

# Covid-19 Impacts on Food Systems within the context of Urban-Rural linkages nexus in Zimbabwe: Case of Harare, Mutoko and Murewa Districts

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## Abstract

*The production, distribution and marketing of food is critical towards promoting food security and urban-rural linkages within a food system. This study examines the impacts of Covid-19 on food systems within the context of rural-urban linkages nexus between Harare and the districts of Mutoko and Murewa. This is against the background that the outbreak of Covid-19 and the containment measures taken against the pandemic, such as social distancing, lockdowns and travel restrictions, changed the way people live and interact, their livelihoods strategies, and movement between places. The consequential effects of Covid-19 pandemic globally include, among others, economic decline, reduced incomes, and constrained production, which all affected food production, distribution and consumption in the rural and urban areas. To achieve its aim, the study adopted a mixed methods research design that combined the use of questionnaire-based interviews, key informant interviews, focus group discussions, and observations, to collect data from farmers and traders selected through snowball sampling procedure. Both quantitative and qualitative methods were used to analyse the data. Findings reveal that Covid-19 and the containment measures affected food production, transportation and marketing between rural and urban areas. These included reduced trading hours that reduced the quantity of food traded; food losses that disincentivised farmers from further production; reduction of the farmers and traders incomes; corruption and bribes at road block set up to enforce Covid-19 travel restrictions; and increased costs of operations to farmers, traders and food transporters. Within the stakeholder engagement framework, the study recommends that the national government, City of Harare, farmers, transporters and food traders form a dialogue platform that listens to the diverse interest of stakeholders in the management of the food markets, removal of middlemen, refurbishment and decentralisation of food markets within the Harare Metropolitan Province.*

**Keywords:** Covid-19, food systems, transportation, urban-rural linkages

## INTRODUCTION

The advent of Covid-19 pandemic and its containment measures such as wearing masks, social distancing, hand washing, and lockdowns affected daily lives, work schedules and activity routines. The scale and proportion of the pandemic has drawn the attention of academics and policymakers, and changed the way of doing business. There has been an increase in the number of scholarly and policy research in the global north and south on the effects and policy alternatives as a result of the pandemic (Cheval et al., 2020; Matai and Chirisa, 2020; Chirisa et al., 2021; Ruszczyk et al., 2021). A study by Chirisa et al. (2021) reveals that Covid-19 was disruptive to life and restrictive to human relations. The

restrictions affected, among other things, the movement of people, goods and services between centres, within and across rural and urban areas; and yet a greater proportion of the food consumed in cities is produced in rural places (OECD, 2020; Ruszczyk et al., 2021). The effects of the pandemic were extended to the farmers whose marketing and distribution of agricultural products was disrupted and entrepreneurs across the food value chain as well as consumers whose access to the food markets experienced several blockages (Cable et al., 2020; Chigumira et al., 2018). The food blockages included, lockdown measures that were implemented on all sectors without prioritising the food sector, especially farm food

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delivery to the market, the introduction of the permit system for farmer movement during the Covid-19 lockdown that encouraged corrupt practices among the police managing the roadblocks.

Given that traditionally rural-urban linkages fostered movements between these areas (Shafieisabet & Mirvahedi, 2021; UN Habitat, 2018; WFP, 2016), Covid-19 containment measures restricted the same movements and linkages (Chirisa et al., 2021; OECD, 2020; Ruszczyk et al., 2021), and disrupting the flow of food between rural and urban areas. Considering that rural-urban linkages represent an important strategy for securing food by low-income households (Zimmer et al., 2022), Covid-19 disruptions posed serious threats towards urban food security, especially for low-income earners (Cable et al., 2020; Ruszczyk et al., 2021).

