AN INVESTIGATION INTO FACTORS CONTRIBUTING TO FOOD INSECURITY FOR URBAN HOUSEHOLDS DURING COVID-19 PANDEMIC: A CASE STUDY OF ONHIMBU INFORMAL SETTLEMENT, OUTAPI IN THE OMUSATI REGION, NAMIBIA

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HILYA AMUKWELELE

200715291

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SUPERVISOR: DR. ARTWELL NHEMACHENA (UNAM)

ABSTRACT

COVID-19 undermines food security worldwide. However, the urban poor are the most affected. In Namibia, around 659 000 people are faced with high levels of food insecurity due to the impacts of COVID-19 lockdown and disruption of food systems caused by the pandemic (IPC, 2021). As a result, the majority of the households lost income, resulting in difficulties in accessing food. This study investigated the factors contributing to food insecurity for urban households during the COVID-19 pandemic. Data was gathered through interviews using a qualitative case study research design, and the data was analysed using a thematic analysis method. A set of semi-structured interview guides with open-ended questions were administered to 15 household heads. The participants were selected using a purposive sampling method. The study is guided by the Food Security Conceptual Framework adopted by Reily (1999). The study revealed that lockdown, high food prices, and lack of safety nets were the main factors contributing to food insecurity in urban households during the pandemic. These factors affect people's access to food, resulting in people skipping meals, consuming poor diets, or remaining hungry. The study concluded that COVID-19 measures have caused further food insecurity in informal settlements as they have destroyed households' means of food access. The study recommended that the government should invest in a resilient food system in order to achieve national food security.

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ABBREVIATIONS AND ACRONYMS

A.D:	Anno Domini
ACSS:	African Centre for Strategic Studies
AFSUN:	African Food Security Urban Network
CEO:	Chief Executive Officer
EIG:	Emergency Income Grant
FAO:	Food and Agriculture Organization
GAIN:	Global Alliance for Improved Nutrition
GRN:	Government of the Republic of Namibia
HLPE:	High Level Panel of Experts
IFPRI:	International Food Policy Research Institute
ILO:	International Labour Organization
IPC:	Integrated Food Security Phase Classification
MAWLR:	Ministry of Agriculture, Water, and Land Reform
MDGs:	Millennium Development Goals
MGEPESW:	Ministry of Gender Equality, Poverty Eradication and Social Welfare
MURD:	Ministry of Urban and Rural Development
NGOs:	Non-Governmental Organisations
NSA:	Namibia Statistics Agency

OECD:	Organisation for Economic Cooperation and Development
OPM:	Office of the Prime Minister
SDGs:	Sustainable Development Goals
SIDA:	Swedish International Development Authority
TV:	Television
UN:	United Nations
UNCTAD:	United Nations Conference on Trade and Development
UNAM:	University of Namibia
UNICEF:	United Nation Children's Emergency Fund
UREC:	University of Namibia Research Ethics Committee
USAID:	United States Agency of International Development
VAT:	Value-added Tax
WASH:	Water, Sanitation and Hygiene
WFP:	World Food Program
WHO:	World Health Organisation

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DEDICATIONS

This work is dedicated to my family and mostly to my late Uncle Matheus Shaanika Kambo Shindjala for supporting me through my educational journey. He has been a great source of inspiration.

DECLARATION

I, Hilya Amukwelele hereby declare that this study is my own work and is a true reflection of my research, and that this work, or part thereof has not been submitted for a degree at any other institution.

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…….....	……..	……..
Name of Student	Signature	Date

CHAPTER 1

BACKGROUND OF THE STUDY

1.1 Introduction

Food security is a basic human right (Food and Agriculture Organisation [FAO], 2020a). According to FAO (2004), food security refers to a situation when all people at all times have physical and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life, while food insecurity exists when people lack sustainable physical or economic access to enough safe, nutritious, and socially acceptable food for a healthy and productive life. The problem of food insecurity did not only start with the outbreak of COVID-19, but food insecurity has also been in existence during the pre-, colonial and post-colonial eras in Namibia (Oden *et al.*, 1994; Harambee Prosperity Plan, 2016). In pre-colonial times, Namibians experienced food insecurity, prompting a high degree of human mobility in search of grazing and water resources (Oden *et al.*, 1994). Communities were dependent on environmental food as they moved from one grazing place to another. On the other hand, during the colonial era, food insecurity mostly resulted from the imbalances in land ownership between whites and blacks since food was mostly accessible through agricultural productivity (Oden *et al.*, 1994). Communities were dependent on rain-fed small-scale farms for food. However, poor rainfall, dry spells, and drought also made it impossible for them to achieve food security (Oden *et al.*, 1994). The indigenous groups who were dependent on the traditional food environment for food have also experienced food insecurity due to the socio-economic, political, and nutritional transformation (Heim, 2021). Restrictions were imposed on traditional livelihood activities such as hunting and gathering (Von Wietersheim,

2008). In addition, many black Namibians were forced by the Germans to work for wages, earning barely enough to buy food during this era (Baker, 2011).

On the other hand, during the post-colonial era, many Namibians suffered food insecurity and hunger, especially during the 2011 and 2017 economic turndowns due to their dependency on international trade of primary commodities (FAO, 2020a). In addition, poor rainfall and drought have also caused a decline in agricultural production, resulting in food insecurity (IPC, 2020). The food insecurity situation was exacerbated after the outbreak of the COVID-19 pandemic. This is due to job losses, which created inequalities amongst people in accessing nutritional and affordable diets. The most food insecure people are the unemployed and those that live below the poverty line (United Nations [UN], 2020a).

According to Von Wietersheim (2008), 57 percent of the agricultural land was occupied by "white" farmers and was referred to as "commercial land," while "blacks" occupied 48 percent of the agricultural land for small-scale farming, called "communal land." The majority of commercial land was taken from the indigenous Namibian people by the German colonial government during South African apartheid rule. These farms were well developed because they were highly subsidized by the apartheid government. Blacks worked on these farms as labourers. This exposed the black workers and their families to poverty and food insecurity because they were exploited and there was no labour law to guide their payments. According to Oden *et al.*, (1994), the most exploited communities in the north were the Ovambos, Kavangos, and Caprivians, while in the south, the San, Damara, Nama, and Herero communities suffered colonial land dispossession and lost most of their ancestral lands through dubious land transactions, proclamations, racially-biased laws, genocide, colonial wars, and forced removals of black communities from their land (Von Wietersheim,

2008). There has been serious drought during the 1980s on communal farms, and as a result, the black Namibian households' mostly accessed food through drought relief provided by Swedish International Development Authority (SIDA) (Oden *et al.*, 1994).

There is no literature on urban food security during the pre-and colonial eras. During the colonial era, people mainly practiced farming on both commercial and communal land and there was no urban areas during the pre-colonial era. Hence, the literature mostly focused on food insecurity in rural areas (Oden *et al.*, 1994, Baker, 2011 & Von Wietersheim, 2008). After independence, many blacks were allocated land previously occupied by whites through the Resettlement Scheme and the Affirmative Action Loan Scheme (Ministry of Lands and Resettlement, 2010). Upon resettling, the blacks tripled their livestock and worked on the land to improve food security at the household level. During the post-colonial period, the Namibian government also established a social safety net system that offered an old-age pension, a disability allowance, and provided direct cash and food transfers in order to reduce poverty. Food security for the black poor improved as a result of such programs (Tapscott, 1992). However, the drought relief programs are still in existence and continue to be the source of food for the poor. Recently, there has been a shift in the discussions about food security from rural food security to urban food security because urban people are considered to be more vulnerable to food insecurity compared to rural inhabitants (Black, 2018; Crush, Nickanor & Kambeze, 2019; FOA, 2020c, and Government of the Republic of Namibia [GRN] 2016). Urban residents are more food insecure than their rural counterparts because they almost always purchase all their food, become dependent on food markets and consequently more vulnerable to potential price spikes,

while rural households grow a substantial proportion of the food they consume (Center for Strategic and International Studies, 2020 & Szabo, 2016).

According to Black (2018), Namibia has high levels of urban food insecurity at the household level. This is linked to pressures such as unemployment and high food prices (GRN, 2016). This study will investigate the factors contributing to food insecurity for urban households in the Omusati region, specifically in the informal settlements of Outapi Town in Namibia during the COVID-19 pandemic. The Omusati region occupies an area of 26 551 square kilometres with a population of approximately 249 885 people (Namibia Statistics Agency [NSA], 2016). Out of these, 112, 698 are male and 137, 187 are female. The region is situated in the north-central region of Namibia, bordering the Kunene region in the west and Angola in the north. Outapi is the regional capital of the Omusati region. The region receives between 350 and 550 mm of rainfall annually. Besides, the majority of the population lives in rural areas and depends on subsistence crops and livestock farming for their livelihood. According to the NSA (2018), the regional unemployment rate is 24.0 per cent. Apart from floods, droughts, and locust plagues, the COVID-19 pandemic poses a threat to food security in the region.

The Omusati region is amongst the other regions whereby self-production is the main source of household food. However, food insecurity is still a great concern. According to the Office of the Prime Minister (2015), 36.7 percent of the Omusati population is food insecure. In 2019, the region was classified in the crisis phase due to poor rainfall, which led to a decline in cereal production. Water shortages were also experienced the same year and have significantly contributed to the high mortality of livestock (IPC, 2020). With a decrease in harvests, households tend to rely on markets for food. However, with low income and poor purchasing power, households face limited access

to food (IPC, 2020). The Omusati region has also benefited from food aid such as drought relief food, food-for-work, and cash-for-work initiatives. The main cultivated crops in the region are Omahangu (pearl millet), maize, groundnut sorghum, beans, and watermelon. The household's access to food is mostly determined by its access to land, ability to cultivate, and household size and income (Dieckmann, 2014). Food aid is viewed as an important supplement by the region (Dieckmann, 2014). Onhimbu informal settlement is the largest settlement in Outapi town. The settlement has a population of approximately 3 263 inhabitants (Outapi Town Council, 2020). The majority of the residents are unemployed while others are working in the informal sector as street vendors, taxi operators, and hairdressers (Weber & Mendelsohn, 2017). Residents live in shacks and share public toilets which are very few (Kaapanda, 2021). Due to COVID-19 majority of the residents lost their income as a result of the restriction.

On the other hand, the World Health Organisation (WHO, 2020) refers to COVID-19 (also known as Coronavirus) as an easily transmissible disease caused by the novel coronavirus SARS-CoV-2. This disease was identified in December 2019 and declared a pandemic by WHO on March 11, 2020. Since the COVID-19 out-break on March 13, 2020 in Namibia, restrictions such as the country's full lockdown, curfews, suspension of gatherings, and closure of non-essential businesses have been introduced in the country. This was triggered by the increase in the COVID-19 cases from two (2) to eleven (11) cases by the 29th of March 2020 (WHO, 2020). These COVID-19 restrictions disrupted the regional food supply chains, hindered food availability as well as the labour market, thus aggravating food insecurity in the region and the country at large.

1.2 Statement of the problem

Urban food systems are disrupted by the COVID-19 pandemic worldwide; as a result, the urban poor's food security is threatened (FAO, 2020b). In the past, hunger, starvation, and food insecurity have been considered as rural area problems (GRN, 2016 & Mbongo, 2017). However, the breakout of COVID-19 has brought about the realization of food insecurity in the urban area. This is because urban food is accessed through purchasing, unlike in rural areas where the residents depend on local food production (Mbongo, 2017). In addition, COVID-19 has caused restrictions and prolonged lockdown. As a result, urban residents had limited access to livelihood opportunities and experienced a significant or complete loss of income due to disrupted supply chains, retrenchment, strained national budgets, and restrictions on trade (Devereux, et al., 2020). Consequently, this critically affected the quality and quantity of the food consumed by each household. Around 659,000 people in Namibia were faced with high levels of acute food insecurity between October and November 2021 (IPC, 2021), hence requiring critical humanitarian action to reduce food gaps, protect and restore livelihoods, and prevent acute malnutrition. Recently, 557,000 people nationwide are in a crisis phase (IPC, 2021). In Omusati, out of the 257 874 analysed population, 51 575 people are in a crisis phase (IPC, 2021). This pandemic is considered an evolving urban crisis (Ruszczyk et al., 2021). It is the intention of this study to determine the factors contributing to or, in fact, exacerbating urban food insecurity during the COVID-19 pandemic.

1.3 Objectives

The main objective of the study is to investigate the factors contributing to food insecurity for urban households during COVID-19 in Onhimbu, Outapi, Namibia. The specific objectives are to;

1. Assess the state of food security in the Onhimbu informal settlement during COVID-19;
2. Identify the factors contributing to urban households' food insecurity during COVID-19;
3. Assess the possible interventions to mitigate food insecurity in informal settlements.

1.4 Significance of the study

This study may be important to policymakers, including NGOs and civil society organisations in the humanitarian sector, for evidence-based planning. It can also inform strategies that may help address food insecurity in urban areas in Namibia. Moreover, for future researchers, this study can provide information on food security in urban households during the COVID-19 pandemic or similar pandemics in the future.

1.5 Limitation of the study

The first limitation the researcher experienced was that some participants refused to participate in the study. The participants claimed that they did not receive the Emergency Income Grant (EIG) and the food parcels handed out as COVID-19 relief packages, and therefore would not participate in COVID-related studies. To overcome this limitation, the researcher had to continue to find other households with participants who were willing to participate in the study.

1.6 Delimitation of the study

The scope of the study was households in the Onhimbu informal settlement of Outapi town, Namibia. The study only focused on investigating food (in-) security during COVID-19 in these households.

1.7 Outline of the study

An outline of the chapters is presented to give the reader a preview of the contents of the thesis as a whole. **Chapter 1** presents a brief introduction and background of the study. The chapter focuses on the statement of the problem, research objectives, and significance of the study; limitations; as well as delimitations; and finally, an outline of the different chapters. **Chapter 2** covers the relevant literature on food insecurity in the world, Africa, and Namibia. It further presents the conceptual framework that supports the study and discusses the Malthus theory in relation to COVID-19 and the food systems during COVID-19 as well as the entitlement approach in relation to COVID-19. **Chapter 3** outlines the research methodology with regards to how the study was conducted and the procedure followed by the researcher. **Chapter 4** is the presentation of the major findings that emerged from the fieldwork and the discussions thereof. **Chapter 5** outlines some conclusions and makes some recommendations based on the study, and it is followed by a list of references and annexes.

1.8 Summary

This chapter has provided an introduction and the general background of the study. The problem, research objectives and significance of the study, limitations, and delimitations of the study have been explained, and the outline of the study is provided. The next chapter, Chapter 2, presents a detailed literature review on food (in) security.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter provides a review of the relevant literature and previous studies with particular reference to food (in-) security in poor urban households during the COVID-19 pandemic. The literature focused on the general overview of food security and food insecurity, COVID-19, and food insecurity in the world, in Africa, and Namibia. Besides, the food system and the entitlement approach by Amartya Sen (1977) are discussed as the theoretical frameworks that inform this study. The discussion on the food system is used to examine food insecurity during COVID-19 concerning food production, processing, distribution, consumption, and their interconnectedness. While the entitlement approach is used to assess food insecurity during COVID-19 in terms of resource distribution to ensure access to available food at the household level, finally, a conceptual framework to illustrate the inter-linkage between various factors associated with food security is discussed to guide a better understanding of the phenomenon under study.

2.2 Food security

International human rights law recognizes food security as a basic human right. This law is aimed at protecting the right of all human beings to live in dignity, free from hunger, food insecurity, and malnutrition (Mavedzenge, 2020). Food security refers to a situation when all people at all times have physical and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life (FAO, 2004). According to Tacoli (2017), food security is defined as the outcome of an effective food system. Food and nutrition security are

critical to achieving long-term economic growth and creating inclusive and dignified livelihoods for people (Hamalwa, 2021). In addition, the Sustainable Development Goals also aim to end poverty and protect the planet from environmental degradation (United Nations, 2019). Recently, there has been an increase in concerns over food insecurity in urban households, especially in informal settlements (Ahn & Norwood, 2021). This is because urban dwellers depend mainly on the availability of food in markets, and the access of these households to food is determined by their household income, food prices, and location of markets (Black, 2016). This means food insecurity is a persistent problem in urban areas.

In Namibia, people who are faced with food insecurity are mostly poor migrants who moved from rural to urban areas (Pendleton *et al.*, 2014). Their food insecurity is linked to their household type and size, household income, employment, poverty, education, and source of food (Pendleton & Nickanor, 2014). Most of the informal settlement residents are unemployed or employed in the informal sector (Nickanor, 2014). The jobs available for urban poor people are insecure, casual, uncertain, and low-paying (Mbongo, 2017). Since these people purchase much of their food, food turns out to be a significant expenditure item in the household budget, and it is likely that the level of household income has a major impact on such households' food security (Pendleton & Nickanor, 2014). In addition, households in informal settlements are more food insecure than households in formal areas despite having an equal income. This is because food in informal settlements is conventionally subordinated to problems such as housing, road infrastructure, sanitation, and security (Crush & Frayne, 2014). In most cases, the urban poor receive food from relatives in rural areas and obtain food from informal markets and other informal methods such as borrowing from neighbours (Nickanor, 2014). According to Pendleton *et al.*, (2014),

the urban poor in Namibia are faced with extremely high rates of food insecurity and poor diets because of the absence of supermarkets in the informal settlements. Most supermarkets are located in high-income areas, and those close to the informal settlements carry a limited range of products, especially fresh produce, and they are economically unaffordable for households with limited income (Pendleton & Nickanor, 2014).

