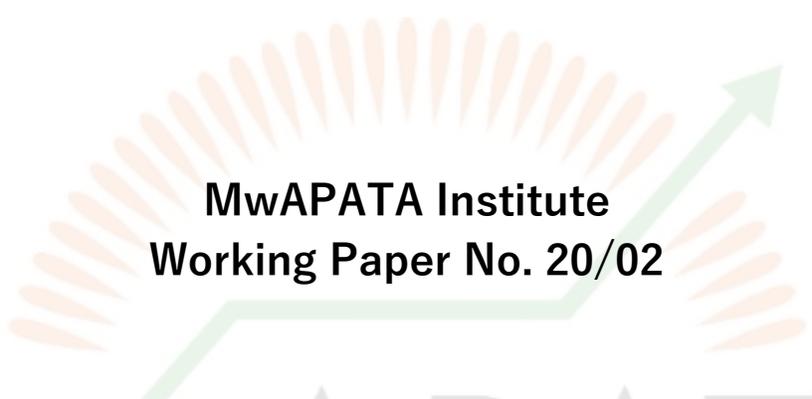


Impact of COVID-19 on Agri-food Systems in Malawi: Farm Level Analysis

William Chadza, Milu Muyanga, William J. Burke
& Christone Nyondo



MwAPATA Institute
Working Paper No. 20/02

MwAPATA
INSTITUTE

July 2020

P.O. Box 30883 Capital City, Lilongwe Malawi
Chilanga Drive, Off Blantyre Street, Area 10/44

Chadza (w.chadza@mwapata.mw) is a Research Fellow at the MwAPATA Institute. Muyanga is the Research Director of the MwAPATA Institute and an Assistant Professor in the Department of Agricultural, Food and Resource Economics at Michigan State University. Burke is a consultant for Michigan State University and an advisor to the MwAPATA Institute. Nyondo is a Research Fellow at the MwAPATA Institute

Impact of COVID-19 on Agri-food Systems in Malawi: Farm Level Analysis¹

William Chadza, Milu Muyanga, William J. Burke & Christone Nyondo

Executive Summary

COVID-19 is already having significant effects on the country's agri-food system in general, and farmers in particular. In response, Government of Malawi has adopted various measures to mitigate the spread of the disease. While these measures are essential, it is imperative to understand the harmful economic effects they (and the disease) could have on farm families in Malawi.

Most of the farm families have access to information about COVID-19 and the mitigation measures taken by government through radio. Although most Malawian farms are fairly small and rely primarily on family labor, some farmers have experienced labor supply related disruptions and delays in crop harvesting. Pre-harvest and post-harvest losses associated with COVID-19 could negatively affect the agri-food system as less food may be available for consumption and sale. Farmers have also experienced problems selling farm produce, particularly citing low prices and difficulty accessing markets and finding buyers. Border closures have introduced uncertainty for buyers, in turn making domestic prices less predictable. Furthermore, farmers are already facing disruption in livestock grazing and access to medicines, vaccines and manufactured animal feeds.

Looking ahead, some farmers anticipate COVID-19 will have an impact on crop farming in the 2020/2021 main season, particularly in procurement of farm inputs and land

¹ This study examines impact of COVID-19 on farm activities in Malawi as part of series of studies being implemented by the MwAPATA Institute to examine the pandemic's impact on agri-food systems in Malawi. Study reports for the other agricultural value chain players (transporters, processors, wholesalers and consumers) and state and non-state actors are also available or will be presently forthcoming.



preparation activities. This could have many adverse impacts, including a drop in maize production.

The government of Malawi and other stakeholders have already introduced measures to prevent, contain and manage COVID-19. However, little attention seems to have been paid to agri-food systems with many of the measures understandably skewed towards the immediate concerns for the health sector and social protection.

Farmers could benefit from assistance dealing with the immediate aftermath of COVID-19. For now, this includes accessing key production inputs in time for the start of the 2020/21 main growing season, starting around November 2020. This could be aided by ensuring small and medium scale enterprises that are engaged in farm input supplies have access to stimulus funding. Government could also negotiate with neighboring and transit countries for ease of importation of farm inputs by classifying them as essential goods. It will also be crucial to support farmer' access to a sufficient number of crop buyers to ensure competition.

In the short-term, options are indeed limited, but over the medium- and long-run, efforts to support small and medium-scale agribusiness investment in rural Malawi will promote agri-food systems resilience to similar shocks in the future. It would be well-advised for the Government of Malawi to, as soon as possible, initiate a process to design and implement policies and programs that address the disruptions of agri-food supply chains, higher food prices, postharvest losses and severe economic fallout of employees in the agricultural sector as a result of COVID-19 impacts. We recommend government coordinate and frequently engage with agri-food supply chain players to ascertain their needs and design programs to address them. For example, farmers have virtually no planned coping mechanisms for the expected increased difficulty finding inputs or decreased production. This highlights a possible intervention point. However, the main problem areas are likely to be different for various actors in the value chain (as will be discussed other reports in this series) and changing over time as the pandemic unfolds. A mechanism for frequent and open dialogue will help government stay informed about the challenges facing the agriculture sector.



We also recommend that government continuously monitor prices of basic food commodities so that economic vulnerabilities can be identified quickly. This will also allow the Competition and Fair-Trade Commission to increase surveillance and monitoring capacity to limit opportunistic overpricing of food commodities. It is imperative to support farmers access to a sufficient number of crop buyers to ensure competition. It is important, however, for policy makers and the public to also expect market-driven price changes.

1. Introduction

Malawi's economy is predominantly agrarian with the agricultural and natural resource sectors contributing profoundly to employment, food and nutrition security, export earnings, and economic growth. Agriculture generated approximately 28% of GDP, 65% of employment, and 63% of export earnings. When the sector's linkages with input supply, trade and transport service are considered, the broader Agri-food system contributes 44% to GDP and generates 74% of employment.² The heavy dependence of the economy on agriculture makes the country vulnerable to external shocks that affect global agricultural markets.