This study acknowledges that Covid-19 and the preventive measures had several effects on the social, economic and environmental aspects of communities in both rural and urban areas (Cheval et al., 2020; OECD, 2020; Chirisa et al., 2021; Ruszczyk et al., 2021). It also recognises the input of other studies on the nature and importance of rural-urban linkages and food flows (Chigbu, 2021; Hussein & Suttie, 2016; OECD, 2020). However, the study goes on to interrogate how Covid-19 and the preventive measures impacted the food systems between the rural and urban areas with a special focus on food production, transportation, distribution and marketing from the smallholder rural farmers to urban consumers. The study examines the above concepts with empirical evidence from the two districts of Murewa and Mutoko and their interaction with Harare. Smallholder farmers in these districts have a direct link with food markets in Harare and farming is a key livelihood strategy.

## THEORY

This section conceptualises the interrelationship between food systems, rural-urban linkages and Covid-19 pandemic. It also provides a theoretical lense for analysing these complex relationships. A food system is a set of activities and processes that involve the interactions between people and the environment. It includes activities and processes that range from food production and distribution

to the point of consumption (Zimmer et al., 2022). The system tracks the food value chain from farm to fork. The activities within the food value-chain are influenced by broad issues impacting on the food systems such as governance and economics of production (Béné et al., 2019; Kennedy et al., 2004). Good governance of food systems facilitates coherent, equitable, coordinated, and transparent mechanisms and processes that include policies, legislation, planning and coordinated implementation (Herens et al., 2022, (Vignola, Oosterveer, & Bene, 2021)).

Globally, food systems are essential to people's livelihoods. They provide for people who work on more than 570 million farms across the world (OECD, 2020). In addition, food systems significantly contribute to the welfare and health of communities as well as economies of both rural and urban areas (Anderson, 2016; Pothukuchi & Kaufman, 1999). The role of smallholder rural farmers in the food system cannot be overlooked as they transcend the rural-urban divide and are central to the production of food, particularly in the global south (WFP, 2016). Thus food systems provide one of the strong linkages between rural and urban areas. However, the resilience and sustainability of food systems is dependent on a number of factors, among them, institutional constraints and trade barriers (Shafieisabet & Mirvahedi, 2021).

Food systems connect rural and urban areas in several ways. They represent an important strategy of food security for low-income households in African cities (Zimmer et al., 2022). A study by Frayne (2010) in 11 large cities of Southern Africa shows that 40% of the households receive food from their rural homes. As such, in addition to accessing food through food markets in towns, food from rural family members is an important component of urban dwellers' food security. Although urban households engaged in food production are increasing, Krüger (1998) and Zimmer et al. (2022) argue that food flows between rural and urban areas significantly contribute towards urban households food security. In addition, these food flows have a positive effect on empowering rural farmers, especially if the various dimensions of their spatial flows are properly guided (Sietchiping et al., 2019). Furthermore, the linkages allow household members to find employment in the activities and processes with

the food system in rural and urban areas (WFP, 2016; Zimmer et al., 2022).

The global Covid-19 pandemic forced governments and international institutions to put in place preventive measures. Among these measures were the closure of national borders, restriction of internal travel as well as lockdowns (Cheval et al., 2020; Chirisa et al., 2021; Matai & Chirisa, 2020; Shafieisabet & Mirvahedi, 2021). Health and safety measures were put in place to prevent exposure to and spread of Covid-19. These measures, however, disrupted the production and distribution of food (OECD, 2020; WFP, 2016). Some urban authorities, through effective governance responses, facilitated the continued availability of food to the residents (Matai & Chirisa, 2020). However, even within these devolved strategies, restrictions on movement affected the distribution of food to urban markets (Ruszczuk et al., 2021). This reduced the supply and distribution of food since restaurants, hotels, schools, social gatherings and commercial food service centres were closed (Ndabeni, 2015; OECD, 2020; Stephens et al., 2020). While the outbreak of Covid-19 reduced food production (OECD, 2020; Ruszczuk et al., 2021), the main challenge of food availability in cities was not centred on logistical bottle-necks to continue distribution of food but rather to the right food quantities and quality (Cable et al., 2020).

Given that food systems transcend the rural and urban divide (Sietchiping et al., 2019; UN-Habitat, 2020; WFP, 2016), it is critical to understand how food flows across different spaces. It is also critical to analyse how the advent of Covid-19 pandemic affected the interrelationship between food systems and rural-urban linkages. Such investigations provide the basis for sharing good practices as well as influence responsive policy and strategies that improve food flows between rural and urban areas.

