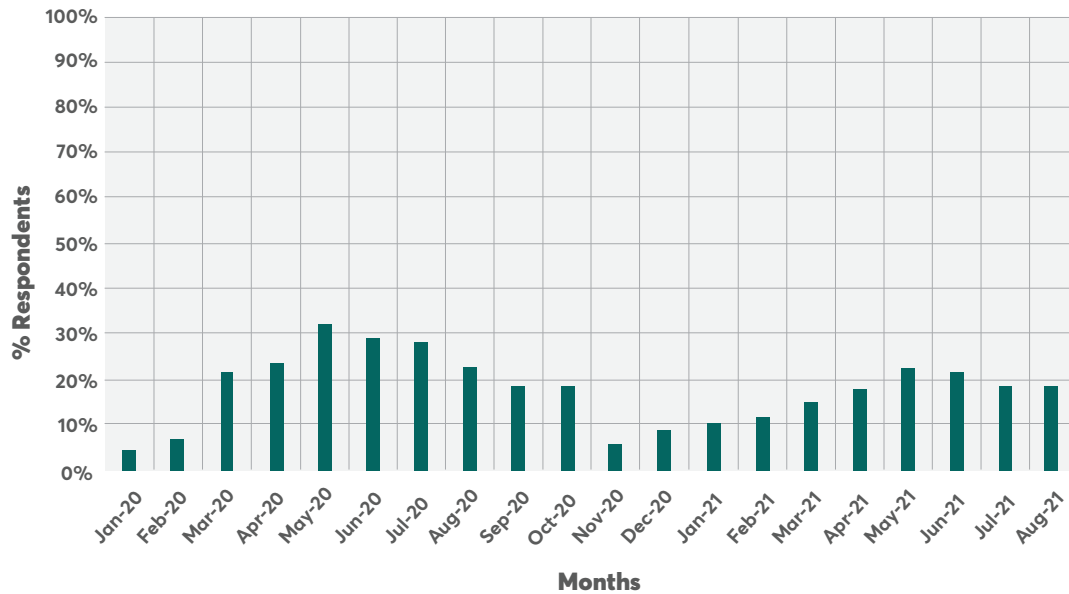


Figure 42 Impact of COVID19 on Monthly access to food provision

3.14 Preparedness of the stakeholders in the mitigation against impacts of the Covid-19 pandemic

3.14.1 External support in building resilience against COVID19

The respondents were asked whether from the beginning of the Covid-19 crisis until now they had received any kind of help from the government or any social institutions. Only 28% had received such support, with 44% in Southern Africa and West Africa and 39% in North Africa. 11% of the respondents received cash that assisted them to purchase food and basic needs, with about a third 29% in West Africa and 16% in North Africa. Less than a tenth (7%) of the respondents were reached through the delivery of food baskets and or basic supplies and psychological or psychosocial support, respectively.

3.14.2 Private sector and civil society response

NOGAMU, an umbrella organization brings together organic producers, processors, exporters, business support organizations and all other actors who have an interest in organic agricultural development in Uganda. As part of the adaptation to COVID19, NOGAMU built an online marketing platform – an organic online shop – which was used to attract local buyers. On the international market level, NOGAMU signed a contract with a German-based company which developed a Business-to-Business Platform for facilitating linkages between EU buyers and exporters/farmer cooperatives.

'We need to be supported to leverage technology and employ digital solutions in the implementation of their activities.'

Chariton Namuwoza, NOGAMU, Uganda

AGRENES in Uganda availed novel quality Agro-inputs, namely bio-pesticides, bio-fertilizers, and hybrid seeds, to the farmers at subsidized prices under contract farming schemes and advance payment arrangements. The farmers were also provided with the seed of improved crop varieties (with fast-growing, stress-tolerant, and high-yielding traits). They were also trained in climate-smart pre-and post-harvest farming practices, mainly soil and water conservation, agroforestry, crop-livestock integration, and integrated pest management practices.

To build resilience among our beneficiaries, AGRENES promotes the use of farmer-friendly agricultural insurance schemes to caution against climate change impacts, COVID-19 and other future pandemics.

Ssemwanga Mohammed, Operations Director AGRENES.

Sulma Foods Ltd in Uganda is a private agribusiness company that grows, processes, packs, and exports both fresh and dried fruits and vegetables to both, the regional and international markets. The company faced the loss of markets, at all levels thus, loss of business revenue, low sales/ reduction in the number of consignments (orders) and reduction in staff numbers, affecting product sourcing and extension work. As part of building resilience among the stakeholders, SULMA disseminated information to both staff and suppliers/farmers/ other stakeholders. SULMA held sensitization meetings and engaged all relevant stakeholders.

Eastern and Southern Africa Small Scale Farmers Forum (ESAFF), an advocacy organization initiated, led and owned by small scale farmers to mobilize all small scale farmers in Eastern and Southern Africa introduced an online market for the farmers at grass root called Kilimomart, (www.kilomart.com). This helped farmers to sell their products. ESAFF also sensitized the community about COVID 19, whenever restrictions were eased, but also through public community radios, integrating COVID19 messages in all the training which were conducted virtually, organizing webinars, and conferences about the impact of COVID 19 with various stakeholders.

The Zimbabwe Smallholder Organic Farmers Forum (ZIMSOFF) undertook projects focusing on social protection and giving food handouts to vulnerable households affected by the Covid-19 pandemic. The organization was forced to reduce staff and operating time from the office and employees had to work mainly from home. The main challenge was the limited availability of internet, especially when working from home as indicated by the District Coordinator and Chairlady for ZIMSOFF.