There are two types of food insecurity; chronic and transitory food insecurity. Chronic food insecurity refers to a situation where on average, food availability is below the required level, of which the root cause is poverty (Valdes & Konandreas as cited in Nichola, 2006) while transitory food insecurity refers to a short-term decline in food supplies due to drought, fluctuations in income or unrealistic pricing. However, the concept of food (in-) security has evolved and is no longer viewed as a failure of agriculture to produce sufficient food at the national level, but instead a failure of livelihoods to guarantee access to food at the household level (Devereux and Maxwell 2001).

2.3 Food Insecurity

Food insecurity exists when people lack sustainable physical or economic access to enough safe, nutritious, and socially acceptable food for a healthy and productive life (FAO, 2004). Global food security has taken a forefront position in the global agenda, which is evident in the past Millennium Development Goal (MDG) targets and the Sustainable Development Goals (SDGs) that replaced the MDGs in early 2016. Both have a large focus on improving food and nutritional security as well as reducing poverty (Black, 2018). According to Ilaboya et al. (2012), achieving food security in its totality continues to be a challenge for both the developing and developed world.

However, the difference lies in the magnitude of the problem in terms of its severity and the proportion of the population affected. As a result, certain interventions developed to address food insecurity do not equally work for both developed and developing nations (Oke *et al.*, 2017). Food insecurity in developed countries can primarily be alleviated by providing food aid in the form of direct food relief, food stamps, or indirectly through subsidized food production; however, these approaches have proven less effective in developing countries (Ilaboya, 2012). Urban poor households are the most affected in both countries because little food is produced in such areas and food access in the market requires spending (FAO, 2021). According to Tacoli (2017), half of the world's population lives in urban centres, and it is estimated that by 2030 about 5 billion of the projected totals of 8.1 billion people will live in urban areas (UN-Habitat, 2016). This is likely to put available urban services under pressure, thus leading to poor livelihoods and further food insecurity (Mbongo, 2017 & Nickanor, 2014). According to FAO (2011), high food prices around the world cause hunger and food insecurity in urban areas. In the past, food insecurity was experienced more in the sub-regions of Africa and, to a lesser extent, in Latin America and Western Asia.

On the other hand, Africa is reported to have the largest number of people living under the poverty data line and who are vulnerable to food insecurity (FAO, 2020d; Juma *et al.*, 2020 & Oke *et al.*, 2017), especially in countries in sub-Saharan Africa (FAO, 2020c). In regions such as the Sahel and Southern Africa, food insecurity is normally considered a result of climate change and drought, while in the Horns of Africa, food insecurity is associated with the unprecedented locust outbreak (FAO, 2011). As for other regions with conflicts and political instability, food security is also at greater risk (Mohamed *et al.*, 2021). The latest literature shows that 73 million people in Africa

suffer from acute food insecurity (Akiwumi, 2020), and the region is predicted to remain at the highest food insecurity level until 2025 (United States Department of Agriculture, 2015). Food predicaments come in different forms. This includes, for example, a lack of opportunities, unequal distribution of resources, including land, and the poor's insufficient access to food (FAO, 2020c). In addition, most African countries are deeply affected by the food crisis due to their dependency on food imports (Abdalla, 2007; Espitia *et al.*, 2020; Oke *et al.*, 2017). According to Akiwumi (2020), Africa imported about 85% of its food items between 2016 and 2018. This led to an annual food import bill of $35 billion, and it is forecast to reach $110 billion by 2025.

In addition, Abdalla (2007) also indicated that food problems have deeper historical roots in African countries. This is because most developing countries never prioritized capital investment for food production during the colonial era (Kalibwani, 2005). However, investment in food production is crucial to sustainable long-term food security (FAO, 2011) compared to food aid as a solution to food insecurity. The provision of food aid has been proven unsuccessful in the twenty-first century. This is due to international transport costs and due to struggles during distribution upon arrival in Africa, especially in conflict zones with uncooperative governments (Rademacher, 2015). The agricultural sector has been the greatest source of food for Africans (Abdalla, 2007). Nonetheless, the sector has been faced with uncertainty in terms of investment into the sector. According to FAO (2011), agricultural investment helps with the improvement of domestic food production competitiveness, which makes food more affordable for the poor. This includes investment in improved practices, seeds, and cost-effective irrigation systems that will reduce the production risks facing farmers and reduce price volatility. Certainly, Africa lacks successful and widespread

agricultural practices, and that has failed governments to provide enough food for their populations (Rademacher, 2015).

In many African countries, urban food insecurity is often overlooked and described as an invisible crisis. While rural communities have traditionally been considered the most food insecure, attention has recently shifted to the state of food security in urban communities (Pendleton *et al.,* 2014). This changed due to a surge in rural-urban migration as people responded to better economic opportunities in urban areas, such as employment, or to the lack of opportunities in rural areas (Tacoli, 2017). Also, the change was prompted by the need to escape negative conditions such as drought, flooding, famine, internal conflicts, or inequalities in the spatial distribution of social, cultural, and/or political opportunities in rural areas (Hope, 2012). Such movement has caused urban growth, which is accompanied by the rapid expansion of unplanned neighbourhoods with a high concentration of poor people who are food insecure (FAO, 2020d & Chant & McIlwaine, 2015). The increase in the urban population is mostly taking place in small-and medium-sized cities, especially in countries such as Kenya, Uganda, Rwanda, and Ethiopia (World Food Program [WFP], 2020). Most African urban poor people reside in informal settlements. Informal settlements in African cities are defined as urban and peri-urban spaces with high rates of informal employment, grinding poverty, heavy reliance on the informal economy, poor health outcomes, very limited basic service provision, and heightened vulnerability to climate change (Crush *et al.,* 2019). People living in such areas are exposed to uniquely urban problems such as insecure living tenure, air and noise pollution, exposure to open sewage, and crime, and they generally face high levels of individual, household, and community food insecurity (Tacoli, 2017). These features have a significant impact on their food security and nutritional wellbeing (Ekpenyong, 2015). In Africa, countries like South

Sudan, Somalia, Djibouti, and Ethiopia are considered to have more people living in urban slums. According to WFP (2020), at least three-fifths of the urban population live in slums or informal settlements.

Moreover, in Africa, urban food insecurity is associated with inadequate purchasing power rather than with food availability (Mbongo, 2017 & Tacoli, 2017), meaning food is available and plentiful but not accessible to everyone (Dodo, 2020). According to Schmidhuber and Tubiello (2007), access to food in Africa is determined by the resources an individual or household possesses to obtain food required for a healthy diet. Most poor urban households lack such resources due to a lack of income. In addition, poor urban households lack food storage and have no access to rural areas for their food production. As a result, they pay more for food purchases compared to their wealthier urban household counterparts. This is because the poor can only afford to buy smaller quantities of food daily due to limited purchasing resources and storage facilities (Ekpenyong, 2015). Urban food security is deeply interconnected with both the income and non-income dimensions of poverty (Tacoli, 2017). The problem is not necessarily a lack of food, but an inability to distribute food where it is needed in a timely and cost-effective manner (Rademacher, 2015). Dodo (2020) indicated several reasons why Africans are food insecure despite food availability. These include: never-ending political insecurity and crises; short or protracted civil conflicts and wars; endemic, persistent, and institutional corruption; misguided economic policies and mismanagement; a lack of committed political leadership; apathy toward farmers; and a lack of clear financial and economic investment in the agricultural sector.

Additionally, food insecurity has always been a social issue in Namibia. In the past, reductions in agricultural production, drought, and water shortages were the main drivers of food insecurity (IPC, 2020). With such unfavourable weather conditions, the

cereal producing areas were the most affected, which resulted in a decline in production. Those areas include Oshana, Oshikoto, and the Omusati region. On the contrary, the food insecurity condition for people in the Northwest and the South was driven by lower household purchasing power (Office of the Prime Minister [OPM], 2015 & IPC, 2020). This resulted from the livestock death increase because the majority of the households in those areas are dependent on income derived from livestock sales (OPM, 2015). This caused households' food access challenges. In general, the key factors influencing food insecurity in Namibia include a high dependency on markets for food; poor production; low-income levels; rising food prices; household food stock depletion; poor livestock-staple food terms of trade; and poor dietary diversification (OPM, 2015).

According to the situational analysis on the state of food insecurity carried out by the African Food Security Urban Network (AFSUN), Namibia suffers from high levels of urban food insecurity at the household level (Pendleton *et al.,* 2014). However, the development interventions by the government aimed at addressing food insecurity have been focused on rural communities due to assumptions that the food insecurity problems lie in rural areas (GRN, 2016 & Nickanor, 2014). Conversely, rural communities are net producers who own crop fields and livestock, and this is not an option for urban dwellers in Namibia (Black, 2018). On the contrary, Crush & Frayne (2011) suggested that urban agriculture can be used to curb food insecurity in urban centers. However, Battersby *et al.,* (2015), Szabo (2016), and Tacoli (2017) claim that in most cases, opportunities to practice urban agriculture are not available to everyone due to limited land space in such areas. On the other hand, Sakyi (2012) and Crush & Frayne (2014) claim that food availability does not guarantee food access by all households. This is because access to food is determined by the possession of the

resources required to acquire such food (GRN, 2016). That includes an income for market purchases, agricultural means for production, and transfers and loans from family members or the government.

Despite Namibia being a middle-income country, nearly half of the households struggle to meet their basic needs (Mavedzenge, 2020). In urban areas, especially in informal settlements, female-headed households are the most vulnerable to food insecurity (Pendleton *et al.*, 2014; Nickanor, 2014). This is due to unemployment, lack of income, and their low level of education (Battersby et al., 2015). In the past, Namibia has been vulnerable to environmental shocks such as droughts, floods, and other climate-related changes that brought about food insecurity among the people (Black, 2018). Such shocks cause crop failure and insufficient grazing, resulting in food insecurity. Consequently, when rural households' production decreases, their ability to offer food assistance to urban inhabitants decreases as well, especially those residing in informal settlements because of their dependency on rural inhabitants for food. As a result, market purchases become their primary source of food. However, with the escalating food prices, food accessibility has become a great concern (Mbongo, 2017). According to Tacoli (2017), low and irregular incomes are the root causes of urban food insecurity.

2.3.1. COVID-19 and food insecurity in the World

The literature confirms that even before the COVID-19 pandemic, there have been challenges towards ending world hunger. However, COVID-19 has further increased the number of food-insecure people (UN, 2020a). Nearly one in three people in the world has no access to adequate food (WHO, 2019). Alternatively, 928 million people in the world population are faced with acute food insecurity while about 2 billion people experience moderate-to-severe food insecurity (Dabone *et al.*, 2021). Most of

these people are in Asia, Latin America, the Caribbean, and Africa. The prevalence of food insecurity has also increased in North America and Europe, where the rates of food insecurity were once known as low. According to the United Nations Children's Fund (UNICEF, 2020), over 370 million children worldwide are dependent on school meals for their nutritional needs. However, the closure of schools due to COVID-19 has caused interruptions in school feeding programs, thus aggravating food insecurity among these children, especially those from poor households (UN, 2020b & UNICEF, 2020).

According to WHO (2019), the prevalence of food insecurity is 10 per cent higher among women than among men worldwide. Women are vulnerable to food insecurity due to their low education standards, low household income, and the drive to reduce their own food consumption to feed others, especially their children (Lawlis & Jamieson, 2016). In addition, it is noted that the global high costs and high levels of income inequality are some of the reasons the world population is unable to afford food (Dabone *et al.*, 2021). There are several reports on the lack of access to healthy food, food unaffordability, and food unavailability during the pandemic. However, literature has indicated that global food access is the most vulnerable dimension during COVID-19 (Dabone *et al.*, 2021). This is due to job losses and movement restrictions that have caused a decline in demand and labour disruption. According to Elias and Jambor (2021), the decrease in demand is experienced mostly in developing countries, specifically in South Asia and sub-Saharan Africa, where many people do not have sufficient savings or available social safety nets. In addition, the low-income countries are mostly affected because of their dependency on labour-intensive farming as compared to the large-scale farming used by the high-income countries. On the contrary, Workie et al. (2020) claim that developed countries suffer material supply

shortages during the pandemic compared to developing countries because developing countries are more dependent on labour for production.

Furthermore, COVID-19 has brought about economic slowdowns and downturns in numerous countries' economies around the globe (Dabone *et al.,* 2021). Consequently, the global food markets are disrupted. Most of all, the food supply chains, the trading options, and transportation are the ones affected (Elias & Jambor, 2021). In terms of the food supply, it is the capacity to produce and distribute the food that is affected, and the demand has also gone down due to the decrease in consumers' purchasing power. In addition, a lot of small farmers lost access to global markets, resulting in a reduction in food exports (Elias & Jambor, 2021). On the other hand, transportation of goods is also impaired due to movement restrictions and border closures (Eveline *et al.,* 2020). This resulted in a reduction in production, harvesting capacity, and informal labourers' access to wages. Subsequently, the supply chain disruption coupled with the loss of income results in restricted access to sufficient food and nutrition, thus causing high levels of food insecurity (Elias & Jambor, 2021).

The COVID-19 pandemic is not the first pandemic to hit the world. There have been pandemics caused by a wide variety of infectious agents throughout human history. For instance, in 165 A.D., there was the Antonine Plague; in 541 A.D., the Black Death during 1346–1352; 1918–19 Spanish Flu; and in 2009, the Influenza Virus (Huff, *et al.,* 2015). However, the 1918–19 influenza has a rich literature compared to other pandemics. Literature indicates that the Spanish flu has killed roughly 100 million and infected 500 million people worldwide (Huff *et al.,* 2015, Martini, 2019 & Tauben-Berger, Kash, and Morens, 2019). The most affected countries were India, China, and some countries in the European and African continents (Beach et al., 2020). Similar to COVID-19, during the 1918 pandemic, measures such as social distancing and

quarantines were used to mitigate the spread of the virus (Beach *et al.*, 2020 & Smith & Wesselbaum, 2020). The entry points in the coastal towns were monitored, ships were inspected for cases of infection, quarantines were imposed, and contact tracing was practiced as well (African Center for Strategic Studies [ACSS], 2020). As a result, the food system was disrupted, as well as the workforce at processing plants, packaging plants, and distribution centers, thus disrupting the entire food supply chain (Huff *et al.*, 2015). In addition, worker absenteeism has caused significant stress on product manufacturing and transportation systems during the outbreak of the Spanish flu (Huff *et al.*, 2015). All this aggravated food insecurities in the affected countries.

2.3.2 COVID-19 and food insecurity in Africa

With regards to health threats, African countries are known as the most vulnerable to infectious diseases such as HIV, tuberculosis, hepatitis B & C, malaria, and others. However, with the outbreak of COVID-19, the impact is not only on health but also on livelihoods (Lone & Ahmad, 2020). Africa was the last continent to be hit by the pandemic. The first case on the continent was confirmed on the 14th of February 2020 in Egypt, while in sub-Saharan Africa, the first case was reported in Nigeria on the 27th of February 2020 (WHO, 2020). Since the outbreak of the virus on the continent, precautionary measures to contain the spread of this virus have been implemented. This includes national lockdowns, community containment, social distance, isolation and quarantine, and travel restrictions (Lone & Ahmad, 2020). Besides controlling the spread of the virus, the imposed measures have subsequently hit the global economy, pushing the nations towards recession. However, conversely, the African economies had already been struggling before the COVID-19 impact, and a large percentage of Africans were already affected by poverty and food insecurity. The pandemic inflicted havoc on their already unfavourable situation (Mohamed *et al.*, 2021).

Furthermore, the pandemic has had a devastating impact on the already fragile livelihoods in the Horn of Africa and East Africa. These impacts include reduced agricultural productivity, weakened supply chains, increased cross-border trade tensions, limited employment prospects, and rising political and regulatory uncertainty (Action Against Hunger, 2020). Due to the restrictions, food production is affected, naturally affecting food availability and jeopardizing food security for all people, mostly for the poor and marginalized households. Access to food has been increasingly difficult on the continent due to limited job opportunities, disruption in the flow of remittances and the increase in food prices as food production slows (Mavedzenge, 2020). The poorest households are the most affected because the social protection programs that normally rescue them are also hampered. Additionally, with the economic fallout rising, more people have become poor and food insecure across the globe (Lone & Ahmad, 2020), and Africans are even more vulnerable.

As noted earlier, apart from COVID-19, Africa has experienced other pandemics before. This includes the Spanish flu (H1N1) in 1918-1919 (Huff *et al.*, 2015). Similar to COVID-19, the H1N1 virus induces respiratory distress. The viruses invade the lungs, attaching themselves to epithelial cells. Once attached to those cells, the viruses begin to replicate (Beach *et al.*, 2020). Africa has been central to global shipping and, therefore, a central battleground for pandemics. The pandemic was acute in Africa, and the continent was under colonial administration at the time. It is estimated that about 2.5 million out of 130 million of the African population died due to H1N1 within six (6) months (ACSS, 2020 & Heaton & Falola, 2006). The hardest-hit African countries were Kenya, Cameroon, Ghana, Gambia, Tanzania, Malawi, and South Africa. However, South Africa was ranked amongst the five worst hit countries in the world (ACSS, 2020). Equally, as with COVID-19, the pandemic decimated the food

supply system by disrupting production processes, transportation, and markets, thereby threatening millions of lives. Many regions in Africa experienced famine or near-famine conditions due to the disruptions to food production in 1918 (ACSS, 2020).

2.3.3 COVID-19 and food insecurity in Namibia

The outbreak of COVID-19 in the world has affected all countries, and Namibia is no exception. Following the COVID-19 out-break on March 13, 2020 in Namibia, the country implemented a country-wide partial lockdown on March 27, 2020, following the announcement of a State of Emergency. All these have had a major impact on food security country-wide (WHO, 2020). According to IPC (2021), 659, 000 people, which is 26% of the population, are faced with high levels of food insecurity across the country. In addition, these pose serious challenges to the progress already made in efforts to reduce poverty, hunger, and inequality (Stephanus & Munyama, 2020 & UN 2020b). On the other hand, the economy has also contracted due to the global and local disruptions in the supply chain, layoffs, and uncertainty across the economy, leading to reductions in consumer spending (UN, 2020b). More Namibians are expected to face food insecurity, especially the vulnerable population such as children, women, informal sector workers, migrant workers, and unemployed youth (UN, 2020b).

