



A MULTI-PHASE ASSESSMENT OF THE EFFECTS OF COVID-19 ON FOOD SYSTEMS AND RURAL LIVELIHOODS IN TANZANIA

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APRA COVID-19 Country Report
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This country report forms part of a series presenting results from three rounds of mixed-methods, comparative assessments conducted by the APRA Programme on the effects of COVID-19 on local food systems and rural economies covering over 800 households and 65 key informants in eight countries (Ethiopia, Ghana, Kenya, Malawi, Nigeria, Tanzania, Zambia and Zimbabwe), beginning in June-July 2020 and ending in May-June 2021.

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Key findings

- The respondents were aware of the existence of the COVID-19 crisis, but adherence to the guidelines remained variable depending on the level of emphasis from the government and private organisations.
- People were able to access various important state services, including health, across all three rounds of the survey because no measures were introduced to restrict movements.
- More than three-quarters (75%) of the respondents reported experiencing a decline in the number of traders coming for business across all three rounds of the survey.
- There was a continuing decrease in the number of respondents who reported not receiving any assistance since the onset of COVID-19. Family members, friends, the government and religious organisations were mentioned as important sources of support.
- The COVID-19 crisis reduced the participation of respondents in their farming and off-farming businesses.
- The ability of farmers to access inputs and services for production remained low due to cash flow challenges they faced, although the prices of inputs, labour and agricultural services remained unchanged.
- Accessing off-farm work continued to be limited following a slowdown in agricultural commercialisation activities in the study location since the arrival of COVID-19.
- Farmers' ability to sell their agricultural produce through their major markets significantly declined following a decrease in the number of traders coming to their villages to buy goods.
- The availability and prices of major food groups were only marginally affected by COVID-19, but the respondent's ability to accessing food continued to be limited from July 2020 to February 2021.
- Compared to older respondents, youth were less resilient to the effects of the pandemic in term of food security, particularly in the last two rounds of the survey (October 2020 and February 2021).
- Female respondents were found to be more vulnerable with regards to food security compared to male respondents across all three rounds of the survey because of a lack of money and other resources.
- A fairly large number of respondents reported a decrease in their living standards and a rise in cost of living, following a decline in their purchasing power since the COVID-19 outbreak in March 2020.

1. Introduction

Since the outbreak of COVID-19 at the end of 2019, which was first reported in China in December 2019 (NBS, 2020), the pandemic has brought both social and economic impacts to global communities, although to varying degrees. Following its onset, the pandemic was forecasted to bring food crises, and sub-Saharan Africa was predicted to experience more severe consequences in this regard (Carreras, Saha and Thompson, 2020a). However, the observed effects of the pandemic, particularly in sub-Saharan Africa, have been exacerbated by other tensions, such as natural calamities and conflicts (Carreras, Saha and Thompson, 2020b). Since the onset of the pandemic, global communities have responded in various ways by taking different measures to fight the pandemic and its effects (World Bank, 2020).

In Tanzania, the first case was recorded on 16 March 2020 (Boniface and Magomba, 2020a; Mdoe, Mlay and Boniface, 2020; NBS, 2020). To contain the spread of the virus, on 17 March 2020, the Prime Minister announced the closure of all education institutions, the suspension of public gatherings, sports and games events, as well as international passenger flights, and mandatory quarantine for passengers coming to Tanzania were introduced. The government also established special isolation camps for people with, or suspected of having, COVID-19, and enforced World Health Organization (WHO) health standards by encouraging hand washing and wearing of face masks (Boniface and Isinika 2021; Boniface and Magomba, 2020a; Mdoe, Mlay and Boniface, 2020; World Bank, 2020).

However, in June 2020, the government announced the easing of the restrictions after observing a significant decrease in the COVID-19 infection rate. The relaxation began from early June 2020 by re-opening of colleges followed by schools in late June, and public meetings were allowed, as well as re-opening of sport and game events. On 8 June 2020, the government declared that the country was COVID-19 free, relaxing all restrictions that had been imposed earlier and all isolation treatment camps for COVID-19 patients were closed (Boniface and Magomba, 2020a). However, in January 2021, the government announced that there was a second wave of the pandemic, but the government did not impose any measures restricting movement. The government encouraged people to continue with their activities, but also observe published national health guidelines for preventing the spread of the virus through social distancing, washing hands thoroughly, and wearing face masks.

These policies implemented in Tanzania differed significantly from those implemented elsewhere in many countries around the world, including neighbouring countries. Using the argument that COVID-19 was no longer a serious threat and that publishing related statistics only instilled fear among people, the government stopped providing updated data to WHO. The last official updates on confirmed cases of COVID-19 was on 29 April 2020 (NBS, 2020) and, by that time, , Tanzania had recorded 502 confirmed positive cases of COVID-19 and 21 deaths (Boniface and Magomba, 2020b).

Most of Tanzania's neighbouring countries, including Burundi, Kenya, Rwanda, Uganda and Zambia, introduced partial lockdowns and enacted travel restrictions. Others closed off borders or imposed strict checking at borders to prevent the spread of the virus. Tensions increased with neighbouring countries, due to Tanzania's perceived lack of initiatives to tackle the spread of COVID-19, which led to the implementation of non-tariff trade barriers which were imposed on cargo carrying grain and other exports to neighbouring countries, especially Kenya. The situation became so bad that diplomatic intervention had to be sought, although the issues were eventually sorted out (Mdoe, Mlay and Boniface, 2020).

The impact of movement restrictions taken by the government, as well as more restrictive measures taken by other countries that are key trade partners to Tanzania, were predicted to slow economic growth and increased poverty (World Bank, 2020).

In order to understand the socio-economic impacts of the COVID-19 crisis, data were collected in three waves from among respondents of a study on agricultural commercialisation that is being conducted by the Agricultural Policy Research in Africa (APRA), under the Future Agriculture Consortium. APRA is implemented in six African countries including Tanzania, running from 2017 to 2022. The survey focusing on COVID-19 was conducted by interviewing 100 respondents by phone from each country. These were selected from a larger sample of respondents participating in the wider APRA study. The intention of the phone survey was to capture the real-time impacts of the COVID-19 pandemic on food systems and rural livelihoods.

This paper presents a synthesis of the results of the three rounds of phone-based surveys, which were conducted in Tanzania during mid-July 2020 (Round 1, R1), October 2020 (Round 2, R2), and February 2021 (Round 3, R3). The findings revealed that people were aware of the existence of the pandemic,

although adherence to the guidelines showed great variation between the rounds, depending on the state of emphasis by the government and the severity of the pandemic. People were able to access various state services since lockdown measures were not implemented in Tanzania. Nevertheless, the pandemic affected farmers' participation in farming and business/household enterprises, as well as access to off-farm work. Farmers' purchasing power therefore declined significantly following a drop in sales due to a significant decrease in the number of traders coming to their villages to buy goods. The pandemic left some groups in the community less food secure and the impacts continue to limit their ability to manage their lives as their living standards declined due to an increase in the cost of living.

This paper is organised into seven sections. The first section gives the background and overview of the steps taken by the government. The second section describes the methodology, including the choice of the study sites. The third section narrates respondents' responses to the COVID-19 crisis, while the fourth section presents the pandemic's effect on respondents' participation in farming, marketing and transportation. The fifth section provides a picture of the pandemic's effect on respondents' food and nutrition security, while the sixth section gives an account of the subjective poverty assessment of the respondents following the onset of the pandemic. The final section presents a brief conclusion and outlines some policy implications based on the reported findings.

2. Data

This study was designed as a three round survey conducted after each quarter of a year, interviewing the same respondents in order to capture the real-time impacts of the COVID-19 pandemic on the food system and respondents' livelihoods as the pandemic unfolded. The informants for this study were previously surveyed for APRA Tanzania panel studies on rice commercialisation, women empowerment and poverty under Workstream One (WS1) in the Kilombero Valley, Mgeta Division in 2017 and 2019 (Isinika et al., 2020).

For the sake of this rapid assessment on the impact of COVID-19, the study adopted a multi-stage sampling

technique in order to get a proportionate sample of male and female respondents. A purposive selection of five villages was undertaken, based on available secondary information regarding COVID-19, aiming at selecting villages that were more likely to be affected by the pandemic. In this regard, five village were selected: Chita, Njage, Makutano, Mchombe and Mkusi. They all had high levels of commercial activities, which resulted in an influx of rice traders, and therefore had high levels of human interaction. These villages were also easily accessible by mobile phone and they had reported suspected COVID-19 cases prior to selection (Carreras, Saha and Thompson, 2020a). During R1 in July 2020, around 20-21 respondents were interviewed from each of the five selected villages to provide a total of 102 respondents, of whom 51% were male and 49% were female.