Both the direct and indirect impacts of COVID-19 are likely to have significant effects on the welfare of the people and the economy in general, related, in part, to the predominant role of agriculture in Malawi's economy. The first cases of COVID-19 in Malawi were reported on April 2, 2020. As of 24th July, 26,756 tests have been conducted revealing 3,386 confirmed cases and 79 confirmed deaths.³ Initially the COVID-19 pandemic was unevenly spread across the country, and the most affected areas (measured by number of confirmed cases) are still Lilongwe, Blantyre and Mzuzu. These are urban districts with the highest population densities in the country. Also, Blantyre and Lilongwe have international airports with high volumes of domestic and international travellers. More recently, the virus has reached more rural areas – every district in the country has reported confirmed cases. The government's model of COVID-19 forecast the wider spread of the disease, which is expected to continue.⁴

While the COVID-19 response measures implemented by the Government of Malawi (GoM) are essential for mitigating the spread of the disease and saving lives, the people engaged in Malawi's agri-food system are very likely to experience adversely economic effects. Measures such as restrictions on movement and regulations on when agricultural produce markets may be open could negatively affect farmers by curtailing their access to their fields, farm input sellers, and outputs markets.

² These figures come from the National Agricultural Investment Plan (NAIP), released in 2018.

³ Daily updates can be monitored at covid19.health.gov.mw/

⁴ Learn more about forecasts for Malawi in the Kuunika Data for Action report, [Mathematical Modeling of COVID-19 in Malawi](#).

Table 1. Crop production forecast – year 2020 [‘000 tonnes]

	2015-2019 average	2019	2020 forecast	% change 2019-2020
Maize	2,959	3,392	3,600	6.1
Rice (paddy)	113	134	145	8.2
Sorghum	89	137	140	2.1
Groundnuts	n/a	n/a	424	4.2
Soybeans	n/a	n/a	266	19.6

Source: FAO/GIEWS Country Cereal Balance Sheet (www.fao.org). Note: percentage change calculated from unrounded data. Groundnut and soybean forecast, and growth estimates provided through personal communication.

According to the Crops and Livestock Production Forecast, the 2019/2020 was projected to be a very good agricultural year due largely to favourable weather. For example, according to the FAO, maize production in 2020 was projected to exceed the country’s five-year average for second consecutive year (Table 1). Malawi’s production of Maize, the main staple, was estimated at 3.6 million metric tons in the year 2020. This estimate is about 25% higher than the five-year average and 6% higher than the previous year.⁵ Production of legumes, such as groundnuts, soybeans, pigeon peas and beans, is also expected to have increased. For example, groundnut production was expected to be 424 thousand metric tons, representing a 4% increase from the previous main season. Soybean production was expected to increase by about 20% to 0.27 million metric tons.

While the projected above-average agricultural production in 2020 could significantly improve food availability and households’ incomes, the COVID-19 pandemic threatens these possibilities. The typical Malawian growing season starts in November and goes through April. The pandemic struck at a time when the country was gearing up for the 2020 harvest and is thus likely to disrupt harvesting and selling of farm produce.

The study examines the impact of COVID-19 on farm families in Malawi. The rest of this paper is organized as follows; in Section 2 we discuss the Government response to COVID-19 to get an understanding of the possible pathways through which COVID-19 could affect the farmers in Malawi. This is followed by Section 3 that presents data sources. Analysis is presented in Section 4 and Section 5 concludes.

⁵ See also FEWSNET Malawi Food Security Outlook Update of April 2020

2. Government response to COVID-19 pandemic

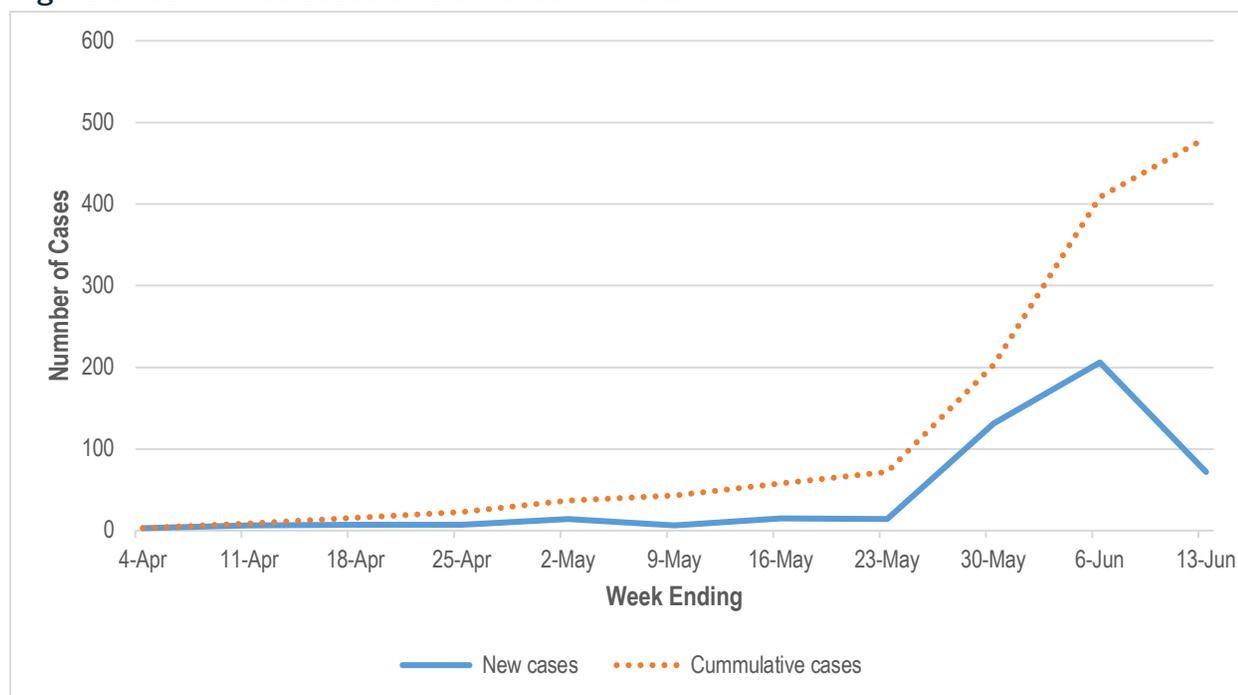
Before the first COVID-19 cases were reported, the Government of Malawi (GoM) proactively set up a Special Cabinet Committee on COVID-19 to propose measures to minimize the number of COVID-19 cases. The Committee was tasked with the responsibility of designing containment measures and to facilitate implementation of safety nets to mitigate the impact of the disease on the social-economic development of the country.

On 20th March 2020, the GoM declared COVID-19 a State of Disaster and announced the initial coping measures that would be implemented, including restrictions on public gatherings (such as weddings, funerals, religious congregations, rallies, and government meetings) to less than 100 people⁶ and the closure of all schools, colleges and universities. The GoM also announced it would increase loans under the Malawi Enterprise Development Fund from MK12 billion to MK15 billion (\$21 million) to cushion micro, small and medium scale businesses from the adverse effects of COVID-19 pandemic. Additionally, an emergency cash transfer program was announced to serve small-scale businesses in and around the major markets in Blantyre, Lilongwe, Mzuzu, Zomba and others urban centres.

