Ascertaining the effects of COVID-19 on food access, consumption and livelihoods coping strategies: creating more socially just food systems. A Case study of Mabvuku District, Harare.

MASTER OF SCIENCE DEGREE IN FOOD SECURITY AND SUSTAINABLE AGRICULTURE (POLICY)

Bindura University of Science Education

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June 2022

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DECLARATION

I hereby declare that the research project entitled "**Ascertaining the effects of COVID-19 on food access, consumption and livelihoods coping strategies: creating more socially just food systems. A Case study of Mabvuku District, Harare**" submitted to Bindura University of Science Education, Department of Agricultural Economics, Education and Extension is a record of an original work done by me under the guidance and supervision of **Mr. Vincent Munyati (BINDURA UNIVERSITY)** and this work is submitted in partial fulfilment of the requirements for the award of a Master of Science Degree in Food Security and Sustainable Agriculture. The results embodied in this thesis have not been submitted to any University or Institute for the award of any degree or diploma.

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DEDICATION

To my blessed mother, **(OLIVIA RUTH SHAMISO KNIGHT)** my source of inspiration.

ACKNOWLEDGEMENTS

This research was made possible by the support, advice and hugs provided by many people, but owing to space limitations, I will only mention a few.

A heartfelt thank you goes to my official supervisor Mr Vincent Munyati for all his advice, invaluable dedication, time and patience with which he handled the work to ensure that high quality is attained throughout the study.

This research wouldn't have been possible without the support of people living in Mabvuku District. I would like to say a very big thank you to all who participated for welcoming me and sharing their life experiences. The cooperation of Mabvuku local households was also invaluable. Not forgetting the enumerators who assisted me with data collection, I am truly grateful.

Secondly, I wish to thank my family for their support and encouragement throughout my study, especially when times have been tough. I would like to thank my family and friends for standing by me. My classmates have been a constant source of inspiration and laughs over the last two years. Without their support I could not have achieved this. They all deserve a mention.

Finally, many thanks to God who got it all planned for me. The Lord God Almighty gave me the grace to come this far, the strength to persevere through the difficult times during the course of my studies.

For each and every one of you, I express love and gratitude!

LIST OF ABBREVIATIONS

CBD	Central Business Districts
COVID-19	Coronavirus disease
CSI	Coping Strategy Index
FAO	The Food and Agriculture Organization
FANTA	Food and Nutrition Technical Assistance Project
GVC	Global Value Chains
HFIAS	The Household Food Insecurity Access Scale
SADC	Southern African Development Community
SSA	sub-Saharan Africa
SPSS	Statistical Package for Social Sciences
USAID	The United States Agency for International Development
WFP	World Food Program
WHO	World Health Organisation

ABSTRACT

The COVID-19 pandemic exacerbated the situation of these already marginalised urban households to access food. In addition, urbanites food systems are disrupted as they do not have sufficient land apart from their backyard garden to grow few food crops, hence not meeting their daily dietary requirements. The specific objectives of the study were to (1) determine the levels of food insecurity among urban households in Mabvuku district following the COVID-19 pandemic, (2) determine the different food consumption strategies adopted by urban dwellers to cope with food insecurity following the COVID-19 pandemic and (3) determine the different livelihood coping strategies adopted by Mabvuku urban dwellers following COVID-19. The study was carried out in Harare Metropolitan, with Mabvuku district being selected as the study site. Data was collected from informal street vendors in Mabvuku district, and households where food insecurity is high. For household sampling, the study focused on use a purposive sampling method. Assuming a 95% confidence level, 5% margin of error, target population of 30 000 and 50% estimated proportion, the minimum sample size required was 380 households. The results showed that that most of the households included in the study comprised 1 or 16 people. The average family size in this study constituted 5 individuals. Moreover, 50.03% of individuals in the households were employed by others, and 26.6% highlighted that they were unemployed. A minimum of 23.2% were self-employed. 81.6% of the respondents highlighted that the market where food can be sourced in very accessible, whilst 52.4% and 41.3% of the respondents highlighted that the prices of food products sold were very expensive and expensive respectively. Results show that majority 49.5% of the individuals household heads rely on salary for their family upkeep, 19.7% rely on small business they manage for their upkeep, 11.3% rely on casual labour for their source of livelihood. A minimum of 0.8% depend on pension and 6.1% depend on remittances for their source of livelihood. Thus, we can conclude that households mostly had socioeconomic difficulties following the COVID-19 pandemic. All the households surveyed never participated in safety nets programs, as well as not having access to supplementary feed for children. In addition, all the households reported not having participated in food emergence access activities. Majority of about 79.5% survey households noted that the market place to get food was very close to them but they could not buy everything they needed as the sold products were very expensive. 58.9% of the surveyed household acknowledged they did you worry that their household would not have enough food in a month and this happened often. Household Food Insecurity Assess Prevalence (HFIAP) was also used to assess the vulnerability of the household in relation to food access. Majority of the households were found with severe food insecurity issues during the COVID-19 lockdown period in terms of food access in the study area. The Survey data indicated that more than 74.6% of the households experienced food insecurity with 4.7% of the sampled households who were food secure from the sampled households in Mabvuku. R-squared was found to be 69% and the adjusted R-squared was 67%. This implies that the variables included in the model explain 69% of the variations in the model. Therefore, 31% of variations in the model are explained by exogenous factors. Since R-squared is above 50% the regression results are reliable and recommendations can be made basing on the results. Furthermore, the Darbin Watson value was found to be 2.3 which is above 2 meaning that the model was correctly specified. 37.5% of households limit food portions all the time and 23.3% fairly often. It was revealed in this study that more than 55% of respondents restricted food consumption by adults at least to a minimum of once and a maximum of six times a week. Many respondents 80% indicated that it was rare that people would stop some members of household from eating simply because they were not working. Results indicated

that in 49.2% of households in Mabvuku, there are only two meals per day. Furthermore, the results indicate that 13.3% of households do so once in a while (1 to 2 times a week), with 80% never using the strategy and as evidently no one can use it all the time. Livelihood sources used for coping show that many households 49.2% and 24.2% respectively suffered from business activity reduction caused by the lockdowns. 58.3% of the respondents pointed out that they faced challenges with delayed income. Since many household do live from informal sectors with some going to work formally in Mabvuku, the study found that 70% of the respondents were greatly affected by not receiving remittances, as the pandemic affected also their family members abroad. It can be concluded that the residents in Mabvuku are food insecure thus there is need for social protection programmes to be put in place in order to cushion the urban residents of Zimbabwe.

Key Words: Households, Food access, Food insecurity, COVID-19, Food Security.

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CHAPTER 1
1.0 BACKGROUND OF THE STUDY
1.1 Introduction

Food insecurity is a severe problem in many African countries, and it is getting worse by the day. By 2050, the world's food systems will have to feed and nourish almost 9 billion people in a safe, responsible, and long-term manner (World Economic Forum, 2019). On March 11th, 2019, the WHO proclaimed COVID-19 a global pandemic (Ghebreyesus, 2020). The COVID-19 pandemic has wreaked havoc on global food systems, hurting rural and urban people' food security and nutrition, and putting the global food system's resilience to the test (Ploeg, 2020). COVID-19 has wreaked havoc on all social institutions and economic sectors around the world. According to projections, the pandemic would exacerbate the problems currently faced by many segments in society, particularly the most vulnerable (Tom & Chipenda, 2020). In order to stop the spread of the virus, national lockdowns were implemented, which included restricted movement and social separation. The COVID-19 epidemic and its consequences disrupted livelihoods, resulting in an increase of 1.3 million people living in extreme poverty by 2020, bringing the overall rate of extreme poverty to 49%. The pandemic severely interrupted fundamental public services and social protection, which were already stretched previous to the outbreak, disproportionately hurting the poor (Tom & Chipenda, 2020).

Food security is defined as a scenario in which all people have physical, social, and economic access to sufficient, safe, and nutritious food that fits their dietary needs and food preferences for an active and healthy life at all times (FAO, 2002). Food systems involve all aspects of food production, distribution, and consumption (Glover & Sumberg, 2020). A growing number of high-profile papers on nutrition and food security identify food systems as a crucial entry point for change (Béné *et al.*, 2019). Food systems are rapidly evolving in both developed and underdeveloped countries. Evolutions in food systems are driven by new technologies that are changing production processes, distribution systems, marketing strategies, and even the food products that people eat, which are increasingly dominated by Global Value Chains (GVC) and often characterized by a high degree of vertical integration(Bianchi *et al.*, 2018). As a result, in Zimbabwe, the vast majority of households rely on imported food.

In terms of food production, Zimbabwe is reliant on trade, as the country has suffered from a long-term food shortage that has been met by food imports.

As a result, food importation has played a critical role in guaranteeing food availability and access in the food system. Many people in urban areas rely on large markets like Mbare Musika to receive a variety of food sources at lower prices; otherwise, supermarkets, which charge exorbitant prices, are the only option. Although food is readily available in metropolitan areas, prices often prevent many households from purchasing it, resulting in nutritional deficiencies(Tevera *et al.,* 2021). The COVID-19 pandemic exacerbated the precarious position of these already marginalized urban households.Furthermore, urbanites' food systems are disrupted because they lack sufficient acreage outside of their backyard gardens to grow a limited number of food crops, resulting in their not reaching their daily nutritional requirements (Crush and Frayne, 2014). Furthermore, the Zimbabwean lockdown in 2020, which followed the failure of COVID-19, had a substantial impact on the local urban food system and food supply chains.Small-scale farmers, who make up the majority of Zimbabwe's farmers, are the main source of food for the city dwellers. However, they encountered new obstacles in growing due to a lack of inputs, harvesting due to a lack of labour, and marketing due to their inability to transport their produce. The pandemic and its consequences affected livelihoods, particularly in urban areas, and added 1.3 million people to the ranks of the extremely poor. According to estimates, the number of people living in extreme poverty will reach 7.9 million in 2020, accounting for nearly half of the population (World Bank, 2021).

Over half of the world's population lives in cities, with that percentage anticipated to rise to 68 percent by 2050 (Davies *et al.,* 2021). Around 2035, the population of Sub-Saharan Africa (SSA) is predicted to change to a majority of city dwellers. Cities in SSA have issues related to infrastructure, economics, and food security as a result of high population and urban growth.The majority of food security research in Sub-Saharan Africa has thus far concentrated on rural production and food availability (Battersby & Watson, 2018), despite the fact that attention is turning to concerns of food access, especially in the context of urban food security, (Giroux *et al.,* 2021). Most city dwellers must buy food rather than cultivate it, necessitating a better understanding of the link between food accessibility and food security in urban locations. Large swaths of urban regions may endure chronic food insecurity due to limited availability to food. The failure of current food systems in SSA to meet the food demands of urban people has been dubbed "the century's growing development challenge" (Davies *et al.,* 2021).