During R2 in October 2020, the same respondents were interviewed, but two dropped out. Out of the remaining 100 respondents, 54% were male and 46% were female. Data for R3 was collected in February 2021 when 98 respondents were re-interviewed, of whom 50.5% were male and 49.5% were female (**Table 1**).

To get more insights regarding the impacts of the COVID-19 outbreak, a phone based in-dept interview was conducted of key informants who were knowledgeable about the pandemic's effects from each village. The informants included two village executive secretaries, two agricultural extension officers, one rice processor, one secretary of a farmers' group and one trader who sells soaps and protective personal equipment (PPE). The data for the household interviews were collected by Qualtrics software, an online tool for data collection. The data were then exported to STATA software for cleaning and analysis.

3. COVID-19: knowledge, spread and responses

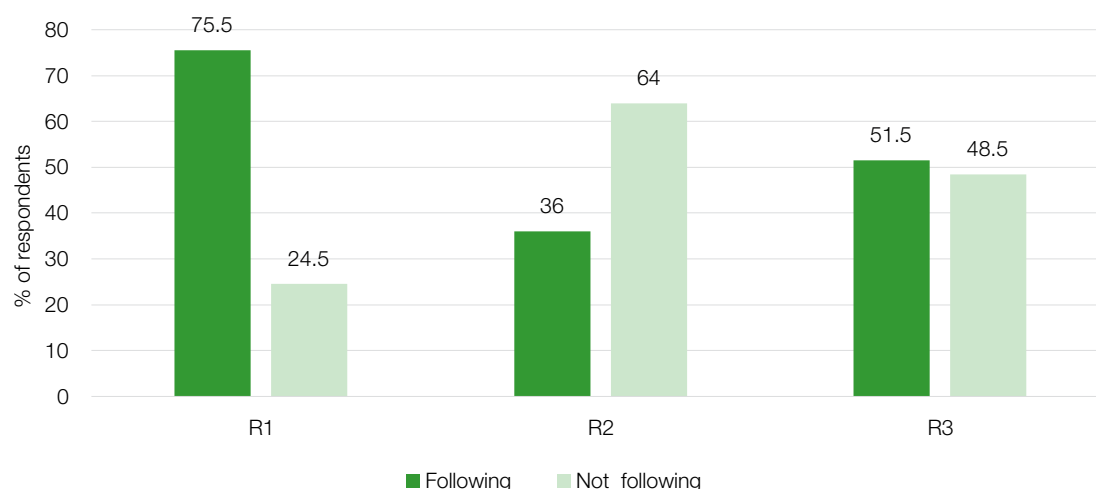
Since the onset of COVID-19 in mid-March 2020 (NBS, 2020), the government has responded in various ways to contain the virus. But the level of measures taken and emphasis on following the guidelines varied as the pandemic developed (Boniface and Magomba, 2020a; 2020b).

Table 1: Sample composition by sex and age

Round	N	Age	% male	% female
R1: July 2020	102	46.6	51	49
R2: October 2020	100	47.2	54	46
F3: February 2021	97	47.7	50.5	49.5

Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

Figure 1: Reported compliance to government guidelines in place for COVID-19



Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

All respondents in all three rounds of the survey confirmed that they were aware about the existence of the pandemic. We also asked the respondents about whether they followed guideline stipulated by the government to control the spread of the virus. The results show that compliance was higher in July 2020 (R1) when about third-quarters (75.5%) of the respondents reported following the guidelines, but compliance declined significantly during R2 in October 2020 when only 36% of respondents followed the guidelines. The sharp decline was likely due to the announcement by the government in July 2020 that the country was COVID-19 free, which was followed by the lifting of restrictions, including reopening of schools. However, the data show that adherence to the guidelines rose significantly again in R3 when 51.5% reported that they followed guidelines for preventing the spread of the virus (**Figure 1**). Again, this rise in compliance is explained by another announcement by the government in January 2021 that there was a second wave of COVID-19 in the country due to interaction with the rest of the world.

Respondents were asked whether a household member had experienced any symptoms related to COVID-19. Rates were very low, with 3.9% in July 2020 (R1), none in October 2020 (R2) and only 1% in February

2021 (R3). Responding to whether they knew anyone else in their village who had COVID-19 symptoms, again only 3.9% of respondents reported to knowing about a case in R1 and none of the respondents reported such a case in R2 or R3 (**Table 2**). Also, 15.7% of respondents in R1 and 2.1% in R3 reported having heard of a confirmed case of COVID-19 in other villages in their districts, while in R3 no respondent had heard of any cases.

Looking at access to health services within or outside of their village during the pandemic, the findings show that across all three rounds of the survey the majority of respondents (99% in R1, 97% in R2 and 100% in R3) were able to access health services (**Figure 2**). This high access level to health services is explained by the fact that no harsh restriction on movement were imposed as result of COVID-19, however everyone was strictly required to wear PPE, wash their hands and observe social distancing while attending hospitals or health centres. This, therefore, was an extra cost for people who wanted to access health services.

Regarding other types of gatherings, in March 2020 the government restricted the number of people who could attend important social-events such as weddings and funeral ceremonies, and sports, games

Table 2: Reported COVID-19 symptoms and confirmed cases (% of respondents)

Round	Has anyone in your household had COVID-19 symptoms?	Do you know anyone else in your village that has had COVID-19 symptoms?	Have you heard of any confirmed cases of COVID-19 in other villages in your district?
R1	3.9	3.9	15.7
R2	0.0	0.0	0.0
R3	1.0	0.0	2.1

Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

Figure 2: Ability to access health services



Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

and other recreational activities were suspended. The government also discouraged unnecessary travel. This move led to a decline by more than quarter (27.5% and 28.4%) of respondents who reduced their movements within and outside the village respectively during R1. In R2, very few respondents reported reducing their movement within and outside the village (7% and 6%), while in R3 the number increased again (11.3% and 8.2%) (**Figure 3**). The results from R3 are likely caused due to the fear of the second wave of the pandemic, but since the number of respondents who reported reducing their movement in R3 was lower than in R1, the fear of the pandemic among the respondents had likely not increased to the initial fear.

Many buyers and traders stopped visiting the study area following the onset of the pandemic. The decline was higher during R1 where about 93% reported a decrease in number of traders coming to do business with their villages. In R2, the number of traders visiting

the study area began to increase, with 77% reporting a decrease (**Figure 4**). This marginal improvement came as a result of the government lifting the restrictions on gatherings. Unrestricted gatherings such as rural weekly markets revived the demand for commodities (mostly agricultural) coming from the study area. But the observed increase in the number of traders was still very low compared to same period in pre-pandemic years, because October is a high season of trading in these villages. During R3, the number of respondents that reported a decrease in the number of buyers was higher again (80.4%), depicting that there was a continuing up and down movement of traders visiting the study area as the situation had not yet reached an equilibrium due to continued disruption of trade caused by each wave of the pandemic.

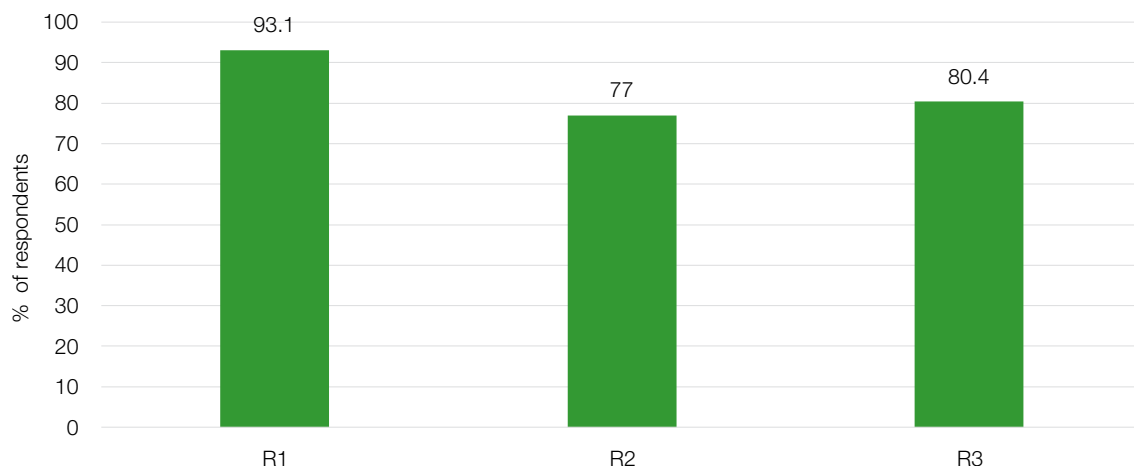
Across all three rounds of the survey, schools remained open, as the government had already lifted the restrictions on gatherings when R1 was conducted.

