

**Street food vendors perceptions on food safety measures, hygiene practices and sanitary conditions:
Case studies of Isipingo and Umlazi, eThekweni Municipality, KwaZulu-Natal, South Africa**

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August 2024

The financial assistance of the National Research Fund (NRF) towards one year of this research is hereby acknowledged. Opinions expressed and conclusions arrived at, are those of the author and not necessarily to be attributed to the NRF

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Abstract

Street vending activities significantly contribute to the informal economy in developing countries such as Africa, Asia, and Latin America. Street food vending consists of selling beverages and cooked foods, which are common foods sold to consumers. The food sold raises concerns about health issues such as foodborne illnesses and diseases. Poor hygiene practices, inadequate supply and access of water and sanitation (WASH) facilities as well as lack of storage facilities are many of the concerns relating to food safety and contamination. This study aimed to explore the perceptions of street vendors' regarding food safety measures, hygiene, and sanitary conditions in the Umlazi and Isipingo, eThekweni Municipality, KwaZulu-Natal (KZN). The Sustainable Livelihood Approach (SLA) and political economy are the conceptual frameworks which are utilised to gain an understanding of the street food vendors livelihoods. The setting for this mixed methods study was two case studies in the eThekweni Municipality, KwaZulu-Natal (KZN). Using a pragmatism paradigm, the study utilised semi-structured interviews, paper-based questionnaires and relied on narrative and descriptive statistical analysis. This study highlights that access to essential services for waste and water still needs to be improved within eThekweni Municipality. Regarding sanitation services, the results reveal that most street food vendors share an outside tap in Umlazi (66%) and Isipingo (82%). Most respondents in Umlazi (75%) and Isipingo (65%) revealed foul odour in the areas due to poor waste management. In addition, most street food vendors in Umlazi (80%) and Isipingo (65%) indicated that their workstations need access to nearby waste disposal facilities. As a result, street food vendors stated that coronavirus disease (COVID-19) impacted on how they operated in Umlazi (40%) and Isipingo (30%) due to poor sanitation services in the area. The weather such as flooding negatively affected their working conditions and the quality of the food they sold. A need for street food vendors to receive municipal or government intervention to assist them in developing systems to deal with WASH practices in their sector was deduced. This indicates that the eThekweni Municipality needs long-term solutions, including WASH services and infrastructure upgrades within the area. Addressing these challenges will require increased stakeholder engagement sessions from within local government and municipalities to ensure everyone can access safe and clean water. This study contributes to the health and informal economy regarding food safety, hygiene, and sanitary measures within a South African context. This study has also highlighted how the experiences expressed by street food vendors contribute to their perception of WASH practices.

Key words: street food, food safety, hygiene, water and sanitation, informal economy.

Acknowledgements

- I would like to thank Dr S.A Desai and Dr S.L Nkomo for the continuous feedback and support throughout the duration of my studies. Thank you for the guidance and encouragement;
- Thank you to the National Research Foundation (NRF) for sponsoring, investigating, and funding my studies;
- To the fieldwork enumerators who timeously and diligently assisted with data collection, thank you. Thank you to all the respondents who were kind enough to provide valuable information and their time during their busy schedule;
- To my father Champion Tenza thank you for your support and encouragement during the tough times of my research endeavour. The hard work finally paid off;
- I would like to thank my sister Mandisa Tenza for the love and support throughout my studies; and
- To Mr Sibusiso Masuku and Dr Collin Pillay who are employed at the eThekweni municipality KwaZulu-Natal, thank you for enabling me to access to the respective study areas.

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Acronyms and Abbreviations

CBD	Central Business District
COGTA	Cooperative Governance and Traditional Affairs
DFFE	Department of Forestry, Fisheries and Environment
DEAT	Department of Environmental Affairs
DTI	Department of Trade and Industry
FAO	Food and Agriculture Organisation
GDP	Gross Domestic Product
HSSREC	Humanities and Social Science Research Ethics Committee
ILO	International Labour Organisation
IOL	Independent Online
KZN	KwaZulu-Natal
MDG	Millenium Development Goals
SDG	Sustainable Development Goals
QLF	Quarterly Labour Force
SME	Small, Medium Enterprises
SSA	Sub Saharan Africa
WHO	World Health Organisation
WASH	Water, Sanitation and Hygiene
UN	United Nations
UKZN	University of KwaZulu-Natal

