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Squeezed: The impact of Covid-19 on Mozambican agriculture

Comprimidos: O impacto do Covid-19 na agricultura Moçambicana

Apretados: El impacto del Covid-19 en la agricultura Mozambiqueña

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Abstract
The world is facing a pandemic of an unprecedented nature. By the end of October 2020, the Covid-19 pandemic had claimed over a million lives and forced lockdowns across the world. People were restricted in their movements and economies around the world are still in limbo. This article analyzes the impacts of Covid-19 on the Mozambican agricultural sector by the end of 2020 when the pandemic was still a novelty and there were no vaccines available. Using secondary data analysis and interviews, this paper argues that the agricultural sector, especially cash crops, has been pressured by a combination of pre-existing factors, including weather conditions, terrorist attacks, and the financial crisis, which were, then, exacerbated by the new challenges presented by Covid-19. The direct effects of Covid-19 on the Mozambican agricultural sector were (1) a limitation on imports of essential agricultural inputs such as seeds, pesticides and fertilizers, and (2) a considerable reduction in the production and export of cash crop products. In addition, we found that food crops, which are less dependent on the global market, were less impacted. Nevertheless, the long-term impacts remain unclear, and more research is needed to provide a comprehensive understanding. Based on the results, we recommend that the impacts of Covid-19 be analyzed and better understood using a holistic approach that integrates data on pre-existing conditions and their dynamics to model future scenarios. Finally, we recommend expanding investments in local production of essential agricultural inputs such as fertilizers, improved seeds and pesticides.
Keywords: Covid-19; Agriculture; Food security; Mozambique.

Resumo
O mundo enfrenta uma pandemia de natureza sem precedentes. Até o final de Outubro de 2020, a pandemia do Covid-19 ceifou mais de um milhão de vidas e forçou bloqueios em todo o mundo. Este artigo analisa os impactos da Covid-19 no sector agrícola moçambicano até ao final de 2020 quando a pandemia ainda era uma novidade e não existiam vacinas disponíveis. Usando análise de dados secundários e entrevistas, este artigo argumenta que o setor agrícola, especialmente o de culturas de rendimento, foi pressionado por uma combinação de fatores pré-existentes, incluindo condições climáticas, ataques terroristas e crise financeira, que são exacerbados pelos novos desafios apresentados pelo Covid-19. Os efeitos directos do Covid-19 no sector agrícola moçambicano foram (1) limitação nas importações de insumos agrícolas essenciais como sementes, pesticidas e fertilizantes, e (2) uma redução considerável na produção e exportação de produtos agrícolas de rendimento. Além disso, descobrimos que as culturas alimentares, que dependem menos do mercado global, foram menos impactadas. Não obstante, os impactos de longo prazo permanecem obscuros, e mais pesquisas são necessárias para fornecer um entendimento abrangente. Com base nos resultados, recomendamos que os impactos do Covid-19 sejam analisados e melhor compreendidos usando uma abordagem holística que integre dados sobre condições pré-existentes e sua dinâmica para modelar cenários futuros. Finalmente, recomendamos a expansão dos investimentos na produção local de insumos agrícolas essenciais, como fertilizantes, sementes melhoradas e pesticidas.
Palavras-chave: Covid-19; Agricultura; Segurança alimentar; Moçambique.

Resumen
El Mundo se está enfrentando a una pandemia de una naturaleza sin precedentes. A finales de octubre de 2020, la pandemia de Covid-19 se había cobrado más de un millón de vidas y había forzado confinamientos en todo el mundo. Este artículo analiza los impactos del Covid-19 en el sector agrícola mozambiqueño a finales de 2020 cuando la pandemia aún era una novedad y no había vacunas disponibles. Usando análisis de datos secundarios y entrevistas, este documento argumenta que el sector agrícola, especialmente los cultivos comerciales, se ha visto presionado por una combinación de factores preexistentes, incluidas las condiciones climáticas, los ataques terroristas y la crisis financiera, que se ven exacerbados por los nuevos desafíos presentados por el Covid-19. Los efectos directos del Covid-19 en el sector agrícola mozambiqueño fueron (1) una limitación en las importaciones de insumos agrícolas esenciales como semillas, pesticidas y fertilizantes, y (2) una reducción considerable en la producción y exportación de cultivos comerciales. Además, encontramos que los cultivos alimentarios, que dependen menos del mercado global, se vieron menos afectados. Sin embargo, los impactos a largo plazo siguen sin estar claros y se necesita más investigación para proporcionar una comprensión integral. Con base en los resultados, recomendamos que los impactos de Covid-19 se analicen y comprendan mejor utilizando un enfoque holístico que integre datos sobre condiciones preexistentes y su dinámica para modelar escenarios futuros. Finalmente, recomendamos expandir las inversiones en la producción local de insumos agrícolas esenciales como fertilizantes, semillas mejoradas y pesticidas.
Palabras clave: Covid-19; Agricultura; Seguridad alimentaria; Mozambique.