Figure 3: Reduced movement within and outside the village



Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

Figure 4: Decrease in the number of traders coming to the village



Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

This may have contributed to the low numbers of households reporting changes related to caring for child, the elderly and sick, as well as other family members and friends, and home chores. In R1 more than 73% of the respondents reported no changes in their responsibilities, though 12.9% experienced an increase in their responsibilities related to caring for their children, while 8.8% reported an increase in their responsibilities related to caring for the elderly and sick

within their families. Meanwhile just 3.9% reported an increase in home chores (Figure 5). The number of respondents who experienced no change in their caring responsibilities increased during R2 to more than 93%, but the proportion decreased in R3, particularly related to caring for children (78.2%), care for the sick and elderly (73.5%) and care for other family and friends (89.7%), but remained high (99%) for domestic chores. Moreover, during the same round (R3) less than 10%

Figure 5a: Change in daily caring responsibilities in R1

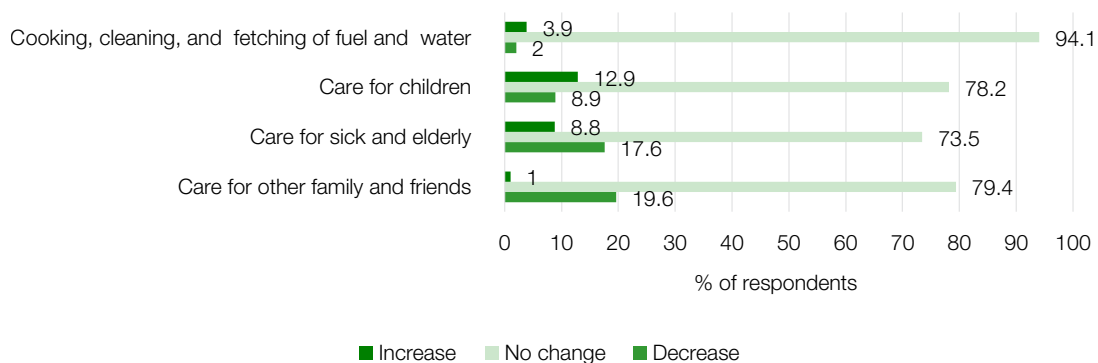


Figure 5b: Change in daily caring responsibilities in R2

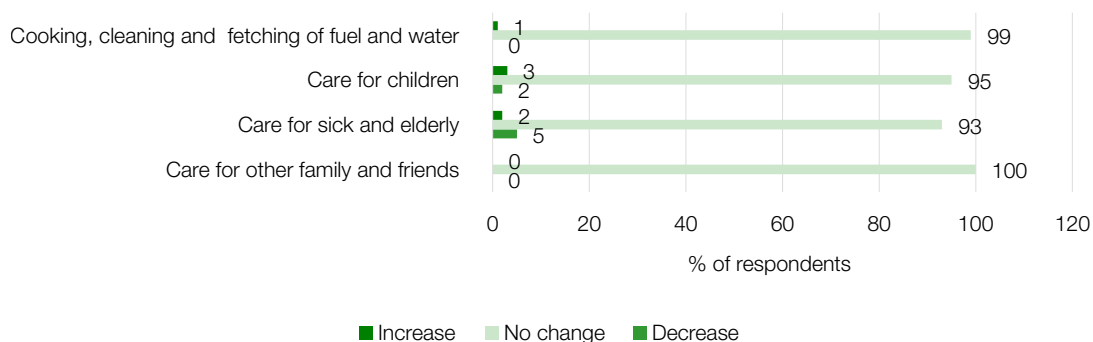
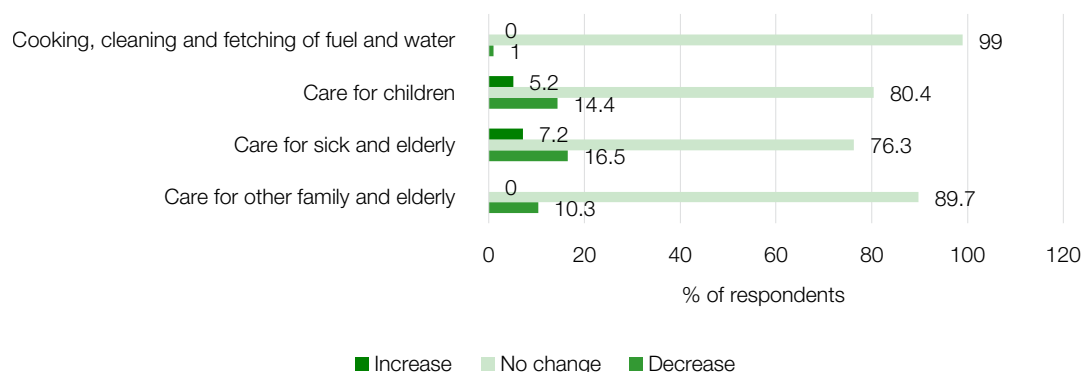


Figure 5c: Change in daily caring responsibilities in R3



Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

“Currently there is no humanitarian or food support that people have received from the government or from private organisations, not even in the agriculture sector.”

Village executive officer, Mlimba District, Morogoro

of the respondents reported increased responsibilities in caring for children (5.2%) as well as for the sick and elderly (7.2%), which were higher compared to those reported in R1. Again, these findings are explained by the fear of the second wave of the pandemic, but interestingly the figures reflect a decreasing level of fear for the pandemic compared to figures reported during R1 in July 2020.

With regard to assistance related to COVID-19, about 30.4% of the respondents had received assistance in July 2020 (R1), but only 3% had received assistance during R2. The share of respondents who reported having had received assistance increased again in R3 to 10% (almost three times compared to R2), but this was only one third compared to those who received assistance in R1 (Table 3). It was revealed that religious organisations were important source of assistance

across all three rounds. Meanwhile the government was found to be an important source in R1 and R2 in particular. Local village organisations were reported to be important sources of assistance during the first and third round of the survey, with family members and external organisation being important sources primarily in R1.

4. Farming, labour and marketing

4.1. Effects of COVID-19 on participation in farming and business/household enterprises

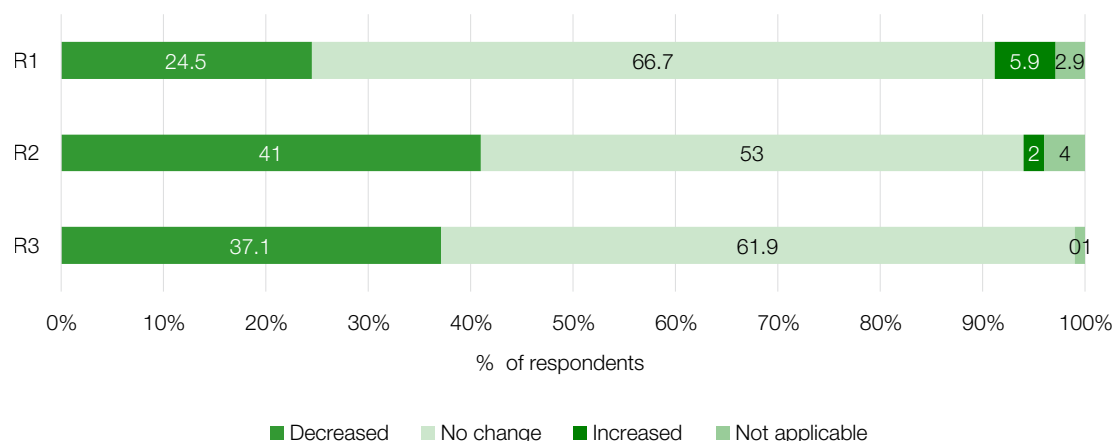
With regard to the impact of COVID-19 on participation of respondents in farming activities, across all three rounds of the survey at least one-quarter of respondents experienced a decrease. In R1 24.5% reported declining participation, rising to 41% in R2 which was also the short rainy season when few farmers engage in cultivating activities. The impact of the pandemic on farming activities continued to be felt, however, even during the long rainy season in R3 (Figure 6), as 37% of the respondents reported reduced participation in farming activities. Farmers' purchasing power also declined due to a decline in their ability to sell their produce (Figure 11) which led to the reported decrease in farmers' participation in farming activities.