On April 1, 2020, all international flights to and from Malawi were suspended. Only flights carrying health personnel, essential health equipment, and emergency relief cargo were exempted from this ban. Cargo flights and those ferrying returning Malawi citizens and residents were to be handled on a case by case basis.

On April 8, 2020, six days after Malawi's first confirmed case, the GoM launched a multisectoral National COVID-19 Preparedness and Response Plan to ensure preparedness for a timely, consistent, and coordinated response to limit the spread and impact of the outbreak. Ten operational clusters were formed to facilitate Plan implementation, namely, Coordination; Communication; Health; Water, Sanitation and Hygiene (WaSH); Protection and Social Support; Employment; Security and Enforcement; Education; Food Security; and Transport and Logistics. The Plan was estimated to cost about MK150 billion (US\$203 million), though only MK6.5 billion (US\$9 million) was available at the time of the launch.

⁶ The number was eventually reduced to 10

Figure 1: Confirmed cases of COVID-19 in Malawi

Source: Government of Malawi (<http://covid19.health.gov.mw/>)

It was obvious that the agri-food systems central to the Malawian economy would be hard hit by the measures put in place to contain the spread of COVID-19. However, the initial Plan contained no cluster specifically dedicated to mitigating the negative effects on agri-food systems. Except for the Food Security cluster, which narrowly focused on food assistance to food insecure households affected by COVID-19, the agri-food system was largely overlooked. The Ministry of Agriculture and Food Security is currently finalizing a new agriculture cluster response plan that will form part of the National COVID-19 Response Plan. The proposed agriculture cluster has an estimated budget of about US\$30 million, though only about 0.36% of this budget is currently available.

On April 14, 2020, the GoM announced an intention to put in place a nationwide 21-day lockdown that would close all central markets, regulated of opening times of local markets, only allowed for harvesting of crop and livestock grazing under precaution, and suspended all non-essential businesses or services. The implementation of the lockdown was stopped by the Malawi high court following a petition by a human rights group arguing the lockdown did not provide adequate support for the poor during lockdown.

Figure 1 shows the number of new cases and cumulative cases on weekly basis. While the number of new cases between April 2nd and May 20th averaged 1.33 per day, on May 26th there was an upsurge in the number of cases reported on daily basis reaching a peak of 155 cases by June 2nd. The large increase in the number of confirmed COVID-19 cases was mostly due to mandatory testing that was done on returning Malawian migrants to South Africa that arrived in 19 buses and two flights. These accounted for 170 new cases recorded within a period of two days.

3. Data source and sample description

The paper draws from a primary data collected from 287 rural households conducted in May 2020 via phone interviews (Table 2). The households were drawn randomly from the MwAPATA Institute's *Malawi Rural Agricultural Livelihood Survey (MRALS) 2019*⁷ sample. The MRALS 2019 survey covered two (2) districts in the Northern Region (Rumphi and Mzimba), four (4) in the Central Region (Lilongwe Rural, Dowa, Kasungu, and Mchinji), and two (2) in the Southern Region (Neno and Blantyre Rural). The MRALS 2019 is representative of farm households at the selected districts level.

In terms of demographic characteristics of the sample, 82% of the households were headed by males. Forty-six percent of the household heads did not have any formal education; 26% had Primary School Leaving Certificate; 28% had post-primary education.

Table 2: COVID-19 survey sample by district

District Name	Number of respondents	Percentage
Blantyre Rural	39	13.59
Dowa	41	14.29
Kasungu	36	12.54
Lilongwe	73	25.44
Mchinji	30	10.45
Mzimba	39	13.59
Neno	13	4.53
Rumphi	16	5.57
Total	287	100.00

Source: MwAPATA COVID-19 survey conducted in May 2020

⁷ The MRALS 2019 data is the baseline for the Agricultural Transformation Initiative (ATI) projects in Malawi.

The majority (81%) of the household heads were monogamously married. About 75% of the household heads reported farming as their primary occupation. Other heads were engaged in casual employment, businesses, and wage employment. Of the households that were farming, only 6% of them used irrigation. The rest relied on rain-fed agriculture.

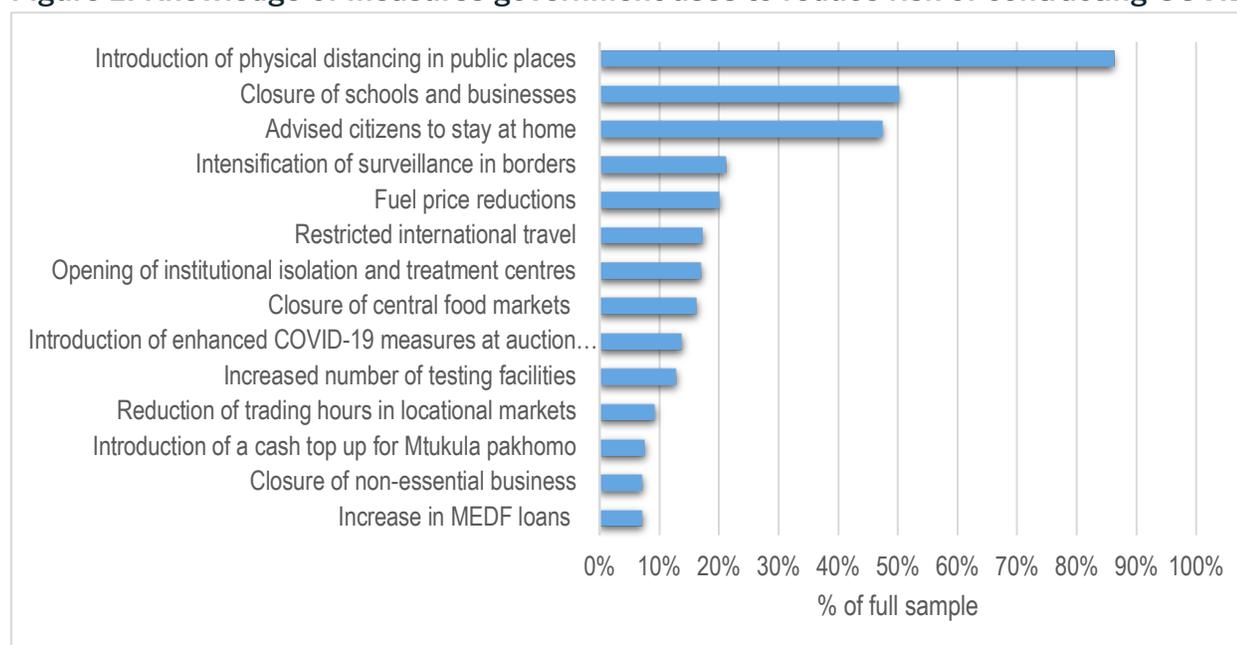
4. Results and discussion

Our discussion of results is in five sub-sections on: 1) household access to information, 2) the impact of the disease and mitigation measures on the 2019/20 cropping season, 3) the anticipated impact on the 2020/21 cropping season, 4) the impact on the Dimba cropping season, and 5) the impact on livestock and fisheries activities in the 2019/20 season.