1. Introduction

The end of the year 2019 marked the beginning of a new era. An era that has been landmarked by the surge of a new deadly coronavirus. Designated as Covid-19, by the World Health Organization - WHO, on the 11th of February 2020[1] , Covid-19 is caused by the SARS-CoV-2 virus. It was first reported in the Chinese city of Wuhan and rapidly developed into a pandemic affecting nearly all countries around the world (Richardson, 2020). The virus is transmitted mainly through droplets from an infected person to others. These droplets may be caught directly, or indirectly through contact with infected surfaces. As there was no a vaccine and the disease is highly contagious, preventive measures such as social distancing, the use of face masks, and hygiene practices such as frequent hand washing was highly recommended. Restrictions on mobility to reduce the spread of the virus have also been recommended, while borders and public institutions have been closed. Evidence across the globe shows that Covid-19 is causing different (negative) impacts across all economic sectors. The World Bank (2020) predicted a 5.2 per cent contraction in global GDP in 2020: the deepest global recession in eight decades.

This paper focus on the Covid-19 impacts on the agricultural sector in Mozambique. Agriculture is the most important sector in Mozambique as it hosts about 70% of the population and contributes to about 25 percent of the national GDP (MADER, 2020). The global impacts of Covid-19 on the agricultural sector includes interruptions in the food supply chain, waste of large quantities of commodities due to lack of labor in the farms, restrictive trade policies, increased consumption of highly processed foods, and collapse of the export-led agricultural markets and localized decline or increase of agricultural prices. The World Bank (2020) suggests that while ample supplies mean that prices are likely to remain stable at the global level, localized price spikes could further erode food security. Although the full impacts of the pandemic in the agricultural sector are still to be understood, evidences suggest that it has impacted women the most. Women compose the majority of agricultural players in developing countries and are also burdened by other domestic and community duties such as attending burials, taking care of the ill, cooking, cleaning and so forth (Gunther, 2020; Lal, 2020; Richardson, 2020, Mukiibi, 2020).

This study assesses the effects of the pandemic on the agriculture sector up to 2020 by looking at (1) access to production inputs, (2) production and exports, and (3) market and prices. We postulate that bringing knowledge on the main immediate effects of this pandemic on agriculture may shed a light and help to define strategies and contingency measures in order to guarantee food

[1] https://www.who.int/dg/speeches/detail/who-director-general-s-remarks-at-the-media-briefing-on-2019-ncov-on-11-february-2020

security at the national level, and buffer the long-term impacts of the pandemic such as related to malnutrition and impoverishment. The article is structured in five sections, including this introductory one. The second section, provides an overview of current global debate on the impacts of Covid-19 in the agricultural sector including debates taking place in Mozambique. The third section touches on the methodology applied. The fourth presents the results of the study and this is done in the following format: first, we present the overall context of Covid-19 in the country. Then we look at the impacts at the production system touching on the issues of production and exports and, then a debate on the market conditions and issues of food security. Finally, the fifth section, highlights the main conclusions and provides key recommendations.

1.1 Covid-19, agriculture and food supply

Globally, the Covid-19 pandemic is disrupting the food systems with far- reaching consequences on human health and the global economy. The FAO *et al.* (2020) argues that by 2019 about 690 million people or nearly 1 out of 10 people in world went hungry and Covid-19 pandemic is likely to push additional 130 million people into chronic hunger by the end of 2020. On the other side, The World Bank has suggested that Covid-19 is likely to push about 100 million people into extreme poverty (World Bank, 2020). The Bank adds that increasing unemployment rates, income losses and rising food costs are jeopardizing food access in developed and developing countries alike. It points out that smallholder farmers and their families, food workers in all sectors, and those living in commodity-and tourism-dependent economies are particularly vulnerable. The FAO food price index was 5% higher in September than its value in September; cereals rose 13.6% than a year ago and vegetables price index rose 6% hitting an 8-month higher quotation (FAO, 2020a).

Bearing all this in mind the FAO has made a call for USD 1.3 billion to coordinate a global effort to ensure nutritious food for both, during and after the pandemic (FAO, 2020). The World Food Program argues that the economic consequences will be more devastating than the disease itself. Confounding factors such as climate related disasters, debts, environment degradation, civil wars, terrorism, and economic mismanagement have already produced about 212 million chronically food-insecure and 95 million acutely food-insecure people across the globe - particularly in Africa. Having said that, the organization has made a bold statement: “We must make sure that tens of millions of people already on the verge of starvation do not succumb to this virus or to its economic consequences” (WFP, 2020: 5).