1.2Problem Statement

Food security research in the developing world is primarily focused on rural areas (Crush & Frayne, 2011). Mabvuku is a densely populated neighbourhood on Harare's eastern outskirts. The area is frequently afflicted by extreme poverty. The neighborhood has a high rate of unemployment and food poverty. The district revolves around vending and street commerce. Concerns about the ability to ensure inexpensive food access and use in metropolitan areas that rely primarily on food produced by small scale farmers arose as a result of the COVID-19 outbreak. The COVID-19 epidemic has posed a serious threat to Zimbabwe's already precarious food and nutrition security situation, which has been exacerbated by the country's macroeconomic woes, which have been exacerbated by a string of years of drought. The epidemic has exposed the shortcomings of our civilizations, from disrupting agri-food systems to increasing food shortages and inequality. Before the pandemic, many individuals in Harare were vulnerable, and the situation was made worse when farmers markets were shuttered. Urban hunger is one of the key causes of urban poverty in Zimbabwe.

1.3Research Objective

To ascertain the effects of COVID-19 on food access, consumption and livelihoods coping strategies: creating more socially just food systems in Mabvuku district.

1.3.1 Specific Objective

i. To determine the levels of food insecurity among urban households in Mabvuku district following the COVID-19 pandemic.
ii. To determine the different consumption coping strategies adopted by Mabvuku urban dwellers to cope with food insecurity following the COVID-19 pademic.
iii. To determine the different livelihood coping strategies adopted by Mabvuku urban dwellers to cope with food insecurity following the COVID-19 pademic.

1.3.2 Research Questions

i. What are the different levels of food insecurity among households in Mabvuku district following COVID-19 pandemic?
ii. What are the different consumption coping strategies adopted by Mabvuku urban dwellers to cope with food insecurity following the COVID-19 pademic?
iii. What are the different livelihood coping strategies adopted by adopted by Mabvuku urban dwellers to cope with food insecurity following the COVID-19 pademic?

1.4 Justification

Food systems are becoming increasingly recognized as being at the heart of mounting issues about how to feed an ever-increasing population. How do we reclaim the ability to provide just, integrated food systems in cities where food production is limited. This study will look into the issues that households and traders in Mabvuku faced in the aftermath of the COVID-19 pandemic. Evidence of the consequences of the COVID-19 pandemic on the Mabvuku food system is lacking in the literature. The study will describe feasible outcomes that can be repeated in different geographic locations in order to develop more socially equitable food systems in Harare, assuring food security. To feed Harare's rising population with safe and nutritious food, we must overcome ever-changing problems by doing new research on cost-effective and long-term malnutrition prevention techniques. The study will allow researchers and policymakers to work together on a project. The outcomes of the study will contribute to encouraging debates on effective food insecurity reduction measures in metropolitan areas while also propelling the country's development. As a result, this research will gather secondary and primary data to help triangulate what is happening in the Mabvuku residential area and to enlighten government and policymakers about what people want and expect in times of crisis. Furthermore, this is a novel study by the researcher, and it will aid in the discovery of undocumented practical answers that communities may use in times of distress.

The study focuses primarily on Mabvuku, which is linked to a decline in living conditions. The study offers the possibility of swiftly expanding coverage to previously underserved populations. COVID-19 has exposed the vulnerabilities of traditionally under-prioritised or invisible populations, motivating governments, development partners, and donors to address informality and the misery of the urban poor as soon as possible.

1.5 Scope/Delimitations and Limitation of the study

Because to the project's time constraints, the researcher was unable to collect data through focus group talks because gatherings were restricted owing to lockdown measures. The study's high sample size also precludes the collection of additional data. Another disadvantage of the study was that due to the huge sample size, the researcher was unable to collect data on her own, therefore she was unable to record some observations as she had done in the interviews she did herself. In order to overcome this, the researcher had to go about the households that were enumerated in order to gain a thorough grasp of the responses

that were recorded. The questionnaire asked respondents to recall their livelihood experiences from the previous 30 days before the interviews, which looked difficult for them to recall, potentially distorting the quality of the data collected. To avoid this, the enumerators and researcher invited family members to participate in the interviews. Concerns are rising that COVID-19 would exacerbate food insecurity and hunger in Africa. Unfortunately, we did not collect data to identify the different food classes and how they are affected by the price increase in our current study, which would have allowed us to better understand the impact of the lockdown on food availability and household food security issues.

1.6 Outline of Thesis

The research is organised into 6 chapters. Chapter 1 is the Introduction: and this gives a background and understanding of the study, give a detailed outline of the problem statement, the objectives, research questions, and justification of the study, limitations and outline of the thesis. A chapter summary will be presented. Chapter 2 is the Literature Review: the chapter gives more detailed information around the study topic, it will also outline relevant information which has been documented by other authors in similar studies, also a conceptual framework of the study will be presented, and lastly the chapter summary. Chapter 3: this will give a brief description of the study site, research design to be used, sampling procedure to be used, data analysis procedure which will be followed, ethical considerations summary. Chapter 4 and 5: This chapter will be presented as manuscripts from the study objectives. Lastly Chapter 6: will include the introduction, research summary, conclusionsand recommendations, areas for further research, references and appendices.

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CHAPTER 2

2.0 LITERATURE REVIEW

2.1 Introduction

COVID-19 factors contributed to substantial and widespread rises in global food insecurity, affecting vulnerable households in virtually every country, and the effects are anticipated to last through 2022 and maybe longer. (The World Bank, 2021). In 2020-2021, COVID-19 is expected to have significantly increased the number of persons experiencing acute food insecurity. According to the (WFP, 2021) report, hunger has worsened in Zimbabwe's metropolitan regions over the past year, with 2.4 million people now failing to fulfill their basic food demands. Lockdowns imposed to stem the spread of COVID-19 have wreaked havoc on poor urban neighborhoods, many of whom were daily wage employees struggling to make ends meet.

2.1.1 Definition of Key Terms

Food Insecurity- the lack of physical, social and economic access to adequate food to meet nutritional needs and food preferences to lead active and healthy lives (FAO, 2019).

Food systems- Food systems include all the activities that relate to the production, processing, distribution, preparation and consumption of food(HPLE, 2020).

Coronavirus (COVID 19)- According to *Chirisa and others (2021),* this is a highly infectious disease caused by the new Coronavirus (COVID-19) and can spread from person-to person through sneezing and coughing droplets. This virus has signs and symptoms similar to the common cold but is dangerous and if not reported early and managed by health workers it can cause severe illness in humans and can lead to death.

Food Access- Access by individuals to adequate resources (entitlements) for acquiring appropriate foods for a nutritious diet (FAO, 2020). Entitlements are defined as the set of all commodity bundles over which a person can establish command given the legal, political, economic and social arrangements of the community in which they live (including traditional rights such as access to common resources).

Coping strategies- According to WFP (2021), these are tactics used to manage crises, conditions, and demands that are appraised as distressing. The tactics may either be behavioural and cognitive.

2.1.2 Demographics and Economic activities in Mabvuku District

Mabvuku District is densely populated, with a population of around 30 000 people estimated.Poultry farming in the backyards of local people's houses, brick mounding, and maize cultivation on local open spaces are the most common livelihoods in the district. Many locals work in the informal economy, such as farming and selling food. People in the area have been forced to turn to homegrown industries such as hair salons, barbershops, vegetable stands, and handcrafted furniture due to excessive unemployment (Tendai, 2016).

The COVID-19 pandemic has had a significant influence on the socioeconomic livelihoods and well-being of Mabvuku area residents. The sudden notification of the shutdown left vendors with little time to save and stock up on food (Chamunogwa, 2021). Despite the government's commitment to provide a cushion fund for the informal sector to enable merchants endure the lockdown, no financial support was supplied. No specific study has yet documented the obstacles and opportunities posed by the COVID-19 epidemic in the Mabvuku residential neighborhood.

2.1.3 Harrowing experience in Zimbabwe social systems

In addition to stagnant incomes, foreign currency shortages, a fast weakening currency, low productivity, water shortages, power blackouts, and increased poverty, Zimbabwe has been undergoing an economic crisis marked by hyperinflation that has pushed food prices beyond the grasp of many. Food used to be plentiful in Zimbabwe, but that is no longer the case.

People in Zimbabwe are increasingly concerned about whether they will eat tomorrow rather than what they will eat now. COVID-19 has exacerbated the problem, resulting in the collapse of the country's whole food system. Many Zimbabweans have also lost their ability to work as a result of the Coronavirus. Approximately three-quarters of the country's urban workers, primarily women traders, are currently unemployed. Food insecurity is expected to climb to 3.3 million people in metropolitan areas, up from 2.2 million currently (USAID, 2021). Even before the COVID-19 outbreak, these people required aid, and the national lockdown exacerbated their food problems. The remainder has been covered by the government's food safety net operations.

2.1.4 Challenges in the Food System Globally

A growing population

Due to the rapid rise in population, feeding a growing population and attaining food security has been identified as one of the most crucial issues for the next three decades. By 2050, the world's food systems will have to feed and nourish almost 9 billion people in a safe, responsible, and long-term manner (FAO, 2016). To feed this expanding population, it is estimated that world food supply will need to increase by 50% by 2050. As a result, there will be an additional 219,000 people to feed every day, and we will need to produce more food than we have ever produced in the next 50 years (Ranganathan *et al.,* 2018). It is critical to ensure that this expansion is carried out appropriately, without jeopardizing our natural resources' long-term viability.

The complexity of the global food chain

Dietary production has evolved into a global sector with numerous advantages, including accessibility, affordability, and a wide range of food options. The integrity of increasingly complicated food supply chains, on the other hand, is frequently jeopardised (Wahab & Ling, 2019). This is because sourcing and transporting ingredients and goods across a variety of countries and supply chain participants for raw materials, processing, and retail makes surveillance harder and increases the amount of opportunities for fraud.

Food Consumption

Food waste and overconsumption place undue strain on the food system.Undernutrition (wasting, stunting, and underweight); micronutrient deficiencies; and overweight, obesity, and diet-related noncommunicable illnesses affect one out of every three persons (such as heart disease, stroke, diabetes and some cancers). Furthermore, 1 billion individuals suffer from 'hidden hunger,' in which they consume sufficient calories but lack micronutrients, vitamins, and minerals (Kimura, 2017).

Climate change

Climate change has been dubbed one of the most pressing issues of the twenty-first century.

Extreme weather and climatic events will diminish food production, having far-reaching effects on crops, animals, and fisheries, as well as changing crop pest prevalence. (Vermeulen *et al.*, 2012) asserts that these effects on the food system will be vast, complex visually and temporally changeable, and heavily impacted by socioeconomic factors.