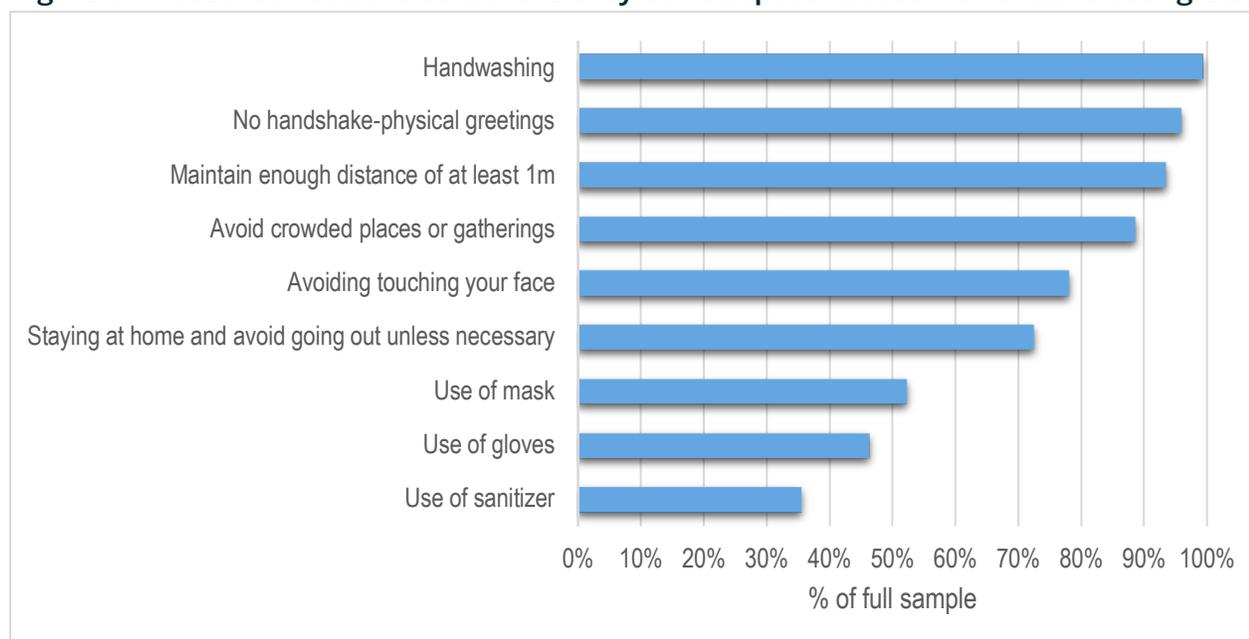
4.1 Households access to COVID-19 information and mitigation measures

All the farm households interviewed reported to have heard information about COVID-19. Most of them (76%) received this information through local radio stations; the rest received information through interactions with health care workers, from neighbors, or television. While radio is the most important source of COVID-19 information to both males and

Figure 2: Knowledge of measures government uses to reduce risk of contracting COVID-19



Source: MwAPATA COVID-19 survey conducted in May 2020

Figure 3: Measures households believe they can adopt to reduce risk of contracting COVID-19

Source: MwAPATA COVID-19 survey conducted in May 2020.

females, a sizeable proportion of women headed households reported to have received information from neighbors and the church.

The survey aimed to determine whether households were aware of the measures government put in place to reduce the spread of COVID-19. Without being prompted, the respondents were asked to mention the measures they were aware of. The results, presented in Figure 2, show that 86% of the respondents were aware of the physical (social) distancing in public places measure; half were aware of school and business closures; 47% had heard about the advice to stay at home. Households were also asked whether they were satisfied with measures the Government put in place to combat the pandemic. Most of the respondents (90%) reported they were satisfied.

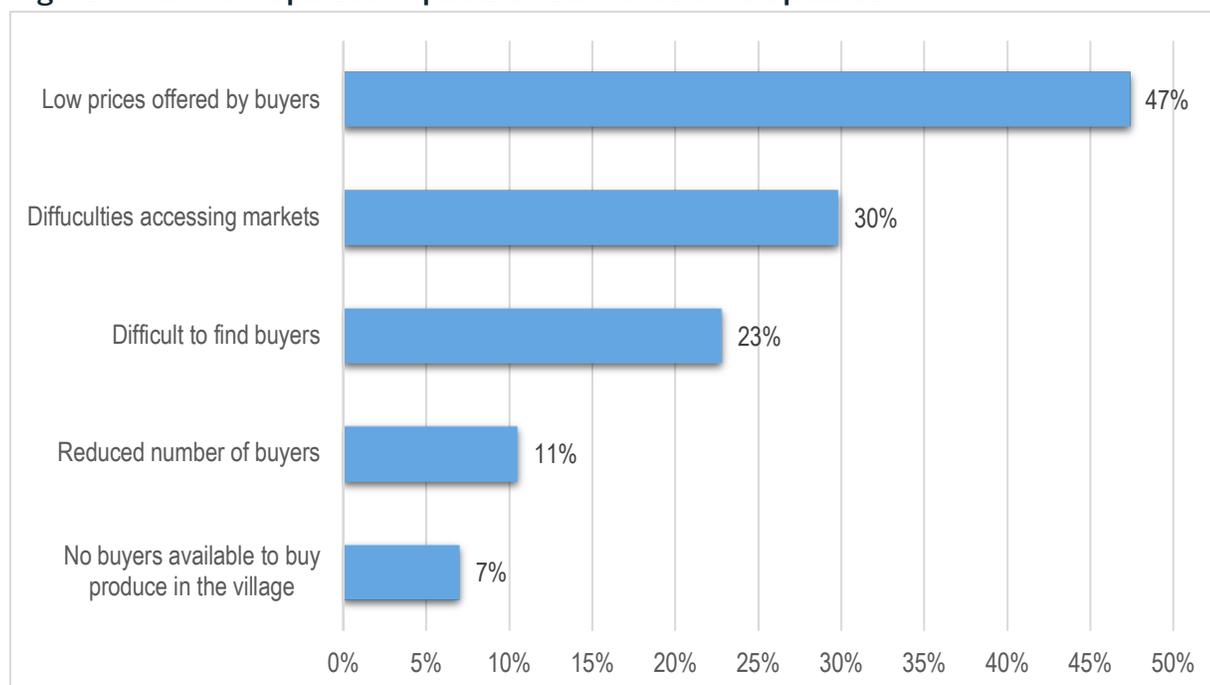
Respondents were also asked about precautionary measures that their household members adopt to minimize the risk of contracting COVID-19 (Figure 3). The majority (99%) reported they were aware handwashing is effective, 96% indicated that they would avoid handshaking (physical greetings), and 94% would maintain distance of at least one meter.