Researchers across the globe are producing evidences of how this is happening on the ground. Altieri and Nicholls (2020) argue that Covid-19 has exposed the fragilities of our production systems, which are socially unjust, ecologically unfriendly and economically volatile. They suggest agroecology as the way to overcome current and future crisis because it provides more multifaceted and resilient ecosystems beyond simply agriculture. Richardson (2020) took a food system approach and pointed to disruption across the food chain from production to transport, processing, marketing and consumption patterns. He pointed out how lockdowns and travel bans have impacted food systems and recommends the development of a robust food system. Tripathi *et al.* (2021) looked at the impacts of Covid-19 on diverse farm systems in Tanzania and South Africa and found that large-scale farmers were most able to access capital to buffer short-term impacts, whereas smaller-scale farms shared labour, diversified to subsistence produce and sold assets.

Gemmill-Herren (2020) argues that the world must take a human centered approach in dealing with the Covid-19. Based on evidence gathered in Kenya he argues that Covid-19 affected mostly the poor, mainly farmers, living in informal economies who have no savings and make a living on a daily basis. Ragasa and Lambrecht (2020) explored the impacts of Covid-19 in the agricultural sector using a gendered approach and argue that women farmers were much more impacted than their male counterparts due to

preexisting roles and gender inequalities, and argue that the pandemic could offer an opportunity to address gender gaps. Research by Jribi *et al.* (2020) found out that in Tunisia, the lockdown helped to reduce food waste at household level, 80 percent of their interviews claimed no waste of food and they concluded that Covid-19 may help to reduce food insecurity due to increased awareness of perceived limits on food access. Mukiibi (2020) looked at African food systems and concluded that urban areas were facing increased food prices due to their dependency on rural or global food markets. He concluded by recommending the expansion of home gardening in urban areas and expanding national policies that support in-country food production and marketing. Lal (2020) recommends also home gardening and urban agriculture to reduce urban dependency on global markets Franco (2020) questioned how impacts are analyzed. He argues that globally Covid-19 impacts focus on urban areas while the global majority live in rural areas and have agriculture as their main livelihood source. Because of this bias there has been limited understanding of the impacts on agriculture and rural livelihoods In Mozambique, systematic research on the impacts of Covid-19 in agriculture are still lacking. Feijó (2020) published ´losers and winners´ from Covid-19 in Mozambique. He concluded that Tourism and transport, education, trade of non-agricultural products, construction sector and extractive industries are the main losers while the health sector, agriculture, trade of food products and internet providers are likely to be the main winners.

Mussagy and Mosca (2020) developed macro-simulations and concluded that poverty levels are likely to increase by 20-30% due to the Covid-19 pandemic, with rural communities and agricultural dependent households being the most affected. They also looked at the informal trade sector and concluded that the traders experienced between 50-75 percent losses on their revenue. In the agriculture sector, the FAO (2020) argues that higher dependency to external market combined with preexisting risks and shocks will increase the number of people in need of food support. The broader review presented above suggests that the full impacts of Covid-19 in the agricultural sector and on food chains are still to be understood and deserve further research. We are still lacking critical local level evidence which may help societies to understand the positive and negative impacts from Covid-19. Indeed, it seems that there is an emerging trend advocating for changes on how food systems operate and a demand for more national investments in agriculture and food chains to reduce dependency on global markets, which are easily disrupted under global threats.

2. Methodology

The present study is based on both-primary and secondary data. Secondary data was gathered from a range of national and international institutions and databases that deal with agriculture commodities namely: - The National Institute of Statistics – INE - Ministry of Agriculture and Rural Development - MADER - Ministry of Industry and Trade - MIC - Customs of Mozambique - World Bank - Food and Agriculture Organization Corporate Statistical Database – FAOSTAT - Organization for Economic Cooperation and Development - OECD In order to assess the Covid-19 impacts on agriculture the research used a comparative approach by which data from 2020 was compared to similar period of 2019 and to the general trend over time. To support the analysis, the researchers applied key-informant's interviews to government and non-government actors. Key informants were selected based on their relevance in the value chain of the agricultural production in Mozambique ranging from input suppliers up to end-users (consumers). This was complemented by interviews to key government institutions on agriculture, trade and import and exports as indicated in Table 1. Sampling to the key informants was purposeful-not randomized, as the core aim of the study was to explore the issue under the study from the relevant players rather than statistical analysis and comparisons. Intentional/purposeful sampling is widely used in social sciences with the purpose of exploring and getting a deeper understanding of issues (Bailey, 1994; Russell-Bernard, 2005).

Table 1 - Research key informants.