2.2 The Food Security Situation in Zimbabwe Urban

The residents of urban areas in Zimbabwe have been enduring circumstances such as a collapsing economy, volatile political climate, high employment rate, increasing poverty and rampant inflation (USAID, 2021). The rural areas of Zimbabwe are usually seen as the epicentre of poverty, hunger and malnutrition. However, unlike most other countries within SADC – where food insecurity is viewed almost exclusively as a rural problem – Harare has a substantial history of research on the urban dimensions of food security (Tawodzera, *et al*., 2012). Urban households require cash income to pay for their food as well as other essential services such as housing, transport and electricity. In a stable economic environment, with high levels of formal employment, households might have been able to survive on a single income source. In the highly volatile economic environment that Zimbabwe is in, a single income source was generally inadequate as most commodities are being sold at a foreigncurrency black market rate which is double the official bank rate stated by the Reserve (Tawodzera, 2012). Most of those who are formally employed earn salaries based on the foreign currency rate stated by the Reserve Bank of Zimbabwe hence creating a huge gap.

Urban household food insecurity has increasingly become deterrent to sustainable development in many countries of the Global South despite global commitments of ending poverty and hunger by 2030. Rising food prices, weak institutions, high unemployment, poor governance, population growth and limited opportunities to produce food are some of the factors that have aggravated urban poverty in many developing countries (Battersby, 2013). Urban poverty has deepened as economies in many African countries have failed to support the increasing population in improving incomes and standards of living (Frayne et al., 2014). Urban food security hinges on household's purchasing power. Resultantly, urban poor households are extremely vulnerable to food insecurity due to persistently low incomes (Ndlovu et al., 2019). Poor urban households are vulnerable to income and food price shocks due to dependence on food purchases and income from the informal sector (Ruel et al., 2017).

Household Food Insecurity Access Scale (HFIAS): The HFIAS score is a continuous measure of the degree of food insecurity in the household in the month prior to the survey. An HFIAS score is calculated for each household based on answers to nine 'frequency-of-occurrence'

questions. The minimum score is 0 and the maximum is 27. The higher the score, the more food insecurity the household experienced (Battersby, 2013). The lower the score, the less the food insecurity experienced. Household Food Insecurity Access Prevalence Indicator (HFIAP): The HFIAP indicator categorises households into four levels of household food insecurity: food secure, and mild, moderately and severely food insecure (FAO, 2016). Households are categorised as increasingly food insecure as they respond affirmatively to more severe conditions and/or experience those conditions more frequently.

2.3 Urban food systems

For most urban households, food security is a major concern. According to (FAO, 2016)sub-Saharan Africa's urban environments rank high in terms of urban poverty and malnutrition. Many vendors were evicted off the streets and forced to close down during the COVID-19 outbreak. This is a concern because many households obtain their food supplies from these sellers at a lower cost than supermarkets.

The majority of residents in urban slum regions are low-income migrants from rural areas who are either unemployed or work in the informal economy.As a result, individuals are at a higher risk of experiencing food insecurity. As a result, scholars (Crush & Frayne, 2011) propose that ensuring urban food security in developing-world cities is an emerging development problem for the twenty-first century, and that researchers should focus on the intricacies of urban food systems.

Food systems are a key source of employment and livelihoods, a large user of natural resources, a source of pollution and ecological degradation, and a driver of global warming that will be increasingly influenced by climate change in the coming decades (Rockström *et al.,* 2020). Concerns about the prevalence of social injustice in food systems, especially high levels of inequality and inequity, have led to the recognition of food system sustainability as a critical human development issue (Ahmed *et al.,* 2016).

2.4 Challenges and Constraints of Covid-19

The COVID-19 pandemic health disaster is still wreaking havoc on the global economy and has significant implications for food systems.Many governments are responding with short-term emergency measures, such as financial help to farmers and other food-related enterprises, trade-speeding programs, and specific assistance for vulnerable customers.

Governments must also create circumstances for global food systems to "rebuild better" in order to address future problems.

Zimbabwe's experience, like that of other African countries, raises concerns about the implications of a harsh lockdown, particularly on the poor and marginalized, and whether there are other means to combating the virus today and for future societal and economic approaches. Rural farmers also suffered as a result of travel restrictions and market collapses, resulting in a reduction in food diversity for the urban population, which relies primarily on rural food supplies (Rukasha *et al.,* 2021). Furthermore, the pandemic's lockdown hindered movement for farmers, who are the main distributors to pro-poor mass markets like Harare's Mbare market. Many informal traders in Harare, who rely primarily on buying agricultural produce from farmers, have seen their lives suffer as a result of the lack of additional income.

There was a massive chain reaction during the early stages of COVID-19; without markets, producers, transporters, and everyone else suffered. For city dwellers, the lockout meant no money to buy food or other inputs needed to keep rural farmers supplying urban markets (WHO, 2020). While the majority of urban consumers rely on food from pro-poor mass markets, supermarkets are often reserved for the upper and middle classes. The closure of large food markets came at the price of the urban poor who rely on them.

2.4.1 Impacts of the Pandemic on Food Supply Chains

Zimbabwe has noticed a major increase in world hunger as a result of the COVID-19 pandemic's knock-on consequences. The population of the country has been impacted by food shortages. The Sustainable Development Goal of eradicating hunger by 2030 will be missed by roughly 660 million people if the world continues on its current path. The implementation of lockdown measures brought with it a slew of issues, including global supply chain interruption (Rukasha *et al.,* 2021).

2.5 Food Security in Zimbabwe Worsens During COVID-19

Unprecedented food insecurity remains Zimbabwe's greatest challenge throughout this pandemic.People living in poverty will continue to be vulnerable as some of the protection measures are disregarded by communities preoccupied with putting food on the table for their

family. The global pandemic of Covid-19 poses major threats to vulnerable countries like Zimbabwe, which have underdeveloped health systems and limited social support programs.

Nearly 90% of Zimbabweans work in the informal economy, and lockdown rules designed to stem the virus' spread have cut them off from their only source of income(Dzawanda *et al.*, 2021).The Zimbabwean agricultural sector will be severely impacted by the lockdown.

The limits on the movement of commodities, people, and services will almost certainly have a considerable impact on food supply networks.Women dominate the family farm sector, which produces 70% of staple foods, but it is extremely sensitive to external shocks like the lockdown measures (UNDP, 2020). The COVID-19 pandemic has the potential to wreak havoc on short-term manufacturing and distribution.If lockdown patterns used by rich countries with organized food supply systems and the capacity to expand social assistance programs are adopted by poorer countries, like as Zimbabwe, without being tailored to local settings, they are bound to be problematic.The limits on the movement of commodities, people, and services will almost certainly have a considerable impact on food supply networks.

2.6 Social Protection During COVID-19 To Ensure Food Security

Through interventions, social protection can help the region achieve 14 of the 17 SDGs, as well as build the developmental synergies needed to recover from the COVID-19 pandemic and advance the comprehensive initiatives needed to ensure food security and nutrition, as well as the prosperity that this foundation promises. According to the UNDP (2020) report, the implementation of severe lockdown measures to mitigate the health consequences of COVID-19 has resulted in the halting of economic progress. As a result, Zimbabwe's unemployment rate has risen, and businesses have closed. Household resilience was also harmed as a result of the situation. These policies have had a severe impact on household income, forcing people to adopt poor coping strategies linked to food intake and dietary diversity, as well as their ability to get essential items to meet their nutritional needs. In response to the epidemic, the Zimbabwean government put aside ZWL$200 million (about $550,000) each month for emergency financial transfers to 1 million pandemic-affected households (Gentilini, *et al*., 2020).

2.7 Empirical Review of Coping Strategies

Coping mechanisms are the actual responses to crises on livelihood systems in the face of undesirable circumstances, and they are regarded short-term answers (Regassa, 2011). When there is a food scarcity, the Coping Strategy Index (CSI) measure is used to determine the quantity and frequency of coping strategies used by the household. Looking at the frequency and types of coping techniques used to offset risks to a household's food and economic resources in times of hardship is one of the most prevalent methods for detecting food insecure households. Households that are impoverished and likely to be destitute employ a greater number of coping mechanisms. Those who resort to extreme coping mechanisms in the face of food scarcity become more vulnerable (Sahu *et al.,* 2017). The CSI tool is a standardised worldwide questionnaire developed to estimate the number and frequency of coping strategies that a household might utilize when there is a food shortage. Different households utilize techniques to deal with food insecurity, such as reducing the quality of food, cutting food portions, going a day without eating, or sending family members to eat with neighbors. People's behavior alters when there is a food shortage in order to adapt to the situation. Household methods differ in a number of ways, both within and between households. (Cordero-Ahiman *et al.,* 2018) highlighted that other common household strategies include short term dietary changes and reducing or rationing consumption, as well as maternal buffering. Over the years, the main technique used by households has been to reduce the number of meals each day. Due to inadequate diet, meal reduction or skipping has a significant influence on the health of some of the most vulnerable members of the household, such as the sick, the elderly, and children under the age of five. Households' ability to endure shocks or manage risks is determined by the degree and severity of the risk, as well as the assets of the household, including social capital. Factors such as household economic position, gender, and age influence household coping mechanisms (Devereux, 2001).

The more the coping strategies used to cope with food insecurity, the higher the level of food insecurity indicated (Maxwell and Caldwell, 2008). There are other factors besides just short-term food consumption that must be considered in assessing food security. These include longer-term livelihood strategies, labour opportunities, alternative income generating strategies, levels of physical and financial (and other) assets, and one-off asset sales or bartering.

Frequency is a measure of how many days in the past week a household had to rely on the various coping strategies—ranging from "never" (0) to "every day" (7). That frequency score is then multiplied by the severity weight. Severity is ranked from least severe to the most severe. According to Maxwell and Caldwell (2008), it is critical to ensure that the values for both the frequency and the severity influence the CSI score in the same way. That is the higher the frequency, the higher the score; and the greater the severity the higher the severity weighting.

2.8 Conceptual/theoretical framework/s

Below is a Conceptual framework that was developed by the researcher to show how various factors are interlinked and how these contribute to challenges in food systems as well as bring opportunities that can be utilised by communities for improved household food security.