Table 3: Reported assistance and sources

Round		Received assistance (%)		Not received assistance (%)	
R1		30.4		69.9	
R2		3.0		97.0	
R3		10.3		89.7	
Important sources of assistance (% respondents)					
Round	Family member	Government	Religious organisation	Local village organisation	External organisation
R1	16.7	20.6	3.9	12.9	2.0
R2	0	2.0	1	0	0
R3	0	0	1	7.2	0

Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

Figure 6: Participation in farming



Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

“My participation in farming activities has decreased. I have reduced my rice plot from 7 acres [2.8ha] last year to 4 acres [1.6ha] this year. I rented out the 3 acres [1.2ha] so that I can get cash for farming. I had to employ more family labour as I don’t have enough cash to hire labour.”

Rice farmer, Njage Village, Mlimba district, Morogoro

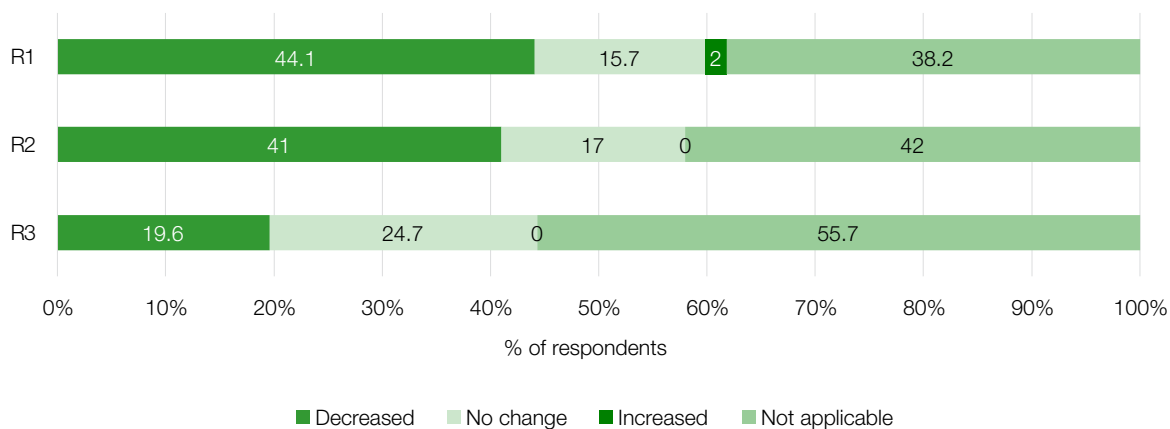
purchasing power after harvest. The findings show that more than 40%, however, reported the pandemic’s negative effects on their businesses in R2. But by R3, a lower proportion of farmers (19.2%) reported a decline; mostly those who were involved in off-farm businesses. The remaining 55.7% said that the situation did not apply to them because they did not have an enterprise (Figure 7).

4.2 Access to work

We asked the respondents about access to off-farm work both within and outside their villages. The majority of respondents were able to access off-farm work within their villages as there were no strict lock-down measures in Tanzania, which would have prevented people from moving to find work. More than 60% of the respondents across all three rounds of the survey reported having access to off-farm work. There was, however, a substantial decrease in the proportion of respondents who reported a decline in their ability to

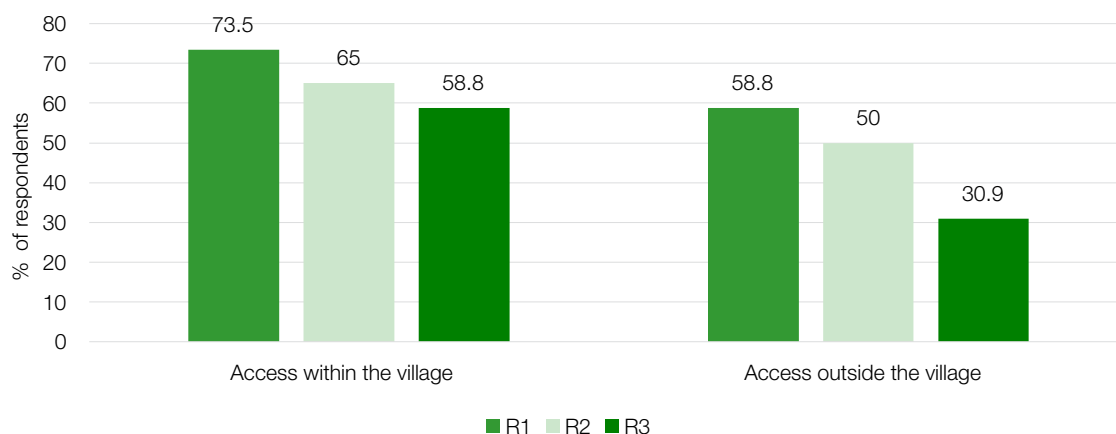
COVID-19 also affected peoples’ participation in their business or household enterprises. Even after the government’s decision to relax restrictions on assembly and interaction during R1, reduced participation in businesses continued into R2. Normally, many rural business and household enterprises often thrive in the month of October because of farmers’ increased

Figure 7: Participation in business/household enterprises



Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

Figure 8: Access to off-farm work within and outside the village



Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

"Casual labourers who do loading and offloading work from rice processing machines are still in trouble, because their jobs have been significantly reduced following a decrease in the number of traders who process paddy for transporting to urban centres; some of the casual labourers have turned to farming."

Agricultural extension officer, Mlimba District, Morogoro

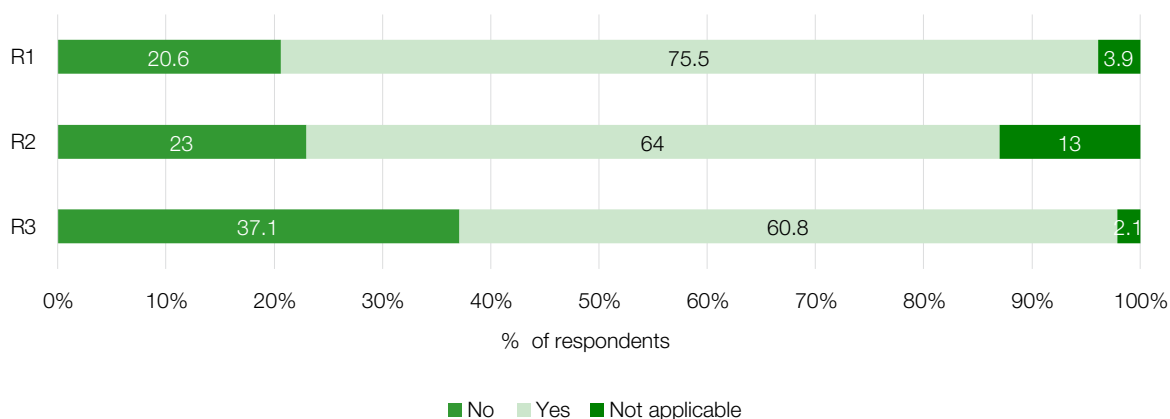
access these employment opportunities, from 73.5% in R1, to 65% in R2, and 58.8% by R3 (**Figure 8**). This decrease was attributed to both the economic decline and the new agricultural season (2020/2021) when many people concentrated on farming activities rather than working as employees. A similar pattern was seen with regard to accessing off-farm work outside the respondents' villages. About 58.8% of the respondents

stated that they were able to access off-work during R1, while half of the respondents confirmed they were able to access off-farm employment during R2, but this declined to about 30% by R3 (**Figure 8**).