Key informants	Interviewed
Government informants	
Top level staff from MADER	4
Top level staff from MIC	2
Top level staff from the Mozambique Customers	1
Non-Government informants	
Agro-dealers	10
Agricultural researchers	6
Re-sellers	15
Consumers	16

Source: Authors.

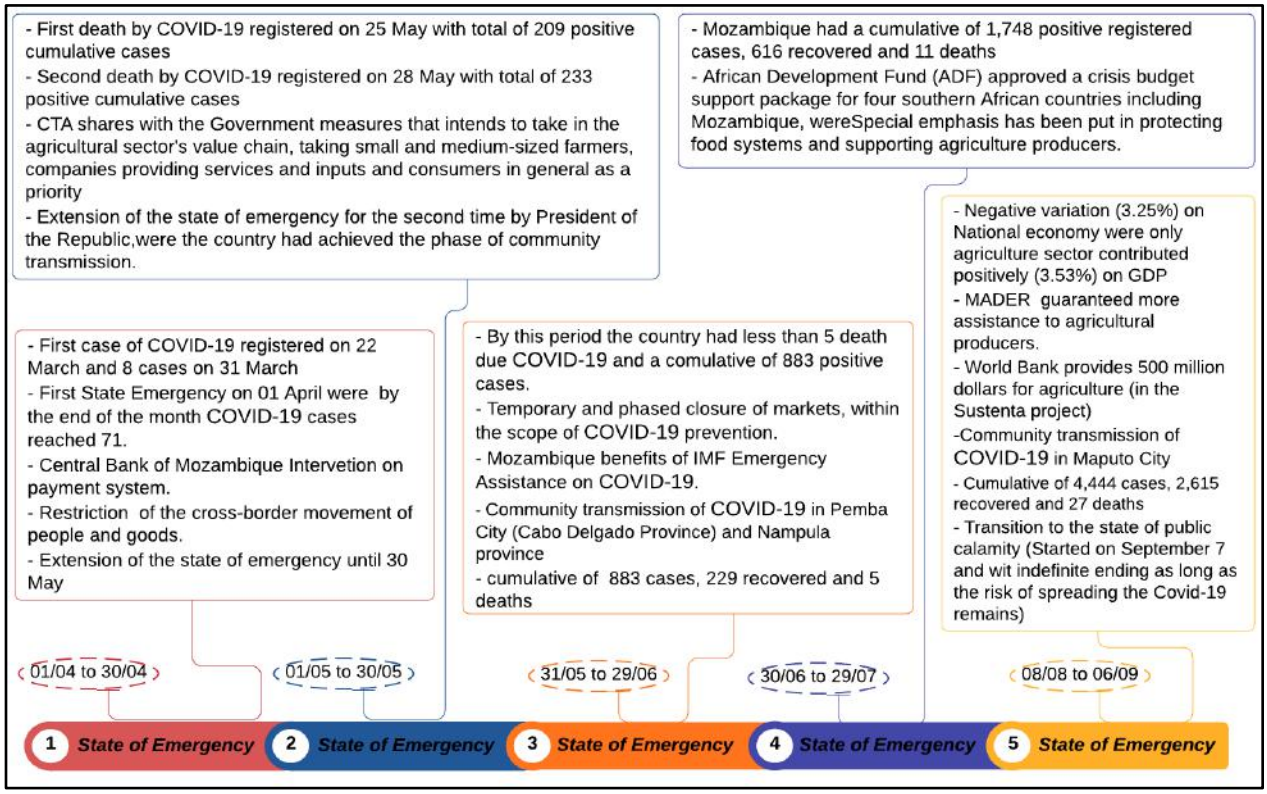
Finally, the researchers made field observations on farms, on markets and shops related to agricultural products. One of the key methodological challenges was field visits and face-to face interviews. Because of the restrictions due to Covid-19 most of the interviews were done virtually and field visits took time to prepare and to take place. On the other side, field visits were not possible outside of Maputo city and surroundings. Quantitative data was analyzed using excel sheets which helped to produce graphs and tables. The researchers used descriptive statistics including frequency, averages, maximum and minimal values. The qualitative data was analyzed using the content analysis technique, which focuses on analyzing similar information across different interviews and categorizes them accordingly to explore their relevance in support of or against the quantitative trends (Hsieh & Shannon, 2005).