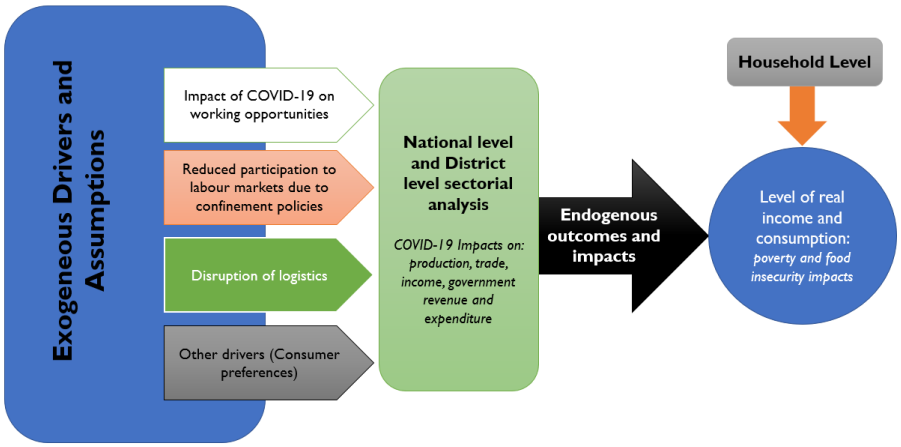

Figure 2.1: Study Conceptual Framwework

Source: Researcher design

2.8 Summary of Literature Review

According to the literature, the COVID-19 has been and continues to be Zimbabwe's greatest threat to achieving food security status in Harare and Zimbabwe as a whole. Most Mabvuku households rely on acquired food, while the majority of the population relies on informal trading. The chapter also noted that the research site's merchants had little time to plan their savings and stock up on food due to the abrupt announcement of the lockout. The government's failure to provide safety nets to alleviate food insecurity exacerbated the

problem. This is in contrast to the government's earlier pledges when the lockdowns were imposed, when it vowed to provide an informal sector cushion fund to help merchants survive the lockdown. Sharp price increases in essential commodities were one of the issues encountered by urban households, while inflation and the negative economic repercussions of COVID-19 undermined the purchasing power of the Zimbabwe dollar.

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CHAPTER 3

3.1 Introduction

The chapter discusses the research methodology that was used in this study. The methodology therefore informed the framework from which the study was centered on. It will gives information about the selected study area, the sampling procedure used, how the data was collected, presented and analysed. Ethical considerations as well as the delimitations of the study are explained herein.

3.1.1 Brief description of study area

The study was carried out in Harare Metropolitan, with Mabvuku district being selected as the study site. Mabvuku is a high density suburb some 17 km east of Harare, the capital city of Zimbabwe. Mabvuku has an estimated over 30 000 population (ZIMSTAT, 2012).

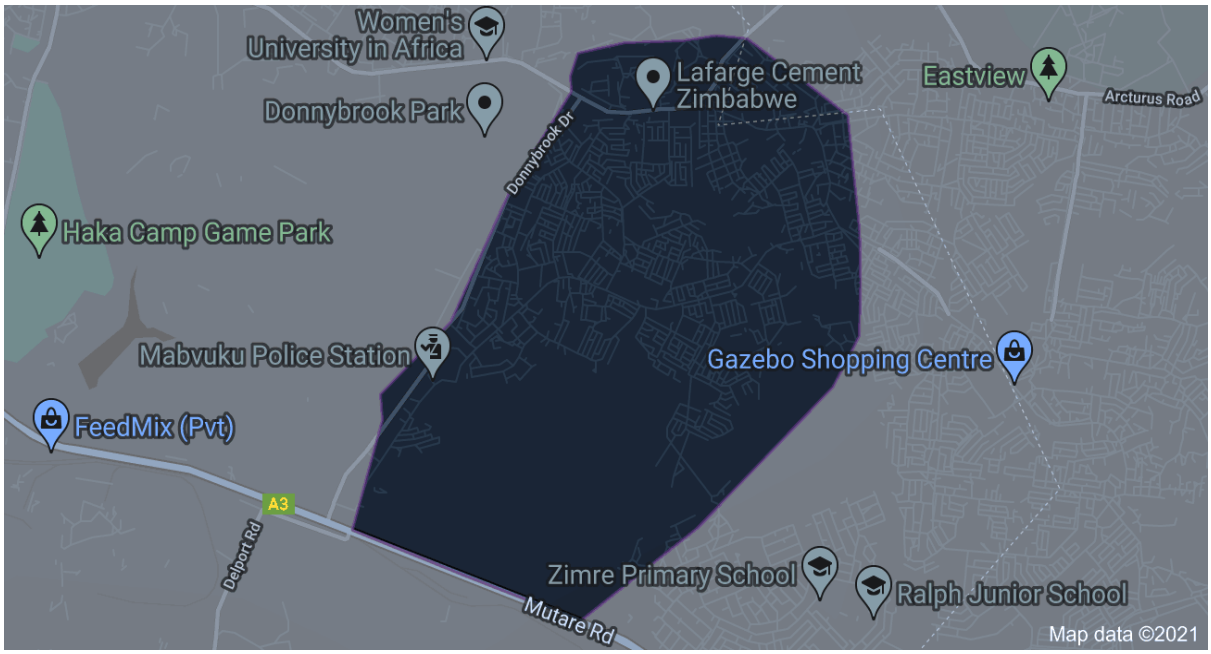

Figure 3.1: Study Area Map

Source: Map data

3.2 Research Design

This study employed a mixed methods approach, which refers to the collection and analysis of both qualitative and quantitative data. The combining of qualitative and quantitative procedures in this study provided the research with rigour, breath and an in-depth

understanding of the effects of COVID-19 in creating more socially just food systems: response now and beyond in Mabvuku residential area. The use of the two methods also increased the robustness of the results through triangulation and cross-validation and provide a clearer and fuller picture of Mabvuku respondents household food security than would otherwise have been achieved by using either of these methods on their own. The research used Households survey questionnaires as the main data collection tool for quantitative data which contained both open ended and closed ended questions. Desk review was used to gather qualitative data.

3.3 Sampling Procedure

The selection of enumeration areas for the COVID-19 impact assessment surveys was based on their levelof food insecurity therefore data was collected from informal street vendors in Mabvuku district, and households where food insecurity is high. For household sampling, the study focused on use a purposive sampling method. Baseline information from desk review about Mabvuku district was used after gathering it through review of relevant documents such as the National Census. There was no existing sampling frame for informal street vendors. Interviews were conducted by four (4) enumerators over six weeks. Vendors were only interviewed if they were over the age of eighteen (18).

The total population of the Mabvuku district is at least 30000. It was determined using the Slovin's formula:

$$n = \frac{N}{(1 + Ne^2)}$$

Where: *n* is the sample size,

N is the given the population size,

e is the margin of error.

Assuming a 95% confidence level, 5% margin of error, target population of 30000 and 50% estimated proportion, the minimum sample size required was 380 households**.**

3.4 Data collection methods

Table 3.1: Data collection methods

Method	Description
	Qualitative
Desk Review	The desk research provided the study with information that allow for better understanding of the study, its relationships with food security status of Mabvuku residents. Desk review also provided the researcher with information about the study location i.e., population, livelihoods status.
	Quantitative
Household Survey	Quantitative data was collected using a structured questionnaire. The thrust of household survey rested on drawing a clear understanding of the effects of COVID 19 on food security. The researcher selected houses randomly during data collection phase.

Data was collected through a survey questionnaire which had four (4) sections namely: Demographics Information, HFIAS, Household Consumption Coping Strategies and Livelihood Coping Strategies. A preliminary pilot test was carried out to validate the questionnaire that was going to be used in the study as well as to test feasibility on the administration of the questionnaire. This was done by testing out the questionnaire on urban residents from a different location from the one the study was intended. Corrections were made after comments were made to ensure smooth sailing of the survey.

A total of 396 interviews were carried out by four (4) enumerators, but 380 questionnaires were picked after data cleaning and verification. Only completed questionnaires were selected. In sections that were not clear, some respondents were contacted via the telephone as they had given some of their contact details.

3.5 Data analysis methods

Data was entered on excel, and then exported to Statistical Package for Social Sciences (SPSS) for analysis. Graphical presentations were be generated using SPSS. Frequencies on effects of COVID-19 on food security faced by vendors, households, and value chain actors

was generated on SPSS. Tools used included frequency analysis, percentage, means, median, as well as statistical graphs and charts and economic indicators calculation.

Table 3.2: Analytical Tools

Objective	Analytical Tool
To determine the levels of food insecurity among urban households in Mabvuku district following the COVID-19 pandemic.	The Household Food Insecurity Access Scale (HFIAS), Household Food Insecurity Access Prevalence (HFIAP), Regresssion Model
To determine the different consumption livelihood coping strategies adopted by Mabvuku urban dwellers to cope with food insecurity.	Coping Strategy Index
To determine the different livelihood coping strategies adopted by Mabvuku urban dwellers to cope with food insecurity.	Coping Strategy Index

3.6 Consent, Confidentiality and Ethical Considerations

Gaining consent from the informants wass an integral part of the research process. Informed consent refers to the ongoing agreement by a person to participate in research after purpose, risks and benefits of the research have been fully explained . Explaining the purpose of the research was meant to ensure that respondents make informed and voluntary decisions on whether or not to participate without feeling as if they are being coerced to do so, physically or psychologically. Those who agreed to take part in the survey were asked to indicate their consent by signing consent forms. However, some of the respondents felt there was no need for them to sign the consent papers as they feared that their responses would be used for purposes other than educational reasons.

CHAPTER 4

Determining the levels of food insecurity among urban households in Mabvuku district following the COVID-19 pandemic

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Abstract

Urban household food security is gradually being recognised as a developmental challenge in sub-Saharan Africa, in general, and in Zimbabwe, in particular. The purpose of this study was firstly to determine the levels of food insecurity among urban households in Mabvuku district Zimbabwe following the COVID-19 pandemic. The study employed a mixed method of both qualitative and quantitative methodologies. A household food security survey was employed using a questionnaire that was based on the Household Food Insecurity Access Scale (HFIAS). The questionnaire was used to collect data from 380 randomly selected households. Household Food Insecurity Assess Prevalence (HFIAP) was also used to assess the vulnerability of the household in relation to food access. Majority of the households were found with severe food insecurity issues during the COVID-19 lockdown period in terms of food access in the study area. The Survey data indicated that more than 74.6% of the households experienced food insecurity with 4.7% of the sampled households who were food secure from the sampled households in Mabvuku. R-squared was found to be 69% and the adjusted R-squared was 67%. This implies that the variables included in the model explains 69% of the variations in the model. Therefore, 31% of variations in the model is being explained by exogenous factors. Since R-squared is above 50% the regression results are reliable and recommendations can be made basing on the results. Furthermore, the Darbin Watson value was found to be 2.3 which is above 2 meaning that the model was correctly specified.

Key words: Food Security, Food Access, Houshold, Socioeconomic, COVID-19

4.1 Introduction

Food insecurity is a global challenge(Lujabe *et al.,* 2022).Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life(FAO, 1996). This means that household food insecurity (HFI) occurs when any member of the household is unable to have an active and healthy lifestyle because of food issues asserts (Coleman-

Jensen *et al.*, 2019). Food security is commonly defined in terms of four dimensions: quantity availability, economic, logistical, and sociocultural access, high quality and safety use, and consistency at all times(Filippychev, 2006). Food insecurity among households is common in Zimbabwe, Africa's cities and peri-urban areas, and many other developing countries.Only a small percentage of the population is engaged in the official sector in nations such as Zimbabwe(Iram & Butt, 2004)stresses that other characteristics, such as household composition, educational level, and livelihood diversification, must be considered when determining food security.Access to employment possibilities can help households diversify and boost their income. (Gebre, 2012)opines that the food insecurity in urban households is determined by the insecurity of employment possibilities.One of the most important demographic characteristics that influences household food insecurity is family size. (Hanyani-Mlambo, 2017) found out that families with large families are more likely to be food insecure than those with smaller families.