4.2 Impact of COVID-19 on crop farming in the 2019/20 main season

The pandemic and the measures put in place to reduce its spread had the potential to affect labor availability for farmers. Indeed, survey results indicate that 18% of the households had experienced labor supply related disruptions. However, although a minority were affected, amongst those experiencing disruption the majority reported “strong” or “devastating” impacts. Since COVID-19 struck towards the end on the 2019/20 main cropping season, the labor impacts likely affected harvesting and transportation (to the homestead or market) of field crops and garden vegetables. Out of the households that experienced farm labor constraints, most of them (75%) were from the Central Region while 17% are from the North and 8% are from the Southern Region.

The fairly small number of households impacted on labor may be due to the fact that most Malawian farms are small and rely primarily on family labor. According to the World Bank IHS/LSMS (2016) data, average household farm size is less than one hectare. However, according to the same data, there is a growing proportion of medium-scale farms in Central and Northern Regions. Medium-scale farms are more likely to rely on hired farm labor; the difference in farm size patterns could be driving the difference in reported farm labor supply disruptions.

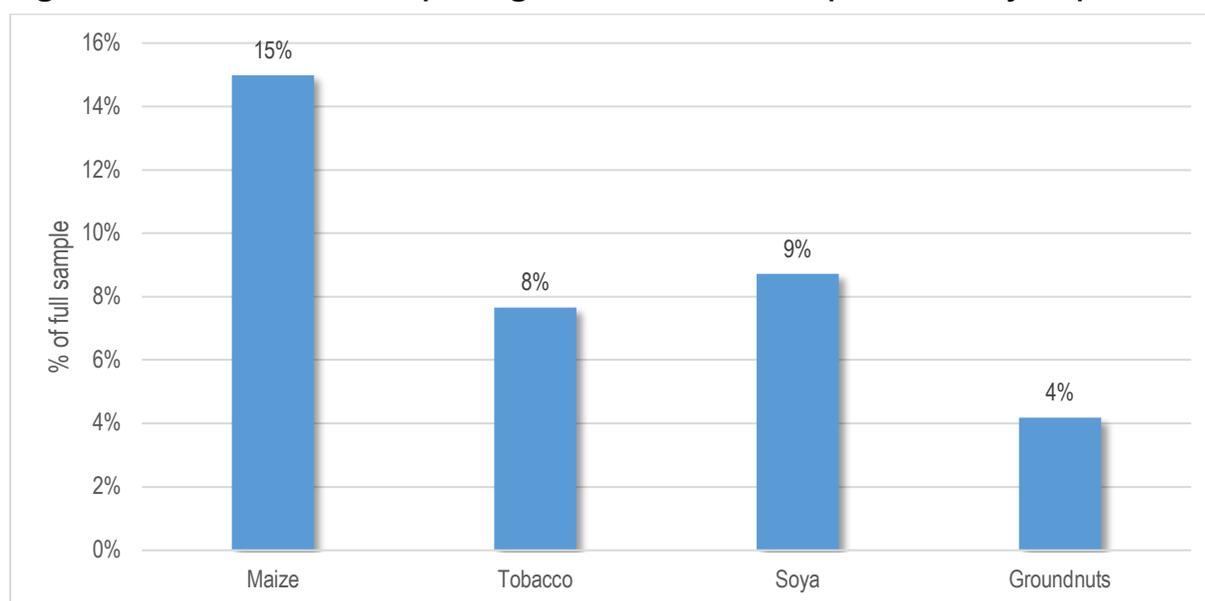
About 8% of the households reported disruptions or delays in crop harvesting activities due to COVID-19. These disruptions and delays could lead to pre-harvest losses, such as loss to pests while mature crops remain vulnerable in the field. Consequently, this may negatively affect the agri-food system as less food may be available for consumption and sale. The crops reported as most likely to be affected are groundnuts and maize. Twenty percent of respondents indicated farm produce selling activities had been adversely affected by the pandemic. The respondents experiencing problems selling farm produce were asked about specific problems they had encountered, and results are presented in Figure 4. Most of the problems are interrelated and include low prices (impacting 47% of the affected), difficulties accessing the farm produce markets (30%), and difficulties finding buyers (23%). Most of these problems have already been well documented before the threat of COVID-19. The closure of borders has also introduced uncertainty for buyers who may not be able to access export markets for the foreseeable future. This, in turn, implies that domestic prices

Figure 4: Farmer-reported impacts of COVID-19 on crop sales

Source: MwAPATA COVID-19 survey conducted in May 2020. Note: Percentages are the share of respondents amongst the 20% of all respondents who said their sales were affected that answered “yes” to follow-up questions regarding whether each of these factors had been worsened by the pandemic.

will be less predictable in the near future, all of which disincentivizes the purchase of agricultural products. Supply to some local outlets such as hotels and academic institutions has also been suspended. Although hotels have recently been slowly opening up, schools remain closed as part of the government COVID-19 prevention measures.

Respondents were asked if they expected the COVID-19 pandemic to reduce crop production in the ongoing cropping season compared to last year’s cropping season for some selected crops. Results presented in Figure 5 show that about 15% of households expected reduced production of maize. About 8, 9 and 4% of the households expected a reduction in the production of tobacco, soya beans and groundnuts, respectively. These expected reductions in production are attributed to losses due to delays in harvesting and post-harvest losses as a result of extended storage periods as farmers search for markets and better prices. Most households anticipating reductions in crop production because of COVID-19 reported that they would rely on past savings to cope when possible, while others would (or could) do nothing.