3. Results and Discussion

3.1 An overview of Covid-19 context in Mozambique by 2020

The first Covid-19 case was registered in Mozambique on 22nd March 2020. But long before, by 22nd of January the government, through the Ministry of Health – MISAU, started screening, at the (air)ports passengers coming from the People's Republic of China following the global surveillance process advocated by the World Health Organization. On 30th March the President of the Republic declared the State of Emergency, through Presidential Decree No. 11/2020, which was then ratified by the Assembly of the Republic through Law No. 1/2020, of 31st March. This State of Emergency entered into force by 1st April 2020 lasting 30 days. In this State of Emergency, the government has opted for level 3 measures of response to Covid-19 - out of 4 levels recommended by the WHO. Therein, level 4 dictates a complete shutdown and level 3 a partial lockdown. By this, schools and public events were all closed or prohibited but people could still travel around and economic activities could take place, provided that preventive measures such as compulsory mask wearing in public spaces, social distancing, and hand washing are observed. The State of Emergency was renewed monthly up to September when the government decided to shift to State of Calamity as per the constitution, the president could no longer renew the State of Emergency. Throughout this process the government has imposed a number of measures summarized in the Figure 1.

Figure 1 - Covid-19 evolution in the States of Emergency and critical events in each period.



Source: Authors.

To deal with the pandemic the government made an international appeal of about USD 700 million for health, social and economic support. By 30th August the Ministry of Health has received USD 79.5 million (being USD 35.6 million in kind)[2]. Donors such as IMF, World Bank, African Development, and the EU have also stepped in and made their contribution. By September the government announced to have received contributions around USD 400 million over a range of sectors and from internal and external donors.

3.2 Covid-19 and agriculture in Mozambique

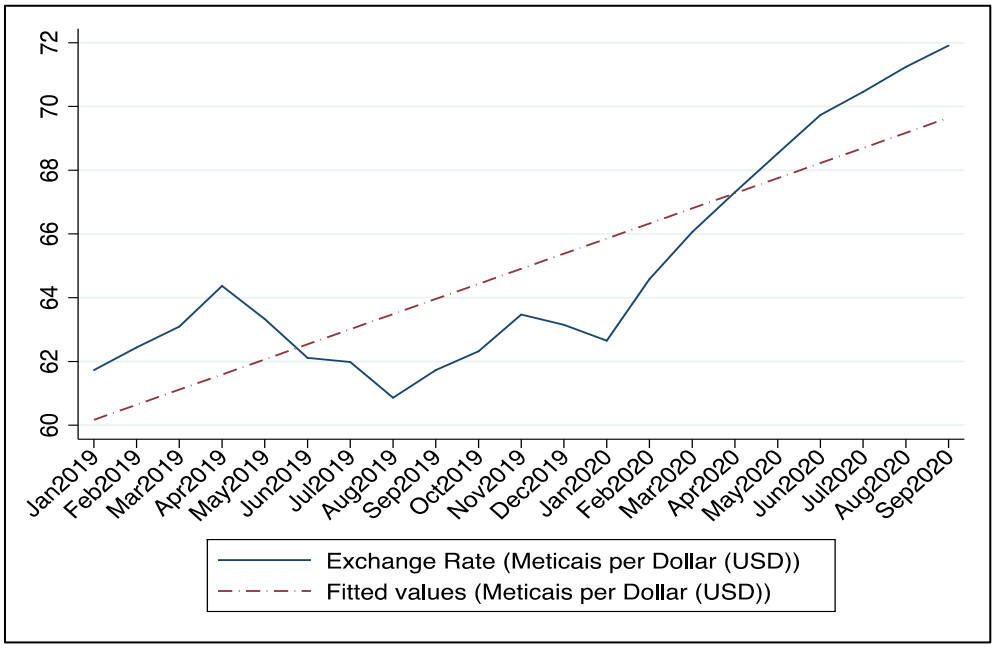
3.2.1 Production and Exports

Agriculture in Mozambique is grounded on small scale farming (98,7% of the production comes from this sector). It is essentially rain-fed and low input based. Only about 4.6% of producers use certified/improved seeds, 0.6% have access to credit services, 3% use (inorganic) fertilizers, 6.3% use pesticides, 8.1% have access to irrigation and 7.7% to animal traction. Post-harvest losses reach 30% and climate hazards (i.e., drought, flooding) affects 67.8% of farming lands (Cavane et al., 2013; MADER, 2020). Imports for agricultural purposes are basically for cash crops and made by the few medium and large producers that make less than 5% of the national producers. It is against this background that we have to assess the Covid-19 impacts on the agricultural sector. So, the impacts on input importation and supply could be felt by these large-scale companies.

[2] See https://www.misau.gov.mz/index.php/relatorios-de-execucao-financeira for details

Overall, Mozambique depends heavily on imports, mainly from South Africa, to supply the demands of the agricultural sector. The larger importers of agricultural inputs interviewed during this research have declared to have had increased constraints to import but also to sell. Due to Covid-19, borders have been closed, many factories closed or functioned below capacity, prices of main commodities such as cotton, cashew nut has declined in the international market while government and NGOs as well as the private sector received less international funding to support their interventions in the agricultural sector[3].This has been also exacerbated by the fact that the USD dollar, the main trade currency, has been increasing as shown in the Figure 2. It was traded at a rate of 62.65 by January and it jumped to 71.91 by September 2020.