4.3 Hired labour

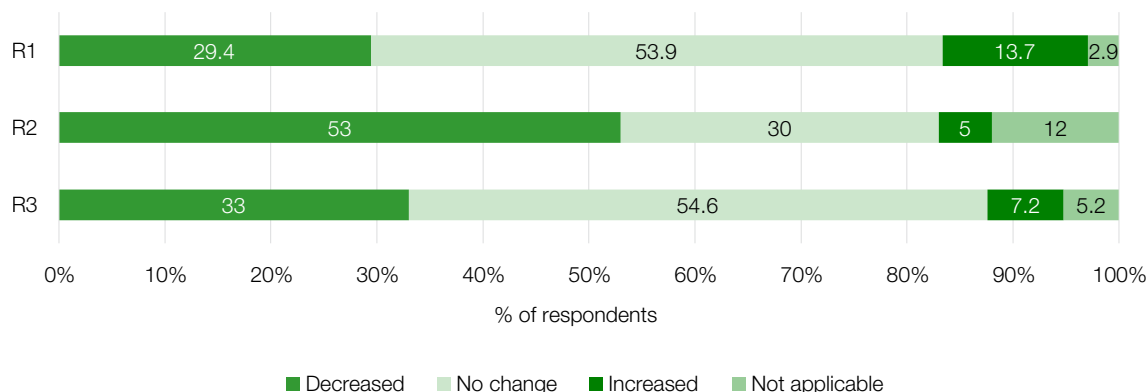
To understand the impact of COVID-19 in the study area on the availability and accessibility of labour for farming activities, respondents were asked whether they were able to hire labour to continue with their farming operations and to provide insights on the cost of the labour since the start of the pandemic. The majority of respondents (75.5%) were able to hire labour in R1, but since then the ability to hire labour decreased, to 64% in R2 and 61% by R3 (**Figure 9**). The decline in farmers' ability to hire labour came when large proportions of respondents (53% in R2 and one-third in R3) experienced reducing costs of hiring labour (**Figure 10**). This reveals that despite decreasing costs, large numbers of farmers were struggling

Figure 9: Ability to hire labour



Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

Figure 10: Change in cost of labour



Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

"A significant number of farmers are working on their fields themselves by using family labour, as they are experiencing financial challenges; the use of hired labour has decreased although its availability has increased and the cost of casual labour has decreased too."

A member of a women's group, Mkusi Village, Mlimba District, Morogoro

"When you visit warehouses in our village you will see plenty of unsold paddy/rice as if we have just finished harvesting, but no this is rice from the last season (2019/2020). Very few traders are coming to buy paddy/rice, especially traders from neighbouring countries who used to come during previous years. Since the pandemic they stopped coming, and this has caused a decline in the price of rice."

Village executive officer, Mlimba District, Morogoro

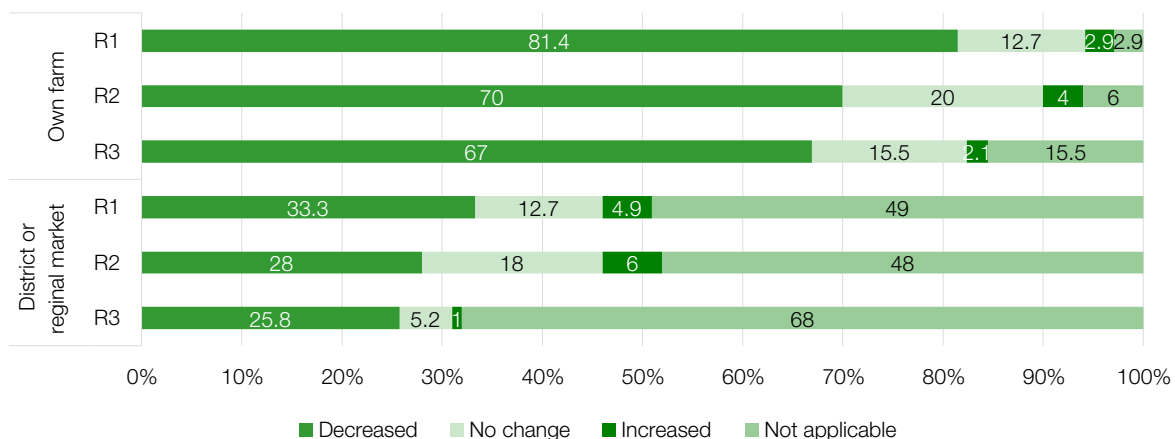
to afford labour, which would also have resulted in surplus labour being available. These findings continue to reveal the pandemics' negative impact on farmers' purchasing power, which consequentially threaten the future of agriculture in Tanzania.

4.4 Sales

Despite the governments' decision to relax COVID-19 restrictions in early June 2020, the ability of respondents to sell their produce continued to be affected as the

domestic market was not able to absorb all of the produce that came from the study location. This was partly due to the restrictions on travel which were still in place in neighbouring countries which are key trading partners of Tanzania. A decline in respondents' ability to sell their produce at the farm gate was reported to be higher in R1 when 81.4% of the respondents confirmed that they were unable to sell their produce, but as the

Figure 11: Change in ability to sell agricultural produce from farm gate and district/regional markets



Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

market conditions continued to return to normal, this figure improved slightly to 70% in R2 and 67% in R3 (**Figure 11**). A similar trend was found with respect to a decrease in farmers' ability to sell their produce in district and regional markets, however nearly 50% of the respondents stated that access to these markets was 'not applicable', indicating that the channel was not a major pathway to selling their produce.

4.5 Transport, transactions and services

Looking at the availability and accessibility of transport services since the start of the COVID-19 pandemic, the majority of respondents (85.3%) were able to hire transport during R1, but this decreased to about 60% in R2 and 47.4% during R3 (**Figure 12**). Meanwhile, the majority of the respondents (ranging from 72.5% to 87%) across all three rounds observed no changes in transportation cost for people as well as goods (**Figure 13**).

Across all three rounds of the survey, transaction by cash was the major means of exchange, used by more than 90% of respondents. Electronic transfers were the

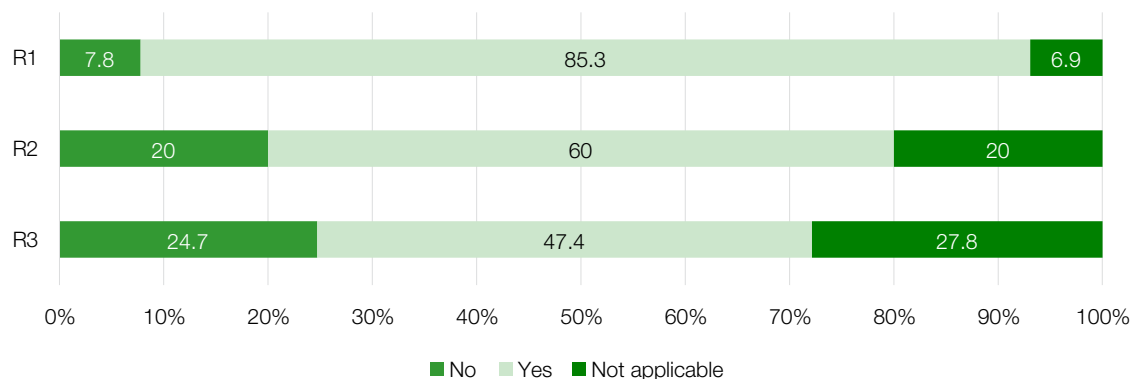
"Inputs for production are available and their prices remain the same as that of previous seasons, although many farmers are not able to access them because the price of paddy/rice has remained low and many farmers have last year's stock unsold."

Village executive officer, Milimba District, Morogoro

next most popular, but were used by less than 50% of people (**Figure 14**).