Figure 5: Share of farmers expecting COVID-19 to reduce production by crop

Source: MwAPATA COVID-19 survey conducted in May 2020.

The main conclusion is that COVID-19 is not expected to have a major impact on production levels for the 2020 harvest season. Amongst those who say they will experience losses, we are not able to quantify their expected values with any reliable degree of certainty. However, the conclusion will not change even if they are expecting major losses, because they only represent a small minority of farmers. In most cases the overwhelming majority of farmers (>90%) expect no effect and no impact on the 2020 production levels.

4.3 Anticipated impact of COVID-19 on crop farming in the 2020/21 main season

Respondents were also asked whether and how they anticipated effects of the COVID-19 pandemic would spill into the next main cropping season. The results are presented in Table 3. A sizeable proportion (45% of the sample) anticipated disruption in the procurement of farm inputs and in carrying out land preparation activities (31%). Twelve (12) percent of the respondents anticipated problems selling their farm produce. The respondents indicated that these disruptions related to restrictions in movement resulting in reduced availability of labor and farm inputs when they will be needed.

As seen in Table 3, responses on how households anticipate being affected by COVID-19 if it spills into 2020/21 season varied across the regions. For example, about 64% of the

Table 3: Anticipated effects of COVID-19 in the 2020/21 main agricultural season

Activity	Region			Full sample
	Central	Northern	Southern	
	---Share responding “yes” the activity will be affected in 2020/21---			
Land preparation	32%	10%	46%	31%
Procurement of farm inputs	41%	64%	46%	45%
Planting	4%	5%	8%	5%
Weeding	4%	10%	3%	5%
Harvesting	4%	14%	5%	6%
Selling	11%	14%	15%	12%
Other	5%	0%	0%	4%

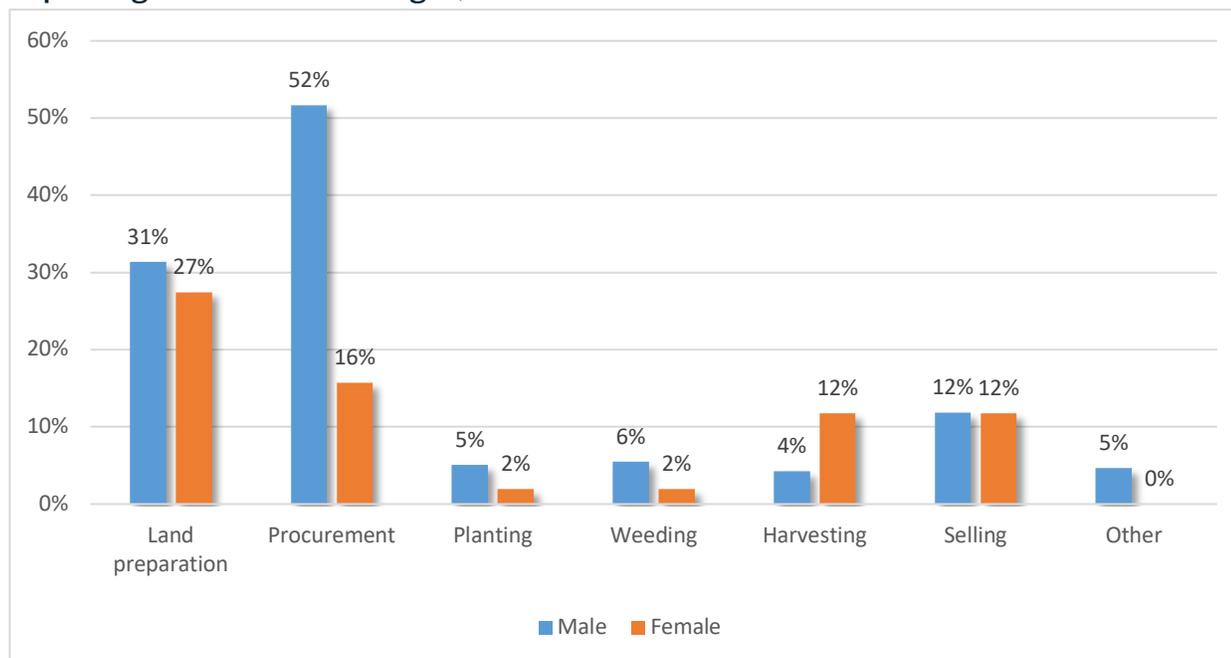
Source: MwAPATA COVID-19 survey conducted in May 2020.

Northern Region anticipated difficulties procuring farm inputs if COVID-19 persisted, compared to 41% in Central. Land preparation activities disruptions are not expected to be as challenging in the Northern Region compared to the Central and Southern Regions. This could be attributed to earlier commencement of land preparation activities in the Southern and Central Regions compared to the Northern Region.

Gender differences were also apparent in the various ways households anticipate being affected by COVID-19 in the 2020/21 main cropping season (Figure 6). A higher proportion of respondents in the male headed households anticipate added difficulties in land preparation and securing inputs compared to proportions in female headed households. Conversely, a higher proportion in female headed expect problems in harvesting compared to the proportion in the male headed households.