3.14.3 Government responses

There were over 187 measures by governments responding to the COVID-19 pandemic in 46 African countries in Central, East, Horn, Southern and West Africa³². These include legislative action (passage of laws and regulations, orders/decrees), executive orders/decrees, and other practices that have not been codified. Most of the measures heavily curb the freedom of movement and peaceful assembly, either outright banning all gatherings or limiting gatherings to smaller crowds as few as 2 people (as seen in Zimbabwe) up to more than 500 people (for example in Lesotho).

In Kenya, agriculture was designated as an essential service and exempted from restriction in the movement of its products from the farms to the market. The Ministry of Agriculture developed protocols and guidelines to facilitate the operations of agricultural input providers, producers, traders, processors, and consumers in the food supply chains. Extension staff were able to offer their services without restrictions. Exporters accessed special permits from the Horticulture crop directorate (HCD) to access products outside the lockdown zones for the export market. Protocol and guidelines set by the Ministry of Agriculture such as the designation of alternative market spaces, enforcement of sanitary measures in marketplaces and digital technologies for food procurement and home delivery were implemented.

In Uganda, butcheries and meat shops were authorized to continue their activities, with adherence to the hygiene and sanitary conditions imposed by the Ministry of health. In consultation with the Kenya government, the borders remained open for trade, both for the export of commodities and the import of agricultural inputs. The Bank of Uganda (BoU), in its Monetary Policy Statement of April 06, 2020, referred to credit relief measures to mitigate the adverse effects of the COVID-19 pandemic, ensuring financial sector stability, and facilitating the financial intermediation process during this pandemic period. The Government of Uganda also announced that it would provide food relief to vulnerable workers, particularly those whose daily activities would be affected by the lockdown, in a way of extending social protection to vulnerable sections of the population.

In Zimbabwe, just like in Kenya, agriculture was classified as an essential service in the promotion of food security in and after the lockdown. In the Ministry of Lands, Agriculture, Water and Rural Resettlement on 8th April 2020 unveiled new guidelines for the resilient food supply chain system during and after the lockdown. At the same time, the Presidential announcement indicated that all farmers and traders must continue to deliver produce to food markets.

In Zambia, the government also unveiled a ZWL 18 billion Economic Recovery and Stimulus Package³³ aimed at revitalizing the economy and providing relief to individuals, families, small businesses, and industries impacted by the economic slowdown caused by the Covid -19 pandemic. The government further set up an Epidemic Preparedness Fund under the Ministry of

³² <https://www.icnl.org/post/analysis/african-government-response-to-covid-19>

³³ <https://home.kpmg/xx/en/home/insights/2020/04/zimbabwe-government-and-institution-measures-in-response-to-covid.html>

Health amounting to K57 million (\$3million). The cabinet approved a COVID-19 Contingency and Response Plan with a budget of K659 million (\$36Million) under the Disaster Management and Mitigation Unit.

In Senegal, the International Development Association is providing a USD 150M credit to mitigate the impacts of COVID-19 through increasing the exports of high-value crops such as groundnuts and horticultural products, increasing dairy productivity and reducing small ruminant mortality. In addition to a fund initially created with an envelope of 1.4 billion CFA Franc (USD 2.1 million), Senegal took 3 new measures to mitigate the effects of the coronavirus on its economy³⁴. These are the establishment of a Response and Solidarity Fund against the effects of COVID-19 called "FORCE-COVID-19". Then the creation of a COVID-19 Growth and Economic Watch Committee. Finally, the development of a contingency plan following the evolution of the pandemic for an amount of 64 billion FCFA (97.6 million euros) was established.

In Egypt, the Central Bank approved a guarantee of 100 billion Egyptian pounds to cover lending at preferential rates for industrial, agricultural, and contracting loans (for companies of all sizes). The Central Bank approved the request of the Ministry of Agriculture to allow small farmers and livestock breeders (dairy and poultry) to access the SMEs lending initiative loans at the rate of 5%, below the 8.75% normal rate³⁵. The Small, Medium and Micro Enterprise Development Agency (MSMEDA) launched an initiative for small businesses, especially in the industrial and labor-intensive sectors, to provide up to one million Egyptian pounds in short-term loans for a period of up to a year, to secure

In Cameroon, the government enacted a state of emergency in mid-March 2020 to control the spread of the pandemic. A multisectoral response through the direct involvement of the United Nations Resident Coordinator (UNRC) was established to monitor the spread of the pandemic and offer advice to the government. Weekly teleconferences between the Ministry of Health and development partners were done to monitor the situation and communicate to the public on the scale of the pandemic, acting as an early warning system to the public.

In Mali, the government unveiled a package of social measures to support the most vulnerable households³⁶. These measures included the setup of a special fund to provide targeted income support to the poorest households, mass distribution of grain and food for livestock to the poorest households, and the supply of electricity and water free of charge to the poorest consumers for April and May 2020, a 3-month exemption from VAT on electricity and water tariffs, and a 3-month exemption from customs duties on the import of basic food such as rice and milk.