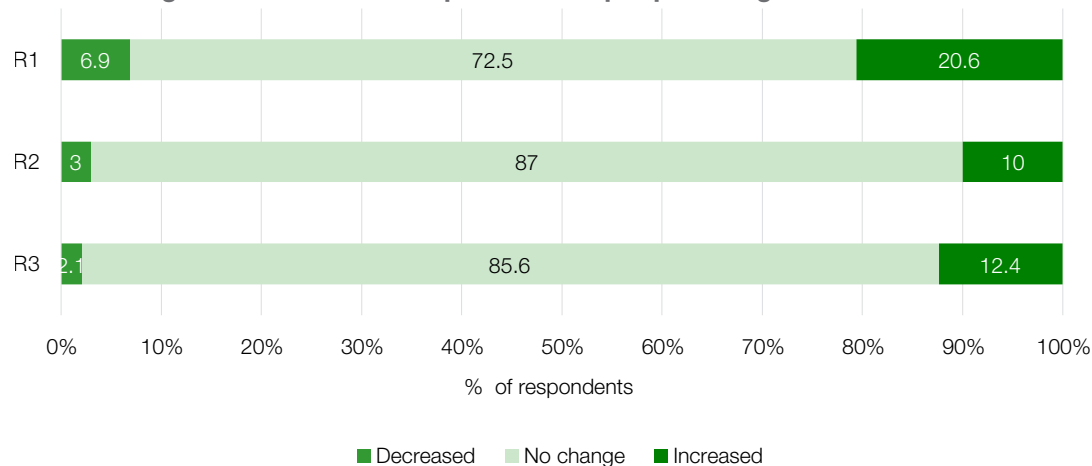
During all three rounds, respondents were asked about the availability of major agricultural services, as well as their respective prices since the onset of the pandemic. With regard to the availability of agricultural land to rent, 80% reported no change in, however, the share of respondents who reported an increase in the availability of land for rent increased by 30% in R2 and by 26.8% in R3 (**Figure 15**). The observed increase in the availability of agricultural land for renting indicates

Figure 12: Ability to hire transport to the point of sale



Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

Figure 13: Change in the cost of transportation of people and goods

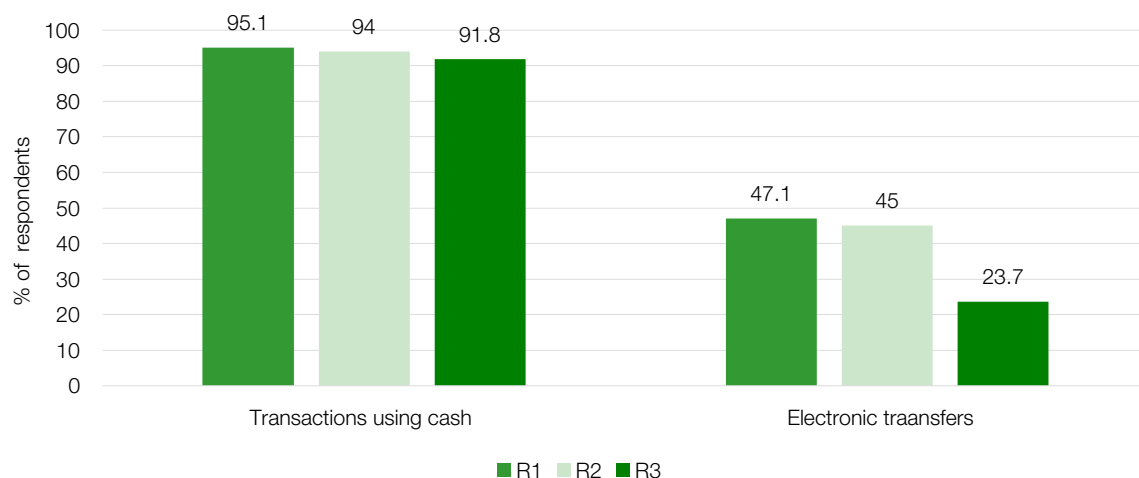


Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

that farmers had decreased the amount of land they put under cultivation and they had opted instead to rent out part of the land in order to get cash, which

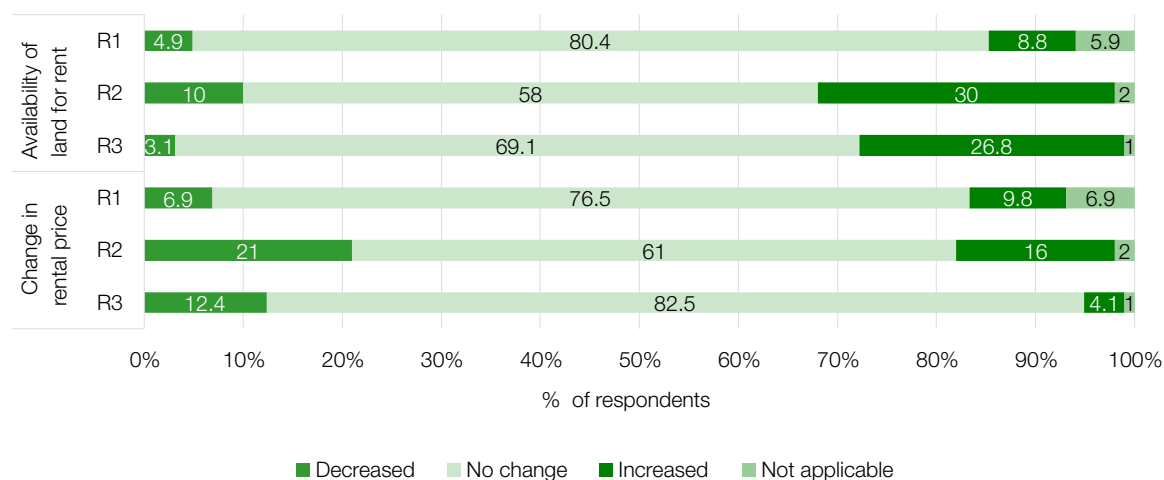
would enable them to finance other household needs including farming activities. Moreover, the majority of respondents reported no major changes in the price of

Figure 14: Major means of transaction



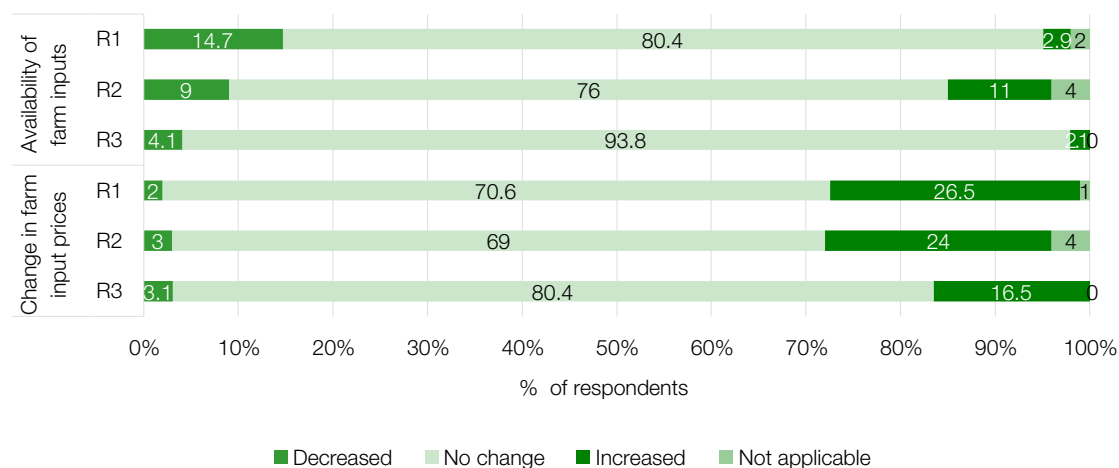
Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

Figure 15: Availability of agricultural land to rent, and change in rental prices



Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

Figure 16: Change in the availability and price of farm inputs



Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

agricultural land for renting (**Figure 15**) across all three rounds of the survey.

No major changes were found in the availability and price of major inputs such as fertiliser, herbicides, and pesticides during all three rounds. However, farmers experienced limited access to these inputs as results of a decline in their purchasing power due to reduced sales of their produce (**Figure 16**). Similar trends were observed regarding the availability of tillage and advisory services (**Figure A1**).

5. Food and nutrition security

To have a better understanding of the impact of COVID-19 pandemic on food and nutrition security the Food Insecurity Experiencing Scale (FIES) was used to ask respondents about the availability and prices of major food groups as well as their ability to access food. FIES was introduced by FAO in 2016 and it is an internationally recommended tool for studying food security. The majority of the respondents across all three rounds reported no major changes in the availability and prices of food. But maize, which is a major staple grain, stood out as an exceptional case during R1, whereby about 44.1% of respondents reported decreased availability, while 43.1% experienced a rise in maize prices (**Table A2**).

"In this year most people have been motivated to cultivate crops because they don't have money to buy food; they are afraid if the market situation will continue to be like this in the coming season they will probably lack both food and money."

Village executive officer, Milimba District, Morogoro

Looking at the ability of respondents to access food, the FIES results (**Table 4**) show that there was a continued increase in the share of respondents who experienced severe food insecurity. Some reported going without eating for a whole day because of lack of money or other resources. The mean FIES score, representing the status of food insecurity, also increased from 2.9 in R1, to 3 in R2, and 3.6 in R3, suggesting the decreasing ability of respondents to access food, partly due to the effect of COVID-19. A gendered impact on access to foods was also revealed; using the FIES mean score, female-headed households scored a higher mean value that was nearly twice as high as that of male-headed households (**Table 5**). Moreover, youths also had lower levels of food security than older respondents in R2 and R3, but had been relatively less affected during R1 (**Table 5**).