(Zhang *et al.*, 2021) asserts that understanding the state of household food security during the COVID-19 pandemic can aid in the implementation of relief measures, as well as promote the development of sustainable cities and communities. Furthermore, travel limitations imposed by governments to combat COVID-19 have disrupted economies and food transportation, worsening the vulnerabilities of poor and malnourished populations even before the pandemic(Laborde *et al.*, 2020). By disrupting food systems, affecting household earnings, employment security, and limiting physical access to food, the Covid-19 epidemic threatens the core of food security (e.g., food availability, accessibility, usage, and stability)(Devereux *et al.*, 2020).

4.2 Brief description of study area/ Sites

The study was carried out in Harare Metropolitan, with Mabvuku district being selected as the study site. Mabvuku is a high density suburb some 17 km east of Harare, the capital city of Zimbabwe. Mabvuku has an estimated over 30 000 population. Detail on the study area map is given in chapter 3 section 3.1.1.

4.3 Research Design

This study employed a mixed methods approach, which refers to the collection and analysis of both qualitative and quantitative data. The combining of qualitative and quantitative procedures in this study provided the research with rigour, bredth and an in-depth understanding of the effects of COVID-19 in creating more socially just food systems:

response now and beyond in Mabvuku residential area. The use of the two methods also increased the robustness of the results through triangulation and cross-validation and provide a clearer and fuller picture of Mabvuku respondents household food security than would otherwise have been achieved by using either of these methods on their own. The research used Households survey questionnaires as the main data collection tool for quantitative data which contained both open ended and closed ended questions. Desk review, Focus was used to gather qualitative data.

4.4 Sampling Procedure

Baseline information from desk review about Mabvuku district was used after gathering it through review of relevant documents such as the National Census. This study is based on data obtained from a household food consumption survey conducted in Mabvuku District, Harare in January 2022. Data was collected from informal street vendors in Mabvuku district, and households where food insecurity is high. For household sampling, the study focused on use a purposive sampling method. There was no existing sampling frame for informal street vendors. Vendors were only interviewed if they were over the age of 18. The researcher designed a structured interview questionnaire, which was composed of four parts: 1) social demographic characteristics of interviewees and their families, 2) the modified Household Food Insecurity Access Scale (HFIAS), 3) household consumption coping strategies 4) livelihood-based coping strategies. The second part (HFIAS) is a widely used indicator system developed by Food and Nutrition Technology Assistance (FANTA) to measure HFI, revealed (Coates *et al.,* 2007). The scale was comprised of 9 questions (worry about food, unable to eat preferred foods, eat just a few kinds of foods, eat foods they really do not want eat, eat a smaller meal, eat fewer meals in a day, no food of any kind in the household, go to sleep hungry, go a whole day and night without eating) to assess the level of anxiety and uncertainty of the participants about household food supply, insufficient quality of food and insufficient food intake. A total of 380 responses were obtained from January 22 to March 5, 2022.

The total population of the Mabvuku district is at least 30000. It was determined using the Slovin's formula:

$$n = \frac{N}{(1 + Ne^2)}$$

Where: *n* is the sample size,

N is the given the population size,

e is the margin of error.

Assuming a 95% confidence level, 5% margin of error, target population of 30000 and 50% estimated proportion, the minimum sample size required was 380 households**.**

4.5 Data analysis methods

Data was entered on excel, and then exported to Statistical Package for Social Sciences (SPSS) for analysis. Graphical presentations will be generated using SPSS. Frequencies on challenges and opportunities faced by vendors, households, and value chain actors was generated on SPSS. Tools used included frequency analysis, percentage, means, cross-tabulation, median, as well as statistical graphs and charts and economic indicators calculation.

4.6 Results

Socio-demographic characteristics of participants

We determined that most of the households included in the study comprised 1or 16 household members. The average family size in this study constituted 5 individuals. Moreover, 50.03% of individuals in the households were employed by others, and 26.6% highlighted that they were unemployed. A minimum of 23.2% were self employed (Table 4.1).

Table 4.1: Distribution of households by employment status and source of livelihoods

Status	**Percent**
Employed_to_others	50.3%
Self_employed	23.2%
Unemployed	26.6%
Total	**100.0%**

Casual_labour	11.3%
Farming_activity	2.1%
Pension	0.8%
Remittances	6.1%
Renting_income	10.5%
Salary	49.5%
Small_business	19.7%
Handicraft	0%
Total	100.0%

A minimum of 0.8% depend on pension and 6.1% depend on remittances for their source of livelihood. From these results it can be observed that three households relying on pension funds constitute of eldery people. Thus, we can conclude that households mostly had socioeconomic difficulties following the COVID-19 pandemic. Most households which were dependant on pensions and remittances faced problems collecting their money as there lockdown restrictions which were set in place to prevent the spread of the virus. Quite a few households which relied onremittances also complained that their relatives who used to send money to them had lost their jobs or lives because of the pandemic. Most respondents from this study were unemployed or had small businesses, this may be due to the fact that their education levels were low hence low percentage were employable and some lost their jobs when the pandemic hit the country. Education level is considered important in reduction of poverty which in turn reduces food insecurity.

All the households surveyed never participated in safety nets programs, as well as not having access to supplementary feed for children. In addition, all the households reported not having participated in food emergence access activities. These responses were worrisome as there was a set budget which was supposed to support citizens during COVID-19. This left the residents of Mabvuku district exposed to food insecurity as income levels were reduced and they could not afford to purchase food for consumtion. Social protection measures were not applied in order to cushion the residents of Mabvuku.

Results of this study found that decreased household income was a significant risk factor of food insecurity during the COVID-19 pandemic. The economic stressors induced by the impact of various social distancing measures on job and income. In this study, it was noted that 18.2% of the respondents did not own assets such as motor vehicles or agricultural assets (sickel, hoe, shovel, wheelbarrow), this was indicator of level of poverty in those households. The households did not own productive household assets which would help them earn money

in times of need during COVID 19 period which was characterised by loss of employment and closure of businesses. Some household members ended up engaging in degrading incoming earning activities such as robbery and prostitution to earn money for food.

Table 4.2 Market Accesibility and Pricing

	Average	Consensus Ranking
Is the food market accessible in your area?	3.79	4
How near is the facility to your neighbourhood?	3.79	4
How expensive is the price?	1.54	2

In the demographics section, an investigation was also carried out to ask the respondents on the accessibility of the markets to the households. Responses were ranked from very inaccessible (1) to very accessible (4). When the respondent's responses were averaged for the whole sample, an average of 3.8 was noted. This meant that the residents of Mabvuku district had no trouble accessing their local markets for food. The main problem encountered by the respondents was that the food was expensive at the market and they could then not afford to purchase the kind of food they wanted to ensure that they were food insecure as the averaged score for the respondents indicated that food was expensive. The residents considered the food prices expensive and could not afford to buy some food stuffs like they used to do before the pandemic due to loss of employment, farmers could not travel to where they were because of the lockdown restrictions. The residents were not able to travel to the farmers as well hence food prices hiked.

Table 4.3 indicate the responses to the food security questions. According to the HFIAS, the questionnaires employed a series of 9 to 15 questions that detected the level of concern and availability, accessibility, variety, and/or quantity of food. Their aim was to assess whether households had experienced problems with accessing food over the previous 30 days. There were two sub-questions in the questionnaire. The first group of questions were the nine

occurrence questions, and the respondent could reply with either‘yes’ or ‘no’ (where no = 0 and yes = 1). The HFIAS highlights a household’s concerns about the likelihood of food insecurity, which includes inadequate quality and inadequate amounts of food.

Table4.3: Households’ responses to HFIAS generic questions

Variable	Number of Households n (%)
FS1—Not Enough Food	
No	156 (41.1%)
Yes	224 (58.9%)
Total	380 (100%)
FS2—Not Eating Preferred Food	
No	61 (16.1%)
Yes	319 (83.9%)
Total	380 (100%)
FS3—Less Food on Plate	
No	63 (16.6%)
Yes	317 (83.4%)
Total	380 (100%)
FS4—Did Not Want to Eat	
No	64 (16.8%)
Yes	316 (83.2%)
Total	380 (100%)
FS5—Eating Smaller	
No	84 (22.1%)
Yes	296 (77.9%)
Total	380 (100)
FS6—Eating Fewer	
No	82 (21.6%)
Yes	298 (78.4%)
Total	380 (100%)
FS7—No Food	
No	268 (70.5%)
Yes	112 (29.5%)
Total	380 (100%)
FS8—Sleeping Hungry	
No	282 (74.2%)
Yes	98 (25.8%)
Total	380 (100%)
FS9—Day/Night No Eating	
No	342 (90%)
Yes	38 (10%)
Total	380 (100%)

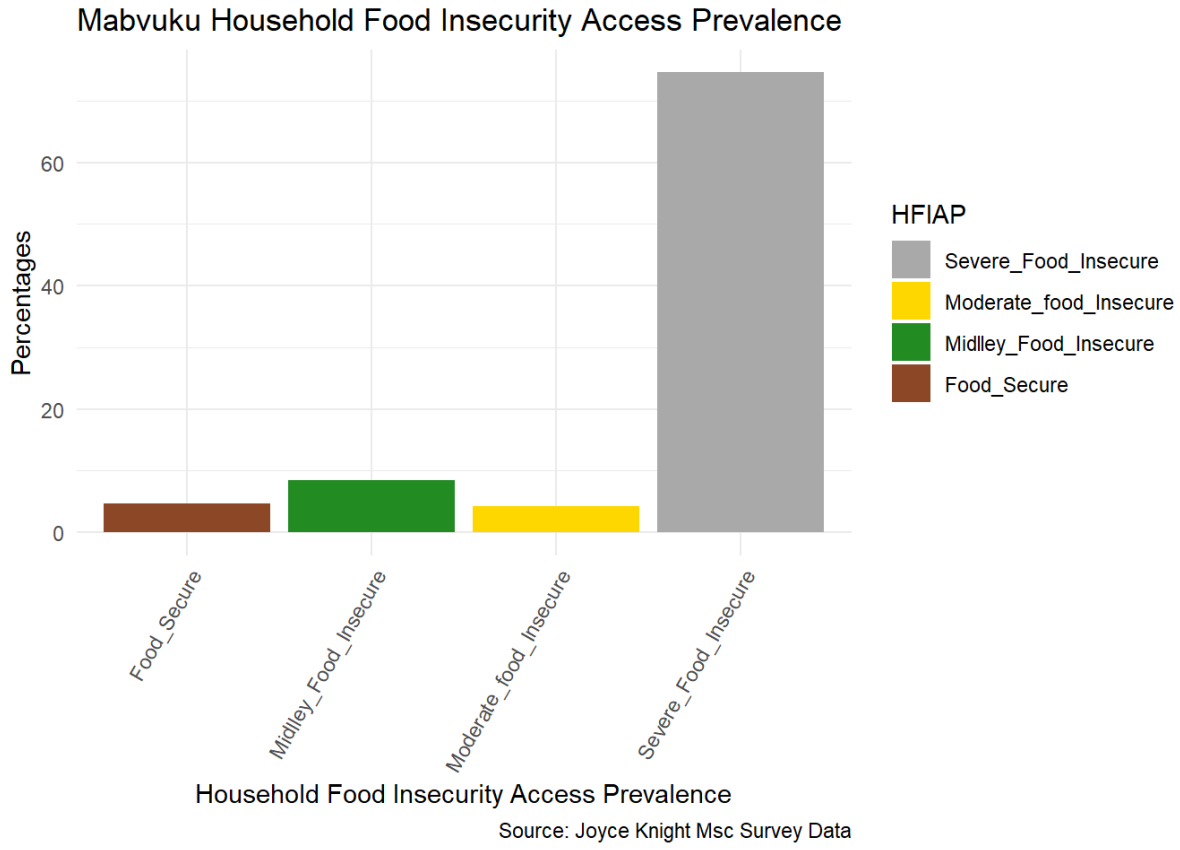

Figure 4.1: Household food insecurity access prevalence (HFIAP)