Furthermore, the national lockdown led to high rates of unemployment and income losses in the labour market. As a result, the purchasing power of the poor is weakened, thus compromising their access to food and other necessities (WHO, 2019). According to NSA (2018), Namibia's unemployment rate was 33.4 percent. In addition, more than 3,200 people were retrenched between January and December 2021 (New Era, 2022), thus further increasing unemployment. In addition, the closure of the informal business sector has brought about severe losses to the vendors, thus increasing their

vulnerability and that of their dependents. Moreover, the closure of informal markets has led to limited access to affordable fresh fruits and vegetables (UN, 2020b). According to NSA (2018), 418,674 Namibians are employed in the informal business sector. The informal sector is referred to as a sector consisting of tiny units working in the production of goods and services but whose activities are not recognized, recorded, protected, or regulated by public authorities (International Labour Organization [ILO], 2007). This includes a wide range of activities such as street vending, shoe shining, food processing, and other petty activities that require little or no capital and skills. In Namibia, the informal business sector is represented mostly by informal business enterprises such as hawkers, shebeen owners, small builders, panel-beaters, barbers, hairdressers, photocopying stalls, repair shops for radios, TVs, fridges, and watches, taxis, and bus transport operators (Eveline *et al.,* 2020). Besides, the precautionary measures introduced to contain COVID-19 spread, such as lockdowns and social distancing, are meant to avoid overcrowded markets. Consequently, the demand for the informal traders' goods declined, and the stocked goods went to waste. Moreover, due to the lack of job security in this sector, people lose their income every day (Eveline *et al.,* 2020). This had a terrible effect on the household survival of these people.

People living in informal settlements are the most affected by the pandemic. Their income deteriorated during the pandemic due to limited job opportunities, a decrease in salaries, retrenchment, and the closure of informal markets (Bene, 2020; Action Against Hunger, 2020). Furthermore, the drought experienced in 2019 immensely reduced agricultural output, prompting most people to turn to the market for food (UN, 2020b). However, with the rising food prices during COVID-19, the problem of food insecurity was further exacerbated, resulting in a reduction in households' purchasing

power and constrained access to food (FAO, 2020b). According to the UN (2020b), 40 per cent of the food consumed in Namibia is imported from other countries. The closure of borders disrupted the supply chain as it affected the imports of food such as cereals and fresh fruits.

In 2004, Namibia imported food commodities valued at N$ 4 billion which is approximately $ 268 628 880 and this rose to N$ 7.3 billion in 2014 (New Era, 2015). In addition, during the 2017/2018 financial year, Namibia imported 96 percent of wheat, 60 percent of pearl millet, and 40 percent of white maize in order to satisfy the local market. Moreover, recent statistics indicate that Namibia imports up to 12.6% of its local food requirements (Hamalwa, 2021). However, all these products could have been produced locally. The Zambezi and the two Kavango regions are singled out as regions that can help the country achieve food security. These Savannah regions are the most fertile regions in Namibia that receive high rainfall and can accommodate any kind of cereal crops, vegetables, and fruits (Seibeb & Ndala, 2019). They have the potential to feed the whole country if more investment is channelled towards agriculture. According to Musisanyari & Kambambi (2020), Namibia's food sovereignty is still uncertain. There is a wide gap in the assurance of putting in place enabling laws and policies to facilitate and guide food sovereignty in Namibia. There are however, some policies in place that are on the right track such as the Agriculture Policy and the Food and Safety Policy but they are not enough (Hangula, 2016). According to Wittman, Desmarais, & Wiebe (2010), the Declaration of Nyeleni global forum on food sovereignty has defined food sovereignty as the right of people to healthy and traditional food produced through organic sound and sustainable methods and their right to define their own food and agriculture systems. Those who produce, distribute and consume food are put at the heart of the food systems and policies

instead of the demands of markets and corporations. Furthermore, food sovereignty empowers peasant and family farmer-driven agriculture prioritizes local and national economies and markets (Carlile, Kessler, & Garnett, 2021). Food sovereignty promotes transparent trade that guarantees income to all people and the rights of consumers to control their food and nutrition. The same people are given the rights to use and manage lands, territories, waters, seeds, livestock, and biodiversity are in order to produce food.

In an effort to achieve food sovereignty, the Namibian government has set up various green scheme projects across the country. The Green Scheme Policy defines green schemes as government programs that are aimed at increasing food production through irrigation production (Ministry of Agriculture, Water and Forestry [MAWF], 2008). There are eleven (11) green schemes in Namibia; the main ones being the Kalimbeza Rice Project in the Zambezi region, Musese Irrigation Project in the Kavango region, Hardap Irrigation Project in the Hardap region, Etunda Irrigation Project in the Omusati region, and Orange River Irrigation Project in the Kharas Region (Isala, 2016). Other Green Schemes involved Ndonga-Linena, Shadikongoro, Shitemo, Sikondo, Tantjieskoppe, and Uhvungu Vhungu. These "green schemes" are aimed at reducing poverty through increased agricultural production, job creation, and exports (MAWF, 2008). The produce from these green schemes ranged from cereals (maize, wheat), vegetables (tomatoes, onions, cabbages), and fruits (dates) (Shapi, 2017). However, these green schemes are not able to do much in terms of food security during COVID-19. This is because they have been faced with financial challenges apart from the 2016/17 agricultural season economic slowdown and the Armyworm outbreak, the 2018/19 drought, and the Red Locust in 2020 (FAO, 2020a). This had a devastating effect on their performances. For instance, the economic slowdown hindered the

commodities movement. Due to these kinds of challenges, these schemes failed to ensure self-sufficiency and food security during the COVID-19 pandemic (FAO, 2020a). Apart from the green schemes in Kavango East, the region also has a program called "Operation Werengendje". The program aims to ensure enough food production for the country to reduce hunger and eradicate poverty by bringing about food security (Hartman, 2018). This operation is contributing to the Harambee Prosperity Plan by supporting the government's idea of a national strategic food reserve and ensuring sustainable production of a supply of staple food such as Omahangu (Shapi, 2017 & Muyamba, 2019). However, the operation has also experienced the outbreak of the Red locust in 2020, which posed a big risk to cereal crops and drastically reduced production, thus reducing the supply of food to the nation during COVID-19 (FAO, 2020a). This is an indication that if Namibia had had food sovereignty to ensure food availability, sustainability, and employment creation, then the country could not have been faced with food insecurity problems due to border closure during the pandemic. According to Hendrix (2011), the non-achievement of food sovereignty in the world lies with the developing countries that depend on international food markets. He further suggested that the solution to food sovereignty lies within the movement towards national food self-sufficiency programs, as a matter of both human and national security.

Among all the pandemics the world has experienced, Namibia has also experienced the outbreak of the Spanish flu in 1918-1919. The main affected areas were the railway hotspots such as Karasburg, Windhoek, and Usakos; and the mining areas such as Tsumeb and Swakopmund (Goldbeck, 2020). During the same period, the country was also hit by World War I and experienced severe drought (Goldbeck, 2020). However, the literature did not point out any strategies used to cope with food insecurity at that

given time. On the contrary, during the COVID-19 outbreak, the Namibian government developed strategies on how to assist the citizens cope with food insecurity. This involves handing out food hand-outs to vulnerable households in both rural and urban areas through the drought relief and COVID-19 food assistance programs known as "Corona Parcels" (OPM, 2020). In addition, in April 2020, the government, through the Ministry of Finance, launched an Economic Stimulus and Relief Package of N $8.1 billion (Ministry of Finance, 2020). The stimulus is to support job retention in the formal sector through tax relief, new lines of credit, and enterprise grants, which speak largely to formal enterprises and formal workers (Evelina *et al.,* 2020). On the other hand, the citizens who run non-VAT registered businesses in the informal business enterprises received a once-off Emergency Income Grant (EIG) of N$750 per person for relief and as a measure of security to poor households' poverty impacts as a result of lockdown (Evelina *et al.,* 2020). However, there is still uncertainty if that grant would sustain these people's livelihoods, especially those with commitments such as rentals, food, and other essential services. In addition, there is a critical concern about the post-lockdown recovery strategies. In general, starting up capital will be required by informal businesses to get back into business when the situation gets back to normal. Failure to safeguard and implement post-lockdown strategies might lead to an economic downfall and, in all probability, social unrest as unemployment surges (Evelina *et al.,* 2020).

2.4 Food systems during COVID-19

The food system encompasses all the activities and actors in the production, transport, manufacturing, retailing, consumption, and waste of food and their impacts on nutrition, health and wellbeing, and the environment, as indicated in fig 2.1 (Mbow *et al.,* 2019). According to Galanakis (2020), the food system is essential in achieving

the United Nations Sustainable Development Goal 2, which aims at ending hunger through achieving food security and improving nutrition, as well as goal 12, which ensures sustainable consumption and production. However, the disruptions caused by the pandemic have complicated the interactions among the actors and activities in the global food system, compounding threats to food security. There have been drastic changes in the food systems in the world, and these have significant implications for consumers, governments, and corporations (Shinyemba, 2019). Besides, the food sector and its stakeholders are in the spotlight as food is necessary for human survival and cannot be locked down (Galanakis, 2020). Apart from the provision of food, food systems also provide jobs, infrastructure, income, skills, and ecological services (Dury *et al.,* 2019).

Recently, with the outbreak of COVID-19, changes have been observed in food processing, distribution, availability, affordability, marketing, and transportation, affecting all the dimensions of food security. This resulted in the collision of the food systems (FAO, 2020c). Food distribution and food availability in the urban space have been disrupted by the introduction of restrictions on the movement of people, goods, and services and by containment measures such as the closure of marketplaces and schools, which have curtailed access to food (Fan *et al.,* 2021; Global Alliance for Improved Nutrition [GAIN], 2020). In addition, disruption in food supply systems has created new vulnerabilities because it has affected the public food procurement processes and the distribution of food to vulnerable groups since most funds were diverted to medical procurement, thus negatively affecting the food access of these groups (Fan *et al.,* 2021 & Mavedzenge, 2020). Additionally, food shortages are also observed due to panic buying (Akiwuni, 2020; Dabone *et al.,* 2021; & Galanakis, 2020).

2.4.1 Impact of COVID-19 on food production.

Production is an activity in the food system that involves farm input suppliers, farmers, and food (Deloitte, 2020). Although food-related sectors have been considered essential services worldwide, agriculture is projected to record slow growth (Eveline *et al.*, 2020). This is due to the limits on the mobility of people across borders, thus contributing to labour shortages for the agricultural sector (Devereux *et al.*, 2020 & Organisation for Economic Cooperation and Development [OECD], 2020a). The shortage of labour leads to production losses and shortages in the market.

According to Galanakis (2020), the pandemic has reduced labour availability by more than 25%, disrupting some harvesting and agricultural activities and increasing levels of post-harvest losses due to the reduced workforce, resulting in global food shortages. The restrictions to curb the spread of COVID-19 have affected the availability of key intermediate inputs for farmers (Rubiah and Elamin, 2021). For instance, the closure of borders and slowing down of trans-boundary movement of agricultural inputs have hampered the supply of seeds and pesticides and their on-time delivery, therefore negatively impacting food production (High Level Panel of Experts [HLPE], 2020 & OECD, 2020a). Furthermore, there have been supply disruptions in agricultural products as a result of decreased demand. This, however, puts strains on the farmers' income (OECD, 2020a).

2.4.2 Impact of COVID-19 on processing and manufacturing.

Processing includes food processors and manufacturers (Deloitte, 2020). Due to COVID-19, many companies laid off casual workers and placed some permanent staff on paid or unpaid leave. According to Huff *et al.*, (2015), a reduction in labour availability creates a widespread food shortage. Most workers are challenged with accessing food, thereby posing a further food insecurity risk. This is not due to food

unavailability, but due to the loss of income, thereby affecting subsistence needs and, more importantly, livelihoods.

On the other hand, processors rely heavily on seasonal labour. However, COVID-19 has created a struggle to secure enough workers to continue labour-intensive production (Devereux *et al.,* 2021). As a result, the loss and shortage of products in the market have been observed (Rubiah and Elamin, 2021). Some processing facilities were forced to shut down as workers got ill and some died due to COVID-19. The shutdown of processing plants caused an increase in product prices (Devereux *et al.,* 2021).

2.4.3. Impact of COVID-19 on distribution

Distribution includes food distribution and retail (Deloitte, 2020). As an initial response to COVID-19, many governments-imposed restrictions on the flow of goods. This included food export restrictions aimed at isolating the domestic food market from global market development. Such restrictions triggered high food prices as a result of reduced global food supplies, mostly affecting developing countries (Rubiah and Elamin, 2021). In addition, protectionist policies and import restrictions have also disrupted the food distribution systems. These include tariffs, quotas, and various forms of subsidies intended to save domestic jobs and enterprises. However, such restrictions cause global economic distortions and income reductions.

Moreover, Rubiah and Elamin (2021) indicated that perishable foods such as dairy, meat, fruits, and vegetables are more vulnerable to food system disruptions. This resulted from delays in the transportation system, such as extra checks at the borders and quarantine of truck drivers, increasing the risk of product damage and delays in reaching the markets, which in turn reduced the diet quality (Harris *et al.,* 2020 &

OECD, 2020a). On the other hand, timely operation of activities and the closure of open markets restricted farmers from accessing the markets to sell their products, so fresh produce got wasted (GAIN, 2020). All these disruptions caused a gap in food availability.

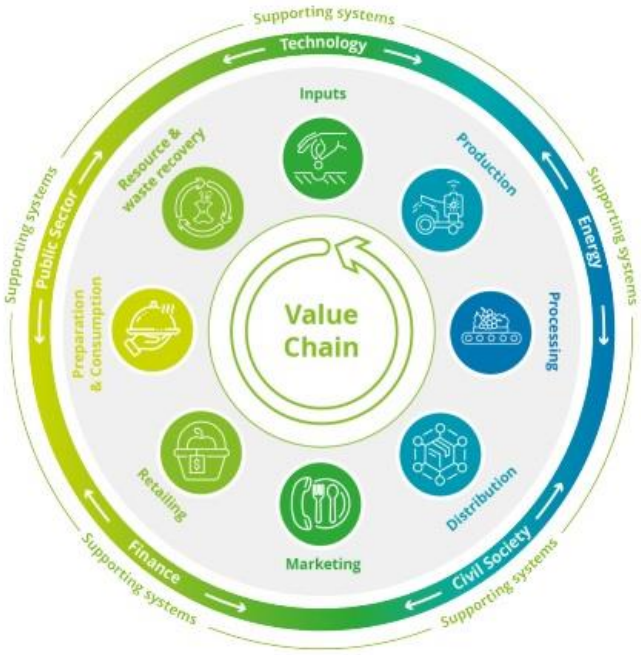
2.4.4. Impact of COVID-19 on consumption

There have been significant changes in the way consumers acquire and consume food at household and national levels since the outbreak of the COVID-19 pandemic (Deloitte, 2020). Consumers have moved out of their normal routines, thereby adopting new habits and behaviors. These involve shopping more consciously, stopping spending on discretionary items, limiting food waste and purchasing items with minimal impact on the environment (Rubiah & Elamin, 2021). Such changes were stimulated by the reduction in income and remittance flows and an increase in food prices, which affected the quality of the diet. This is because households opt to protect staple food consumption over the consumption of more expensive and more nutrient-dense foods (Rubiah & Elamin, 2021). However, these new forms of consumption have disturbed the delicate balance between supply and demand (Deloitte, 2020). The disruptions in the supply chain and the strong demand from consumers' stockpiling are some of the causes of food price increases (Swinnen, 2020). On the other hand, due to this knotted supply-demand, retailers have been limiting consumers' shopping for the fear of a shortage of certain products. Conversely, while urban consumers' brawl to access fresh produce, fish, and meat, smaller farmers have been struggling to secure the market for the same products (Deloitte, 2020).

Furthermore, the increase in food prices has mostly affected the living standards of lower-income households. This is because most of their income is spent on food (GAIN, 2020). On the contrary, Rubiah & Elamin (2021) indicated that staple food

(maize and rice) prices in some countries, such as Ethiopia, Bangladesh, India, and Nigeria, have declined. This is due to the improved market availability of newly harvested crops and the easing of the COVID-19 restrictive measures between September and October 2020. This is an indication that as long as COVID-19 persists, the availability of food and prices will depend on seasonal trends. Conversely, despite the seasonal drop in food prices, vulnerable households will continue to lack access to food on account of COVID-19-induced income that sharply diminishes their purchasing power (Swinnen, 2020). Moreover, besides the COVID-19 influences, food prices will continue to escalate due to the impact of climate change and some other environmental impacts on agriculture (Rubiah & Elamin, 2021).

Figure 2.1: The actors in the global food system



Source: Deloitte, 2020

2.5. Entitlement approach vs COVID-19

According to Sen (1982), the entitlement approach focuses on the ability of people to command food through the legal means available in society. This includes the use of production possibilities, trade opportunities, entitlements vis-à-vis the state, and other methods of acquiring food. The emphasis of this approach is on having the ability to command enough food and using this ability to acquire food. The approach shifted the focus from national food availability to people's access to food. It certainly concentrates on each person's entitlement to commodity bundles, including food, thereby viewing not having enough food as a result of a failure to give the right to a bundle with enough food.