Figure 2 - Exchange rate trend USD to MZM.



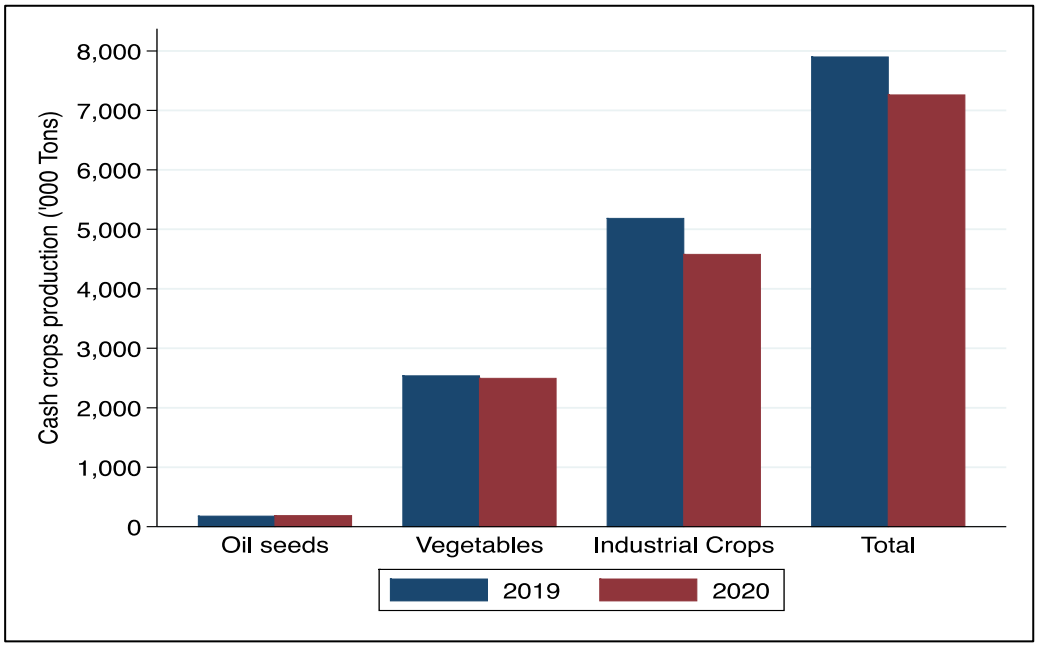
Source: Banco de Moçambique, October 2020. Available on www.bancomoc.mz

Data suggests that imports have declined over the Covid-19 period. Mozambique imports decreased to 1734.0 million USD in the first quarter of 2020 from 1904.60 million USD in the fourth quarter of 2019, that is, about 10 percent; and exports have also declined from 1279.80 million USD in the fourth quarter of 2019 to 999.10 million USD in the first quarter of 2020[4], that is, 21 percent decrease in exports. Because Mozambique exports mainly raw materials with an emphasis on agricultural products (tobacco, cotton, cashew nuts, copra, coconuts, timber, citrus), this decrease was also due to Covid-19 impacts on the agricultural sector. As a matter of fact, overall cash crops have seen a decrease of 8 percent compared to 2019. A combination of weather conditions (i.e., Idai flooding in the central Mozambique and drought and pests in the south), terrorist attacks in Cabo-Delgado, financial crisis and Covid-19 restrictions made a complex cocktail for this negative trend. This led to what one interviewer said: “we are squeezed; Idai in central Mozambique, terrorist attacks in the North, drought in the south and Covid-19 all over. It is just too hard for this country to survive”.

[3] Interviews with Government actors, NGOs representative and input suppliers
[4] www.tradingeconomics.com/Mozambique/imports. Accessed October 2020

Overall, 250,000ha and about 216,000 producers have negatively been affected by natural hazards while terrorist attacks have displaced nearly 500,000 others. Processed cashew nut export has declined by 67% over the first semester of 2020 as compared to the equal period of 2019; cotton had a decline of 25% on production and by the end of the first semester of 2020 sugar companies had made just about 20 percent of annual planned sugar production. Vegetables declined by 12 percent while copra experienced a 13 percent decrease (after MADER, 2020). Figure 3 presents the overall trend of cash crops.

Figure 3 - Cash crops production trend.