The HFIAP assign households and populations along a continuum of severity which can be categorised into four levels, from food secure to mildly food insecure, moderately food insecure up to severely food insecure. The assessment was done and the results are shown in figure 4.2 As evidenced by the results, majority of the households were found with severe food insecurity issues during the COVID-19 lockdown period in terms of food access in the study area. The Survey data indicated that more than 74.6% of the households experienced food insecurity with 4.7% of the sampled households who were food secure from the sampled households in Mabvuku, Fig 4.1.

Table 4.4: Regression Analysis Results

Model	**Coefficients**		**Significance**	**Collinearity Statistics**	
	B	**Standard error**		**Tolerance**	**VIF**
Constant	-428.58	181.97	0.004***		
Age	0.543	0.056	0.019**	0.792	8.278
Household size	-3.819	7.541	0.748	0.574	5.326
Market Price	-0.784	0.076	0.007***	0.677	2.268

Model	Coefficients		Significance	Collinearity Statistics	
	B	Standard error		Tolerance	VIF
Distance to market	4.324	3.258	0.642	0.236	0.254
Employment Status	0.531	0.094	0.032**	0.239	3.341
Educational Level	0.741	0.071	0.078*	0.124	7.371
Market Access	-0.874	0.036	0.016**	0.883	1.132
R-square	0.69				
Adjusted R square	0.67				
Durbin Watson value	2.3				

The R-squared shows the explanatory power of the variables included in the model, from the regression results the R-squared was found to be 69% and the adjusted R-squared was 67%. This implies that the variables included in the model explains 69% of the variations in the model. Therefore, 31% of variations in the model is being explained by exogenous factors. Since R-squared is above 50% the regression results are reliable and recommendations can be made basing on the results. Furthermore, the Darbin Watson value was found to be 2.3 which is above 2 meaning that the model was correctly specified (Table 4.3).

4.7 Discussion

The nutritional status of individuals and societies, as well as their access to food and food security, are expected to be affected by social, cultural, and economic changes that occur during the pandemic phase. The findings of this study are critical in determining food insecurity and the factors that influence it throughout the pandemic, according to the authors(Bulucu *et al.*, 2021). The COVID-19 pandemic has wreaked havoc on Mabvuku's most vulnerable residents, including casual workers, the unemployed, informal traders, and those who are nominally employed. In a similar study the (Government of Bangladesh, 2020) noted that in the face of the pandemic, casual labourers, unemployed, informal traders as well as those formally employed are a highly vulnerable groups for whom job insecurity brings about a financial crisis, which is likely to lower dietary diversity for their households. (Arndt *et al.,* 2020) points out that,food security is a major concern for low-income families, notably day laborers' families, who rely only on daily wages. This conclusion backs up a previous Bangladeshi study that found that job loss causes over half of the population to fall into severe poverty, with food insecurity skyrocketing (Kundu *et al.*, 2021). (Gezimu Gebre, 2012) opines that the age of a household head affects food security status, where households

headed by older people have higher chances of being food insecure. This is mostly due to the fact that the older the household head, the less likely the household will be productive and the more likely such households will rely on remittances and gifts.The findings revealed that the majority of the questioned households had lower levels of education (none and secondary), which could have a detrimental impact on the types of jobs available to people in the research area. This could have an impact on the type of payment local people receive, if any, jeopardizing household food security.The findings revealed that food insecurity exists among Mabvuku households.The occurrences of responses supplied by respondents to the HFIAS questions given by the households revealed this.

The results from the study indicate that the residents of the study area were food insecure. The pandemic shocked the community hence affecting their means of accessing food due to loss of income, death of household heads due to COVID-19 and they were unable to receive remittances. Most of the residents in Mabvuku are in the low income end and the inflation in Zimbabwe has not made the situation easier. The average of HFIAS is 12 hence most of the household failed to reach the average.

Over seventy percent (70%) of the respondents were deemed severely food insecure as the population failed to access their food entitlements. This was so because market prices rose during the COVID-19 period, and closure of businesses, loss of employment and travelling restrictions worsened the situation.

4.8 Conclusions

The findings highlight the impact of the COVID-19 pandemic on household socioeconomic conditions, as well as the prevalence of food insecurity in households and the factors that influence it.The findings are in line with prior research that has shown how socioeconomic factors influence household food insecurity. Given the socioeconomic context of food insecurity, which disproportionately impacts low and middle-income households, individual efforts are clearly insufficient to alleviate the problem. To fight this challenge, national initiatives are required to reduce food insecurity and its consequences.Furthermore, it is critical to frequently evaluate and report the frequency of household food insecurity, as well as to build supportive safety nets, extra feeding for children, and food emergency access regulations to assure food access for particularly disadvantaged groups.

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CHAPTER 5

Determining the consumption and livelihood coping strategies adopted by housheholds in Mabvuku district following the COVID-19 pandemic

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Abstract

This study investigated the levels of food insecurity in the low income households and the coping strategies employed by Mabvuku residents to deal with food shortages. To respond to the research questions, the study adopted a quantitative approach based on a case study research design. Data was collected from 380 heads of households, selected through systematic sampling procedure. The results reveal that majority of households in Mabvuku district are food insecure, with a larger proportion in the mildly food insecure category. The results indicate that 57.4% of the survey respondents admitted to worry about not having food to eat very oftenly. 81.8% household member noted they were not able to eat the kinds of foods they preferred because of a lack of resources and this happened oftenly. Consumption coping strategies revealed that 81.3% had to consume limited variety of food due to lack of resources and this would heppen oftenly. 81% of the respondents also noted they had to eat food largely they did not want due to lack of resources. 75.9% noted they had to resort to eating smaller quantities of food as they had limited resources. 76.4% would eat fewer meals in a day as food was limited.37.5% of households limit food portions all the time and 23.3% fairly often.It was revealed in this study that more than 55% of respondents restricted food consumption by adults at least to a minimun of once and a maximum of six times a week. Many respondents 80% indicated that it was rare that people would stop some members of household from eating simply because they were not working. Results indicated that in 49.2% of households in Mabvuku, there are only two meals per day.Furthermore, the results indicates that 13.3% of households do so once in a while (1 to 2 times a week), with 80% never using the strategy and as evidently no one can use it all the time.Livelihood sources used for coping show that many households 49.2% and 24.2% respectively suffered from business activity reduction caused by the lockdowns. 58.3% of the respondents pointed out that they faced challenges with delayed income. Since many household do live from informal sectors with some going to work formally in Mabvuku, the study found that 70% of the respondents were greatly affected by not receiving remittances, as the pandemic affected also their family members abroad.

Key words: Food Security, Coping Strategies, Houshold, Socioeconomic, COVID-19

5.1 Introduction

Food security, a complex sustainable development issue linked to health and nutrition, is best characterized as having access to sufficient, safe, and nutritious food, as defined by the World Food Summit (FAO, 1996). Food insecurity is defined as "a limited or uncertain availability of nutritionally adequate and safe foods, or a restricted or uncertain ability to obtain appropriate foods in socially acceptable ways" (Dil Farzana *et al.*, 2017). Food insecurity is also widespread in southern African cities, particularly in the region's low-income communities (Mabuza & Mamba, 2022). Furthermore, the COVID-19 epidemic has harmed global food security (Dasgupta & Robinson, 2021). The global epidemic of COVID-19 has had a substantial negative impact on people's incomes and livelihoods. The Coronavirus (COVID-19) pandemic has had devastating effects on people's lives, yet little is known about how COVID-19 affects household food insecurity in low-resource settings.

Food insecure households reportedly exhibit a range of coping techniques that reflects their vulnerability (Dil Farzana *et al.*, 2017). Among the strategies common in most households which are used as means to ensure continuous access to food include skipping of meals, begging for food, reducing the number of meals taken per day, eating less food than household members felt they should, sharing of meals with neighbours, sleeping without food, resorting to remittances for food, reducing/cutting size of meals, engaging in urban farming, resorting to informal markets for 'cheaper' food, looking for jobs (casual jobs), among other strategies (Gunawardhana *et al.*, 2021).

5.2 Brief description of study area/ Sites

The study was carried out in Harare Metropolitan, with Mabvuku district being selected as the study site. Mabvuku is a high density suburb some 17 km east of Harare, the capital city of Zimbabwe. Mabvuku has an estimated over 30 000 population. Detail on the study area map is given in chapter 3 section 3.1.1.

5.3 Research Design

The study adopted a quantitative approach, based on a case study research design, in trying to capture the food security situation of Mabvuku residents and the coping strategies employed by households of Mabvuku in dealing with food insecurity challenges during the COVID-19 pandemic.

5.4 Sampling Procedure

Data was collected from a total of 380 heads of households selected through a systematic sampling procedure from January 22 to March 5, 2022. The researchers conducted face-to-face interviews, guided by a questionnaire, to capture the food security experiences of Mabvuku residents, coping strategies employed in dealing with food shortages, and other important variables such as age, gender, employment status and other demographic information.

The total population of the Mabvuku district is at least 30000. It was determined using the Slovin's formula:

$$n = \frac{N}{(1 + Ne^2)}$$

Where: *n* is the sample size,

N is the given the population size,

e is the margin of error.

Assuming a 95% confidence level, 5% margin of error, target population of 30000 and 50% estimated proportion, the minimum sample size required was 380 households**.**

5.5 Data analysis methods

Data from the household survey was captured and analysed using the statistical software, Stata, and graphical techniques (bar graphs & tables) were used to present data and some form of narrations were used to supplement the presented data.