Generally, the main donor agencies in 2020 (March to December), have contributed about USD 24.7 billion³⁷ in fighting the pandemic (Gate Foundation – USD 250 million, USAID - USD 1 billion; UKAID – USD 1.5 Billion; World Bank – USD 12 Billion; Africa Development Bank; USD 12 Billion and IFAD USD 40 Million through the IFAD's Rural Poor Stimulus Facility), with focus on the response and supporting

34 <https://home.kpmg/xx/en/home/insights/2020/04/senegal-government-and-institution-measures-in-response-to-covid.html>

35 <https://data.worldbank.org/indicator/FR.INR.LEND?locations=EG>

36 <https://home.kpmg/xx/en/home/insights/2020/04/mali-government-and-institution-measures-in-response-to-covid.html>

37 This conservative figure as not all possible sources may have been exhausted.

health systems. On a letter, dated 20th March 2020³⁸, by the African Ministers of Finance on Emergency Request to the international Community on COVID-19 Response, Africa needed huge and immediate additional resources of \$US 100 billion for the immediate response, with the lead from the multilateral financial institutions. They stressed the need to avail such resources through budget support, or extended credit facilities, stressing the need to use existing structures to speed up the process. With USD 24.7 billion having been mobilized by December 2020, the continent was target by 75 percent.

3.15 Shifts in funding priorities in ensuring the mitigation of the Covid-19 impact

3.15.1 Shift in funding priorities

The year 2020 was full of uncertainty as the world witnessed the outbreak of the Coronavirus pandemic that led to unprecedented lockdowns, leading to unexpected suffering among the African populations. Non-governmental organizations (NGO) and donor agencies also went through the shock and are now introspecting new ways to work for and with the communities. It became apparent that foreign governments, AID organizations and private foundations would place the pandemic as a top priority in their funding portfolios. Therefore, addressing the Covid-19 Impact became the Number One Priority for most development partners. Non-health issues have so far experienced a significant reduction in aid³⁹. This means that the donor agencies which focused on issues related to human rights, education, social research, environmental protection, or gender equality as a priority all the previous years before the corona pandemic will now allocate a significant portion of their resources to provide Covid relief to communities. Donor agencies now demand a special note on how Covid-19 will impact a proposed project and what steps will be undertaken to reduce it, including social behavioral change and communication.

3.15.2 Donor investment in building resilience against COVID19

The pandemic has seen the emergence of new donors and funding types from the private sector and foundations, providing diversity in fund sources in building resilience against COVID-19. They have started expressly participating in charitable programs to help suffering communities. Facebook launched its \$100 million small business grant program targeting the pandemic⁴⁰. Google gave grants totaling more than \$8.5 million to NGOs, universities, and other academic institutions in support of COVID-related artificial intelligence and data analytics projects. In May 2020, it also announced a \$100 million contribution to COVID-19 relief. Private donors such as Jeff Bezos have also committed \$125 million.

The trends in aid commitments show an overall increase in spending, much of which can be considered a likely response to the Covid-19 crisis (Dean and Lewis, 2021)⁴¹. As of June 27, 2021, the funding committed

38 https://www.uneca.org/sites/default/files/COVID-19/african_ministers_of_finance_-_covid-19_response.pdf

39 <https://www.e-ir.info/2020/10/21/opinion-less-money-more-sustainability-foreign-aid-civil-society-and-covid-19/>

40 https://www.business-standard.com/article/current-affairs/facebook-invites-grant-applications-from-small-business-hit-by-covid-19-120091500620_1.html

41 Deen Breed and Lewis Sternberg, 2021. How are aid budgets changing due to the Covid-19?. (Provide publisher and place of publication).

to combating the coronavirus exceeded \$21.7 trillion, according to data analysis available on Devex's funding platform. International financial institutions collectively mobilized a global response package of US\$230 billion between 2020 and 2021, to aid the global response to the coronavirus pandemic. The funds were raised to reduce the pandemic's impact, of which US\$75 billion were to be directed to the world's poorest countries in 2020.

Bill & Melinda Gates Foundation announced the single largest contribution of \$ 250 million to fight the pandemic. So far, the foundation has committed \$ 1.75 billion to support the global response to fighting the pandemic, to help slow down the transmission, and to the procurement of new testkits and Vaccines. In October 2021⁴², the foundation announced a commitment of up to \$120 million to accelerate access to the investigational antiviral drug molnupiravir for lower-income countries as part of its COVID-19 response effort.

"To end this pandemic, we need to ensure that everyone, no matter where they live in the world, has access to life-saving health products."

Melinda French Gates, Co-chair of the Gates Foundation

The United States Agency for International Development (USAID)⁴³, allocated more than \$ 1 billion for combating COVID-19, collaborating closely with stakeholders to not only slow down the spread of the virus but also to equip communities to enhance their resilience in fighting the pandemic. Power Africa's⁴⁴ work before, during, and after the COVID-19 pandemic has been critical in helping countries to respond to the health crisis, and in boosting self-reliance for economic recovery. Power Africa has so far redirected more than \$7.2 million to support the financial viability of sub-Saharan Africa's off-grid energy sector; to assess power loads for hospitals, clinics, and critical care facilities in Africa; and to support regulators and utilities struggling with the unfolding impact of the pandemic in Southern Africa and West Africa.

USAID is committed to building back a better world, one that is better prepared to prevent, detect, and respond to future biological threats, and where all people can live safe, prosperous, and healthy lives.

USAID COVID-19 Task Force Director Jeremy Konyndyk

The Africa UNION created the AU COVID-19 response fund⁴⁵ as an emergency response to the pandemic essentially for the continent to have a whole-of-Africa approach to the pandemic. It was aimed at raising resources to strengthen the continental response to COVID-19 by supporting pool procurement of diagnostics and other medical commodities by the Africa CDC for distribution to

⁴² <https://www.gatesfoundation.org>

⁴³ <https://www.usaid.gov/coronavirus>

⁴⁴ USAID. 2021. Power Africa Covid-19 Response and Recovery. Updated, August 25th, 2021

⁴⁵ <https://au.int/en/aucovid19responsefund>

the Member States and mitigating the pandemic's socioeconomic and humanitarian impact on African populations.