2.5.1 Production based entitlement

According to Sen (1982), an individual is entitled to own what s/he gets by arranging production using their own resources or resources hired from willing parties meeting the agreed conditions of trade. During the COVID-19 pandemic, the ratio of food production to consumers fell. In rural areas, some livestock keepers and poor farming households lost access to food from their production due to pandemic control measures such as quarantines, bans, and restrictions on the movement of goods and people (Devereux *et al.,* 2020; Mardones et al., 2020). Additionally, most farmers fell (and continue to fall) ill due to COVID-19 and some stayed in quarantine for some time (Devereux *et al.,* 2020). Moreover, some were unable to access labour and other inputs such as fertilizer and seeds due to transportation restrictions. Their access to the market to sell their products has also been affected because of restrictions on trade and mobility (Eveline *et al.,* 2020). The production chain is disrupted as well as many fresh produce truck drivers have stopped their services due to restrictions on traffic and operating hours (Hossain, 2020).

2.5.2. Own-labour entitlement

This entitlement's emphasis is that an individual is entitled to his/her labour power and thus to the trade-based and production-based entitlements related to his/her labour power (Sen, 1982). This group involves the self-employed, including own-account workers and small business owners. In most cases, this group is not protected (Evelina *et al.,* 2020; Kaltenborn, 2020). As a result, informal, low-paid, and migrant workers became highly vulnerable to food insecurity. Since the outbreak of COVID-19, this entitlement has been undermined by lockdown because people are prevented from engaging in wage work or operating their businesses normally (Devereux *et al.,* 2020). According to the OECD (2020b), countries with larger informal sectors are more likely to face a situation in which a growing number of people have lost their jobs, have no access to an income, and have received no government assistance (Mardones *et al.,* 2020). Also, it is mostly women who face significant income losses (FAO, 2020b). Self-employed people are overrepresented in industries that have been restricted or shut down because of social distance (Eveline *et al.,* 2020).

In addition, self-employed people face challenges regarding employment and sickness benefits. They have no access to an unemployment insurance scheme or are entitled to a protection scheme. Certainly, their income will drop to zero while their household continues to consume food and resources (Devereux *et al.,* 2020). Furthermore, there is no employer to confirm laying off these people. Since then, it has been difficult to offer unemployment benefits or to re-establish business operations because it has become hard to distinguish demand fluctuations from voluntary joblessness (Devereux *et al.,* 2020). In the case of sickness benefits, it is difficult to determine whether the self-employed have stopped working or not. Moreover, the income for self-employed labourers fluctuates a lot. This complicates efforts to calculate their contributions and

entitlements, or they sometimes avoid or are unable to pay for both the employer and employees' social contributions (Mavedzenge, 2020 & OECD, 2020b). Also, social protection measures that were introduced during the pandemic, such as cash transfers, tax relief, unemployment benefits, and food assistance, are inaccessible (Paremoer *et al.*, 2021). However, these workers only provided means-tested minimum income benefits, which were intended to alleviate poverty and protect them from entrenched livelihood risks. As a result, many begin to run down their savings as their business closes as part of the government's mandated health measures, thereby putting their families' livelihoods, current and future wellbeing, at risk (Baldwin *et al.*, 2020).

2.5.3 Trade based entitlement

This entitlement emphasizes that a person is entitled to own what s/he obtains by trading something s/he owns with a willing party or multilaterally with a willing set of parties (Sen, 1982). During the COVID-19 pandemic, trading activities are disrupted in various ways. This includes disruptions in trade routes, quarantines of traders and truck drivers, and the closure of markets, among others. All these disruptions reduced food supplies and raised food prices around the world, thus creating food insecurity (Devereux *et al.*, 2020). Since the closure of markets, the alternative to the situation has been to work from home. However, a lot of traders in the informal sector's work cannot be undertaken from home (OECD, 2020b). Businesses lost revenue and some lost turnover in the range of 91-100% (OECD, 2020b). As a result, many businesses closed permanently, and some continued to trade partially.

On the other hand, the restrictions on trade have only permitted retailers of essential services to trade, thus creating uncertainty in the economy. Consumers lost income, so they became more cautious, lessening their spending, resulting in reduced turnover for the essential service retailers. A reduction in the number of public gatherings affected

people selling in the open markets since customers barely visited the businesses for fear of infection. Consequently, these people lost income because their trading depends on the huge public turnout (Eveline *et al.,* 2020). Informal markets in many countries, especially in Africa, have been closed down even though they play an important role in supplying vital food to low-income consumers, farmers, and traders respectively (Hossain, 2020). Moreover, the closure of borders disrupted the existing markets, clientele, export, and import, which subsequently affected demand (Stephanus & Munyama, 2020). Many traders struggled to sustain a livelihood and faced eviction from the business operation premises.

2.5.4. Transfer entitlement

According to Sen (1982), an individual is entitled to own what is willingly given to him/her by another who legitimately owns it, making it possible to take effect after the latter's death. During COVID-19, incomes collapsed. As a result, family members working elsewhere were not able to send remittances home. On the other hand, in some countries, financial institutions where the transfers are made, such as banks, close down, making it physically difficult to send or collect such payments (Devereux et al., 2020). Hard lockdown and social distancing imposed by the government disrupted informal support and other forms of social capital at the community level. Neighbours and relatives are not allowed to visit one another. In addition, the reduction in the number of people attending social events such as weddings and funerals has limited people's chances to access free meals. Public transfer functioning mechanisms such as food aid and school meals are also affected since the schools are also closed (Devereux *et al.,* 2020; UN, 2020a & UNICEF, 2020).

2.6 Malthus theory and COVID-19

According to Ahmand and Ali (2016), a specific amount of food is a basic necessity of living human beings. However, with the human population of the universe touching its highest level, the world is more likely to face a great famine. The world population is observed to have grown exponentially, having a serious impact on resource consumption (Maisonet, 2011). In 2015, the world population was recorded at 7.3 billion and is estimated to reach 9.2 billion by 2050 (Ahmad & Ali, 2016). According to Malthus (1798), there is a gap between the food supply and the population. His theoretical framework indicates that the power of the population is indefinitely greater than the power of the earth to produce subsistence for man. As a result, there is a huge concern about the availability of sufficient food for the growing population of both developed and developing countries. The Malthus theory believes in mechanisms to balance food supply and population growth. Such mechanisms are referred to as "checks," which are known as "positive" and "preventative" checks. The extreme actions of the population are extreme actions, whether arising from vice or misery, which to any degree contribute to shortening the natural duration of human life. The primary examples of this are war, plague, severe labour, exposure to the seasons, extreme poverty, and bad nursing of children. Preventative checks refer to voluntary actions people take to avoid contributing to the population. This involves conscious decisions to delay marriage or abstain from procreation based on a lack of resources. The Checks are used to control population growth since the growth in population results in food scarcity and the outstripping of finite world resources (Hendrix, 2011). Warburton (2021) states that without check restraints, the world would face widespread hunger and poverty. On the other hand, Malthus (1798) argues that human

ingenuity and skills are incapable of controlling population growth, thus relying on wars, diseases, famine, and deaths in order to check population growth.

The outbreak of COVID-19 is, in Malthus' perception, regarded as one of the positive checks that can reinstate the balance between the population and food supply. However, even if COVID-19 has caused several deaths that may be considered to reduce the population, that reduction did not bring about food security, at least in the case of Namibia. This is because, instead of alleviating the food security problems, the pandemic resulted in higher retail prices, a reduction in incomes, and household cuts in the quality and quantity of their food consumption. As a consequence, COVID-19 has dramatically increased the number of people facing acute food insecurity.

2.7 Conceptual framework

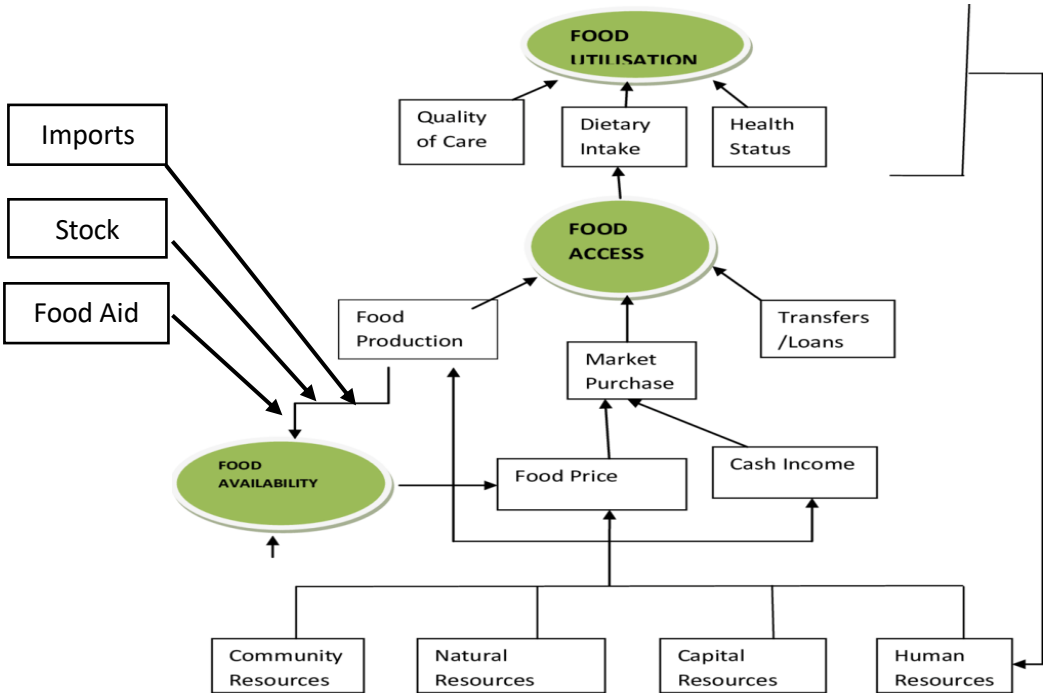
Literature confirms that the existence of food security is buried in three dimensions, which are: food availability, food access, and food utilisation (HLPE, 2020), and their relationship is best described using a conceptual framework (Reily *et al.*, 1999). Such a conceptual framework draws from existing literature and lessons learned to present an integrated and systematically organized set of ideas and principles taken from the fields of food security and household vulnerability (Woller *et al.*, 2011). In the reviewed literature, there has not been a single exceptional conceptual framework in studies of food (in-) security. However, most studies have pointed out that food security is a complex and multi-sectoral issue. Given the complexity, food security-related problems must be assessed to rescue countries, communities, and individuals from economic shocks, natural shocks, and social and health risk exposure. A Food Security Conceptual Framework adopted from Reily et al. (1999) is one of the frameworks that give a broadly defined relationship between food availability, access, and utilisation because it displays a hierarchy of casual factors which ultimately

influence these three dimensions, as shown in fig 2.2. This framework also brings the understanding of the causes of food insecurity during COVID-19 concerning food availability, accessibility, and utilisation as further explained. It also indicates that when households are unable to manage the risks in the three dimensions, food security becomes unstable, thus increasing their vulnerability to food insecurity.

Until Namibia gained its independence, the issue of food security was not significant. During the colonial era, for instance, many black Namibians lost their lands at the hands of the colonial government. However, those who settled in the northern part of the country had small pieces of land and derived their livelihoods from small-scale farming using traditional methods of cultivation (Elkan *et al.,* 1992). Due to a lack of agricultural facilities, these farmers produced a lesser amount of food and their families remained poor. Even though they kept livestock, they have been faced with obstacles to selling their livestock and making an income to buy food due to the existence of the veterinary cordon fence. Farmers from the north were not allowed to export meat unless it was canned. This exposed the black families to poverty, despite owning herds of livestock. Food was only available through food aid and limited food stock from production. There was limited access to food supplies such as imports, market purchase, and transfer as highlighted by the above framework due to a lack of financial resources at the time. After independence, there was a shift in concerns about food security. The establishment of the Ministry of Gender Equality, Poverty Eradication, and Social Welfare (MGEPESW) made provisions to address poverty. In general, food security and nutrition issues were considered. The Namibian government established a Namibian Food and Nutrition Policy aimed at ensuring an adequate supply of nutritionally-balanced food to the population, particularly the poor and farm households (GRN, 1995). Post-independence presented opportunities for people to

explore all the factors that guide them towards food availability, access, and utilisation in terms of achieving food security at the national and household levels.

Figure 2.2. The Food Security Conceptual Framework



Source: Adapted from Reily, Mock Colgill, Bailey, and Kenefick, 1999

2.7.1. Food availability

According to FAO (2006), food availability is defined as when sufficient quantities of appropriate, necessary types of food from domestic production, commercial imports, commercial aid programs, or food stocks are consistently available to individuals or within their reach. Food availability can be a problem at the national, household, or individual levels if the country does not have sufficient food stocks to supply everyone with an adequate diet of quantity, quality, and diversity. Food availability in Namibia, as elsewhere, is affected by COVID-19. However, at the start of the pandemic, the world's grain stocks were strong, but this has shifted over time (HLPE, 2020). The increase in COVID-19 outbreak cases resulted in prolonged

lockdown and lockdown measures that caused major disruptions to food supply chains. This affected food availability, pricing, and quality (Barret, 2020). In terms of food production, the labour-intensive production of food stocks decreased as a result of food system workers experiencing high rates of illness (HLPE, 2020; Mohamed *et al.*, 2021).

In addition, the production system that relies on migrant farmworkers experienced a reduction in production as workers faced barriers to travel. Some food production facilities were also closed temporarily to contain the outbreak (Haley *et al.*, 2020). Likewise, countries that are highly dependent on imported food, like Namibia, also experienced food supply disruptions because the food movement through international trade channels is also affected by lockdown measures. On the other hand, exporting countries also imposed export restrictions on key staple foods such as rice and wheat, and this affected most countries with a high prevalence of food insecurity (FAO & WFP, 2020; Mohamed *et al.*, 2021). Such disruptions to supply chains affect food availability, especially when foods are not able to reach the market, which in turn puts upward pressure on prices of scarce foods as illustrated (fig 2.2). In addition, the pandemic also disrupted social protection programs, which in turn affected food security and nutrition at the household level (HLPE, 2020; Mohamed *et al.*, 2021). Due to lockdowns, most schools closed, leading to the loss of school meal programs around the globe (WFP, 2020). Moreover, the governments' capacity to provide food aid to vulnerable people is also strained by the global recession that is being caused by the measures introduced to contain the pandemic.

2.7.2. Food access

Food access refers to when individuals have adequate assets or income to produce, purchase, or barter to obtain levels of appropriate foods needed to maintain consumption of an adequate diet or nutrition level (FAO, 2006). This dimension is influenced by the aggregated availability of food through the latter's impact on supply and, therefore, on market price (United States Agency of International Development [USAID], 2010 & Reily, 1999). According to the literature reviewed, food access is argued to be the most affected dimension of all by the COVID-19 crisis. Figure 2.2 indicates that food is accessed through either production, market purchase, or transfers and loans. However, with the outbreak of COVID-19, accessing food through such means has become challenging. Many households partly or completely lost their income as a result of prolonged lockdowns. In addition, food prices increased due to supply shortages caused by transport and travel restrictions (Elias & Jambor, 2021). This directly affected the households' ability to purchase enough food, thus making them vulnerable to food insecurity.

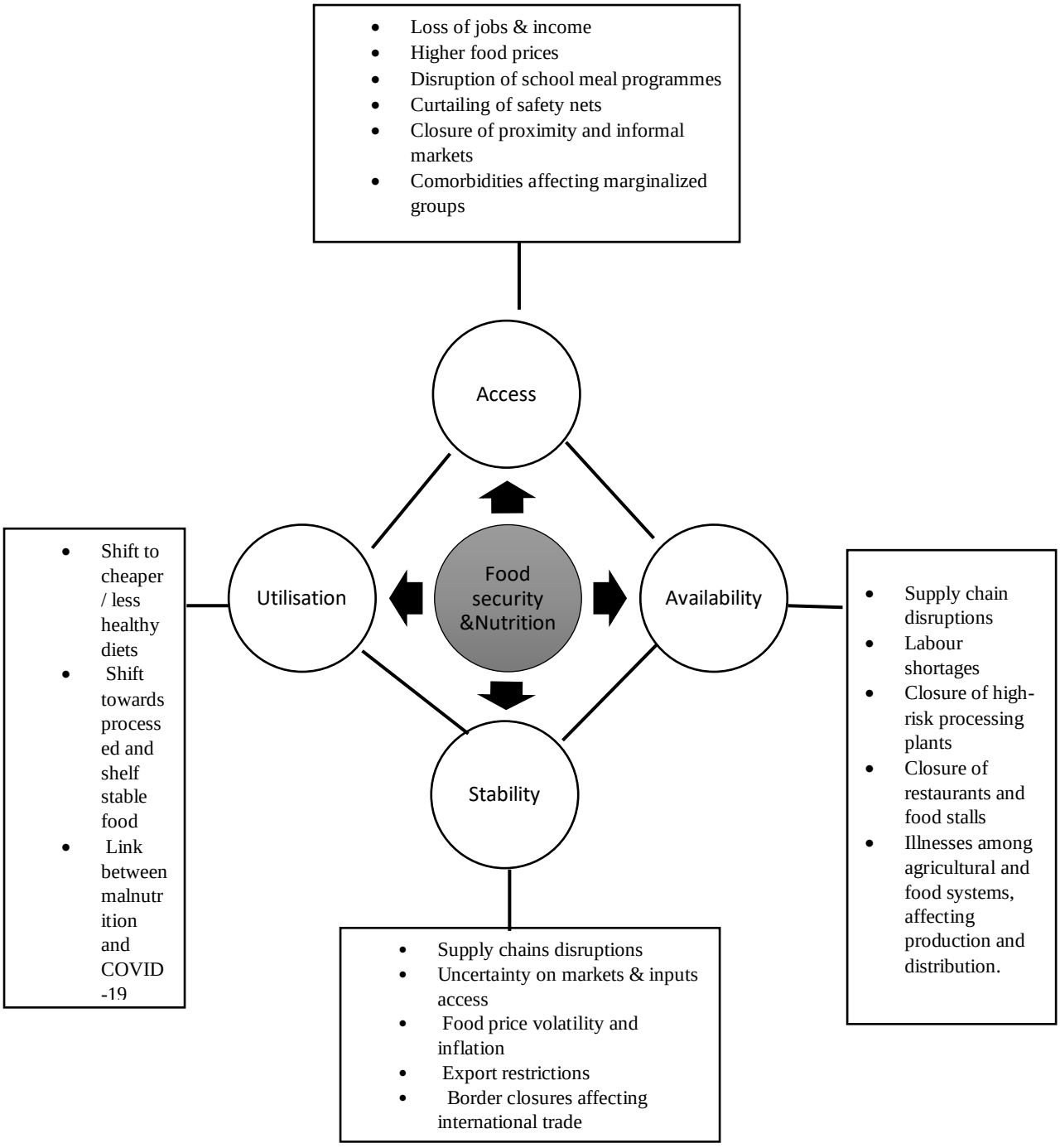
The pandemic has also limited the capacity to provide extensive social safety nets, especially in developing countries (Gerard *et al.*, 2020). Furthermore, the urban-rural linkages are also disrupted by the measures implemented to curb the spread of the virus. The linkage was essential for food systems that feed the urban population through a transfer from rural to urban areas and for the provision of remittances to the rural inhabitants (WFP, 2020). On the other hand, the fear of losing access to food caused panic buying, resulting in a reduction in food stock in the market and limiting food access for those who are not fast enough or cannot afford to buy in large amounts due to lack of cash income (Akiwuni, 2020). Since food access is a function of the

physical environment, social environment, and policy environment, the drastic changes brought about by COVID-19 to such environments have disrupted food production strategies and threatened food access at the household level.