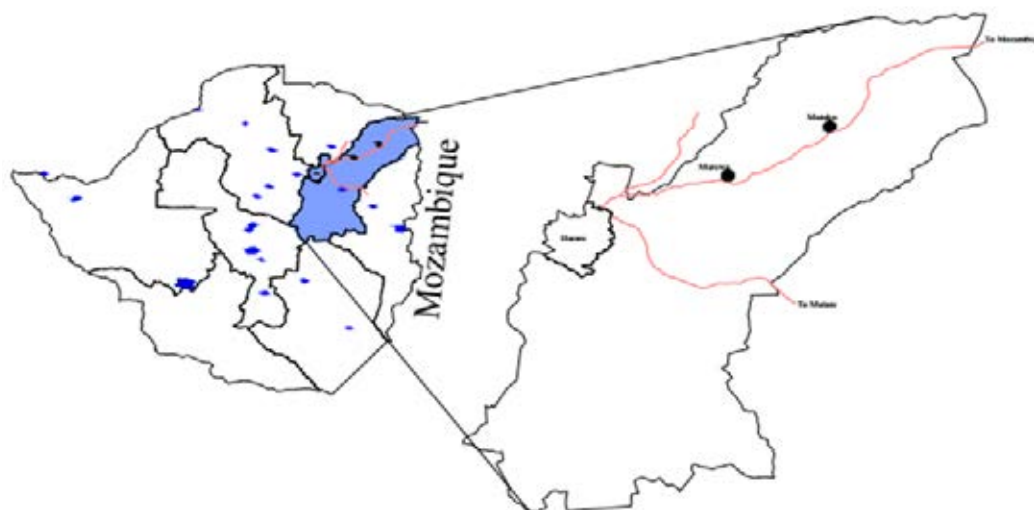
During the period of Covid-19 lockdowns, several people lost their jobs or had their incomes significantly reduced (OECD, 2020; Ruszczuk et al., 2021). This had consequential impacts on the capacity of the affected people to buy food. Logistical issues such as transportation of food from the rural to urban areas, and the distribution of food within the various parts of the city, was constrained. The restrictions on movement hindered physical access to the market

for producers, entrepreneurs and consumers (Cable et al., 2020; Ruszczuk et al., 2021; Stephens et al., 2020). This resulted in heavy losses by the farmers as some food could not be delivered to the markets. Food traders were also affected as food could not be sold or bought on a regular basis. For example, Stephens et al. (2020) reported wastage of vegetables, fruits and milk as farmers and transporters failed to deliver food to the markets.

This study adopted the stakeholder engagement theory and lens to interrogate the impact of Covid-19 pandemic on the flow of food between rural and urban areas. The theory is concerned with stakeholder roles and interests in the decision making process. Stakeholder engagement is a management technique for dialogue that promote social learning (Marthur et al., 2008). This engagement take various forms such as invitation by the convenor or joint planning with stakeholders to inform and influence programmes and projects. Stakeholder engagement fosters reflection and learning, which empowers groups to dialogue for joint planning and implementation. Dialoguing captures stakeholder values and interests and how they judge development initiatives. Stakeholder engagement builds on Healey (1997) social and intellectual capital as the foundation for collaboration and ownership. However, the theory's major weakness is how to attract and retain stakeholder interest overtime (Seltzer and Mahmoudi, 2012). This is critical since stakeholders participate when their interests are met, which brings the difficult balancing act on how to coalesce different interests when different groups converge. Within food systems, this lens interrogates the interests of farmers, traders, transporters and the local authority and their interactions in the rural-urban nexus.