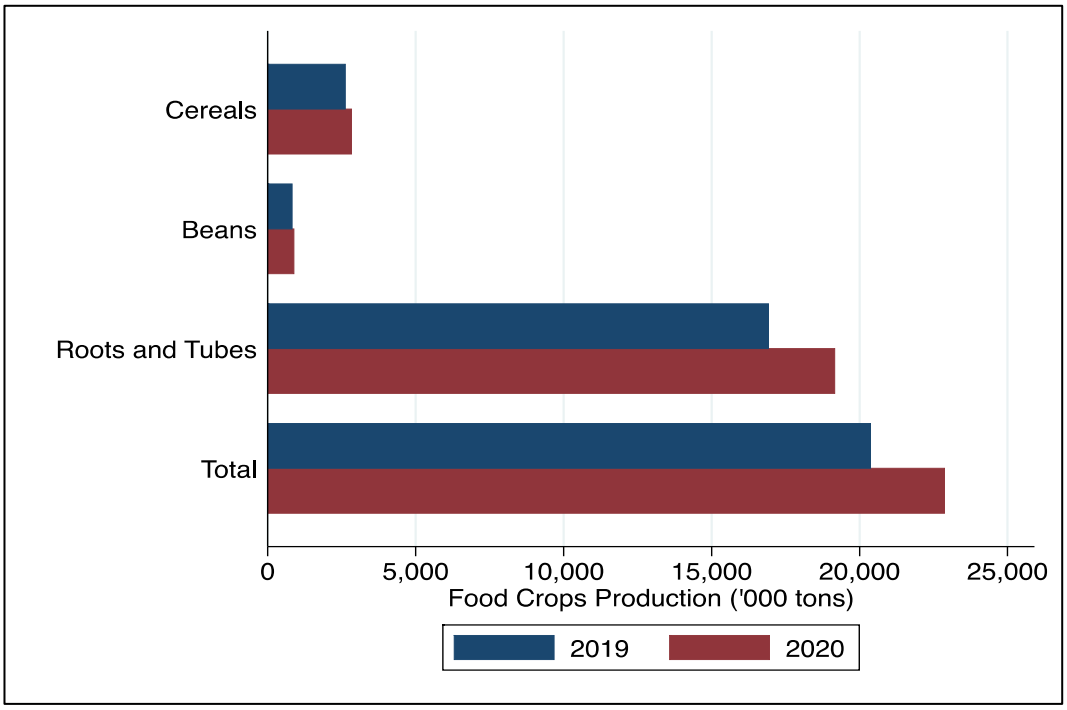


Note: Industrial crops includes cotton, tobacco, cashew nut, sugar cane, copra, macadamia, sisal, banana, citrus. Source: Authors based on MADER data

Declines in trade and exports have negatively affected the national economy. The national GDP has declined from 2.29 percent growth in fourth quarter of 2019 to 1.68 percent in first quarter of 2020 to a negative 0.87 on the second quarter of 2020. And the business index has been following the same (declining) trend. It has been declining from 152.5 in February 2020, to 151.1 in March, 141.6 in April and was 139.5 in May (INE,2020).

Despite the negative trends identified across the cash crop sector, food crops have seen an increase of 13 percent, despite a decrease in production area of an estimated 8 percent. Compared to cash crops, food crops are less dependent on international markets because producers make limited use of improved (externally driven) technologies. Cereals production increased by 8 percent, beans by 7 percent and tubes and roots by 13 percent as presented in the Figure 4 below. This could also be explained by the increase in the number of extension agents that moved from 1957 to 2064 from 2019 to 2020 and more than 2000 others were in different recruitment stages and placement. Additionally, a new national agricultural program (SUSTENTA program) with different components (including finance), previously in just 2 provinces of Nampula and Zambezia was officially launched, in July, as a national program and has already secured considerable funding from the World Bank and other major donors. Finally, but not least, by the time the borders were closed, the agricultural season which in many parts of the country start by the beginning of the rain season (i.e., October-November), had already started. Figure 4 provides an overview of the trend on food crops.

Figure 4 - Food crops production trend.



Source: Authors based on MADER data.

3.2.2 Prices and Consumption

Food availability was supposed to be badly affected by trade restrictions and lockdowns. This would have consequences on prices at the consumer level. Increases in prices were expected with the Covid-19 pandemic. Indeed, data suggests that this hasn't been the case in the major markets and for commonly consumed cereals and vegetables (table 2). Prices remained nearly stable across all major markets for main staple foods. Interviews with producers and sellers have suggested that low demand from the big buyers such as hotels, restaurants and factors as they closed down, reduced the demand and tended to stabilize the prices. On the other, as suggested by some staff from the Ministry of Agriculture and Rural Development, the lockdown allowed many people to start home gardening, producing their own food. This helped expand production and reduce market demand.

Table 2 - Price trends for main staple food.