"I would like to assure you of the firm resolve of the African Union Commission to establish the necessary synergy to maximize the impact of our actions to protect our continent from the ongoing coronavirus disease outbreak,"

**The Chairperson, African Union Commission,
H.E. Mr Moussa Faki Mahamat**

In April 2020, the International Fund for Agricultural Development (IFAD) launched a multi-donor fund- COVID-19 Rural Poor Stimulus Facility (RPSF) - to address the immediate fallout of COVID-19 for rural people in Africa and elsewhere. This initiative aligned with the UN socio-economic response framework and complements IFAD's broader COVID-19 response efforts. It seeks to improve the resilience of rural livelihoods in the context of the crisis by ensuring timely access to inputs, information, markets and liquidity.

"The fallout from COVID-19 may push rural families even deeper into poverty, hunger and desperation, which is a real threat to global prosperity and stability. With immediate action, we can provide rural people with the tools to adapt and ensure a quicker recovery, averting an even bigger humanitarian crisis."

Gilbert F. Hougbo, President of IFAD

The World Bank's⁴⁶ response in Africa has been focused on four main areas, simultaneously: saving lives, protecting poor people, protecting, and creating jobs, and building back better. Since the start of the pandemic in March 2020, the World Bank has made available nearly \$24.7 billion to respond to the COVID-19 crisis through a combination of new operations in health, social protection, economic stimulus and other sectors, as well as redeployment of existing resources. Currently, the World Bank is preparing emergency vaccine financing projects in more than 30 African countries including Chad, the Democratic Republic of Congo, Ethiopia, Guinea-Bissau, Rwanda, and Senegal, amounting to a total of \$1.85 billion. Additional resources (about \$190 million) are being leveraged through project restructuring and existing health operations.

Furthermore, Egypt, Tunisia and Morocco are set to inject US\$6.4 billion, US\$0.9 billion and US\$ 1 billion respectively into their economies as part of their economic stimulus packages for enhancing liquidity during COVID-19⁴⁷. The Government of Senegal supported The Association of Independent Poultry Farmers of Senegal (AAVIS) a poultry common interest, with 261 members, including 171 men and 90 women, with a poultry feed, amounting to 5 bags per member. The

⁴⁶ <https://www.worldbank.org/en/news/factsheet/2020/06/02/world-banks-response-to-covid-19-coronavirus-in-africa>

⁴⁷ <https://aaco.org/media-center/news/aeropolitical/several-arab-governments-announce-stimulus-packages-to-ease-the-economic-impact-of-the-covid19-outbreak>

government also set up funds at the level of the Delegation for Rapid Entrepreneurship (DER), to the Housing Support Funds (FONSTAB), to allow producers to access credit and cushion the farmers during the pandemic time.

In Senegal, the government-supported organic producers through subsidizing organic fertilizer. The government has also supported rice, oil, sugar, macaroni and soap during the COVID19 pandemic.

KII, Senegal

In 2020, the European Union (EU) announced the COVID-19 toolkit for African countries, focusing on addressing the immediate health crisis and resulting humanitarian needs, strengthening partner countries' health, water and sanitation systems and their research and preparedness capacities to deal with the pandemic, as well as mitigating the socio-economic impact. To underpin these actions, the EU secured financial support to partner countries amounting to more than €15.6 billion from existing external action resources. From the overall package of €15.6 billion, €3.25 billion was channelled to Africa, including €1.19 billion for the Northern African neighbourhood countries.

"The virus knows no borders. This global challenge needs strong international cooperation. The European Union is working tirelessly to fight the pandemic".

President of the European Commission, Ursula von der Leyen

3.16 Implications of the Farmers' Resilience under Impacts of Russia and Ukraine War

3.16.1 Context analysis

The emergence of COVID19 pandemic in 2020 dealt a huge blow to the decades of hard-won macroeconomic, socioeconomic and governance gains in Africa, consequently leading to loss of human life, livelihoods, and incomes. Findings of this study have shown that the livelihoods of over 80% of organic and conventional producers were adversely affected by the pandemic, of which over 85% reported to have lost income by 40%. Though governments and development partners invested over USD \$ 25 billion towards recovery and establishment of safety measures, the Russia-Ukraine war started in February 2022 worsened the situation. Ukraine's military suspended commercial shipping at its ports, leading to supply disruption from the largest grain and oilseeds exporters⁴⁸. The war has further disrupted Africa's promising recovery from the COVID19 pandemic by raising food and fuel prices, exacerbated by the disrupted supply chains of these commodities.

⁴⁸ Devitt, P., Stolyarov, G., & Zinets, N. (2022, February 24). Ukraine shuts ports as conflict threatens grain supplies. Retrieved from Reuters: <https://www.reuters.com/world/europe/russia-halts-vessel-movement-azov-sea-black-sea-open-2022-02-24/>

Russia and Ukraine are major world producers and exporters of major grains such as wheat, barley and corn, and vegetable oils. The two countries account for between 25 and 30 percent of global wheat exports and about 80 percent of global sunflower seed oils^{49,50}.

Majority of African countries depend on Ukraine and Russia for wheat, maize, sunflower oil, and barley. Ukraine and Russia are major exporters of these agricultural commodities accounting for 30% of the world's wheat, 27% of barley, 17% of maize, and 70% of sunflower oil⁵¹. With the war, prices of these grains and oilseeds have soared globally with wheat prices increasing by 44% between January and April 2022⁵². On the African continent, prices of wheat have increased by 42% in Egypt, 31% in Tunisia, 25% in Nigeria, 24% in Tanzania, and 17% in Kenya. The World Bank estimates that "every percentage point increase in food prices will push 10 million people into extreme poverty⁵³."