## RESEARCH METHODS

The study adopted a pragmatic research philosophy, which is flexible to allow researchers to choose the methods and procedures that meet the research needs and aim (Kaushik & Walsh, 2019). The mixed methods research approach was adopted because of its ability to allow for the collection of qualitative and quantitative data (Kothari, 2004). Interviews were conducted with key informants who constituted purposefully selected officials from the City of Harare, Murewa and Mutoko Rural District Councils,



**FIGURE 1**

Location Map, showing the study area

Source: Authors, 2022

food transporters, and market officers in Mbare Musika in Harare, Murewa and Mutoko (Figure 1). Questionnaires were used to collect data from 30 farmers, 30 urban traders, and 30 rural traders selected through snowball sampling procedure. In addition, stratified sampling was used to select 30 households from the low, middle and high income residential neighbourhoods of Kambuzuma, Aspdale and Greendale in Harare, respectively. The questionnaire and the interview guide were used to seek information about the trader's, resident's or farmer's profile. The substantive information sought in the questionnaire and interview guide covered how people reacted to the Covid 19 outbreak, steps they took to contain it healthwise, its impact on farming and food supply chain and the survival strategies they employed. The questionnaire was on the Kobo Collect platform. Focus group discussions were conducted with farmers in Murewa and Mutoko, while participant observations were used to gather data in both rural and urban areas. Observation included the crops in the farms, types of crops grown and livestock raised, market structures and types of food on sale, and taking photographs of the objects of interest to the Covid 19 research. A database on Excel Spreadsheet was created whilst capturing the data from the questionnaire. The data was analysed through thematic narratives and quantitative methods using Microsoft Excel to show trends in cropping, transportation problems, access and availability of food and the impact

of Covid 19 using percentages on the different variables outlined on the questionnaire. Consent was sought before data collection and high levels of confidentiality of information from participants were ensured.

## RESULTS

### Impacts of Covid-19 on food systems in Harare, Mutoko and Murewa Districts

Covid-19 and the induced travel restrictions had far reaching impacts on food systems. Both farmers, traders and consumers worked within the curfew restrictions that limited movements towards delivery and buying of farm produce. Farmers and traders moved around with letters of permission but some of these letters were restrictive to district boundaries. Additionally, the police and soldiers manning the roadblocks often did not recognize these letters, so that they would solicit for bribes. In most case bribes sought were money, especially United States dollars. In other cases it was in the form of dried farm products and to a lesser extent perishables. Twenty-nine out of the 30 farmers interviewed in Murewa and Mutoko Districts practised mixed farming (Figure 2). The major crops that were cultivated in Murewa and Mutoko District and delivered to the market during the pre and post Covid-19 pandemic include watermelons, green vegetables, potatoes, oranges, sugarcane, pepper, maize, green mealies, sweet potatoes, banana, tomatoes,





**FIGURE 2**

Livestock and crop cultivation in Murewa and Mutoko

Source: Fieldwork (2022)

butternut, cucumber, peanuts, sunflower, soya beans, groundnuts, peas, and carrots. The essence of mixed farming was critical towards farmers survival during the Covid-19 pandemic. For instance, some farmers in both Murewa and Mutoko lost the whole tomato crop because of failure to deliver products to the market during the lockdown. Hence, these farmers traded their livestock within the district to earn a living. An old lady in Murewa District had to sell her cows to send children to school. In Tabudirira Farming Community in Mutoko, a farmer sold his chickens and turkeys to buy groceries, which he normally bought from Mbare after delivering his tomatoes and cucumbers. The Covid-19 pandemic induced travel restrictions blocked rural-urban food linkages and strengthened local rural linkages as farmers traded their products locally. Consequentially, farming output that formed the backbone of the rural farmers fell.

### Transportation and food distribution

Farmers in Murewa are located more than 40kms from the Harare-Nyamapanda Highway that transports farm produce to Harare. Findings revealed that, 70% of the farmers and food traders interviewed in Murewa transported their farm produce using hired trucks. Additionally, the upsurge in the use of hired trucks was also caused by the re-restrictions of movement of public transport such as buses and Kombis during Covid-19 pandemic lockdowns. Kombis are generally 15 or 18 seater vehicles, mostly the Toyota Hilux or Hiace. Contrary to the Murewa Farmers, the Tabudirira Farming Community in Mutoko are located adjacent to the Harare-Nyamapanda Highway. The farmers used buses to

transport smaller loads of farm produce and hire trucks to transport large consignments to Mbare Musika (Figure 3).