Month	Average rice prices (Mt/kg)			Average maize flour price (MT/Kg)			Average tomato price (MT/K9)			Average price onion (Mt/10Kg)			Average price Irish Potato (MT/10Kg)		
	City			City			City			City			City		
	Maputo	Beira	Nampula	Maputo	Beira	Nampula	Maputo	Beira	Nampula	Maputo	Beira	Nampula	Maputo	Beira	Nampula
June2019	39.6	38.6	34.3	41.5	60	55	34	12.1	10	295.5	475	551.3	249	437.5	503.8
December2019	42.6	34.6	33.9	42.4	50.8	55	60.2	10.2	10.3	264.4	372.2	435	328	416.7	504
January2020	42.4	34.5	33.4	42.2	51	55	55.3	10	10	262.5	407.1	497.5	319.5	543.8	574.5
February2020	42.5	34.2	33.8	42.5	51.8	54.6	72.5	10	10	278.5	425	506.3	296.5	468.8	519.2
March2020	43.8	34.6	34.2	44.9	51.8	56.3	58	10	10	329	468.8	553.8	306.5	468.8	519.2
April2020	44.1	37.8	37.3	47.3	56	56.3	48.7	10	10.4	451.5	680	705	316	515	556.7
May2020	47.4	38	37.2	45.3	55	56.3	38.8	10	10	386.3	600	650	274.4	444	450
June2020	47.8	38.7	37.9	41.8	55	56.7	35.9	10.4	10.5	353.8	556.3	568.8	253.8	418.8	441.7

Source: Authors based on OMR (Observatório do Meio Rural) monthly food price updates

This pattern was also supported by SETSAN (2020) food security outlook for June 2020 to January 2021, which suggested that most rural households were relatively food secure despite pockets of food insecurity in the southern part of Mozambique due to droughts and, in Cabo-Delgado due to terrorism attacks. WFP put a plan to assist up to 513,755 people by March 2021. This finding of relatively stable food prices goes in sharp contrast with a general expected trend of increased food prices as proposed by Mukibi (2020), or an overwhelming disruption to the food chain as proposed by Richardson (2020), or of expanded food insecurity as expected by WFP (2020).

Although this positive trend on prices could be celebrated, the prices of Mozambique´s key cash crops in the international market derailed. Cotton prices drop from an average of 0.70USD/pounds in January to about 0.51 USD/pounds in April. Processed cashew nut which used to be traded at 5.24 USD/Kg in 2019 went down to 4.20 USD/Kg in 2020 (MADER, 2020).

4. Concluding Remarks

This article aimed at understanding the Covid-19 pandemic impacts on the agricultural sector in Mozambique. It does not intend to make conclusive judgments and recommendations as this field of research is in its early stages and there is considerable global and local uncertainty. Nonetheless, based on data and analysis we conclude that, by 2020, the Covid-19 pandemic did not produce a major reverse in the sector as expected by many scholars. Production and prices remained stable, and despite minor impacts, the sector has shown resilience and remained stable by that time.

This is not indeed to suggest that there were no major impacts. The cash crops sub-sector which is highly connected to international markets has been negatively impacted. This brings us back to winners and losers as proposed by Feijó (2020), and suggest that we cannot assume the agricultural sector to be a unique entity, but rather as a complex system which is impacted differently within.

Results from this study have far reaching consequences. First, it shows that there is a need for empirical data to prove assumptions. The assumptions that Covid-19 would produce a major setback, especially on poor countries needs to be revisited. This appears to be true for countries that are highly dependent on international markets and actors; and countries whose economies are highly dependent on mobility of people and goods, Second, results from this study are likely to reflect the general trend of “lower”

Covid-19 impacts on African countries by the time of this study. Third, it raises a number of questions for further research as to how poor countries such as Mozambique appeared to be generally more resilient compared to many better-off countries.

This paper has also highlighted the nature of complex disasters under which different hazards (Covid-19, cyclones, droughts, financial crisis, wars) interplay in different ways to a point that the impacts of one cannot be dissociated from the impacts of the others. People were not squeezed by the Covid-19 pandemic alone. Rather, they were and are squeezed by the interplay of all these combined impacts. That said, there is no way we can suggest that this paper answers all of the impacts of Covid-19 on Mozambican agriculture. The title is necessary solely as it reflects the author's intended message. Finally, but not the least, as this paper uncovered the resilience of the agricultural sector, it might be the time now to ask how African countries are resilient to crisis instead of how Africa countries are negatively impacted by crisis. This reversal on mind set is crucial because it forces everybody to look at strengths, the agency, the ingenuity of Africans instead of their weaknesses, their dependency and suffering as it has been done so far.

As a way forward we recommend expanding investments in local production of essential agricultural inputs such as fertilizers, improved seeds and pesticides. In addition, we recommend empirical studies that look at: (a) effect of Covid-19 in non-agricultural sectors; (b) on the effect of Covid-19 on the livelihoods of rural and urban populations and (c) on effects emerging from the interplay of Covid-19 and other factors such as conflict and natural hazards.

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