Table 4: FIES scores (% of respondents)

Situation	R1	R2	R3
Worried about not having enough food to eat because of a lack of money or other resources	76.5	66.0	68.0
Unable to eat healthy and nutritious food because of a lack of money or other resources	50	71	73.2
Ate only a few kinds of foods because of a lack of money or other resources	51	71	75.3
Had to skip a meal because there was not enough money or other resources to get food	35.3	28.0	37.1
Ate less than you thought you should because of a lack of money or other resources	33.3	35.0	48.5
Ran out of food because of a lack of money or other resources	18.6	15.0	25.8
Were hungry but did not eat because there was not enough money or other resources for food	18.6	17.0	33.0
Went without eating for a whole day because of a lack of money or other resources	5.9	1	4.1
FIES (score): mean value	2.9	3	3.6

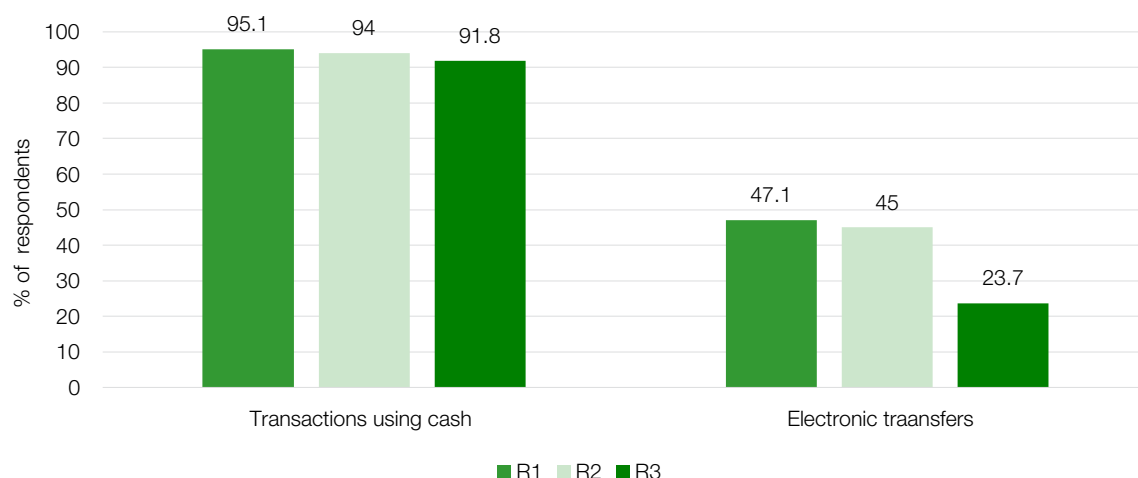
Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

Table 5: Mean FIES score by gender

Gender	R1	R2	R3
Male	1.8	2.6	2.7
Female	4.0	3.5	4.5
Youth	2.6	3.5	3.9
Older	2.9	2.9	3.5

Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

Figure 17: Reported increased in COL



Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

6. Poverty

With regards to effect of the COVID-19 pandemic on living standards, a variable proportion of respondents reported a rise in the cost of living (COL) since the start of the COVID-19 outbreak. Compared to R1 (42.2%) the proportion of respondents who experienced an increase in COL rose to 71% in R2. But while COL had declined again slightly by R3, with 58.8 % of respondents reporting a decrease, the share of respondents experiencing an increase in COL remained nearly 20% higher than that reported in R1 (Figure 17).

The respondents were asked to assess themselves on their ability to control their lives before and after the COVID-19 pandemic by using the nine-step ladder (Ravallion, 2012), where step one is the lowest, indicating that a respondent is totally unable to control their own life, and step nine is the highest, indicating someone who has full control over their life. A drastic

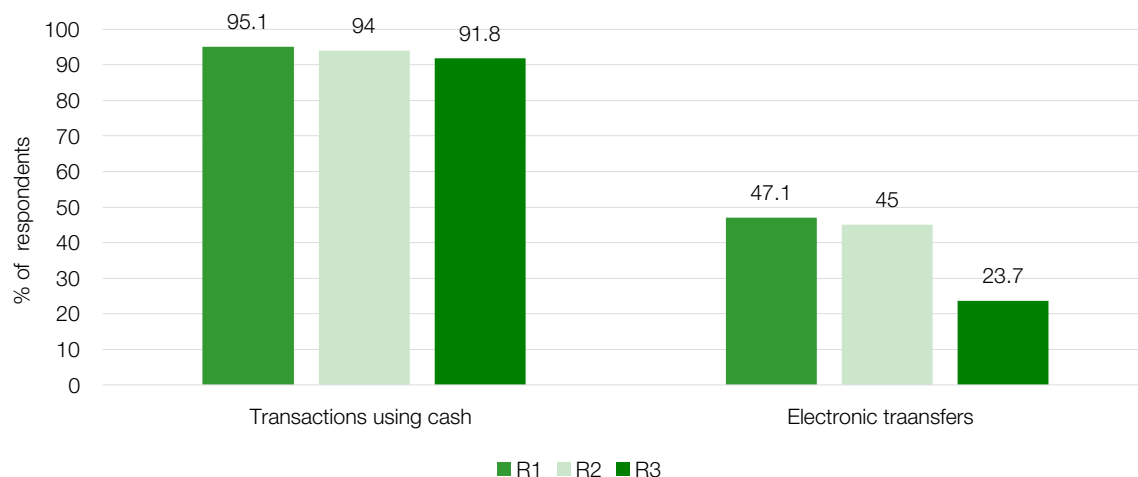
drop in the ability of respondents to control their lives was revealed in R1 (Figure 18).

During R2, respondents felt they had more control of their own lives compared to R1. Nonetheless, they ranked themselves into lower positions on the ladder compared to periods before the COVID-19 outbreak. Again, during R3, when there were rumours of a second wave, respondents reported that they were less able to control their lives compared to R2, which was also impacted by a decline in their purchasing power. These findings suggest that respondents do not yet feel as in control over their own lives as they did pre-COVID-19, and their ability to control their lives has remained unstable.

7. Conclusions

The onset of the COVID-19 outbreak in March 2020 brought many adverse impacts to the rural community of Mngeta Division in Morogoro, both socially and

Figure 18: Mean nine-step ladder score



Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

economically. These findings have been revealed from a survey that began in July 2020 followed by two more rounds, in October 2020 and February 2021. The level of these impacts was found to rise and fall across all rounds of the survey, and the situation has not yet returned to normal. Advice on observing social-distancing as well as fear surrounding the pandemic reduced the participation levels of rural people in important social-events such as village development meetings, religious gatherings, farmers' meetings and ceremonies such as weddings and funerals.

Following the onset of COVID-19, a significant proportion of farmers experienced a decrease in their participation level in farming, as their ability to acquire major means of production such as fertiliser, herbicides, pesticides, rent land, and hire labour and tillage services, significantly declined. However, the pandemic did not have much impact on the availability and prices of those inputs. The pandemic also negatively affected farmers' participation in other business and household enterprises, including participating in off-farm work within and outside respondents' villages, which showed a decreasing trend since the onset of the outbreak. Many farmers were unable to sell their produce through their major selling outlets at the farm-gate and at local markets due to a significant decline in the number of traders visiting their villages for business.

The availability of food and prices generally remained stable during the pandemic but people's ability to access food was limited following a significant decline in their purchasing power. Female and youth respondents were the most affected groups in this aspect. The standard of living for most farmers decreased, and most experienced a rising COL. They also continued to perceive that their ability to control their lives had declined.

Based on these findings, it is recommended that the priority of the government and development stakeholders should be to help farmers access inputs and services for production, as well introduce emergency programmes to link them with markets because farmers' purchasing power depends on their ability to produce and sell their produce at a profit. Such support would also enable them to have better control over their lives. Also, it is important to continue tracking the impacts of COVID-19, since they change over time, and it is not clear how long the impacts of any subsequent waves will last. Farmers' resilience to ride through subsequent waves needs to be strengthened by having the right policies and institutional support in place.