These farmers, however, preferred hiring trucks to boarding buses, as trucks ferried the farm produce directly from the farm to the market. The buses and kombis required farmers to transport their products, first to the highway using scotchcarts. Secondly, they would board public transport along the highway to Mbare Musika. However, the more farmers change different transport modes, the more they encountered breakages of their farm products. It is noteworthy, that the Mutoko and Murewa Farmers found it uneconomic to supply local markets as the food traders bought farm supplies in smaller quantities. A young Tabudirira Farmer during a focus group discussion, elaborated “we transport our farm produce to Mbare Musika because the traders at Mutoko Growth Point bought very little quantity. We can only sell to local traders if they bring their own transport and buy at farm gate”.

The advent of Covid-19 altered these rural-urban linkages. Farmers could hardly deliver farm produce to the market. The announcement of lockdowns was immediate leaving unsold farm produce to rot in the market. These losses affected the farmers ability to purchase inputs even beyond the Covid-19 pandemic lockdowns. For instance, when asked about the recovery of their farming activities after the relaxation of the Covid-19 lockdowns, a transporter at Murewa Center commented that, “it will take time for the farmers to recover from the pandemic induced losses as they lack the inputs to resume production”.



**FIGURE 3**

Transporter preparing to leave Mutoko for Mbare Musika

Source: Fieldwork (2022)

The transporter further pointed that some of his colleagues have entered into joint ventures with farmers to provide inputs while farmer provides land and labour. This was a critical strategy towards the recovery of both the farmer and transporter in the after-maths of the Covid-19 pandemic.

The rural-urban linkages between Harare, and Murewa and Mutoko Districts also include remittances. Relatives in urban areas sent remittances or groceries back to the village. In return rural farmers send their farm produce to relatives in town. However, farmers' in Mutoko and Murewa Districts underscored that unlike in the past when food transfers to relatives in the city were strong, only a few farmers send food to town now. One farmer commented that the current economic hardships affecting both urban and rural dwellers explain these low food transfers. He elaborated that many families have little to spare and share with the extended family. Furthermore the pandemic made it difficult for these groups to continue with their interaction. This is a unique finding since the urban-rural linkages in Zimbabwe have been traditionally embedded in the transfer of food, not only for economic gain, but also among relatives.

### **The role of middlemen in Food marketing and distribution**

Findings show that farmers from Murewa and Mutoko deliver farm produce such as fresh fruit and vegetables plus nuts and grains to food trader at Mbare Musika. In turn these food traders sell to households in neighbourhoods in Harare such as Kambuzuma, Aspindale and Kamfinsa who drive to the market to buy in bulk. Those households with-out transport buy food in smaller quantities from food traders within the neighbourhoods.

With the advent of the Covid-19 pandemic, the Harare City authorities reduced the sell-ing hours to three hours from the original seven hours. As result many farmers could not sell all their produce. The middlemen (makoronyera in Shona meaning a cheat) benefit-ted from this situation by supposedly working on behalf of the farmers when in reality, they worked in cohorts with traders, baggage carriers and municipal police to reap-off the farmers. The middlemen masquerade as experts who understand the prevailing food prices and sale farmers' produce in return for a commission. They also took the handling of farm produce as soon as the produce are delivered to Mbare Musika, and find luggage carrier. The commission and luggage fees are

deducated by makoronyera from the sale of farm produce before paying the farmer the difference. The farmers had no choice but to cooperate with the makoronyera who threaten to connive with traders and municipal police to take the farm produce by force if the farmer refused their service. The farmers pay City of Harare US\$16 per every 50 boxes of tomatoes delivered to the market floors. In addition, they pay commission fees to makoronyera plus baggage carrier as they are not allowed into the wholesale market with trucks to reduce congestion. The farmers also pay US\$0, 50 every time they use the public toilets at the market. An analysis of the market fees would question why the US\$16 payment to the City of Harare does not include the use public toilets. Farmers complained that paying trading fees and use of ab-lution facilities separately is too expensive.