2.7.3 Food utilisation

Food utilisation refers to the actual food that people consume, how it is stored, prepared, and consumed, and what nutritional benefits they get from it (FAO, 2006). According to HLPE (2020), household access to food does not guarantee household food security. On the other hand, food utilisation is determined by what proper food is consumed and how the food is allocated within the household. Literature has indicated that women and children are more vulnerable to food insecurity because of their relatively weak intra-household bargaining power (FAO, 2020b). Generally, food utilisation requires a healthy body and a healthy physical environment, including safe drinking water and hygienic-sanitary conditions (HLPE, 2020; Reily *et al.*, 1999; USAID, 2010). Since the outbreak of COVID-19, people's ability to access food has diminished, thus impacting their ability to afford a healthy diet (FAO & WFP, 2020). This is common in countries where people usually spend a higher percentage of their income on food (FAO, 2011). In addition, COVID-19 has also brought about a shift in food consumption towards fewer fruits and vegetables and more processed foods, therefore contributing to poor diet and nutrition (Micha *et al.*, 2020). Moreover, the pandemic has widened inequalities in access to vital services such as clean water and safe sanitation, thus affecting nutrition while at the same time increasing disease risks (HLPE, 2020). This framework explains how food utilisation is dependent on other factors such as the availability of health services, dietary intake, knowledge, and cultural practices.

Figure 2.3. The impact of COVID-19 food system dynamics on the six dimensions of food security



Source: HLPE, 2020

2.8 Summary

This chapter discussed the conceptual framework that supports the study, which is the Food Security Conceptual Framework. The chapter also looked at the historical background of food insecurity in the world, Africa, and Namibia. Furthermore, food insecurity during COVID-19 was discussed. Moreover, the chapter discussed the Malthus theory in relation to COVID-19 and the food systems during COVID-19, as well as the entitlement approach in relation to COVID-19. The next chapter focused on the methodology of the study.

CHAPTER 3

METHODOLOGY

3.1 Introduction

This chapter outlines and describes the type of research design used to conduct the study; the sampling method; the procedures employed during the research; the data collection methods; instruments; and the data analysis method used. Besides, the ethical considerations of the study are highlighted in this chapter.

3.2 Study site

The study area is located in the northern part of Outapi town. The area is within the town boundaries and has approximately 1550 households with 3263 residents (Outapi Town Council, 2020). The majority of the residents are employed in the informal sector, such as street vendors, transport operators, and hairdressing (Weber & Mendelsohn, 2017), and they are Oshiwambo-speaking. Residents live in shacks; the majority are illegally erected and are overcrowded with 5–6 people living in each structure (Kaapanda, 2021). Wood is the main source of cooking fuel (Weber & Mendelsohn, 2017). A high percentage of the residents have no access to the toilet facilities and practice open defecation. However, there is a shared washhouse in the area (Kaapanda, 2021).

3.3 Research design

Qualitative research is scientific research (Mack et al., 2005). Scientific research is defined as a system of inquiry into a phenomenon (Creswell, 2014). Scientific research consists of inquiry that seeks to answer questions analytically using a predetermined set of procedures to answer the questions, collect evidence, yield findings that were

not determined in advance, and produce results that are applicable beyond the instant boundaries of the study (Mack *et al.,* 2005). There are different types of methodologies a researcher may apply to collect and analyse data in order to acquire knowledge about a particular phenomenon. These methods include quantitative, qualitative, and mixed-method research (Creswell, 2014). This study employed a qualitative research method using a case study research approach. A qualitative research method is a method that seeks to comprehend a given research problem or topic from the perception of the local population it involves (Mack *et al.,* 2005). Creswell (2014) also defined qualitative research as an approach for exploring the meaning an individual ascribes to a social problem in a natural setting, while case study research design is defined as an in-depth exploration of a case by analysing data gathered from a few participants. Chilisa & Preece (2005) defined a case study as a detailed study of a single phenomenon or a unit of analysis. The qualitative method is considered effective in obtaining culturally specific information about the opinions, values, behaviors, and social context of a particular population (Mack *et al.,* 2005). For the purpose of the study, this method is considered suitable because it allows for the participants to narrate their experiences and provide an in-depth understanding (Creswell, 2014) of food (in-) security during COVID-19.

3.4 Population

Babbie (2016) defined "population" as an aggregation of elements from which the sample is selected. Creswell (2014) defined a population as an entire group of people, events, or things of interest within a defined study area. For the purpose of this study, the population refers to the households in the informal settlement of Outapi town. According to Outapi Town Council (2020), there are about 1550 households in the informal settlement of Outapi.

3.5 Sample

Mack *et al.*, (2005) stated that when conducting research it is not necessary to collect data from the whole population in order to get valid findings thus sampling becomes relevant. By definition, sampling is a small representation drawn from the population in which the researcher is interested in (De Vos *et al*., 2011) while Rao & Pasumarti (2012) defines sampling as a selection of certain percentage of a group of items according to pre-determined plan. During sampling it is important to select a sample in a logic way to ensure that the participants see it as a credible and indicative sample (Patton & Conchran, 2002). For this study, a non-probability sampling was used by means of a purposive sampling method. Creswell (2002) defines non-probability sampling as a method of selecting individuals because they are available, convenient, and represents characteristics the investigator seeks to study. Creswell further stated that the researcher should not be interested in generalizing the findings to the population but only to a small group of participants in the study. A non-probability method was used because it is suitable for understanding a specific social phenomenon. On the other hand, a purposive sampling is a sampling method whereby the researcher intentionally select participants and sites that helps in understanding the central phenomenon (Creswell, 2014). The standard used in this selection is that the participants are information rich. This means the participants are selected because they are likely to generate useful data for the study (Patton & Conchran, 2002). For this study, purposive sampling is considered suitable to choose household heads because they have in-depth information and experience on their households' food security.

The criteria for inclusion in the sample for this study were that the participants should be urban household heads residing in Onhimbu informal settlement. The participants can either be male or female. The researcher used a non-probability purposive

sampling technique to select a sample size of 15 households whereby the head of every selected household is identified. Such a sample size is considered because it is sufficient to help the researcher address the research objectives.

3.6 Research instruments

Research instruments are tools used by social science researchers to collect data in order to answer their research questions and objectives (Kotharia, 2014). In qualitative research, data is gathered primarily in the form of words and not in numbers (Patton & Conchran, 2005). Unstructured and semi-structured interview guides, observations, interviews, literature and document reviews, and visual materials are used to collect this information. For the purpose of this study, a semi-structured interview guide with open-ended questions was used to collect data. This allows the participants the freedom to express their views because the questions are generally related to the opinions sought about the central phenomenon. The interview guide contained instructions on the interview process and the content was organized based on the objectives of the study. An interview guide is a set of questions asked and filled out by the investigator in a face-to-face situation with the informant (Rao & Pasumarti, 2012). It comprises three sections: A, B, and C, with sub-questions. Section A collects the demographic information of the informants. Section B is for collecting data on knowledge about urban food security, and Section C on interventions to mitigate food insecurity. Besides, a pilot study was conducted on two (2) participants, a male and a female, from Outapi town to pre-test the interview guide.

3.7 Research procedures

Prior to the beginning of the data collection process, the researcher applied for ethical clearance from the University of Namibia's ethical clearance committee in order to obtain permission to conduct the study. The ethical clearance was issued. The researcher further presented a permission request letter to the Outapi Town Council's Chief Executive Officer to carry out research in that town, and the permission was granted. The researcher also approached the participants to make appointments with those who were willing to take part in the study. A purposive sampling method was used to recruit the participants. A semi-structured interview using an interview guide was used to collect data. Before the interview began, participants were asked to sign an informed consent letter in agreement to partake in the study. Every interview lasted for 30 minutes. Moreover, the researcher also requested the participants' consent in order to audio record them during the interview. However, for the participants who refused to be recorded, the researcher wrote down the responses during the interview. The interviews were conducted in the privacy of their homes, and confidentiality was guaranteed. The participants were interviewed in Oshiwambo and then the responses were translated into English verbatim. Therefore, no translator was required in this study.

3.8 Data analysis

Shaikn (2016) defines data analysis as a mechanism for reducing and organizing data to produce findings that require interpretation by the researcher. In qualitative research, the analysis begins as soon as the collection of data begins, occurring throughout the data collection process and at the end of the study (Chilisa & Preece, 2005). The purpose of analysing and synthesising the data is to make sense out of the disaggregated information, showing relationships, their root causes, and possible

solutions (Rao & Pasumarti, 2012). In this study, the researcher used a thematic analysis approach. Thematic analysis refers to a systematic method to identify, organize, and offer insight into themes across a dataset (Braun & Clarke, 2014). The data was organized first by transferring it from spoken words to written words and then transcribed into texts. The researcher then coded the data by locating text segments and assigning labels. Finally, the researcher generated themes that were used in the research report.

3.9 Ethical consideration

Ethical considerations are relevant to every piece of research. In essence, research should never be carried out at the expense of the participants (De Vos *et al.*, 2011). Therefore, the application of ethical standards must be exercised. According to Rao & Pasumarti (2012), ethics refers to norms for conduct that distinguish between acceptable and unacceptable behaviour. This study was based on mutual trust, acceptance, voluntary participation, and cooperation between all people involved, and avoiding conflict and possible harm to all. The study was conducted with the approval of the University of Namibia Research Ethics Committee (UREC). During the study, the following ethical principles were adhered to:

3.9.1 Permission to conduct the study.

Before data collection, the researcher obtained ethical clearance from the Ethical Clearance Committee of the University of Namibia (UNAM). In addition, permission to conduct the study was also granted from the CEO of Outapi Town Council.

3.9.2 Obtainance of informed consent

Shaikh (2016) stated that informed consent involves the capacity of the individuals to make choices to the best of their ability, whether to participate in the study based on an accurate description of what will happen to them in the process of the research.

During this study, the researcher explained the purpose and objectives of the study and the possible outcome of the study to the prospective participants so that they understood what was involved in the research. In agreement to participate, the participants were issued an informed consent form to sign. Silverman (2011) states that initial consent may not be enough, especially when the researcher is audio recording the interviews. Thus, for this study, special consent was requested to audio record the participant's voice during the interviews.

3.9.3 Voluntary participation

Participation in this study was strictly voluntary, and no one was forced or coerced in any way to partake. Participants were not given any incentives or paid money to participate. The right to withdraw at any time without any negative consequences was also well explained to the participants.

3.9.4 Anonymity and confidentiality

Fleming and Zegwaard (2018) noted that anonymity and confidentiality are important because they protect the participants from potential harm. They further emphasised that it is important for the researcher to keep the identity of the participants confidential and anonymous, protect their names, and avoid using self-identifying statements and information. In this study, the information obtained was kept confidential and was not divulged to third parties. The information gathered is only accessible to the researcher and the research supervisor(s). The researcher also informed the participants not to disclose their names during the interviews in order to keep them anonymous. Interviews were conducted in private in the homes of participants to ensure confidentiality. All the data gathered will be kept in a lockable cabinet and will be destroyed after 5 years as per the University of Namibia's policy on data management.

3.10 Summary

This chapter presented an in-depth discussion of the research methodology. The study used a qualitative approach. A purposive sampling method was used as the initial subjects were used to recommend the additional subjects. The semi-structured interviews were used to collect data, and the data was analysed through thematic analysis. The ethical clearance was obtained from the University of Namibia and the permission to carry out the research was acquired from the Outapi Town Council. The ethical considerations considered for the study include informed consent, voluntary participation, anonymity, and confidentiality.

CHAPTER 4

DATA PRESENTATION AND DISCUSSION OF RESULTS

4.1 Introduction

This chapter comprises the analysis, presentation, and interpretation of the research findings. The data was collected through semi-structured face-to-face interviews with the Onhimbu informal settlement household heads. The interviews sought to provide detailed insight regarding the experiences of such households' food security during the COVID-19 pandemic in order to achieve the study objectives. As indicated in the preceding chapter, a total of 15 interviews were conducted. The information gathered revealed the households' food insecurity status during the pandemic. Through the narrations of the study, factors contributing to urban households' food insecurity were discovered.

4.2 Demographic characteristics of the participants

4.2.1 Gender representation

Ten (10) of the participants studied were female while five (5) were male. The gender of the participants in this study was determined by the availability and willingness of those who were approached to partake in the study. In the end, the majority of participants who were willing to take part in the study were female.

4.2.2 Age

According to the demographic information, the age range of the participants was between 28 and 78 years. The demographic data shows that the majority of the participants fell within the 41–50 age group.

4.2.3 Marital status

Twelve (12) of the participants studied are single, and three (3) are married. This shows that the majority of the household heads who participated in the study are single.

4.2.4 Education

The participants' educational levels are as follows: nine (9) participants have grade 12 qualifications; five (5) are in possession of grade ten (10) certificates; and one (1) participant has no educational qualifications. None of the respondents indicated that they had attained a university qualification.

4.2.5 Number of people in the household

The number of people living in the researched households was as follows: five (5) participants and the majority have indicated that they are living with three (3) people each; three (3) participants are living with five (5) people each; the other three participants have indicated that they are living alone; two (2) participants have indicated that they are living with six (6) people each, making it the highest number of people living in a household; one (1) participant lives with four (4) people, and another one (1) participant indicated that she lives with two (2) people. The study revealed that the number of people living in the households sampled ranged from one (1) person to six (6) people per household. This number comprises of husbands, wives, kids, and extended family members.

4.2.6 Monthly income

The household heads' income for the participants ranged from below N $1000 to N $3000 per month. The data indicates that the majority of the household heads sampled earn between N$1000 and 2000 per month. According to the data, only three (3)

household heads earn between N$2000 and 3000, two (2) participants earn less than N$1000, and one (1) participant earns more than N$3000.

4.2.7 Source of income

An understanding of the source of income was important in this study because it allowed the researcher to predict the affordability of food for the Onhimbu informal settlement household heads. Ruel et al. (as cited in Alusala, 2009) indicate that the ability to earn a cash income is an important determinant of urban food security because urban dwellers rely on income to survive. The data indicates that seven (7) participants and the majority of the household heads interviewed earn an income from businesses, while five (5) of the household heads are employed formally and are earning a salary. The other two (2) participants earn an income from both business and social grants, and only one (1) participant is dependent on the social grant. The study confirms that the majority of the participants studied are dependent on the informal sector for an income. Hence, their income is badly affected by COVID-19 restrictions.

4.2.8 Household ownership

Of the total number of household heads studied, nine (9) participants are renting from landlords, while six (6) participants own the households they are living in. Land ownership in urban space is a challenge in Namibia (Remmert & Ndhlovu, 2018). As a result, urban dwellers face difficulties in obtaining plots on which to build their own homes, particularly in informal settlements where the majority rent (NSA, 2011).

4.3 Presentation and discussion of findings

The study has followed a qualitative approach. The data presented has been collected through semi-structured interviews. The data was analysed using a thematic analysis approach. The findings have been grouped into themes and sub-themes and have been

integrated with literature to aid the researcher's interpretations. Literature has been used to serve as evidence that the themes and sub-themes are related to other research studies elsewhere. In order to support the themes that emerged during the interviews, direct quotations from participants have been included in the findings.

Table 4. 6. Presentation of themes and sub-themes

Themes	**Sub-themes**
Theme 1: Food accessibility	**Subtheme 1.1:** Market purchase **Subtheme 1.2:** Food transfers from rural areas **Subtheme 1.3:** Food parcels (Corona parcels)
Theme 2: Challenges towards achieving food security	**Subtheme 2.1:** Increasing food prices **Subtheme 2.2**: Food scarcity **Subtheme 2.3:** Poor diet
Theme 3: Food availability	**Subtheme 3.1:** Disruptions of food supply chains **Subtheme 3.2:** Closure of informal markets **Subtheme 3.3:** Panic buying
Theme 4: Food adequacy	**Subtheme 4.1:** Food transfer from families in rural areas
Theme 5: Factors contributing to food insecurity	**Subtheme 5.1:** Lockdown **Subtheme 5.2:** High food prices

	Subtheme 5.3: Lack of safety nets
Theme 6: Interventions	

Source: Researcher (2021)

4.3.1 Theme 1: Food accessibility

Food accessibility in informal settlements has been challenging during COVID-19. Many households lost the means to access food. Food access has been threatened by increases in food prices compared to wages and income (Devereux *et al.*, 2020). The study probed the ways in which the household heads of Onhimbu informal settlement accessed food during the pandemic. The majority of the participants have indicated market purchasing as their main means of accessing food because they reside in urban areas where there is no provision for food production. The participants emphasised that the Onhimbu informal settlement is an urban residential area and people are not allowed to engage in agricultural activities as a means to produce food on urban land unless they have a small backyard garden on their plots.