5.6 Ethical considerations

Since the study involved human subjects, all necessary precautions were taken into consideration to ensure adherence to all ethical protocols that guide academic investigations. The researchers were obliged to explain the purpose of the study, possible risks and to obtain informed consent before undertaking the survey. The researchers requested for permission to undertake the research in the study area. The researchers ensured that all potential participants are also fully informed about the purpose of the research, its desired outcomes and what was expected of them before their input was solicited. Verbal consent forms were used before the interviews started. Participation was strictly voluntary and participants were informed of their right to refuse participation in the survey and/or to withdraw in any stage of the interview and data collection process. The right to privacy was also observed throughout the research process to ensure that the rights of participants are respected as,

5.7 Results

5.7.1 Demographic characteristics of the sampled population

The study found that 63.3% of the household heads were men and 34.1% being women. 55.6% were Married monogamous, 1.8% Married polygamous, 14.6% Never married, 14.6% Divorced and 10.8% Widowed. 9.5% of the household heads did not have any educational qualifications, 29% had secondary certificates, 30.3% had a certificate or diploma, 28.7% had a degree or masters degree. In terms of employment status, 49% were employed to others, 22.1% were self employed and 25.9% being unemployed.

5.7.2 Food security status

The food security status of the households in Mabvuku was captured to determine the levels of food security in the area. The results indicate that 57.4% of the survey respondents admitted to worry about not having food to eat very oftenly. 81.8% household member noted they were not able to eat the kinds of foods they preferred because of a lack of resources and this happened oftenly. 81.3% noted they had to consume limited variety of food due to lack of resources and this would heppen oftenly. 81% of the respondents also noted they had to eat food largely they did not want due to lack of resources. 75.9% noted they had to resort to eating smaller quantities of food as they had limited resources. 76.4% would eat fewer meals in a day as food was limited.

5.7.3 Coping mechanisms

Rationing Coping Strategies against Food Insecurity by the Households during COVID-19

Rationing strategies are often used by households experiencing moderate to severe food shortages and hunger. These are households that have started to cut back on quantity by reducing the size of meals or number of meals and in more severe situations, they experience one or more of the three most severe conditions i.e. running out of food, going to bed hungry, or going a whole day and night without eating. The Coping Strategy Index tool (CSI) was used to assess behaviour changes in relation to food shortages, through recording the different strategies that households employed. The use of these different coping strategies is presented in Table 5.1.

Table 5.1: Distribution of respondents based of consumption coping strategies adopted against food insecurityduring COVID-19.

Rationing strategies used	Percentage			
	Never	1 to 2 times	3 to 6 times	All the time
Limit portion size at meal time	29.2% N=110)	23.3% (N=89)	10.0% (N=38)	37.5% (N=143)
Restrict consumption by adults in order for small children to eat	39.2% (N=149)	38.3% (N=146)	16.7% (N=63)	5.8% (N=22)
Feed working members of HH at the expense of non-working members	80.8% (N=307)	9.2% (N=35)	0.8% (N=3)	9.2% (N=35)
Only eat two meals in a day	24.2% (N=92)	20.0% (N=76)	6.7% (N=25)	49.2% (N=187)
Eat only at night or in the morning	58.3% (N=221)	20.8% (N=79)	12.5% (N=48)	8.3% (N=32)
Go entire days without eating	80.0% (N=304)	13.3% (N=51)	6.7% (N=25)	

From Table 5.1 it is clear that many households limit the portion sizes of food. 37.5% of households limit food portions all the time and 23.3% fairly often.The majority of the heads of households preferred to restrict themselves and other adults from eatingso that children could have sufficient food to eat. It was revealed in this study that more than 55% of respondents restricted food consumption by adults at least to a minimun of once and a maximum of six times a week. Many respondents 80% indicated that it was rare that people would stop some members of household from eating simply because they were not working. Table 5.1 indicated that in 49.2% of households in Mabvuku, there are only two meals per day. In many instances, this is a breakfast in the morning and a main meal at night, and this is the normal situation for these households. Results indicate that 8.3% of respondents used this

strategy all the time when faced with the inability to provide sufficient food for their households. Almost over half of these households 58.3% households do not use this coping strategy. Furthermore, the results indicates that 13.3% of households do so once in a while (1 to 2 times a week), with 80% never using the strategy and as evidently no one can use it all the time.

Table 5.2: Whether COVID-19 affected income-generating activities -Livelihood sources

Affected Livelihood Source	Percentage			
	None	Stress	Crisis	Emergence
Complete Job Loss	4.2% (N=16)	20% (N=76)	57.4% (N=218)	18.4% (N=70)
Business Closure	5.3% (N=20)	22.4% (N=85)	30% (N=114)	42.3% (N=161)
Reduced Pay from Employer	0.8% (N=30)	9.2% (N=35)	9.2% (N=35)	80.8% (N=280)
Reduced Business Activity	6.7% (N=25)	20.0% (N=76)	24.2% (N=92)	49.2% (N=187)
Delay in Receiving Income	8.3% (N=32)	12.5% (N=48)	58.3% (N=221)	20.8% (N=79)
No Remittances	4.7% (N=18)	13.3% (N=50)	12% (N=46)	70% (N=266)

Looking at sources of income, results showed that COVID-19 crisis less many households either in crisis 57.4%, 20% stress and 18.4% after complete job loss of the household head. In addition, business closure affected many houseshold heads 42.3% who are self employed. Household heads who rely on wage earnings suffered largely 80.8% from reduced pay by the employer. Results from Table 5.2, show that many households 49.2% and 24.2% respectively suffered from business activity reduction caused by the lockdowns. 58.3% of the respondents pointed out that they faced challenges with delayed income, Fig 5.2. Since many household do live from informal sectors with some going to work formally in Mabvuku, the study found that 70% of the respondents were greatly affected by not receiving remittances, as the pandemic affected also their family members abroad.

5.8 Discussion

Following COVID-19, coping mechanisms involving lowering the quality and amount of food consumed were reported to be the first action taken to offset the negative effects of food scarcity at the home level in Mabvuku district.These findings suggest that the Mabvuku neighborhood, like most urban households in the global South, particularly in Southern Africa, is dealing with food insecurity. (Tawodzera, 2012)found high food insecurity in informal settlements in places like Harare (Zimbabwe), highlighting the enormity of the food insecurity difficulties encountered by low-income households in southern African cities. The current COVID-19 pandemic contributed to food insecurities, this highlights the role of

incomein enhancing food security in urban areas, confirming also the argument made by(Gelgelo *et al.*, 2022; Gunawardhana *et al.*, 2021)who maintain that income is key in ensuring food security in urban areas. These findings highlight the importance of household income in ensuring food security.It should be highlighted that education improves one's chances of finding work and generating a higher income, resulting in the association between food security and educational attainment that was also recorded by the study(Devereux & Nzabamwita, 2018). The findings are consistent with earlier food security studies undertaken in Southern African cities, particularly the AFSUN study, which indicated that urban households in Maseru, Harare, Gaborone, and Maputo adopt a variety of techniques to boost their access to food (Tawodzera, 2012).Based on the findings above and in relation to the study's final goal, it is clear that households in Mabvuku's informal settlement use a variety of strategies to deal with food scarcity, including, but not limited to, reducing food intake (meal size), begging, skipping meals, and selling household assets, among others. Although these survival techniques have assisted households in dealing with food-related issues, some of them, particularly the selling of household assets, expose households to destitution and exacerbate the food insecure condition of the affected household.Limiting portion sizes allows all members of a home to have something to eat, even if the amount is tiny, which may allow a household to feed all of its members for a longer period of time.

5.9 Conclusion

Food insecurity is still a serious issue in Southern Africa, particularly among low-income households, where the majority of people are food insecure.Food insecurity challenges, on the other hand, varied per home due to factors such as household size, household income, and the gender of the household head, among others.Several strategies were discovered to be used by urban households to cope with food shortages in cities, including selling household assets, begging and surviving on borrowed food, skipping meals and reducing meal sizes, as well as eating less varied food, which was one of the most commonly used coping strategies. Although these measures are thought to promote household resistance to food insecurity, some of them (in the long and medium term), such as selling household assets to acquire food, exacerbate household food insecurity and expose some households to poverty.Food security interventions should be addressed for low-income urban households, which are more exposed to food insecurity, as well as homes with fluctuating income, according to the study. The CSI can be used to analyse and interpret households living indifferent areas, multiple

locations, and/or across different age groups. However, since this is not the main purpose of the study which is in any case a one-off exercise, the researcher decided to keep theraw data and make it available as a baseline for comparison in future research or project interventions involving coping strategies in this area.

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CHAPTER 6

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

The chapter summarises the whole research study conducted in Mabvuku, relating to the effects of COVID-19 in creating more socially just food systems: response now and beyond. A Case study of Mabvuku District, Harare, the objectives to the methodology and the research findings. The last section will discuss the areas that need further researches and as well as recommendations of the study.

6.2 Summary of the Research and of the Main Findings

The COVID-19 epidemic has posed a serious threat to Zimbabwe's already precarious food and nutrition security situation, which has been exacerbated by the country's macroeconomic woes, which have been exacerbated by years of drought. The epidemic has shown how fragile our societies are, from disrupting agri-food systems to increasing food shortages and inequality.Before the pandemic, many individuals in Harare were vulnerable, and the situation was made worse when farmers markets were shuttered. A mixed methods approach was used in this study.The study's rigor, breadth, and in-depth understanding of the effects of COVID-19 in developing more socially equitable food systems: responding now and beyond in Mabvuku's residential area came from combining qualitative and quantitative methodologies. Household survey questionnaires were employed as the primary data collection instrument for quantitative data, and they included both open-ended and closed-ended items.To collect qualitative data, a desk review and Focus were employed.babwe, one of the biggest factors of urban poverty is hunger.

The main findings were that food insecurity (access) exists among households in Mabvuku district, with the majority stating that they had difficulties purchasing food, were concerned about not having enough food to eat on a regular basis, were unable to eat the foods they preferred due to a lack of resources, were forced to consume a limited variety of food due to a lack of resources and this occurred frequently, and they were forced to eat food they largely did not want due to a lack of resources.Food access was also influenced by household income and work status, according to the findings.In addition, during COVID-19, the various coping strategies used by households to alleviate their food insecurity situation were presented.Few homes stated that they buy food on credit, that some miss meals for a whole day, that some borrow food or rely on friends, neighbors, or relatives for assistance, that some limit adult intake to enable more for children, and that others send family members to eat elsewhere.In

order to cope with food insecurity, households used rationing coping methods, according to the findings.Furthermore, the data demonstrated that the lockdowns had an impact on many households' sources of income, which contributed considerably to difficulties with food insecurity.