A transporter from Mutoko who has ferried farmers produce since the late 1980s observed:

*"The middlemen negotiate for space for unlicensed traders to sell their products at the market and therefore they occupy critical roles in the market operations. They, however, extended their role to 'finding' buyers for farmers ... The Covid-19 pandemic worsened the problem of middlemen as they thrive during hardships. They connive with 'authorities' to rip off the farmer and transporters on food prices and parking space".*

There was consensus that makoronyera are the eyesore at Mbare Musika. They have cunningly succeeded to negotiate their interests ahead of other stakeholders, especially farmers and the city authorities, by aligning themselves with political groups or even traders to survive their removal from the market.

### **Food distribution through traders**

Within Harare, the distribution of food from Mbare Musika to the residential neighbour-hoods is different from rural transportation. Urban food traders from Kambuzuma, Aspin-dale, Kamfinsa and Mbare Musika, transport their farm produce from the wholesale mar-ket with pushcarts and informal transport operators known as combis and mushika-shika. About 23% of the food traders found it cheaper and convenient to use pushcarts and mushika-shika over short distances both at Mbare Musika and within the neighbour-hoods.

The food traders from Mbare Musika, Murewa and Mutoko **Figure 4** sell farm products delivered by the famers. The food traders, however, have many constraints, as they lack equipment, such as refrigeration, even though the majority sell perishables. As a result, traders buy farm produce in smaller quantities and try to sell them within the same day. In some instances, traders hire transport to collect produce from farmers. These food traders work in groups to ease transport cost by buying produce in bulk. The food traders in Mutoko and Murewa use scotchcarts and pushcarts to collect farm pro-duce from farms closer to the growth points.

### **Governance issues**

Mbare Musika has a complicated governance structure. The market is managed by City of Harare's Department of Housing and Community Service, responsible for all the mar-kets in the city. Below the city, the market had a National Farmers Committee that over-saw trading on behalf of farmers. Unfortunately, the committee was disbanded by the city authorities in 2000. This left the farmers with no voice and open to exploitation by middlemen. Both farmers and city officials concurred that the National Farmers Commit-tee was a useful structure towards smooth trading at the market. However, the new city administration after 2000 felt that the structure was an unnecessary bureaucracy. A food trader commented that politics at the Mbare Musika between the local government run by the opposition and the national government run by the ruling party, affected the struc-tures and operations of the market. The political machinations even affect the manage-ment control of parking areas for customers and food delivery. With the rise of unem-ployment after 2000 the middlemen have become an important structure in the buying and selling food at the market. It was clear that the farmers and the local government were undercut by the middlemen and had no power to remove them. The middlemen took advantage of the political contestation to extend their influence to control parking spaces. Transport operators complained that parking areas are congested and are poor-ly organised and the local authority has limited control over them. The parking areas are run by the youth aligned to political parties with impunity.



**FIGURE 4**

Farm produce sold by traders at Murewa Market

Source: Fieldwork (2022)

## DISCUSSION

The food consumed in urban areas is produced by rural farmers who cultivated using a combination of rain fed plus irrigation agriculture. The Murewa and Mutoko Farmers practice mixed farming to hedge themselves against food shortages. They cultivate these crops and keep cattle for subsistence and sell surplus, especially crops to the large cities because the local Murewa and Mutoko Growth Points have small markets to absorb all the farm produce. These food urban-rural linkages have increased demand on the production side of the small-scale farmers as they have a ready market in town. The relationship between Harare and Murewa and Mutoko District supports existing literature that found a positive relationship between the demand side of the food value chain and the food production by farmers (Béné et al., 2019). However, transportation of these farm produce offered some huddles for the farmers.

Food distribution within the rural-urban linkage nexus has many actors. The farmers predominantly transport food to Mbare Musika in Harare through hired trucks, conventional buses and kombis. In some instance, food traders hire trucks and collect food from rural areas. In addition, some truck owners also buy food from farmers and resale to Mbare Musika. At the Mbare Musika, farmers pay the city authorities, baggage carriers, transporter, and the makoronyera, including facilities such as toilets. The string of actors paid by the farmers

are altogether too many to make meaningful profit. As a result, farmer's investments in food production have dwindled over the years. The decline in food production increased further after the Covid-19 pandemic restrictions that limited farmer deliveries to the market. These findings are similar to those of OECD, 2020; and Ruszczyk et al., 2021.