The study found that the participants' ability to purchase food is directly affected by the pandemic. According to Hamalwa (2021), urban households in Namibia purchase 95 per cent of food, meaning practically all that is consumed in the home is bought from the market, and little or nothing is grown at home. This is due to the unavailability of urban land to practice urban agriculture. A female participant, aged 39, earning an income of between N$1000 and 2000, living with six children, said;

"It has been hard to access food during the pandemic. Adhering to the restrictions made us stop working, stay home, as a result, we lost income which has been the main means of obtaining food."

This female participant owns a tailoring business located in Onhimbu open market. She lost income during the pandemic because the open market was closed and she could not work from home because there was no electricity in her shack to operate her sewing machines. Thus, it became hard for her to feed her family of six.

4.3.1.1 Subtheme 1: Market purchase

The study revealed that most of the participants access their food through market purchasing. This is because they have no land of their own to produce food since they are renting, thus resorting to market purchase. In addition, the participants who own the house they are living in also complain of space, indicating that the space is limited and they are only able to have small backyard gardens that do not produce sufficient food to feed their families. Some participants indicated that they have built on the whole plot and there is no space left to grow food. Apart from limited space, the participants also indicated a lack of water to irrigate their gardens. The participants revealed that urban water is very costly and the taps are far away from their homes. They have to walk a distance to collect water, and they carry water buckets on their heads. The participants also indicated that the water points are sometimes overcrowded, especially on weekends. One would not want to go there in fear of contracting COVID-19.

Furthermore, the study found that the participants' access to food is deeply connected with income. The participants emphasised that the lower their incomes, the lower their purchasing power. This is because their ability to purchase food is determined by how much they earn since every food available on the market is only accessible through buying with cash. The study revealed that two female participants earn below N $1,000, and this amount is supposed to cater for their basic needs. It has become difficult for such participants to afford food since they live with a number of people

they have to feed. One participant indicated that she lives with two people, while the other lives with six children. To support these findings, GRN (2016) reported that access to food in urban areas is determined by the possession of the resources required to access such food. This means that the higher the income, the more food the household is able to afford and vice versa. A study by Tacoli (2017) also revealed that a large proportion of low-income households' total expenditure is spent on food. This is one reason why poor urban people avoid expensive lifestyles and opt to reside in shacks so that they can use their little incomes to purchase food. In addition, the study findings concur with a study by Crush *et al.,* (2019), which revealed that in informal settlements, land is at a premium and urban agriculture is less feasible. It is therefore evident that land in an informal settlement is prioritised for residence rather than for agricultural activities. As a result, the residents had to buy food because they lacked the means of food production.

4.3.1.2 Subtheme 2: Food transfer from rural areas

Of the 15 participants, 13 reported that apart from the market purchase, they had also accessed food through food transfers from the village. The study revealed that there has been a good link between the urban and the rural in terms of urban food remittances and food sharing as a mechanism to combat food insecurity in the urban areas. The participants stated that they have been receiving food from their families in rural areas to supplement what they buy from the markets. According to the MAWF (2008), Namibia receives approximately 650mm of rainfall in the north annually, and the Omusati region receives between 350-550mm of rainfall annually, as indicated in the background of the study. This increases the ability of rural households to produce enough food to feed themselves and their family members in urban areas. It has been in the Aawambo culture to send food from rural areas to families in urban areas. The

study confirms that the urban-rural linkage is essential for food systems and the provision of remittances. With the outbreak of COVID-19, the urban-rural ties became stronger as most people in the urban areas lost income and could not afford food. To support the findings, a 42-year old single female participant from the Okalongo constituency who lives with three (3) children and earns between N$1000 and 2000 from a business said:

"I am thankful to my family in the village for coming to my rescue. I could not have made it this far. Even though I have not been sending remittances to the village recently, they did not stop sending us Omahangu and dried fish, and this is what kept me and my kids going since I have lost income and I have no savings to buy food."

The Okalongo constituency is known for Oshanas, and it used to be one of the flooded constituencies in the Omusati region. People from that area survive on fish during the rainy season and they dry some for trading purposes, so their families in urban areas always have dried fish as part of their diet.

On the other hand, there were some parts of the country where it became difficult to send food transfers to urban areas due to COVID-19 lockdown restrictions. There have been restrictions on movement, and some people were restricted from moving from one region to another because the regions were divided into zones during the lockdown. For example, the Omusati region was locked with Kunene. The zones made it difficult for someone residing in the Omusati region to receive food from a family in the Ohangwena region, for instance. Furthermore, the restrictions were meant to combat the spread of the virus. The restrictions reverted the movement of people from urban to rural areas who wanted to flee urban congestion and contagion and sought to access food from the rural areas in order to restore their collapsed livelihoods. Such restrictions disrupt the food supply chain, adversely affecting urban residents due to

their predominant dependence on rural areas to meet their food demands. From the above observations, the study has verified that not all urban residents have the liberty to get food assistance through urban-rural linkages since the imposed restrictive measures have disrupted such opportunities for some individuals.

4.3.1.3 Subtheme 3: Food parcels (Corona parcels)

Apart from purchasing food during the pandemic, 26% of participants said they obtained food through food parcels distributed by the Regional Council Office. However, it was a once-off food aid with limited food items. Such participants include those living with five to six people, pregnant women by then, and pensioners because they form part of the vulnerable population and are considered to be struggling to achieve food security for their households. This COVID-19 food assistance was given by humanitarians and development donors through the World Food Program and distributed through the Regional Council Offices. The participants stated that the donated food package includes maize meal flour, cooking oil, and tinned fish. The study found that these food items were not enough for everyone, so priority was given to vulnerable families. A female pensioner interviewed said that she was considered because as an old person she was expected to stay home and not to work as a protective measure against COVID-19 infections. In addition, the study found that the food parcels aim to provide immediate relief to informal settlement residents that are food insecure because they lack the income to purchase food. This is in line with WFP (2020), which reported that during the COVID-19 food relief distribution, priority was given to families who were already in need of support before the outbreak of the pandemic and are now even struggling more to provide their families with food. In addition, the findings correspond with results from a study by *Gerard et al.,* (2020) that stressed that the pandemic has limited the capacity of governments to provide

extensive social safety nets, especially in developing countries. From the observation above, it is evident that the majority of the people in informal employment in urban areas are bypassed by food aid despite being food insecure.

4.3.2 Theme 2: Challenges towards achieving food security

Achieving food security during COVID-19 has been a challenge for many. Food insecurity has worsened during COVID-19 as a result of the decline in households' purchasing power (Lanhart, 2021). In informal settlements, households lack the capacity to store food sourced mostly from informal markets and street-food vendors. Due to the restrictions on movement and social distance, the markets closed while the street vendors were banned (Wilkinson, 2020). This severely reduced the ability of low-income people to access food. The theme "challenges towards achieving food security" was the second theme of the study, which emerged during the interviews when the participants were asked to narrate any challenges they might have faced with food during the pandemic.

4.3.2.1 Subtheme 1: Increasing food prices

One of the sub-themes that emerged under the domain of the challenges towards achieving food security during the pandemic was the issue of increasing food prices. In general, COVID-19 has fuelled the food price rise for the poorest in the world. The increase in food prices has been one of the crises caused by COVID-19 since March 2020 (HLPE, 2020). Food retailers have increased their prices in almost every country. However, the impact has been greatest in poor countries, where food costs account for a larger share of the household budget. According to World Vision (2021), the pandemic has caused the loss of livelihoods and income while, at the same time, food prices have risen by an average of 21 percent. This puts food out of reach for many,

therefore, undermining the right to food and stalling the efforts to meet SDG 2 (HLPE, 2020).

All participants (100%) in the study confirmed increasing food prices as a challenge during COVID-19. The participants revealed that, as people living in informal settlements, they are more vulnerable to increased food prices. This is because they could not afford food. The study has discovered that the increase in food prices has caused food insecurity in informal settlements. Seven participants, who are dependent on the income from their informal businesses, narrated that they lost income when their businesses were closed due to COVID-19 measures. The participants stressed that their access to food is dependent on such income.

*"I am faced with the increasing food price challenge. This has made food unaffordable, especially for those of us who are dependent on social grants. We have not been able to afford food even before the corona, but now with the increased food prices, things are worse." (*Female participant, age 78)

Another participants said:

"My household is experiencing a food shortage due to a limited budget. I am not able to buy enough food since the prices have increased severely since the outbreak of the coronavirus."

"*Corona has brought about a food shortage. With the high food prices, we can no longer afford to buy enough food. The little food we buy does not last because, with the measure of staying home, we consume a lot of food.*" (Male participant, married, living with 5 people.)

"The increase in food prices is one of the challenges my household is faced with. Food has become very expensive since the outbreak of COVID-19. We cannot afford the high prices because we have lost income due to lockdown." (Female participant, single, earning below N$1000*)*

In addition, the measures introduced include lockdown, social distancing, curfew, and the closure of informal markets. The participants indicated that their businesses closed down for about three months between March and July 2020. The order to do so came from Outapi Town Council as a directive from the Ministry of Health and Social Services. The participant indicated that informal businesses were closed down because they do not provide essential services, and those who sell in the streets were banned and some of their items were confiscated by the police because they hardly comply with the social distance measure. Due to all that, the participants lost income and could not afford to buy food since the price had increased.

"*Due to the closure of informal markets, we are forced to buy food from supermarkets at high prices." Normally, we get a lot of food items at a good price from the informal markets, but when they are closed as a measure to curb the spread of the virus, we experience a lack of food." (*Female participant, Aged 42, business as a source of income)

On the other hand, when the informal business closed, these people did not only lose incomes but also lost their access to food since they use to buy affordable food from the informal markets.

Furthermore, the study revealed that food price increments are driven by import-dependent markets. The majority of the participants predicted that food has become expensive during the pandemic because Namibia lacks domestic food production and that imported food comes at a high price that they have no control over. The study

further revealed that residents in the informal settlements in Namibia have witnessed deeper effects of the pandemic on food prices because they have had to shift from informal food purchasing to supermarket food purchasing. Buying food from the supermarket is very expensive compared to buying from the informal markets. Supermarket prices have value-added tax (VAT), which is not applicable to informal prices, and this contributes to the high food prices.

According to Hamalwa (2021), Namibia is significantly reliant on imports for basic foods, which is a security risk because restrictions such as lockdowns can lead to supply chain disruptions. Namibia imports food items such as rice, cereals, and fresh fruits and vegetables. This is because Namibia lacks the capacity to produce food locally due to financial and technological constraints. Most of the items are imported from South Africa. The study found that Namibian green schemes lack the capacity to achieve national food security. The participants argued that they suffer increased food prices because the local green schemes, which supposedly provide them with food, lack the equipment to ensure sufficient domestic food production. Green schemes such as Etunda Irrigation Project in the Omusati region have been faced with high electricity and water cost challenges, thereby compromising their production capacity. In 2019, 30% of the land at the project was not in use (Ashipala, 2019). This exposed local people to food insecurity since this is the only green scheme in the region that normally provides the region with maize and vegetables.

From the above observations, the study confirms that the increase in food prices is a challenge to low-income people living in informal settlements as their source of income is hard-hit by restrictions introduced to curb the spread of the virus. This is in line with the study by Dietrich *et al.*, (2021), which revealed that small changes in food

prices can have severe impacts on the welfare of vulnerable populations whose livelihoods are affected by pandemic-related measures.

4.3.2.2 Subtheme 2: Poor diet

COVID-19 has negatively impacted both the quality and quantity of food being consumed by the informal settlement residents. The participants interviewed during the study indicated poor diet as one of the challenges they faced with regard to food security during COVID-19. Undereating, not eating enough healthy foods, or consuming too many types of food and drink that are low in fibre or high in fat, salt, or sugar are all examples of poor diet (Alamgir *et al.*, 2018). The majority of participants cited meal skipping as a cause of poor diet quality because when they have little or nothing to eat, their diet quality suffers. Meal skipping is defined as the omission of one or more main meals throughout the day (Pendergast *et al.*, 2016). The participants also mentioned that high food prices resulted in meal skipping and poor dietary consumption. The participants revealed that they have been consuming mostly Omahangu porridge daily with fish since this was the only food they could access. The study revealed a lack of eating food variety due to the unaffordability of food. A poor diet robs the body of the energy to perform various tasks in routine life. One participant revealed that:

"We lack a sufficient daily intake of nutrition. Our diet lacks nutrient intake, including energy protein, carbohydrates, essential fatty acids, vitamins and minerals, as well as fibre and fluid. We eat Omahangu porridge every day. We need a wide variety of different foods to provide the right amounts of nutrients for good health." (Female participant, aged 28, single, renting)

This resonates with a study by Gan *et al.*, (2011) which revealed that people skip meals due to the price of food.

The study revealed that a shortage of food means insufficient diversity that may result in a poor diet. Food shortages were experienced during the pandemic because of insufficient resources to access food. The participants revealed that they have made adjustments to their meal consumption due to a lack of affordability and limited access to the market. During COVID-19, participants reported that they changed their consumption habits by eating smaller portions, eating fewer meals per day, eating less preferred varieties, or eating less nutritious diets. The study also revealed that unemployment and loss of income have contributed to household consumption of a poor diet. The participants mentioned that the pandemic-related job losses and lower income have forced their families to opt for cheaper and less nutritious food or go without food altogether because food has become unaffordable and the increasing food prices have put the cost of nutritious food further out of reach for them: A 30 year old male participant, who is single and employed as a security guard earning a salary of between N$1000 and 2000 and living alone in a rented shack, for instance, pointed out that;

"I do not have breakfast in my meal plan, and skipping lunch is also becoming normal. Increasing food prices have been the cause of my skipping meals. This has exposed me to a poor diet."

It is evident that the essential non-food costs associated with urban life, such as housing, water, and fuel, restrict the ability of informal settlement dwellers to buy a sufficient quantity of food to serve an appropriate diet. Because one would expect an employed individual with a salary and living alone to consume a balanced diet compared to others who are in informal employment and are living with a number of other individuals in their households. This is because the larger the number of people living in a household, the more their food consumption patterns change. However,

utility costs put a burden on the quality and quantity of food consumed in every household. In addition, the study revealed that food consumption is directly determined by earnings. Participants who lost or earned less revealed that they are experiencing food insecurity and poor diet because they cannot afford enough quality food to maintain a balanced diet. This concurs with the findings by Das *et al*., (2020), which revealed that food-insecure households lack access to adequate food because of limited money or other resources, and this is a leading health and nutrition issue during the pandemic.

4.3.2.3 Subtheme 3: Food scarcity

Nine out of the fifteen participants stated that COVID-19 has brought about food scarcity. The participants revealed that panic buying has led to food scarcity. People with resources bought a large stock of food in fear of running out of food during lockdown, whereas households with limited resources were not able to access food when the necessary resources became available due to the unavailability of food in stores. Participants stated that empty shelves were observed in food stores during the lockdown. In addition, the participants also mentioned that the closure of informal markets has also contributed to food scarcity. They revealed that their households normally obtain food from the open market. However, when the markets closed during the lockdown, their households experienced food shortages. This is because they could not afford to buy food from the local supermarkets due to high prices. When food is scarce, people skip meals or go hungry because they lack access to food, or lack sufficient financial resources to purchase food. The participants suggested that in order to avoid massive food shortages, the informal markets should be allowed to operate under strict COVID-19 measures in order to allow access to food for the poor.

4.3.3 Theme 3: Food availability

Food availability means there is enough food physically present for the entire population. This is in terms of the availability of food in markets, in shops, grown in farms or home gardens, and given as food aid (HLPE, 2020). International and domestic trade are essential in addressing food availability and security. However, in the early months of the pandemic, export restrictions were imposed on staple foods including rice and wheat causing volatility and price hikes (FAO, 2020b). In general, COVID-19 has disrupted food systems and that has posed a threat to food availability. The subthemes presented in this section are; disruption of food chains, closure of informal markets, and panic buying. The findings on the sub-themes are explained below in more detail.

4.3.3.1 Subtheme 1: Disruption of food chains

The majority of the participants interviewed indicated that food had not been available during the pandemic. The main reason for food insecurity revealed was the disruption of the food chains. The participant specified that COVID-19 has disrupted the food supply chain activities such as production, processing, transportation, distribution, and marketing, and this has resulted in significant unavailability of food, mostly for the poor. This is in line with a report by the OECD (2020a) that indicated that COVID-19 has disrupted the functions of the supply chains. It was further reported that many workers got sick and were placed in isolation, and this has affected the food production and distribution processes. The study revealed that lockdown and limits on mobility have caused disruption to food transportation and logistics services. The participants mentioned that the restriction on movement has reduced the availability of migrant workers, interrupting harvesting and agricultural activities, reducing the work force and delaying delivery of food to consumers. The participants further stressed that the

availability of workers normally accelerates the production of food and ensures food availability.