Majority of countries in Africa were already in a food crisis, with rising prices are compounding the plight of millions of people thrown into poverty by the Covid-19 pandemic, requiring urgent action by governments and the international community⁵⁴."

Lena Simet, senior researcher on poverty and inequality at Human Rights Watch

While the level of trade between the African continent as a whole and Russia and Ukraine are insignificant, some African countries rely heavily on these two countries for critical imports, particularly wheat, fertilizers, and steel⁵⁵. Of the 55 African countries, eleven (11) are large oil and gas exporters and the rest are net importers of oil and gas, with a few countries close to self-sufficiency. Egypt, Algeria, Morocco, and Tunisia are the largest importers from the Russian Federation, and Ukraine, followed by Nigeria, Ethiopia, Senegal, Uganda, Kenya, and South Africa. Therefore, these countries are the most afflicted by the war in the medium term. The strategic importance of the Black Sea region to the global production and trade of major staples is critical. With most of the grain exports in the Black Sea region transported by sea, which is at the heart of the military conflict, the disruptions of marine logistics pose a significant risk to African food supplies and prices.

49 Sacko, J and Mayaki I. Josefa Sacko & Ibrahim Mayaki. 2022. How the Russia-Ukraine conflict impacts Africa: An opportunity to build resilient, inclusive Food Systems in Africa. 12th July 2022

50 Ms. Josefa Sacko is the AUC Commissioner for Agriculture, Rural Development, Blue Economy and Sustainable Environment (ARBE), while Dr Ibrahim Mayaki is the Chief Executive Officer of AUDA-NEPAD

51 <https://www.afdb.org/en/knowledge/publications/african-economic-outlook>

52 <https://www.politico.eu/article/world-food-programme-eu-fund-us-food-aid-ukraine-russia/>

53 <https://www.theafricareport.com/>

54 <https://www.hrw.org/news/2022/04/28/ukraine/russia-war-continues-africa-food-crisis-looms>

55 <https://www.usip.org/publications/2022/06/russias-war-ukraine-taking-toll-africa>

3.16.2 Impact of the war on livelihoods

The instability in food production and trade, due to war in Ukraine, has far-reaching consequences on food supplies, prices, and food security in import-dependent countries in Africa. Russia's invasion of Ukraine has worsened food security crisis in most African countries, going against the global and African human right law⁵⁶, which envision that everyone has the right to sufficient and adequate food⁵⁷. The World Food Program (WFP) has projected that the total number of people in these regions experiencing acute food insecurity may rise by 21 percent, affecting 174 million people because of the war. The African Economic Outlook⁵⁸ reported that 30 million people in Africa have been pushed into extreme poverty in 2021 and about 22 million jobs were lost in the same year because of the pandemic, and the trend is expected to continue through the second half of 2022 and on into 2023 due to the war.

In Cameroon, where more than 50% of the population was food insecure before the war, the cost of imported food is driving local food inflation, with bread and other staple foods increasingly out of reach to those with low incomes⁵⁹. In Kenya, where nearly 70% of the country population were food insecure before the war, the food security situation has been worsened by increased key product prices. For example, between February and March 2022, the cost of cooking oil increased by 6.5 percent. In 2021, Kenya imported almost 30 percent of its wheat from Russia and Ukraine. A supply disruption has already affected the production of bread in Kenya, which is the third most consumed food item in that country.

3.16.3 Responses to the Russia-Ukraine war impact

In response to the war crisis, the African Development Bank (AfDB)⁶⁰ Group's Board approved a US\$ 1.5 billion facility to support African countries deal with the impact of the Russian-Ukraine war that has led to increased food prices and availability. The facility is expected to reach over 20 million African farmers to deal with the food shortfall. This is part of the African Emergency Food Production Facility, to support smallholder farmers in filling the food shortfall. The African Union Commission (AUC) and African Union Development Agency-NEPAD (AUDA-NEPAD) in 2021 created a Common African Position ahead of the Food Systems Summit in line with the African Union's Agenda 2063 and the United Nation's Sustainable Development Goals (SDGs). The Summit

⁵⁶ African Commission on Human and Peoples' Rights: Principles and Guidelines on the Implementation of Economic, Social And Cultural Rights In The African Charter On Human And Peoples' Rights

⁵⁷ https://www.achpr.org/public/Document/file/English/achpr_instr_guide_draft_esc_rights_eng.pdf

⁵⁸ <https://www.afdb.org/en/knowledge/publications/african-economic-outlook>

⁵⁹ <https://www.fao.org/faostat/en/-/data/FS>

⁶⁰ <https://www.afdb.org/en/node/51696>

recommended a rapid expansion in agricultural and food productivity and production as part of the rampant food insecurity solutions. They recommended that to prevent future disruptions in the supply chain for wheat and sunflower across Africa, countries that produce these cereals need to increase their capacity to produce and supply to other countries through intra-African trade⁶¹. The consortium is also working with African countries to consider incorporating specific food crops into their agriculture value chain, therefore reducing the reliance on wheat and grain imports from Russia and Ukraine and, most importantly, promote intra-African trade and grow Africa's agribusiness sectors. The World Bank has recognized the scale of the challenge, stepping up with a new 15-months crisis response package of roughly \$ 170 billion, to cover April 2022 through June 2023 to help countries deal with the fallout from the war in Ukraine, including food insecurity and lingering aftershocks from the pandemic⁶².

"The World Bank Group is horrified by the shocking violence and loss of life as a result of the events unfolding in Ukraine. We are a long-standing partner of Ukraine and stand with its people at this critical moment⁶³."