6.3 Conclusion

According to the findings of the study, the Mabvuku district was having some difficulty obtaining food due to high pricing.In addition, households reported difficulties in gaining access to a diverse range of foods, as well as the availability and consumption of their chosen food sources. Furthermore, the study discovered that some of the examined households had developed coping techniques to ensure food security in their homes.According to the findings, the food security situation in Mabvuku has deteriorated, with likely repercussions for hunger and malnutrition. Food prices and availability, on the other hand, have been relatively stable, suggesting that households that rely on purchases will continue to have access to a variety of foods.Households' resilience to access and sustain livelihoods is threatened by diminishing incomes and purchasing power, which are typically related with reported increases in food insecurity and perceived poverty. Finally, the COVID-19 pandemic necessitates concerted measures to defend and protect vulnerable livelihoods, particularly those of the poor, in order to avoid reversing gains toward shared development goals like as the Sustainable Development Goals.

6.4 Recommendations

1. There is need for government to support urban households with food safety nets in times of emergency for food and nutritional security to assist households with children and elderly people.
2. More research should also be done to check on the impact of COVID-19 in urban food and nutritional security especially in noting the dietary implications concernedwith COVID-19.
3. The study recommends further studies to look into the dietary diversity by the urban households, explore the limitations to food availability, access and utilisation.
4. Mabvuku residents should have land for agricultural purposes per household which will make them more self-sufficient in situations like COVID-19. If there is insufficient land to cater for individuals in the community, it is encouraged for the

community members to carry out agricultural activities in groups so as to curb food insecurity. It might also help in employment creation and alleviation of poverty through selling of agricultural products.

5. The Government of Zimbabwe needs to reinforce investment in national protection systems in face of crises such as COVID-19. The Government may introduce systems loan repayment freezes, food relief in vulnerable groups and unconditional cash assistance.

APPENDIX

Appendix 1: QUESTIONNAIRE ON HOUSEHOLD FOOD SECURITY

Informed Consent

Greetings (Good morning, Good afternoon, or Good evening). My name is **Joyce Tadiwanashe Knight** a final year student at Bindura University of Science Education, Geography Department under Faculty of Agricultural Extension. I am carrying out a research on the Challenges and opportunities for creating more socially just food systems following Covid-19: response now and beyond. A Case study of Mabvuku District, Harare. This research is a partial fulfilment of Master's Degree in Food Security and Sustainable Agriculture in Production. The project is planned to run over the period October 2021 to June 2022.

In conducting the research the student adheres to the principle of confidentiality of sources of data. If you wish to take part in this discussion we may proceed. Please note that you can withdraw your consent to participate during or after the discussion and you do not have to answer any questions you do not feel comfortable.

Are you happy to proceed with the interview? **Yes**, or **No**.

If Yes the Interviewer proceeds with the interview, if **NO** the Interview does not proceed to interview the potential respondent.

The researcher's contact addresses and Mobile phone: **+263774 188 658 Harare, Zimbabwe**.

Introduction:	
Interviewer/s Name:	
Respondent's Name:	
Name of the Institution and Telephone Number:	
Contact Person / Person Responding to the Interview	
Name of the District	
Date (DD/MM/YYYY):	

General Information: The COVID-19 pandemic has disrupted food systems worldwide, affecting food security and the nutrition of rural and urban populations and challenging the resilience of the global food system. The purpose of this research is to analyse the challenges and opportunities for creating more socially just food systems following Covid-19 in Mabvuku district. We have a few questions for you which are in line with the research study objectives. This questionnaire has three parts: **Socio-demographic and, Household assets data, Economic data and Food security**.

SECTION A: DEMOGRAPHICS INFORMATION

Name of household members **(List household names, starting with household head)**	Marital status of the head of the household 1= Married monogamous 2= Married polygamous 3= Never married 4= Divorced 5= Widowed	Education level of the head of the household 1=None 2=Secondary 3=Certificate, Diploma 4=Degree, Masters	Employment status of the head 1=Employed to others 2=Self employed 3=Unemployed
Q01	**Q02**	**Q03**	**Q04**
Age -as fully attained 1=<10 2=<15 3=18+	What is the major source of the livelihood of the household? 1. Salary 2. Casual/daily labour 3. Farming activity 4. Small business 5. Renting income 6. Pension, provident fund, etc. 7. Remittances 8. Handicraft 9. Other -------	Household size 1=Head/spouse……. 2=Children…….. 3=Other relatives……. 4=Nonrelatives……. Total…….	On what basis does the household occupy this dwelling? 1. Owned by the household 2. Rented from government 3. Rented from private household 4. Rent free
Q05	**Q06**	**Q07**	**Q08**
What assets does your household own? 1= Motorcycle/Car 2= Shovel/spade/hoe 3= Wheelbarrow 4= Sickle	Over the past year was there any member of this household who participated in PRODUCTIVE SAFETY NET PROGRAM? 1= Never 2= Drop out 3= Currently participating	Over the past year was there any member of this household who participated in SUPPLEMENTARY FEED FOR VULNERABLE CHILDREN? 1= Never 2= Drop out 3= Currently participating	Over the past year was there any member of this household who had access to FOOD EMERGENCY RESOURCES? 1= Yes 2= No
Q09	**Q10**	**Q11**	**Q12**
Is food market accessible in your area? 1= Very inaccessible 2= Inaccessible 3= Somehow accessible 4= Very accessible	How near is the facility to your neighbourhood? 1= Very faraway 2= Faraway 3= Somehow nearby 4= Very near	How expensive is the price? 1= Very expensive 2= Expensive 3= Reasonable 4= Very reasonable	
Q13	**Q14**	**Q15**	**Q16**

SECTION B: QUESTIONS ON HOUSEHOLD FOOD ACCESS MEASURES (MEASURES OF HOUSEHOLD FOOD INSECURITY ACCESS SCALE-HFIAS)

Number	Question	Response Option	Code
1	a. In the past four weeks, did you worry that your household would not have enough food?	0 = No (skip to 2a) 1= Yes	
	b. How often did this happen?	1 = Rarely (once or twice in the past four weeks) 2 = Sometimes (three to ten times in the past four weeks) 3 = Often (more than ten times in the past four weeks)	
2	a. In the past four weeks, were you or any household member not able to eat the kinds of foods you preferred because of a lack of resources?	0 = No (skip to 3a) 1= Yes	
	b. How often did this happen?	1 = Rarely (once or twice in the past four weeks) 2 = Sometimes (three to ten times in the past four weeks) 3 = Often (more than ten times in the past four weeks)	
3	a. In the past four weeks, did you or any household member have to eat a limited variety of foods due to a lack of resources?	0 = No (skip to 4a) 1= Yes	
	b. How often did this happen?	1 = Rarely (once or twice in the past four weeks) 2 = Sometimes (three to ten times in the past four weeks) 3 = Often (more than ten times in the past four weeks)	
4	a. In the past four weeks, did you or any household member have to eat some foods that you really did not want to eat because of a lack of resources to obtain other types of food?	0 = No (skip to 5a) 1= Yes	

Number	Question	Response Option	Code
	b. How often did this happen?	1 = Rarely (once or twice in the past four weeks) 2 = Sometimes (three to ten times in the past four weeks) 3 = Often (more than ten times in the past four weeks)	
5	a. In the past four weeks, did you or any household member have to eat a smaller meal than you felt you needed because there was not enough food?	0 = No (skip to 6a) 1= Yes	
	b. How often did this happen?	1 = Rarely (once or twice in the past four weeks) 2 = Sometimes (three to ten times in the past four weeks) 3 = Often (more than ten times in the past four weeks)	
6	a. In the past four weeks, did you or any other household member have to eat fewer meals in a day because there was not enough food?	0 = No (skip to 7a) 1= Yes	
	b. How often did this happen?	1 = Rarely (once or twice in the past four weeks) 2 = Sometimes (three to ten times in the past four weeks) 3 = Often (more than ten times in the past four weeks)	
7	a. In the past four weeks, was there ever no food to eat of any kind in your household because of lack of resources to get food?	0 = No (skip to 8a) 1= Yes	
	b. How often did this happen?	1 = Rarely (once or twice in the past four weeks) 2 = Sometimes (three to ten times in the past four	

Number	Question	Response Option	Code
		weeks) 3 = Often (more than ten times in the past four weeks)	
8	a. In the past four weeks, did you or any household member go to sleep at night hungry because there was not enough food?	0 = No (skip to 9a) 1= Yes	
	b. How often did this happen?	1 = Rarely (once or twice in the past four weeks) 2 = Sometimes (three to ten times in the past four weeks) 3 = Often (more than ten times in the past four weeks)	
9	a. In the past four weeks, did you or any household member go a whole day and night without eating anything because there was not enough food?	0 = No (questionnaire is finished) 1= Yes	
	b. How often did this happen?	1 = Rarely (once or twice in the past four weeks) 2 = Sometimes (three to ten times in the past four weeks) 3 = Often (more than ten times in the past four weeks)	

SECTION C: HOUSEHOLD CONSUMPTION COPING STRATEGIES

Which of the following coping strategies did you adopt to cope with household food insecurity? For each strategy adopted, state whether it was able to help reduce food insecurity. If strategy was not adopted, can you explain why?

In the past 7 days or 30 days, if there have been times when you did not have enough food or money to buy food, how often has your household had to:	**a) Occurrence Question? (1=Yes, 2=No)**	**b) Past 30 days** ***1=never*** ***2= seldom (1-3 days per month)*** ***3=sometimes (1-2 days per week)*** ***4 = often(3-days a week)*** ***5 = Daily***	**c) Frequency (number of days from 0 to 7)**	**d) Did strategy help to reduce food insecurity (1=Yes, 2=No)**
1. Skip food consumption for an entire day				
2. Reduction in size of meals				
3. Reduction in the number of meals per day				
4. Borrow food or rely on help from friends, neighbours or relatives?				
5. Rely on less preferred and less expensive foods				
6. Purchase food on credit				
7. Restrict consumption of adults to allow more for children				
8. Send household members to eat elsewhere (women groups' tea parties, schools, churches)				
9. Feed working members at the expense of non-working				
10. Rely on casual labour for food?				
11. Begging or engaging in degrading jobs				

SECTION D: LIVELIHOOD-BASED COPING STRATEGIES

During the past 30 days, did anyone in your household have to engage in any following due to a lack of food and or lack of money to buy food? (See codes below)		**If NO, For what reasons did you adopt such coping strategies**
1. Sold household assets/goods (refrigerator, radio, furniture, television, etc.) to buy food?		
2. Reduced non-food expenses on health (including drugs) and education to buy food?		
3. Sold productive assets or means of transport (sewing machines, wheelbarrow, bicycle, car, etc.) to buy food?		
4. Spent savings on food?		
5. Borrowed money from a formal lender/bank to buy food?		
6. Begging to get food?		
0= No **1= Yes**		***Response Codes: 1 = No, because it wasn't necessary*** ***2 = No, because I already sold those assets or have engaged in this activity within the last 12 months and cannot continue to do it*** ***3= No, I don't have assets/savings/access*** ***99 =Not Applicable***

Thank you for your participation. Do you have anything that you may wish to ask, add, explain or retract?