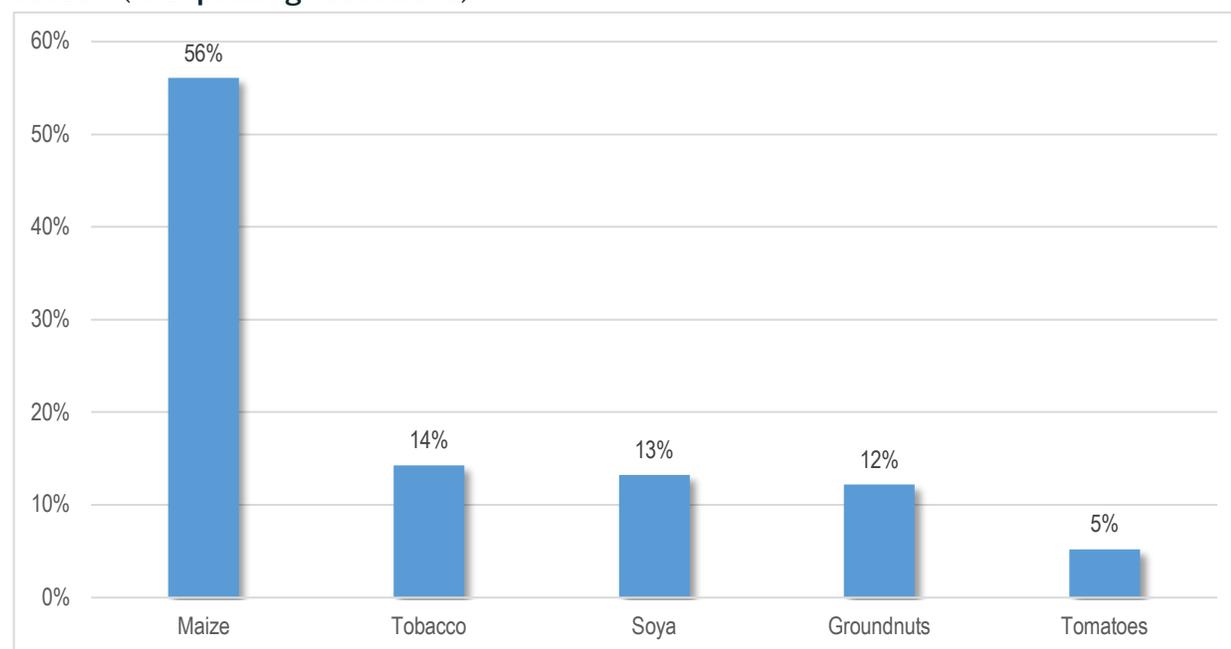
Considering the various ways in which the households anticipate being affected by COVID-19 if it spills into 2020/21 season, respondents were asked if they expect a decline in crop production compared to the 2019/20 growing season. Results presented in Figure 7 show that majority (56%) of the respondents expect a drop in maize production. Production of maize, which is grown by nearly all Malawian smallholders, could potentially be affected by delayed land preparation and procurement of farm inputs, specifically fertilizers, if COVID-19 spills into the next season. About 14 and 13% of households expect reduced production of tobacco and soya beans respectively. Twelve (12) percent of the households anticipate a drop in the production of groundnuts while 5% of the respondents expect reduced tomato production.

Figure 6: Anticipated effects of the COVID-19 pandemic in the 2020/21 main season (% expecting additional challenges)

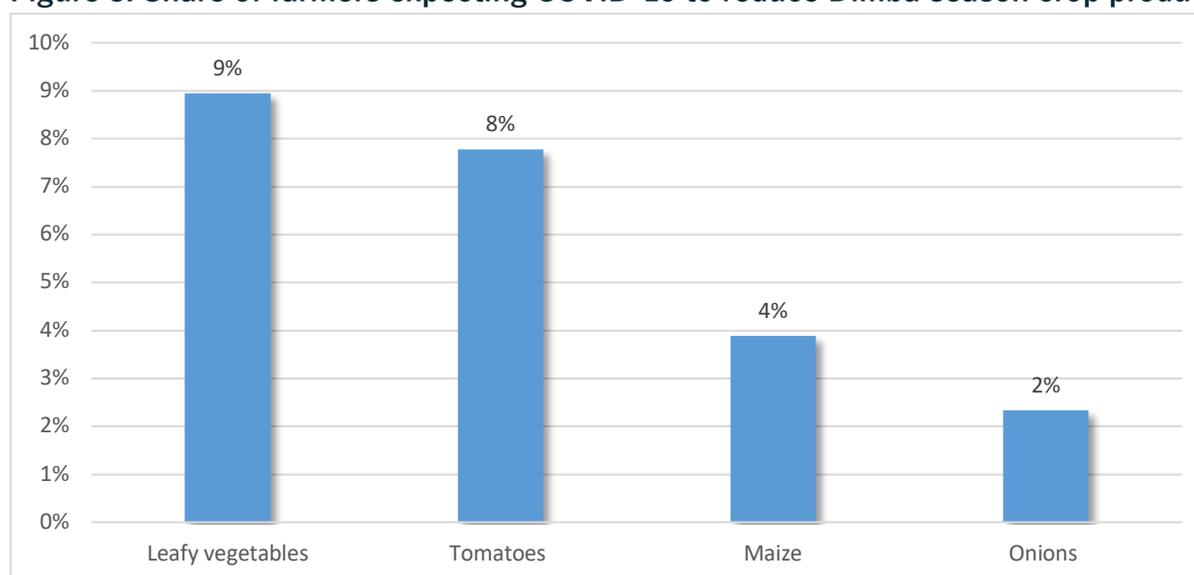


Source: MwAPATA COVID-19 survey conducted in May 2020.

Figure 7: Anticipated reductions in crop production due to COVID-19 in the 2020/21 main season (% expecting reductions)



Source: MwAPATA COVID-19 survey conducted in May 2020.

Figure 8: Share of farmers expecting COVID-19 to reduce Dimba season crop production

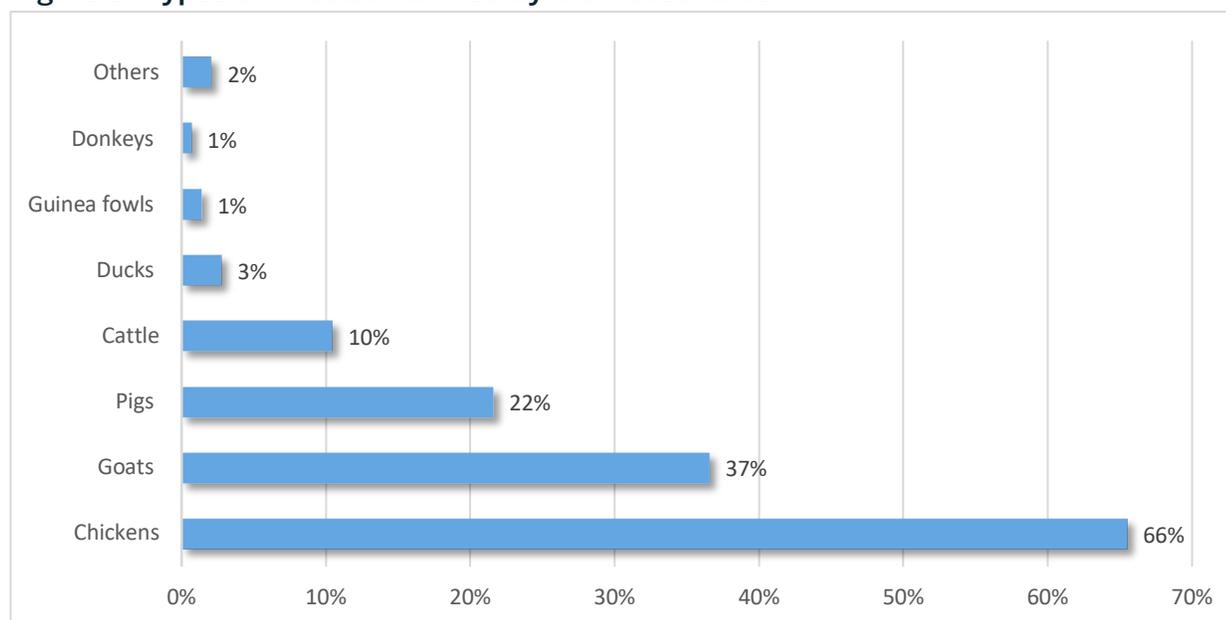
Source: MwAPATA COVID-19 survey conducted in May 2020.