On the other hand, the study revealed that the closure of borders and additional check procedures have led to congestion and delays, therefore, affecting the availability of perishable products in the market. Participants explained that there are times when delivery trucks are detained at the border and some drivers have to be quarantined for COVID-19. These items go to waste for those who carry perishable food stock, such as fresh fruits and vegetables. In addition, COVID-19 has also caused some countries to reduce their food exports in order to protect their national supplies, thus causing food unavailability to import-dependent countries. It is evident that the disruption of the food supply chain distribution network has affected food availability, especially in cases where foods were not able to reach the markets. This in turn puts pressure on the prices of scarce goods. The quality of food settings was also affected, causing a scarcity of fresh fruits and vegetables.

4.3.3.2 Subtheme 2: Closure of informal markets

All participants revealed that the closure of the informal markets has contributed to the food unavailability and food insecurity of the households in the informal settlements. The participants stated that the informal markets were closed because they were considered COVID-19 spreading centers. This is because it is hard to keep social distance since the informal markets do not have well-demarcated stalls. Participants also revealed that food used to be affordable in informal markets, especially for their families who live hand-to-mouth and rely on unprotected daily wages. The prices in informal markets are not fixed. As a result, they can be changed at any time depending on the sellers' urgent need for cash. The participants also indicated that they used to

buy small food items from the open markets because buying in bulk from supermarkets is not practical for them since they lack storage facilities.

On the other hand, participants who operate their businesses from the stalls in the open markets have shown their disappointment in the closure of informal markets. They indicated that operating businesses from those markets and vending on the streets helped them put bread on the table for their families. This is in line with a study by Selepe *et al.,* (2015), which stated that informal markets are significant outlets for food distribution to the poor as they bring food outlets closer to the consumers. He further indicated that informal markets offer a variety of food options at reasonable prices, emphasizing that high food prices negatively affect the food security of vulnerable people and pose a threat to their livelihoods and welfare. The study provides evidence that the COVID-19 policy paralyzes the movement of buyers and sellers to the informal markets and also brings street vending to a standstill, resulting in food insecurity for the poor.

4.3.3.3 Subtheme 3: Panic buying

COVID-19 has seen extreme panic buying globally (Chau *et al.,* 2021). People bought unusually huge amounts of food products in fear of food scarcity. Intense buying refers to the phenomenon of an impulsive increase in the buying of one or more essential goods in excess of regular need, incited by adversity, usually a disaster or an outbreak, resulting in an imbalance between supply and demand (Arafat *et al.,* 2020). The participants stated that panic buying during COVID-19 was caused by the introduction of regulations by the government such as restrictions on mobility, travel, and social contacts that constrained the consumers' normal behaviors and practices. The study revealed that during panic buying, people mostly spend on storable products such as canned foods, pasta, rice, and grains. Participants stated that they have experienced a

lack of food in shops due to panic buying. This is because people with the money bought a large stock of food, leaving the shelves empty. People without money feel what panic buying is because, at times when they get money, there will be no food available in the shops. Wealthy people stock up on food items for the near future in fear of not having something to eat during lockdown due to disruption of food supply chains.

This study revealed that panic buying has affected food availability. This is in line with a study by Leung *et al.,* (2021) which revealed that consumers panic bought in anticipation that if they did not buy the necessary items, they might be stocked out. Chau *et al.,* (2021) also indicate that the expectation of stock scarcity and surge pricing led to panic buying. The study revealed that at the beginning of the pandemic, an increase in the purchasing of essential household products and basic food was observed, thus leaving the store shelves bare. Another study by O'Connell, De Paula, & Smith (2021) revealed that as a result of adopting COVID-19 restrictions, people engaged in panic buying. This further resulted in raising concerns about the sustainability of food systems and people's ability to access the food products they need. Panic buying has, however, most affected people with lower incomes, especially those from communities with no safety nets.

4.3.4 Theme 4: Food adequacy

The study has revealed that the majority of households never had adequate food. However, they have worked on means to obtain food in order to achieve food adequacy.

4.3.4.1 Subtheme 1: Food transfer from families in rural areas

Ten (10) out of the fifteen (15) participants interviewed reported that they ensure adequate food for their families in urban areas by asking for food assistance from their family members in rural areas. The participants indicated that not having an income in

an urban area compromises your access to food. Further, they stated that achieving food adequacy in an urban area has been hard during the pandemic; however, it was better during the harvest season as participants obtained fresh beans, traditional cabbage (Omboga), pumpkins, nuts, etc. from the village despite them not having been sending money to assist with fieldwork. Families in the rural areas have been sending food items to the urban areas because they normally produce more than what they need. It is evident that there is a good relationship between urban dwellers and families in the rural areas, as the majority of the participants indicated that they have been relying on their rural families in order to achieve food adequacy during the pandemic. On the other hand, rural inhabitants are dependent on agricultural produce for food access, which requires more labour than income, while for urban dwellers, no income means no food, less food or less nutritious food. According to Selepe *et al*., (2015), African rural households are known to be dependent on land as a source of food and household income.

In addition, some participants with school-going children pointed out that when the schools closed due to the COVID-19 pandemic, they sent their children to rural areas in order to cut back on the food budget. They further indicated that children consume a lot of food compared to adults, especially when they are not at school. Achieving food adequacy has been a challenge for urban residents because of rising food prices, since they spend a larger share of their income on food. To support the finding, a 46-year-old male married participant, working as a barber, earning between N$1000 and 2000 per month, living with 6 people, said that:

"Since my wife lost her job, we have been struggling to afford food. Our families from the village got a good harvest in 2020. They have assisted us so much that we have managed to have enough food on the table."

He indicated that the wife lost the job due to retrenchment as the company she was working for laid off some workers because the company was not making enough money to pay the salaries.

Apart from obtaining food from the rural areas, some participants, especially those in formal employment with salaries, indicated that they had used their savings in order to achieve food adequacy. This means that people in formal employment are more likely to save their earnings compared to people with informal incomes. This is because the informal income depends on the availability of consumers to buy what is being sold, while the salary is guaranteed at the end of every month.

4.3.5 Theme 5: Factors contributing to food insecurity

Food is an essential basic human need and it needs to be constitutionally protected (*Selepe et al.,* 2015). The COVID-19 pandemic has created varieties of food insecurity that are not only focused on food supply but also the indirect effects of restrictions on mobility and social distancing measures on household purchasing power and access to food (Feyertag *et al.,* 2021). Food insecurity during the pandemic is brought about by a variety of disruptions. The factors contributing to food insecurity involve uncertain food supply, problems with food, skipping meals, lacking money to buy food, and ongoing hunger (Selepe *et al.,* 2015).

In general, the measures imposed to contain the spread of COVID-19 have had significant implications for food systems, nutrition, and food security. Measures such as lockdown have disrupted the food supply chains, affecting food availability, pricing, and quality (Mohamed *et al.,* 2021). The World Bank (2020) estimated that millions of people will experience food insecurity due to lockdown policies, closure of borders, and restrictions on transport as these will result in disruption of food supply chains and the slowdown of economic activity.

All participants stated the factors that they feel have contributed to their households' food insecurity. Three subthemes emerged from this theme as contributing factors to household food insecurity in Onhimbu informal settlement: lockdown, high food prices, and a lack of safety nets. Such subthemes are elaborated on as follows:

4.3.5.1 Subtheme 1: Lockdown

"Lockdown has indirectly impacted food security. All participants stated that the measures put in place to stop the spread of COVID-19 during the lockdown period had disrupted their ability to earn an income on which they relied in order to get food and live a decent life. This made lockdown a contributing factor to food insecurity during COVID-19. The participants pointed out issues such as reductions in trading hours whereby businesses that are not considered to offer essential services are closed down or given limited operational hours. This involves open markets, hairdressing, hawkers, bars, and restaurants. Loss of income was also highlighted as a result of the lockdown. The majority of participants reported losing income during the lockdown due to business closures, operating a business from home where consumers could not reach them, and movement restrictions in which people were asked to stay home and not be seen selling on the streets. This is an indication that urban area residents who have been working in the informal sector have been disproportionally affected by trade restrictions, social distancing, and mobility restrictions during the pandemic.

The study found that the closure of borders during lockdown restricted the participants from accessing food from the neighbouring countries, particularly from Angola. The participants indicated that before lockdown restrictions, they used to get food and fruits from Angola either for consumption or trading purposes. However, this stopped when the border closed during the lockdown in order to combat the spread of the virus between the two countries. Participants expressed their disappointment in the closure

of borders because they are forced to buy food from the local supermarkets at high prices.

This is evidence that people working in the informal sector are more affected by restrictions imposed to curb the spread of the virus. The findings of this study support the findings cited in a report by the Ministry of Agriculture and Livestock Development (Nepal) (2020), which indicated that the COVID-19 lockdown has disrupted the cross-border transportation services by causing the closure of borders and severely affecting the supply of food commodities. Furthermore, with no market access and no cross-border trade permitted, traders and consumers are unable to get food staples in stock. In addition, the participants revealed that lockdown has reduced the availability of agricultural inputs and migrant labourers, leading to lower productivities that hinder the food-sharing relationships between urban and rural dwellers. Most rural dwellers in the Omusati region are dependent on Angolan migrants for agricultural labour. Angolans normally cross borders into Namibia to search for employment and sell agricultural inputs such as seeds. This was disrupted when the border closed as no Angolans were allowed into Namibia. It is evident that the export bans put these participants at risk of food insecurity since Namibia is an import-dependent country.

School children are also affected by lockdown because the schools are closed as a measure to control the spread of the virus among teachers and learners. The study found that with school closures, new groups of children have become vulnerable to food insecurity since the majority of school-going children are normally dependent on school feeding programs for meals. Participants with school children stated that during lockdown they mostly fed their children snack foods because they could not afford heavy meals. This reveals that the diets of the majority of children from low-income

families were inadequate and poor in dietary quality because they hardly consumed heavy meals, fruits, vegetables, and refined grains. In addition, the study revealed that the limitations on movement outside of the homes, the financial struggles, and the shortage of food the vulnerable families went through have created high levels of stress and tension, leaving many school-going children at high risk of physical violence. The participants highlighted that they have experienced so much stress due to lack of food at home that at times they turn aggressive towards the children when the food does not last. Some participants indicated that they have sent children to rural areas in order to avoid hurting them due to stress.

4.3.5.2 Subtheme 2: High food prices

High food prices have a major long-term impact on vulnerable households as they push those already vulnerable and least able to cope with increasing prices of food deeper into poverty and hunger (Selepe *et al.*, 2015). The UN (2020a) reported that food prices in the cities around the world suddenly increased due to disruptions that occurred in food supplies, especially from rural farming areas due to the induced lockdown during the pandemic. In this study, the majority of the participants interviewed revealed high food prices as one of the contributing factors to their households' food insecurity during the pandemic. The findings of the study showed that high food prices and lockdown are interrelated because lockdown caused the rise in food prices. During the lockdown, food became scarce due to border closures; additional checks that caused delays at the borders; disruptions in the food systems; labour force limitations; and panic buying by consumers. This caused a shortage of food on store shelves, which, however, led to high prices. High food prices would mean food unaffordability for the poor. The participants also mentioned that when places such as open markets where they could access cheaper food were closed down, they were not able to afford

supermarket prices for food because the prices were high and their incomes were limited. This agrees with the findings of the study conducted by Singh *et al.,* (2021), which revealed food prices during the lockdown period increased unexpectedly, thereby reducing the purchasing capacity of poor households.

The study further found that high food prices forced the participants to cut down the size of their consistent family food requirements. High food prices limit the access of poor households to food due to financial constraints pertaining to food purchasing. As a result, participants compromised their food quality, quantity, and variety, therefore opting for cheaper and less nutritious food which they consume mainly for energy value. The findings are in line with the findings from a study by Niles *et al.,* (2020) that shows that about one-third of the total food insecure households during the COVID-19 pandemic were due to a sudden rise in food prices and poor upkeep systems for vulnerable families. This was due to the unprecedented loss of work when the limit of mobility was enforced to control the COVID-19 transmission. As a result, poor families relying on regular income for their livelihood started to face immediate poverty that directly impacts their food security status.

In general, financially insecure people suffer the impact of high food prices, and this affects their food consumption. From the findings, it is evident that due to high food prices, the poor purchase less expensive staple foods meant only to satisfy hunger and not the nutritional demands of the body.

4.3.5.3 Subtheme 3: Lack of social safety net programs

Safety net programs refer to programs designed to deliver social assistance to poor people, as well as social insurance to working people during the period of employment crises (Devereux, 2021). Social assistance comprises any form of regular cash or food transfer targeting non-working people, while social insurance is mainly for formal

workers. Ever since the outbreak of COVID-19, several characteristics of humanitarian crises have been observed. This involves sudden-onset shocks that threaten the well-being of many people. According to Oxfam (2020), millions of people have lost their working time, jobs, and income during the pandemic. Women are the most vulnerable because the majority work in the worst affected sectors, which is the informal employment sector. Several months into the start of the pandemic, many countries had no publicly funded safety nets to fall back on in order to cope with its effects (Oxfam, 2020). This means there were no instruments to address the spikes in poverty and unemployment caused by lockdowns.

The data collected from participants during interviews revealed that COVID-19 has exposed systematic gaps in the social protection systems. The study revealed that there is bias in food relief distribution. The study also found that the social protection measures have been bypassing the most vulnerable people, notably the retrenched and the informal workers, with no access to social insurance during the COVID-19 period. The participants pointed out that the food distribution committee members are very corrupt because they only hand out food parcels to their friends and families. Some participants stressed that they were discriminated against due to their house structures. They indicated that they were not handed food parcels because they were living in brick houses. They argued that poor coordination, nepotism, and favouritisms from local political parties are the major reasons for unfair distributions of relief packages at local levels, because only those close to the governing political party leaders benefit. The study concludes that poor consensus between local political parties has obstructed the adequate distribution of emergency relief, affecting poor people and exposing them to food insecurity.

In addition, the participant noted that COVID-19 has created weaknesses and gaps, especially in terms of relief capacities and social protection systems. The participants mentioned that Namibia has underinvested in social sectors; therefore, the country has deep inequalities in terms of safety net access. The participants further revealed that with a high level of informal employment, self-employment, and unemployment, the majority of Namibians have no access to any formal social protection or social insurance. They stressed the importance of having well-functioning social safety services in place in order to address the serious consequences that people might face during crises such as pandemics. Furthermore, the study found that people in informal settlements have less access to health and sanitation facilities. This includes basic facilities such as running water, which are crucial for protection against COVID-19. Participants revealed that they do not have flushing toilets and use community water taps that are a distance from their homes. However, they indicated that they have received WASH supplies from UNICEF. This involves erecting tip-taps at their homes to ensure running water for handwashing during the pandemic.

Moreover, the study revealed that the participants had received humanitarian relief and temporary social assistance from the government. Such interventions were meant to compensate individuals and households for income losses associated with lockdowns during the pandemic. It involves the economic stimulus and relief package in the form of an emergency income grant and food parcels for the unemployed and informal workers who have lost their jobs. This amounted to N $8.1 billion in total, whereby every individual received a once-off emergency income grant of N $750.00. However, the interviewed participants indicated that such programs were slow and prone to target errors and corruption, and the decisions to implement such programs for the most vulnerable population in the community have led to conflicts. Some participants who

deemed themselves fit and qualified for the benefits were let out, which led some to consider the practice unfair. The participants who received the food parcels indicated that the food parcels distributed were small and of low quality, with limited nutritional quality. Furthermore, the participants, who are parents of schoolchildren, added that their children were not provided with take-home meals upon school closure, as it happens with those attending school in the rural areas. As a result, they have questions about what happened to the school meals. The researcher concluded that there is a lack of technical capacity to manage and implement safety net programs, hence there are gaps in the system.

4.3.6 Theme 6: Interventions

The sixth major theme that emerged out of this study was classified as interventions to resolve food insecurity. The content within this theme discussed the participant's opinions and thoughts on how to improve and resolve food insecurity at the national and household levels, especially in the informal settlements. The participants linked their responses to the government as the main key player in resolving food insecurity. The participants indicated their uncertainty relating to improving food security at the household level since they lack resources to make food available. The areas of improvement mentioned by the participants are food productivity, safety nets, and urban agriculture.

The participants noted that the government is not doing enough to strengthen the country's agricultural and food manufacturing industries. The study revealed that Namibia is heavily dependent on food imports rather than locally produced food. The participants indicated the need for Namibia to reduce food import dependence because they think it has been among the key factors that have increased their vulnerability to food insecurity. For instance, during the COVID-19 period, the participants stated that

the measures introduced to curb the spread of the virus affected the transportation of food, including the closure of international borders and produce markets, which are critical for food distribution. According to Hamalwa (2021), being significantly reliant on imports for basic foods is a security risk because restrictions such as lockdowns can lead to supply chain disruptions.

A study by Dasgupta & Robinson (2021) also found that food import dependence makes African countries vulnerable to export bans, which are detrimental to food security, especially during times of acute crises. They further added that the export restrictions lead to rapid escalations in world food prices that affect mostly the poor. The study revealed that Namibia needs to build productive capacities to address underlying economic vulnerabilities and strengthen national capabilities to manage food crises. The participants stated that even outside the crises, the government must employ safety nets as part of social protection measures designed to improve poverty and food insecurity. They stressed that people do not only become food insecure during crises, but a lot of poor people have been food insecure throughout their lives due to different factors such as unemployment, poor health, lack of education, and so on. Participants further added that safety nets can be in the form of cash transfers or food assistance in order to guarantee a minimum level of food consumption by the poor. Furthermore, the participants emphasised that the social safety net and food programs should make sure to focus on the quality of food as well as the quantity of food when designing food relief support programs to improve food security. This is because, as reported by the participants, the food parcels that were handed out during the pandemic were too little and of poor dietary quality.