Though the major players in the food production, distribution, marketing and consumption are the farmers, transporters, local authorities, and traders. However, the makoronyera and political parties have recently become an important actor, especially at Mbare Musika. The makoronyera sprang out of the desperate and unemployed youths who apparently take advantage of the poorly organised Mbare Musika structure to syphon profit from the farmers and city authorities. The City of Harare is aware of makoronyera, but is powerless to intervene because of the widespread practice, driven by high levels of unemployment. Again, the high levels of corruption affects efforts towards addressing these malpractices. The governance structure at the market has failed to dialogue for the benefit of the key stakeholders. Vignola et al (2021) argue that good governance enables the market to function efficiently. Since data points to poor governance at Mbare Market, it may explain the middleman problem at the market who are milking farmers and traders.



Since the advent of the Covid-19 pandemic, the requirement of letters to travel across districts during lockdowns added another layer on the challenges and costs borne by the farmers. Farmers and transporters had to bribe the law enforcement agencies at the roadblocks to get to the market. In addition, urban food vendors experienced the same challenges to buy food from Mbare Musika. This is in line with Cable et al., 2020; Ruszczyk et al., 2021; and Stephens et al., 2020; that farmers experienced heavy losses of their farm produce, since they could not be delivered to the market.

Farmers, transporters, local authorities and traders have varied interest that often conflict. The farmers are the main source of food products coming to the markets. However, their major blockages towards smooth operations are the makoronyera who cut into farmers and city income by presenting themselves as inseparable to the market operations. Makoronyera form coalitions with the municipal police, vendors and politicians. The city is severely affected by political interferences in the operations of the market and charging of vendors sometimes align themselves with politicians. The dissolution of the Farmers Committee by the City of Harare was misguided as it emasculated farmers by taking away their social capital. The platform for dialogue among the actors no longer exist and the biggest losers are the farmers and the city. The gainers are the makoronyera and the political interests. This created a gap that should be addressed as farmers and the city authorities are the key actors with in the food system, without which it can not sustain itself in the long run.

## CONCLUSION AND RECOMMENDATIONS

Food production, transportation and distribution forms one of the strongest catalysts for urban-rural linkages. Rural small-scale farmers have the capacity to feed cities and have been incentivised by improved market and transport linkages that allow timeous food deliveries. Transporters between rural and urban areas have negotiated blockages such as bad infrastructure to continue delivering food from rural areas. However, they have recently experienced challenges such as parking space around the market and lack of clarity on the management of urban food markets. The Covid-9 pandemic and the resultant restricted movements between rural and urban areas

impeded delivery of food to the urban markets. As a result, farmers and food traders lost perishables such as tomatoes and fresh vegetables. With the market subdued, farmers were forced to reduce their production with a domino effect on their income. The marketing of farm produce that is critical towards incentivising production to farmers, was affected by the reduction of tradition hours during the Covid-19 pandemic.

The weak management of the urban food market as a result of political interference and dissolution of farmers association disempowered the farmers, transporters and local government authority. The middlemen capitalised on this mayhem by undercutting the farmers by forcefully selling their produce for a commission and the local authority by disrupting operations. Besides, the high unemployment that has pushed up the surge in middlemen, the political contradictions, and interference in the running of urban markets, provided fodder for the interference by the middlemen. Again, corruption by law enforcement agencies during the Covid-19 lockdown further increased the cost of transporting farm produce to the market. All these affected the functionality of the food markets and the profitability of the agricultural sector.

## Policy and Legislation

One of the challenges in the food system was the shutdown of the markets in compliance with Covid-19 lockdowns. This study recommends that total lockdowns should be replaced by strategic decentralised markets that allow farmers and other actors to continue food production, delivery and trading.