4.4 Impact of COVID-19 on farming activities in the Dimba cropping season

Given that the COVID-19 pandemic is likely to continue throughout the year, respondents were asked how the pandemic is expected to impact their next Dimba season cropping activities. It should be noted that only a few farmers engage in Dimba (dry season) farming and most of them grow horticultural crops through irrigation. These farmers were asked to list the problems they anticipate encountering during the Dimba season. The results show that only a small percentage of the interviewed households anticipate disruptions in their farm activities in Dimba season. About 8% of the sample expect difficulties accessing farm inputs while about 5% anticipate problems accessing output markets. Other expected problems are related to delays in land preparation and planting.

Respondents were also asked whether they expect the COVID-19 pandemic to reduce this year's Dimba season crop production compared to last year for selected crops. Results presented in Figure 8 show that about 9% of households expect reduced production of leafy vegetables, 8% expect a reduction in the production of tomatoes, 4% expect reduction in Dimba maize crop production, and 2% anticipate a drop in onion production.

It is not clear from this analysis if the number of households anticipating COVID-19 related constraints in the Dimba season was indeed small or if this reflected the few

Figure 9: Types of livestock owned by the households

Source: MwAPATA COVID-19 survey conducted in May 2020.

households that were growing or planning to grow crops in the Dimba season. It could also be the case that the households were yet to figure out how they were likely to be affected by the continuing COVID-19 pandemic.

4.5 Impact of COVID-19 on livestock and fisheries activities in 2019/20 main season

To conclude this section, we examine the extent to which livestock farming is being impacted by the COVID-19 pandemic. But first we sought to find out what types of livestock were owned by households in our sample. Figure 9 shows the various livestock owned by households in our survey sample. A large proportion (66%) of the household owned chicken while 37% owned goats, 22% own pigs, and 10% own cattle.

Less than 5% of the respondents indicated some negative impacts on livestock farming attributable to the pandemic. These included disruptions in grazing, and access to medicines, vaccines and manufactured animal feeds. Although few respondents seem concerned, their worries are sensible since most of the livestock medicines and vaccines are accessed through local veterinary extension staff that are no longer regularly accessible as part of the government measures to prevent spread of COVID-19. Most respondents report

they can do little or nothing in response to these new challenges, while others have resorted to selling their livestock.

5. Conclusion and Policy Implications

As COVID-19 impacts on farmers who are the primary player in the agricultural value chain, begin to intensify, the landscapes of poverty, food insecurity and malnutrition could be substantially changed. Key impacts include reduced production; disruptions in household farm labor; challenges in farm produce selling and delays in procurement of farm inputs; post-harvest losses; and limited access to livestock medicines and vaccines and manufactured animal feeds.

COVID-19 is already disrupting one of the activities in Malawi's agri-food system. The agri-food system is interconnected and impact on one player has ripple effects on the rest of the system. Since the country's exposure to the pandemic is expected to increase, averting or minimizing the negative effects and social unrest will require careful interventions to stabilize food supply chains and expansion of social safety nets with better targeting and inclusion of those that would have lost employment in the agricultural sector due to COVID-19 impacts. While there have been good prospects for increased harvests of grains and legumes, COVID-19 challenges the post-farmgate value chain that accounts for a larger part of the cost of food.

GoM and other stakeholders have already taken the lead in introducing various policy and practical measures to prevent, contain and manage COVID-19, and to absorb the anticipated shocks. However, little attention seems to have been paid to agri-food systems with many of the measures understandably skewed towards the immediate concerns for the health sector and social protection.

Farmers could benefit from assistance in dealing with the immediate aftermath of COVID-19. For now, this includes assistance in accessing key production inputs in time for the start of the 2020/21 main growing season, starting around November 2020. Government needs to ensure that agri-businesses have access to stimulus packages that are being disbursed through local financing facilities to provide liquidity support to small and medium scale enterprises that are engaged in farm input supplies. Government also needs to

negotiate with neighboring and transit countries for ease of importation of farm inputs by classifying them as essential goods. It will also be crucial to support farmer' access to a sufficient number of crop buyers to ensure competition.

In the short-term, options are indeed limited, but over the medium- and long-run, efforts to support small and medium-scale agribusiness investment in rural Malawi will promote agri-food systems resilience to similar shocks in the future. It would be well-advised for the Government of Malawi to, as soon as possible, initiate a process to design and implement policies and programs that address the disruptions of agri-food supply chains, higher food prices, postharvest losses and severe economic fallout of employees in the agricultural sector as a result of COVID-19 impacts. We recommend government coordinate and frequently engage with agri-food supply chain players to ascertain their needs and design programs to address them. For example, our study has shown farmers have no planned coping mechanisms for the expected increased difficulty finding inputs or decreased production. This highlights a possible intervention point. However, the main problem areas are likely to be different for various actors in the value chain (as will be discussed other reports in this series) and changing over time as the pandemic unfolds. A mechanism for frequent and open dialogue will be important for staying abreast of the concerns and challenges facing the agriculture sector.

We also recommend that government continuously monitor prices of basic food commodities so that economic vulnerabilities can be identified quickly. This will also allow the Competition and Fair-Trade Commission to increase surveillance and monitoring capacity to limit opportunistic overpricing of food commodities, though it is important for policy makers and the public to realize that market-driven changes in prices are also expected.

Acknowledgements

This research was produced with the help of a grant from the Foundation for a Smoke-Free World (FSFW) Agricultural Transformation Initiative (ATI) through the Michigan State University (MSU) Food Security Group. This work also benefited from financial support from Alliance for a Green Revolution in Africa (AGRA). We are grateful for this generous support. The authors wish to thank Dr. Christone Nyondo, Yanjanani Lifeyo, and Zephania Nyirenda for supervising the survey data collection and conducting data analysis. We are grateful for the helpful feedback from internal and external reviewers. Any views expressed herein are those of the authors and do not necessarily represent the views of the donors