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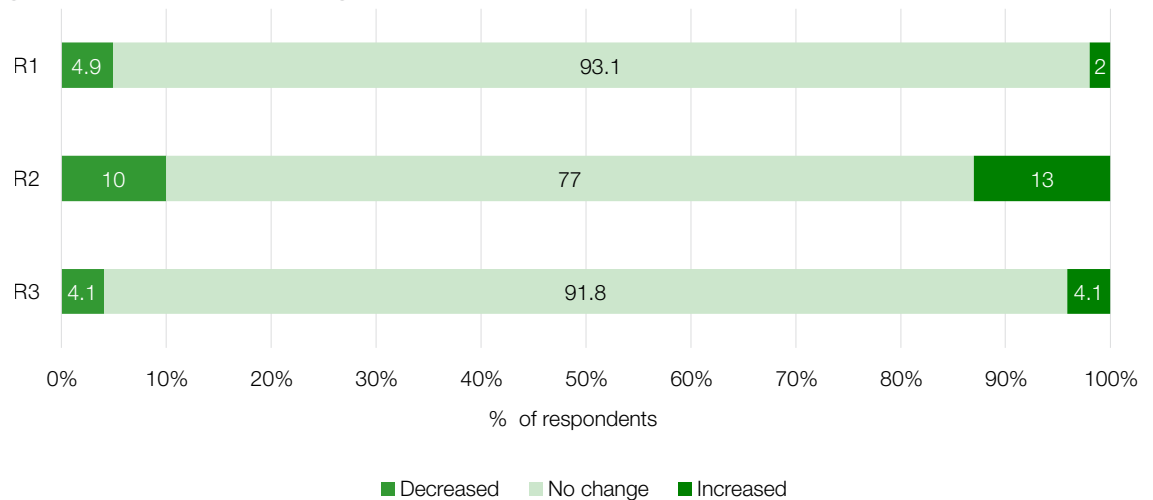
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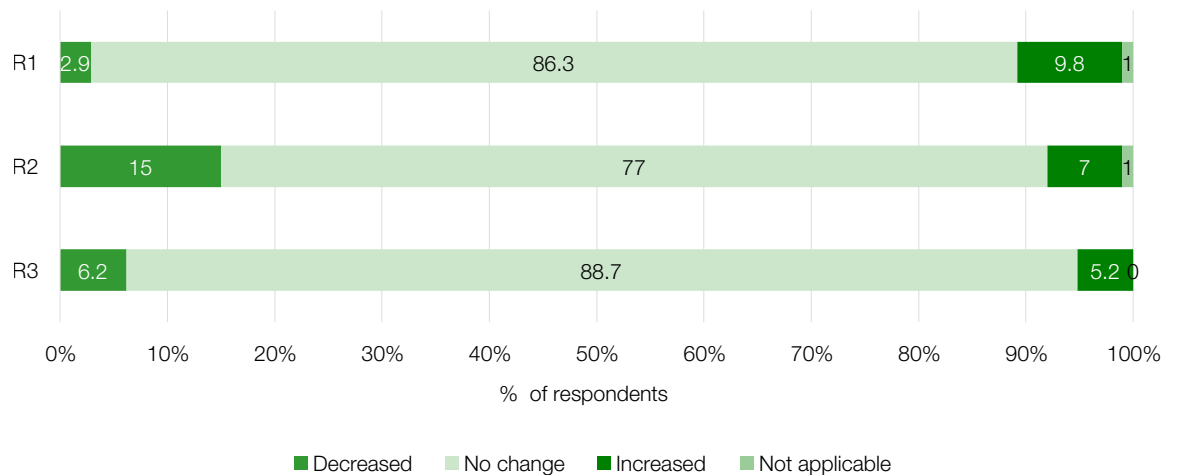
Appendices

Figure A: Availability of tillage services



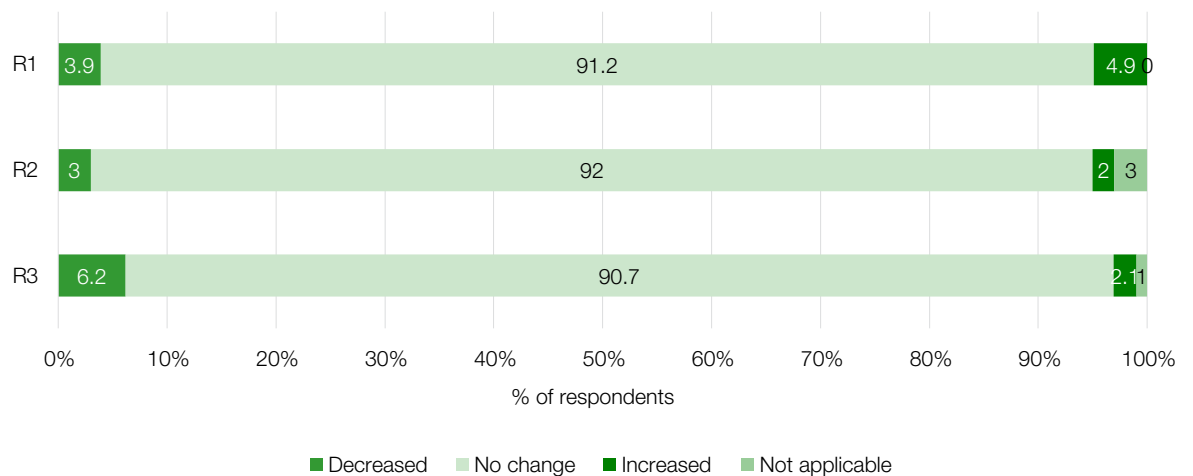
Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

Figure A2: Change in prices of tillage services



Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

Figure A3: Availability of agricultural extension services



Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

Table A1: Reported availability of food items (% of respondents)

Food item	R1				R2				R3			
Status	<	=	>	NA	<	=	>	NA	<	=	>	NA
Grain	44.1	50	5.9	0	11	55	33	0	9.3	56.7	34.0	0
White roots and tuber and plantains	12.7	72.5	14.7	0	16	53	31	0	13.4	72.2	14.4	0
Pulses, nuts and seeds	19.6	74.5	3.9	2	8	86	6	0	1	97.9	1	0
Milk and milk products	19.6	74.5	2.9	2.9	5	70	25	0	2.1	93.8	4.1	0
Meat and poultry	1	94.1	4.9	0	7	83.0	9	1	1	99	0	0
Fish and seafood	2	70.6	26.5	1	2	46	52	0	43.3	53.6	3.1	0
Eggs	4.9	89.2	5.9	0	3	92	4	1	2.1	96.9	0	1
Dark green leafy vegetables	3.9	89.2	6.9	0	2	88.2	6.9	2.9	8	77	15	0
Other vegetables	2	88.2	6.9	2.9	8	77	15	0	1	77	21.6	0
Other fruits	8.8	83.3	3.9	3.9	7	83	10	0	0	85.6	14.4	0
Processed foods	2.9	91.2	2.9	2.9	0	96	3	1	0	100	0	0

Note: < decrease; = no change; > increase; NA not applicable

Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

Table A2: Reported change in prices of food items (% of respondents)

Food item	R1				R2				R3			
Status	<	=	>	NA	<	=	>	NA	<	=	>	NA
Grain	40.2	16.7	43.1	0	50	42	8	0	48.5	39.2	12.4	0
White roots and tuber and plantains	16.7	76.5	6.9	0	31	62	7	0	25.8	67	7.2	0
Pulses, nuts and seeds	6.9	73.5	18.6	1	5	85	10	0	3.1	94.8	2.1	0
Milk and milk products	3.9	85.3	7.8	2.9	14	82	4	0	3.1	93.8	2.1	1
Meat and poultry	2.9	94.1	2.9	1	7	90	2	1	0	100	0	0
Fish and seafood	14.7	84.3	0	1	47.7	51	2	0	3.1	55.7	41.2	0
Eggs	3.9	96.1	0	0	0	99	1	0	1	96.9	2.1	0
Dark green leafy vegetables	2.9	96.1	1	0	9	89	2	0	15.5	84.5	0	0
Other vegetables	2.9	96.1	0	1	7	90	3	0	18.6	81.4	0	0
Other fruits	2	92.2	2	3.9	3	96	1	0	11.3	88.7	0	0
Processed foods	2	94.1	3.9	0	0	99	1	0	0	100	0	0

Note: < decrease; = no change; > increase; NA not applicable

Source: Own calculations from APRA COVID-19 Rapid Assessment Surveys

Boniface, G. and Magomba, C. (2021) *A Multi-Phase Assessment of the Effects of COVID-19 on Food Systems and Rural Livelihoods in Tanzania*. APRA COVID-19 Country Report, Brighton: Future Agricultures Consortium

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