- World Bank Group President David Malpass

3.16.4 Building resilience against the conflict

The Africa countries must take advantage of the world's largest free trade area, by promoting intra-regional agri-food business, taking advantage of the African Continental Free Trade Area (AfCFTA) which came into effect on 1 January 2021⁶⁴. The AfCFTA will increase production and value addition as well as ensure adequate quality infrastructure and food safety standards to supply and grow local and regional agri-food markets. This initiative provides a unique opportunity for African counties to transform their food systems and increase investments in local food production, value addition, and intra-regional food trade, taking advantage of the growing African market facilitated by the AfCFTA.

Investment towards building climate resilient Africa food systems is necessary and important. This study has shown that organic producers were more resilient to disruption in input supply chain during COVID19 pandemic, due to adoption of agroecological practices. Organic production

61 AGRA. 2021. Regional Food Trade and Resilience Unit, Policy and State Capability Division, AGRA, 2 Hub for Agricultural Policy Action Initiative, Policy and State Capability Division, AGRA

62 Mcnair, D. 2022. Bank Can Support African Economies Hit Hard by Russia's Invasion of Ukraine. 19th April 2022. <https://carnegieendowment.org/2022/04/19/how-imf-and-world-bank-can-support-african-economies-hit-hard-by-russia-s-invasion-of-ukraine-pub-86931>

63 <https://www.worldbank.org/en/country/ukraine>

64 <https://au.int/en/cfta>

systems are based on ecological principles, which positively impact the environment leading to strengthening adaptation strategies and therefore enhancing the resilience among the organic producers. Climate-resilient technologies present major opportunities for the continent to increase African food production and productivity while building resilience and reducing poverty and hunger.

The Russia-Ukraine conflict clearly shows the need for policy and investment choices to sustain and build viable, resilient, and inclusive food systems on the continent that can withstand future shocks. It is encouraging to note that the African Union has come up with the African Common Position on Food Systems provides pathways for Africa to increase home-grown agri-food production and ensure inclusive access to sustainable and nutritious safe food sources, while addressing structural weaknesses and vulnerabilities, including poverty and inequality⁶⁵. African countries should take full advantage of the African Continental Free Trade Area, increasing intra-African agri-food, industry and services trade, in order to build resilience against external shocks and bring back on track Africa's recovery from COVID-19.

65 <https://www.un.org/africarenewal/magazine/may-2022/how-russia-ukraine-conflict%2%A0impacts-africa>



Chapter Four

Conclusions & Recommendations

Conclusions and Recommendations

4.1 Study Conclusions

The study to determine the impact of the COVID19 pandemic on organic and conventional farmers and mitigation strategies and its implications within the Russia-Ukraine war was commissioned by Biovision Africa Trust on behalf of the Continental Steering Committee of the Ecological Organic Agriculture Initiative in eleven (11) countries in Africa. It has revealed various effects of the pandemic on the producers, traders, country governments, partners, and donors in building resilience against the pandemic. The study involved 1,102 individuals reached through household survey interviews, key informant interviews and focused group discussions across the 11 countries. The knowledge and insights obtained will be crucial in future to expand the regional and national countries' capacities for enhanced preparation for the subsequent waves and future shocks. This section draws conclusions and recommendations with regard to the specific objectives of the study, as explained below.

4.2 Impact of COVID19 on the producers' livelihoods

The livelihoods of organic and conventional farming households in Africa are mainly dependent on farming (crops and livestock production), and therefore any shocks affecting farming systems would impact negatively on this population. The study revealed that the majority (86%) of the producers both organic and conventional were negatively affected by the coronavirus pandemic occasioning government restrictions and compliance to prescribed public health measures. The impact was felt among more conventional producers (95%) compared to organic producers (83%). More women (90%) than mean (85%) were negatively affected. The findings suggest that organic producers and male headed households seem to be more resilient than their conventional and female headed households to the coronavirus pandemic at the farm level.

Both organic and conventional producers undertake various activities to support farm production. The inability to perform certain activities is more glaring among the conventional producers, with 81% feeling the impact, compared to 77% among the organic producing households. Inability to access extension services affected overall 61% of the producers, with 58% conventional compared to 60% organic facing the challenge. Organic production system is extension dependent system and therefore any gap in delivery is felt, compared to conventional producers. Further analysis showed that the losses were significantly associated with the farming system practiced by farmers. For a farmer to successfully engage in organic production systems, consistent extension delivery has to be in place. Therefore, compared to the conventional farmers, when there were lockdowns and mandatory compliance with measures including social distancing, organic producers felt the greatest negative impact compared to the conventional producers. More women, 66% compared

to 59% of men reported having faced a challenge in accessing extension services. While men could walk to locations where trainings were held, women, on the other hand, depended on field visitation by extension staff who were not available during the pandemic as some locations were in lockdown and movement was restricted. As part of the coping strategy, the majority of the producers resorted to getting advice from their neighbours and electronic and social media.

Access to inputs was negatively impacted by the pandemic and the occasioned government restrictions and public health measures, affecting overall 60% of the producers. Organic producers, 54% compared to 63% of conventional producers were not able to access inputs. Organic producers have adopted Agro-ecological production practices that enable them to produce organically without depending on inputs from the shops. Among the inputs, fertilizer was the major input which was affected as mentioned by 57% of the producers, followed by pesticides affecting 40% and seed affecting 34%. Poor access to inputs led to a reduction in productivity as reported by 66% and a loss of farm revenue as reported by 42%.