On the other hand, the study also revealed that participants do not have access to urban agriculture as a means to address food insecurity at the household level. All the

participants cited the challenges they are faced with in terms of practicing urban agriculture. The challenges involve a shortage of land, water, and unfavourable urban development policies. As a solution, the participants suggested that agricultural and urban development policies should recognize and support urban agriculture as a legitimate solution to urban food insecurity. They further argue that the Town Council should consider urban agriculture practices when allocating land to residents within urban space. With regards to the participants' responses, it is evident that urban food insecurity needs urgent intervention.

The study provides evidence of the interconnection among the determinants within the three dimensions of food security. In general, food availability means food access and vice versa, and both food availability and food access mean effective food utilisation. The participants' responses captured their thoughts and experiences on the three dimensions and their interconnectedness during the pandemic. The study revealed that the pandemic has changed the food system and threatened the food security dimensions in various ways. The participants stated that they have witnessed major disruptions in the food supply chains and have experienced an economic slowdown during the lockdown. The food availability dimension has been affected in terms of disruptions to food production. The participants noted that transport of agricultural inputs had become limited and there was a shortage of labour due to food worker illnesses and a lack of migrant workers. This caused food unavailability and threatened food security. The study also revealed that the pandemic has negatively impacted people's ability to access food. The participants stressed that they have experienced the loss of jobs and income, which has caused a decline in their spending on food. Participants also mentioned that the rise in food prices has affected their households' ability to purchase enough food, therefore disrupting their means of market purchase. Limited access to

safety nets was also witnessed, and all these affected the participants' food utilisation and nutrition because the participants' inability to access food diminished their ability to afford a healthy diet. Lastly, the participants practiced dietary shifts, and this exposed them to malnutrition and COVID-19.

4.4 Summary

This chapter presented and discussed the findings on the factors contributing to food insecurity for urban households during the COVID-19 pandemic in Onhimbu informal settlement. The first part of this chapter presented the demographic information of the participants, followed by the main findings presented in themes and sub-themes supported by relevant literature. The study revealed that most urban households experienced food insecurity during COVID-19 due to lockdown restrictions, high food prices, and a lack of properly established safety nets. The next chapter presents the overall conclusion and recommendations.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

The fourth chapter presented an analysis of the data gathered during the interviews. The data of the study has been presented in themes and sub-themes, as outlined in the previous chapter.

This chapter focuses on the conclusion of the findings and the recommendations that emerged from the study for future research and possible policy development. The study has adopted a qualitative design. As indicated in Chapter 1, the main purpose of the study was "to investigate the factors contributing to food insecurity for urban households during COVID-19 in Namibia." In order to achieve this purpose, the researcher investigated the phenomenon of the community's Onhimbu informal settlement.

The study had 3 main objectives, namely:

- To assess the state of food security in Onhimbu informal settlement during COVID-19;
- To identify the factors contributing to urban households' food insecurity during COVID-19;
- To assess the possible interventions to mitigate food insecurity in informal settlements.

5.2 Conclusions

The following conclusions were drawn based on the themes that emerged in the study. On the basis of the findings, it is possible to conclude that there are factors that contributed to household food insecurity in Onhimbu informal settlement during COVID-19. The participants were able to share their views on their household food accessibility during the COVID-19 pandemic. The findings of the study confirmed that it has been hard to access food during the pandemic since food become expensive and the participant had no purchasing power due to income losses. The second significant finding was the challenges faced towards achieving food security during the pandemic. The study has found that the participants have been faced with challenges that involve increased food prices, food scarcity, and poor diet. Consequently, the participants resorted to buying cheaper food, skipping meals, and sometimes sleeping on empty stomachs. The participants' response also captured their views and opinions on food availability during COVID-19. The evidence from this study has shown food availability and food unavailability during the pandemic. Some participants indicated that food was available however, people lacked the money to purchase it while other participants narrated that food was not available because the COVID-19 induced lockdown has caused disruptions of food chains, informal market closure where people mostly access food at affordable prices, and panic buying whereby those with money and storage facilities bought large stocks living the store shelves empty and depriving others chances of accessing food upon acquiring resources that allow them too.

The participants also shared their views on food adequacy during the pandemic and revealed their coping strategies. The study has shown that food has not been adequate during the pandemic. However, urban people obtained food from families in rural areas in order to complement the food purchased from local shops. The views on food

insecurity as a contributing factor were also shared. The study confirms that there are several factors that contributed to food insecurity in informal settlement households during COVID-19. Such factors involve lockdown, high food prices, and a lack of safety nets. During the lockdown, borders and informal markets were closed, travel restrictions were imposed, street vending was banned, and trading hours were limited. All of these decimated jobs result in lost income and disrupt the links between rural and urban areas, threatening food security in urban areas. Although the government, through the Ministry of Finance and Ministry of Gender Equality, Poverty Eradication, and Social Welfare (MGEPESW), has provided the Emergency Income Grant (EIG) and food parcels to those hardly affected by COVID-19, this was considered not sufficient. The participants stressed that the pandemic is persistent and people continue to lose their livelihoods. It is therefore important for the government to improve the domestic food capacity and strengthen the social safety nets in order to restore and ensure food security for the poor.

5.3 Recommendations

Various issues around food insecurity during COVID-19 have been identified in Namibia. The identified issues of concern include increased food prices; closure of borders; disruption of food supply chains; closure of informal markets; lockdown; loss of income; and lack of safety nets. For this reason, several recommendations have been made to improve food security during the pandemic in contexts such as those of Namibia.

5.3.1 In terms of improving food security during COVID-19

5.3.1.1 COVID-19 measures

Measures to curb the spread of COVID-19 have brought about disruptions in the food supply chains, therefore, causing food insecurity across the nation. Such measure as revealed by the study involves social distancing, travel restrictions, curfews, termination of street vendors, staying home, etc. With regard to such restrictions, the following recommendations have been made in an effort to improve the state of food security while complying with the measures.

- During the lockdown, the government should come up with a strategy that will allow for the informal markets to operate while adhering to the COVID-19 measures rather than closing down the markets completely.
- The government should ease the restrictions such as travel restrictions in order to allow for the easy flow of food and remittances between the urban and rural inhabitants.
- The Outapi Town Council should explore advanced urban designs that maximize space while maintaining distance for the street vendors rather than completely removing them out of the street, killing their businesses instantly.
- Research should be conducted on the negative impact of the current restrictions on food security and explore more on the less harmful ones.
- Community members should resort to a lifestyle that is resilient to restrictions.

5.3.1.2 Domestic food production

The current pandemic has presented a challenging situation that shows how critical it is to be prepared and invest in a more inclusive, environmentally sustainable, and resilient food supply system. The following recommendations are in line with some of the recommendations that came out during the data inquiry stage:

- The government should formulate guidelines for the development of the value chain of various local farm products to ensure value addition and infrastructural development.
- The government should invest in the local green schemes in order to strengthen local food systems and short food supply chains that will achieve national food security, especially those in the Zambezi and the two Kavango regions as they are known to have fertile soil and the regions, always receive good rain.
- The Ministry of Urban and Rural Development (MURD) should ensure access to land for small farmers in order to boost the informal market supplies and to ensure access to affordable and nutritious food for the poor.
- In order to minimize reliance on imported food, government should improve the domestic food capacity.
- The government should strengthen the food system to be more resilient and sustainable by planting drought-resilient and nutritious crops and improving food storage capacity.
- The Ministry of Agriculture, Water, and Land Reform (MAWLR) should improve the agricultural techniques at the Green Schemes and strengthen the local markets to achieve national food security.
- The MGEPESW should invest in the role of women in food security because women are at the center of recovery efforts in the agricultural sector and also in the home.
- The government should provide the private sector with incentives as a way to encourage them to invest in food production as a way to reduce the sensitivity of food prices to foreign exchange markets.

- The MAWLR should make sure small farmers, especially women, are made part of the decision-making bodies relating to transforming the local food system.
- The government should invest more in research institutions to collect real-time data on food security and its drivers for proper planning and timely response.

5.3.1.3 Safety nets

- The government should improve and expand the social safety net and transfers to ensure sufficient safeguards for all vulnerable communities, especially those experiencing the greatest income losses due to COVID-19.
- The relief food distributing agency should practice transparency, accountability, and good governance for the effective delivery of food parcels to food-insecure families.
- Physical and digital systems should be put in place for the effective implementation of social safety nets and to avoid uneven distributions of items among households.
- Upon school closure, the Ministry of Education, Arts and Culture should make sure that the school feeding programs are turned into take-home meals.
- Research should be carried out to understand and identify the most food insecure groups prior to food distribution.
- Outapi Town Council should guarantee free access to water, sanitation, and electricity services by informal settlement residents during the COVID-19 period.

5.3.1.4 Urban agriculture

- Policymakers should design and implement urban agriculture policies that support local food systems and short food supply chains.

- The Town Council should allocate sufficient land to urban residents in order for them to practice urban agriculture.
- The government must sensitize the urban communities about the importance of urban agriculture in relation to achieving food availability in urban centers during crises.
- Urban residents should think of backyard gardens when constructing their houses.

5.3.2 Future research

Research findings reveal the factors that contribute to urban household food insecurity. Therefore, the study recommends more research to be conducted on sustainable and resilient food supply systems in order to improve food security in the urban setting in Namibia, especially during the crisis. This will add valuable information to the knowledge gained through this study and to the already existing literature. Future research will also provide policymakers with more information on the subject matter.

5.4 Summary

This is the final chapter of this thesis. The chapter ends with the conclusion and recommendations of the study. The way forward was stated in terms of recommendations based on the implications identified by the study. The chapter also presented areas for further research. In conclusion, the study is expected to add to the limited literature on food insecurity during COVID-19 in Namibia.

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APPENDICES

APPENDIX 1: ETHICAL CLEARANCE LETTER

UNAM
UNIVERSITY OF NAMIBIA

ETHICAL CLEARANCE CERTIFICATE

Ethical Clearance Reference Number: SHS 0003 Date: 25 October 2021

This Ethical Clearance Certificate is issued by the University of Namibia Decentralized Ethics Committee (DEC) in accordance with the University of Namibia's Research Ethics Policy and Guidelines. Ethical approval is given in respect of undertakings contained in the Research Project outlined below. This Certificate is issued on the recommendations of the ethical evaluation done by the School of Humanities, Society & Development Decentralized Ethics Committee.

Title of Project: An Investigation into factors contributing to food insecurity for urban households during Covid-19 Pandemic: A Case Study Of Onhimbu Informal Settlement, Outapi in the Omusati Region.

Researcher: Hilya Amukwelele
Student Number: 200715291
Supervisor(s): Dr. Nhemachena Artwell

Centre for Research Services

Take note of the following:

1. Any significant changes in the conditions or undertakings outlined in the approved Proposal must be communicated to the ethics committee. An application to make amendments may be necessary.
2. Any breaches of ethical undertakings or practices that have an impact on ethical conduct of the research must be reported to the ethics committee
3. The Principal Researcher must report issues of ethical compliance to the ethics committee (through the Chairperson) at the end of the Project or as may be requested by the ethics committee
4. The ethics committee retains the right to:

i) Withdraw or amend this Ethical Clearance if any unethical practices (as outlined in the Research Ethics Policy) have been detected or suspected,
ii) Request for an ethical compliance report at any point during the course of the research.

The ethics committee wishes you the best in your research.

Prof. Trywell Kalusopa (Chairperson, Decentralised Ethics Committee)

Prof. Davis Mumbengegwi (Head, Multidisciplinary Research)

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APPENDIX 2: RESEARCH PERMISSION LETTER

CENTRE FOR RESEARCH SERVICES
Office of the Pro-Vice Chancellor: Research, Innovation & Development
University of Namibia, Private Bag 13301, Windhoek, Namibia
340 Mandume Ndemufayo Avenue, Pioneers Park, Office F223 - Fblock, Second Floor
☎ +264 61 206 4673; E-mail: kmbulu@unam.na; URL: http://www.unam.edu.na

UNAM
UNIVERSITY OF NAMIBIA

RESEARCH PERMISSION LETTER

Date: 01/11/2021

Student Name: Hilya Amukwelele

Student Number: 200715291

Programme: Master of Arts in Development Studies

Approved Research Title: An Investigation into factors contributing to food insecurity for urban households during Covid-19 Pandemic: A Case Study of Onhimbu Informal Settlement, Outapi in the Omusati Region.

TO WHOM IT MAY CONCERN

I hereby confirm that the above mentioned student is registered at the University of Namibia for the programme indicated. The proposed study met all the requirements as stipulated in the University guidelines and has been approved by the relevant committees.

The proposal adheres to ethical principles as per attached Ethical Clearance Certificate. Permission is hereby granted to carry out the research as described in the approved proposal.

Best Regards

Dr. AEE Shikongo
Head: Postgraduate Support Services
Tel: +264 61 206 3129
E-mail: aeshikongo@unam.na

CENTRE FOR RESEARCH SERVICES
Office of the Director
2021 -11- 01
University of Namibia

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APPENDIX 3: PERMISSION LETTER

OUTAPI TOWN COUNCIL

Tel: 065 - 251191/2/3
Fax: 065 – 251128
E.mail:outapitc@iway.na

P.O. Box 853
Outapi

Enquiries: *Ausiku AP*

09 November 2021

Hilya Amukwelele
P.O. Box 113
Tsandi
Omusati Region

Att: Hilya Amukwelele

Re: REQUEST FOR PERMISSION TO CARRY OUT RESEARCH AT OUTAPI TOWN ONHIMBU INFORMAL SETTLEMENT

Reference is made to your letter dated 3 November 2021 on the aforesaid subject.

Kindly be inform that your request to conduct an academic research study in Outapi Town (Onhimbu Informal Settlement)titled: An investigation into factors contributing to food insecurity for urban households during Covid-19 Pandemic has been approved and Ausiku Aindaka P, Senior Manager Administration and HRD will be available to assist you with your request.

Hope you find the above in order.

Yours faithfully

OUTAPI TOWN COUNCIL 2021 -11- 09

.....
Mateus N. Ananias
Chief Executive Officer

All official correspondences should be addressed to the Chief Executive Officer

APPENDIX 4: INFORMED CONSENT FORM

CONSENT FORM FOR PARTICIPANTS

Title of the Research Project: Factors contributing to food insecurity for urban households during the COVID-19 pandemic.

Researcher: Hilya Amukwelele

Contact Number: 0813304580

I am an MA student in the Sociology Department. I am conducting a research on the experience of household heads regarding to food (in) security during COVID-19 in the informal settlements. Please take some time to read the information, which will be explained to you in detail. Please ask me any question about any part of this project that you do not fully understand. The objective of this study is to identify the factors contributing to urban households' food insecurity during COVID-19. Other objectives of this study are to assess the state of food security during COVID-19 and to assess the possible interventions to mitigate food insecurity in informal settlements. For these objectives to be met, you are requested to participate in this study because you are considered to have the knowledge desired for the study. The researcher is seeking your participation in an interview that will take about 30 minutes. In total, 15 participants will be included in the study. The data will be obtained through voice audio-recording during the interview; however, the researcher will respect your wish not to have your voice recorded. Participation in this study is voluntary. As a participant, you may

decline to answer any question or stop the interview at any time that you desire. Your withdrawal will have no effect on the outcome of the study.

The information gathered during the study will be kept confidential and will not be shared with anyone. Only the researcher and the supervisor (if requested by them) will see the information gathered. The researcher will respect the participants' privacy at all times. The interviews will take place in the participants' homes. The data obtained from the participants will be strictly used for academic purposes and will never be linked to you as a participant. The information gathered will be securely stored in a lockable cabinet.

This study has been approved by the Research Ethics Committee at The University of Namibia

Do you wish to participate? If YES please sign in the provided space below.

I _____consent to participate in the research study. I have understood the nature of this study and wish to participate.

Participant Signature: _____Date _____

Researcher's Signature ___ _____ Date_____

Participant consent to audio recording

I _____ Consent to audio recording being made of this interview to be used for the purpose on this research study. I have understood the nature of this study and wish to participate.

Participant Signature: _____Date _____

APPENDIX 5: INTERVIEW GUIDE

INTERVIEW SCHEDULE FOR HOUSEHOLD HEADS

My name is Hilya Amukwelele, and I am a student at the University of Namibia. I am doing a Master's Degree in Development Studies. I am currently conducting research on the factors contributing to food insecurity for urban households during the COVID-19 pandemic. As a result, I'd like to interview you for 30 minutes to hear about your personal experience. Your participation in this study is voluntary and you are free to stop participating at any time if you want to. I would like to inform you that the information you will provide will be kept confidential and no information will be linked to you as a participant.

SECTION A: DEMOGRAPHIC

Gender: ……..

Age: …….....

Marital status: ……

Educational background: ……

Number of people living in the household: …….

Source of income: ……

Average monthly income: ……...

House owner: Self or Rented

SECTION B: FOOD (IN) SECURITY

1. Narrate how your family accessed food during the pandemic?

2. Narrate any challenges you might have faced with food during COVID-19.
3. How would you describe food availability during the COVID-19?
4. Describe how you ensured adequate food during the pandemic?
5. In your opinion, what contributed to your household food insecurity during the pandemic?

SECTION C: INTERVENTIONS

1. Describe how food insecurity can be resolved?
2. In what other ways would people improve food security at the household level in the informal settlements?

THANK YOU

APPENDIX 6: LETTER FROM EDITOR

Enq: Amadhila N.S
Email: amadhilanemuyalonge@gmail.com
Cell: +264814565276

P.O.BOX 393
Tsandi

09 June 2022

EDITING OF RESEARCH DISSERTATION FOR MISS HILYA AMUKWELELE.

The research thesis: An investigation into factors contributing to food insecurity for urban households during Covid-19 pandemic: A case study of Onhimbu informal settlement, Outapi in the Omusati region, Namibia by Miss Hilya Amukwelele, student number: 200715291 has been edited and proofread and that unless further tampered with. I am content that all grammatical errors have been eliminated.

Yours faithfully

Amadhila NS (M.EdM)

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