The Mbare Musika management structure shows lack of clarity on roles and responsibilities. The study recommends a policy guideline indicating how transporters and farmers can deliver food to the market during a pandemic. This guideline should cover permits to transport food by transporters, permits to transport food by farmers, permits to long established buyers, the issuing authority, duration of validity of the permit, expected treatment by police and food inspectors at roadblocks. In addition, the study recommends that local authorities such as City of Harare should add a section to their by-laws on management of food markets during a pandemic.

### Financial packages

In the aftermaths of global pandemics such as Covid-19, small business such as farmers require cash injection to get back to their business. The government, in collaboration with agriculture supporting financial institutions such as the Agribank and development partners, should provide access to credit for farmers and food traders. Such facilities would reduce the waiting period before farmers and food traders can start full production.

### Governance

The response towards the Covid-19 pandemic demonstrated national government reactionary approach towards disasters. All the key stakeholders such as farmers, traders, buyers and transporters should keep records of their operations. The local authority also keep records of the food market operations. During a pandemic national government and local authorities should quickly offer permits to key stakeholders in the food supply chain. Selective issuance of permits does not address the blockages along the value chain.

Corruption and lawless emerged as major blockage against doing business at Mbare Musika. Again the middlemen undercut farmers by selling their produce at high commission, they also undermine the local authority by partnering politicians to manage parking bays around the Mbare Musika. The study recommends a stakeholder engagement platform with key actors for the effective management of the Mbare Musika. Additionally, integrated policies that empower local governments and the farmers and eliminate the the middlemen and curb corruption practices should be conceived.

### Implications for urban and territorial planning

**Infrastructure:** Based on the findings and observations from Mbare Musika, there is need for putting in place adequate infrastructure for optimum market operations. These facilities include:

**Ablution facilities :**The Mbare Musika in Harare needs a big ablution facilities to accommodate many people who frequent the market daily. Currently, there is a small pay-to-use toilet. This

presents a health hazard, during the Covid-19 pandemic traders and customers complained on the limited number of toilets on the site. The provision of ablution facilities should apply to satellite food markets in Machipisa in Harare and other town within the metropolitan province such as Chitungwiza and Ruwa. The improvement of these satellite food markets should be accompanied by decentralisation of the Mbare Musika and encouraging growth of these small markets. In the event of a pandemic, food transporters can be diverted to these satellite food markets.

**Stormwater drains:** The Mbare Musika and Murehwa Rural Market have stormwater drainage problem. During the rainy season space available shrinks because of pools of stationary water. During the Covid-19 pandemic where social and physical distancing is required when it rains, fewer farmers and buyers can utilise the market. As a result illegal side markets without any facilities sprout to disorganise the market again creating worse problems of lack of infrastructure.

**Market floor space:** Both the Murehwa Rural Market and Mbare Musika can not adequately accommodate farmers delivering their farm produce under the market shed. The Covid-19 pandemic and associated social distancing exacerbated the situation. The national and local government need to rethink the designs of these market spaces with a certain level of redundancy in mind.

The shortcomings of Mbare Musika during Covid-19 should be used to guide the food market design. A phased design and redevelopment of the market is required. The Mbare Musika is congested. As a result, regional food markets within the metropolitan province should be developed. However, these markets should be accompanied by detailed feasibility studies. Findings in Aspindale and Kambuzuma shows that a regional food market may face viability problems as it competes with the Mbare Musika.

**Transport network:** There are many food transporters ferrying food between rural and urban areas. They can improve their operations by developing a loose transporters and farmers' cooperative. Findings show that food transporters already have weak cooperation in place. However,

national government policy and programmes have not been supportive or have even stunted its growth. The transporters cooperation should be supported by policy initiatives that mobilise funding for members as well as procure quality vehicles that meet health standards.

**Integrated urban and rural development:** The food systems and flows within the rural-urban linkage nexus should the need for a deliberate planning intervention for both rural and urban areas. Rather treating them as separate sector, a deliberate regional planning initiative that intergrate the city and regional nexus should be conceived. The Covid-19 pandemic challenged this siloed planning approach. The movement of food from Murewa and Mutoko to Harare and the movement of inputs back to the rural areas challenges planners and policy makers to conceive integrated urban and regional planning and development.

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