Generally, 58% of the producers reported having experienced post-harvest challenges. These were mainly due to pest infestation and loss of market quality value (perceived value of a product based on consumer perception such as color, taste, smell, and appearance). The study observed that more conventional producers, 58% experienced the challenge compared to 53% of organic producers. It seems the products produced from the organic production systems are able to stay longer due to the systems they are grown in, protecting them against post-harvest loss and pre-disposing factors.

Access to markets was a challenge among 61% of the organic and conventional producers. While 90% of the conventional producers had partial access to markets, 59% of the organic producers faced the same experience. Organic producers had a specific niche of customers to who they supply the product, compared to conventional producers. Therefore, shocks that disrupt the supply chain would generally impact the organic producers.

Trading in both organic and conventional products was affected by the pandemic, with 90% of the traders feeling the impact of government restrictions and public health measures. We observed few traders, about 8% operating online to reach their customers. The greatest impact was on the reduction in orders as reported by 64% of the traders. Diversification into new markets and products was seen as a resilience-building initiative among the traders. Adoption of mobile money transfer and integration of ICT in their business to integrate online trading was a game-changer among 33% of the traders.

The study noted that 49% of the respondents were food insecure and were not able to meet their monthly food needs between January 2020 and August 2021, due to government restrictions and public health measures. Reduction in food access mainly affected more (59%) of the conventional

producers, compared to 57% of organic producers during the pandemics. Changing shopping behaviour was one of the key responses as consumers started purchasing cheaper products, purchasing in small quantities as the disposable income reduced, while some, 7% changed the stores from which they used to purchase the products.

The overall negative impact of the pandemic was on the gross household income. Majority, 87% of the producers reported a reduction or loss of income, by 40% from both on-farm and off-farm income-generating activities. Based on the production systems, conventional producers reported a 33% reduction in income compared to 32% among the organic producers, while based on value chains, livestock producing households lost or reported a 47% reduction in incomes compared to 41% by crop producers.

4.3 Response among the producers and the implication on food value chains and food security in Africa

To continue accessing extension services, about a third (32%) of the producers resorted to their neighbors, electronic and social media to access information tips.

On access to inputs, a near majority (47%) of the households reduced the frequency and the rate of input application. Others (39%) substituted the input(s) with what is locally available, while others (22%) stopped the use of some external inputs completely. The implication of staggering the use of the inputs meant that the crops and livestock were no longer receiving the inputs at the right time of development or growth, leading to post-harvest losses.

Reduction of the negative impact of post-harvest losses was initiated at both market and production levels. Dehydration of food products such as vegetables was undertaken, while the use of improved storage equipment, especially for cereals such as hermetic bags and storage in silos was adopted. Value addition of farm products such as transforming milk into yoghurt and fermented milk was practiced increasing the shelf life.

The aforementioned findings conclude that organic producing households better cushioned themselves against the coronavirus pandemic, leading to less severe impact on their household income compared to their conventional counterparts. The resilience among the organic was supported by the farmers' adoption of improved Agro-ecological production practices, which enabled to reduce the impact of post-harvest losses and dependency on farm inputs. Due to the organized nature of the groups, more organic producers were able to access credits mainly from their neighbors and VSLAs groups. Conventional producers on the other hand had more access to markets and did not feel the impact of poor access to extension services. Integration of the digital marketplace for the traders was seen as an important trading component in future. There were concerted efforts from the private sector, government agencies and donors to reduce the spread

of the pandemic across Africa. Based on the Devex's funding platform, the study observed that the International financial institutions collectively mobilized a global response package of more than US\$ 230 billion between 2020 and 2021, to aid the global response to the coronavirus pandemic, of which US\$75 billion were to be directed to the world's poorest countries in 2020. The donors' preference of funding more health initiatives to reduce the spread of the virus against other funding lines indicates that non-governmental organizations need to be more innovative in their resource mobilizations to be in line with unexpected donor focus shifts.

4.4 Key Study Recommendations

a) Recommendations for producers

Adoption of Agroecological technologies for resilience building: The study observed that there were glaring differences in the adoption of agroecological technologies among the respondents undertaking organic and conventional production systems making conventional producers more vulnerable to climate change and other shocks. The organic production system is based on ecological principles, which positively impacts the environment leading to strengthening adaptation strategies. There is a need for producers to adopt these practices as part of enhancing the resilience among the organic producers.

Collective aggregation and marketing of products: The widespread closures of food markets impacted small-scale farmers who were accustomed to showing up for weekly markets in rural areas to showcase their local products and to purchase what the household requires. Collective action for product aggregation, and establishment of organic market outlets at the village level will reduce the travel distance among the consumers while at the same time providing market outlets to producers. The collective action will also facilitate access to credit and finance as the group can order in bulk and supply their members. Embedding financial services through village savings and loaning (VSLA) at the group level will enhance financial service access.

Promotion of organic products as healthy products to stimulate demand: Most consumers believed that organic products have the potential to build resilience and accelerate quick recovery among those infected with the COVID-19 virus. There is an opportunity to promote organic products as healthy products through advertisement and sensitization of the population to increase demand.

This will require collaboration with media houses and local governments.

b) Recommendations for traders

Diversification of products and markets: Traders need to diversify their business operations based on products, raw material sourcing and delivery mechanisms. Building partnerships through contractual agreements with suppliers, would ensure the supply of products consistently due to building relationships and trust. Mapping out other production hot spots and building relationships for supply will be important. Exporters also need to explore non-traditional export destinations for their products to spread the risk. Value addition of products such as dehydrated products (Pineapples, powdered milk, and tomatoes) have the potential to enhance shelf life as they wait for the markets.

Adoption and integration of ICT in trade – creating a marketplace: The traders must now recognize that the era for digital trading is here. They need to adopt and integrate ICT in marketing for access to market intelligence and trading. Online trading has the potential to enhance social distancing, widening the customer base and increasing sales during the pandemic periods. Organizations such as RetailPay have created a virtual marketplace, which links different players along the value chain in one platform for coordination. Products can be marketed through the platform and potential buyers can be linked virtually without physical contact during negotiations. Adoption of such innovations has the potential to revolutionize trade in the face of future pandemics.

c) Recommendations for the private sector

Strengthen the Agro-dealer networks: There is a need for the private sector, especially those dealing in the inputs supply chain, to establish Agro-dealer networks, which is a cost-effective method of availing inputs to farmers 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.

d) Recommendations for governments

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.

Early preparedness among the population for the pandemic: The study observed that from the time of announcement of the first case in a country, it takes 90-180 days for the socio-economic impact to start being felt within the population. There is a need to prepare the population early even before the first case is reported within the country through social behavioral change and

communication, setting up policies and laws that will enable businesses and households to flourish during the pandemic period.

Promotion of national hospital insurance fund: Access to health was limited during the pandemic due to a lack of cash to pay for the services and fear of contracting the disease as one visits the facilities. There is a need for the government and development partners to promote access to affordable insurance cover such as the National Hospital Insurance Fund (NHIF) as part of resilience building during pandemics. The costs need to be favorable to the population to attract more people to register as members.

Recommendations for partners and donors

Digitization of extension service delivery: There is a potential role of digital solutions in the future of organic and conventional farming communities and especially the delivery of extension services and training. E-Extension through the digitalization of extension manuals will be important in future, especially with the use of mobile phones. Digitization and distribution of extension tips via mobile phones have the potential to address the deficits during the coronavirus pandemic. Investing in the digitization of the agroecological training extension contents that can be delivered through mobile phones will supplement the face-to-face extension in future, especially at the height of the pandemics.

Digitization of the market and trade systems for improved efficiency: In future, traders and consumers are likely to shift towards digital processes and be accustomed to online transactions. Through this, Biovision Africa Trust and partners will provide reliable, remote, real-time trade facilitation and payment, which are essential to facilitate trade flows across countries and regions. Such a system has the potential to establish a trade facilitation platform and financial solutions for facilitating trade, while at the same time striving towards the inclusion of more women and youth in trade.

Improved access to finance through enhancing VSLA capacity to transact: There is a need to enhance the capacities of the organic farmer group savings and loan schemes into effective and efficient financing options for the members. This is through enhancing the governance, transparency

accountability and financial literacy, so that in future when there are lockdowns and movement cessation, community members are able to access finance and financial services.

Organic agriculture production to take a market systems approach (Making Markets Work for the Poor - M4P): Markets Systems Development seeks to address the underlying causes of market dysfunction by indirectly facilitating the business environment so they can operate more effectively, and sustainably, and benefit the poor. This requires structured partnerships hence partnerships need to start from production to market, by identifying private sector players and others along the value chain and their roles identified and recognized through a structured agreement.

Gender and youth inclusion: Women reported challenges related access to extension, post-harvest losses, markets and inputs, except access to credit by virtue of belonging to VSLA groups. There is a need to enhance the support systems that are gender-sensitive, especially during shocks/pandemics so that participants are not left behind. BvAT needs to undertake a scoping study to identify and document investment opportunities that are gender and youth-friendly, especially during shocks like the Covid pandemic period.



Chapter Five
List of Annexes

List of Annexes

5.1 Key Informant questionnaire: Partners

Hello, my name is _____ and I work for a research firm called PENGUIN AGRICULTURAL CONSULTANTS LIMITED contracted by BIOVISION TRUST AFRICA to conduct this assessment. Today we are interviewing people such as your group, to better understand the Impact of the COVID19 Pandemic on your daily activities. This discussion will take around 1.5 Hours of your time and will help your community and government understand the impact of the disease. While there is no direct compensation for this, your responses will be greatly appreciated.

Are you interested in participating in the survey to provide information crucial to inform the program, and the donors and may advise future aid programs in this area? Yes (1); No (2)

KEY INFORMANT INTERVIEW (KII) details to be recorded:

Country	
Staff Name	
Date of KII	
Key Informant Name	
Organization	
Role in the organization	
Contact	
Length of KII (start/end time)	

Guiding questions

1. What role do you play in this community? How were these roles change during the COVID-19 period (Feb-December 2020)? How did you to adapt to these changes to remain effective?
2. What farmer support systems were affected by the pandemic (Production, consumption, Access to inputs, extension services, Marketing) what role did your department have to solve these challenges?
3. How did your work for the community affected by lockdown and government restrictions during COVID-19? Did these restrictions have a positive or negative impact on your work?
4. Were there new policies developed by the department you work for in response to the COVID-19 outbreak? Which ones were they?

5. Were there new government policies that were enacted that affected positively or negatively your work with the community? Which one was the key?
6. What were the specific roles of your department to reduce the spread of the COVID19 in terms of building the livelihood, protection and food security resilience?
7. How has the pandemic affected the implementation of the ongoing projects in your organizations? Which ones are they? What are their themes?
8. How have donors responded to the COVID19 outbreak? Have they changed their focus? How have you reacted to these changes?
9. What was the impact of COVID19 on access to credit among the households you are working with? Are there specific interventions put in place to increase access to credit among the population?
10. What are suggested solutions to improve resilience during COVID-19 due to induced lockdowns in future (social media, providing PPE or Increased personal visits).



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