Chapter One: Introduction

1.1 Background of the study

A street vendor can often be an individual or business that sells goods such as foods, beverages, clothing, and arts and crafts (Marutha and Chelule, 2020; Short et al., 2024). Throughout Sub-Saharan Africa, street food vending is a standard service whereby ready-to-eat foods are sold to consumers for consumption (Holy and Makhoane, 2006; Abrahake et al., 2019). Street food vendors play an essential role in SSA's informal economy by contributing significantly to street food safety challenges (Dsevey et al., 2003; Khumalo et al., 2019; Akobi, 2019). This is due to their widespread informality, typical in low- to middle-income countries due to their unregulated capacity. Street food vendors operate outside of regulations and do not have access to WASH facilities. Street food vending is dominant in countries classified as low-to-middle-income regions, such as Africa, Latin America, and Southeast Asia (Grace, 2015; Skinner, 2016; Grace, 2023). In these countries, street food vending remains an informal sector due to the absence of inclusive policy and regulation capacity, making it a sector vulnerable to threats and risks. Street food vendors generally sell their products on busy sidewalks, outside buildings, schools, taxi ranks, and shopping centers or malls (Gamieldeen and Van Niekerk, 2017; Nkosi and Tabit, 2021). These areas lack proper hygiene and WASH facilities, which raises concerns about food contamination (Atangana and Oberholster, 2023).

Street food vendors contribute to the economy by fostering a vibrant cultural and recreational environment in developing significant cities across Africa, Latin America, and Asia, amongst other benefits (Altaema and Hatipoğlu, 2023). Street food vendors offer a range of cost-effective food options, including fruit, vegetables, and meat, which are considered among the familiar sources of foodborne diseases in developing countries (Marras et al., 2014; Abdullah et al., 2024). Statistics from the World Bank and International Labour Organisation show there are over 2.5 billion people who are dependent on street food for nutrition globally (Food and Agriculture Organisation, 2023:39). In Indonesia and the Philippines these cities were over 2.5 million people consume street foods as customers (FAO, 2001: 6). These food options are an advantage for low-income workers and households that lack the resources to prepare cooked meals. The demand for street food vending and their services has resulted in many consumers accessing street foods due to accessibility and affordability (Karondo and Tumaini, 2021; Woldeamanuel et al., 2023; Masawi et al., 2023; Salamandane et al., 2023). Various food options or choices and cultural significance contribute to the demand for street foods. In the SSA region, the informal economy is approximately 55% of the Growth Domestic Product (GDP) (Takyi et al., 2022: 106). In South Africa, for example, the informal economy employs an estimated 2.5 million people, which accounts for 20 percent of the employed population, injecting about 5.1 percent into the country's GDP (Takyi et al., 2022:106). In the SSA region, the participation of street food vendors can be attributed to escalating poverty (35%) and the unemployment

rates, which are approximately (6.08%) (Stats SA, 2022: 4). Thus, the high demand for street food has fostered an environment to safeguard food safety about water, sanitation, and hygiene (WASH), which accounts for 20 percent of the employed population in the country, injecting about 5.1 percent contribution to South Africa's GDP (Thwala, 2022, p. 91). Thus, the high demand for street food has fostered an environment safeguarding food safety in WASH conditions. There are WASH infrastructure challenges that can be addressed to enhance food safety.

According to the Centers for Disease Control and Prevention (CDC) (2020:50), there are an estimated 48 million cases in the United States of America (USA) who are affected by foodborne diseases. Although these figures can be interpreted as high, their impact is less fatal to communities in the USA than communities in SSA. Since the USA has developed, the communities in SSA have also developed. Similarly, Arias-Granada et al. (2021:169) have revealed that countries in SSA, such as Kenya, Nigeria, Ghana, and South Africa, were the most vulnerable countries facing foodborne diseases, with an estimated case of 91 million. Whereas, Arias-Granada et al. (2021:169) revealed those countries in SSA, such as Kenya, Nigeria, Ghana, and South Africa, were the most vulnerable countries facing foodborne diseases with an estimated case of 91 million per annum. In addition, Negassa et al. (2023) argue that street food vendors in SSA often operate in unhygienic areas that lack basic infrastructure and primary services to facilitate sustainable WASH practices, leading to numerous health challenges. Recent statistics on Sustainable Development Goal 6 (SDG) call for countries to prioritize providing WASH services, more importantly in popular cities (Luthi, 2020; Shapiro, 2023; Roy et al., 2023). In this era, more than 600 million people in SSA continue to have limited access to safe and clean water (Matchae et al., 2022: 2).

Prior to this, the Millennium Development Goal 7 (MDG 7) outlined sustainable access to safe drinking water and sanitation by 2015. As the years progressed, shortcomings were revealed. The causes of the MDG 7 failure were due to funding limitations (Barrington et al., 2024). Other reasons include more maintenance and upgrades of innovative technologies and infrastructure. This has resulted in disparities and inequalities across developing countries such as Africa, Latin America, and Asia. Despite the failures of the MDGs, they were replaced by the SDGs in an attempt to address the WASH issues adequately in Africa, Latin America, and Asia.

The Sustainable Development Goal 6 (SDG 6) access to clean and safe water has created disparities, whereas 3.2 billion people still lack clean and safe water and WASH services globally (Nel et al., 2023: 3). The Sustainable Development Goal (SDG) indicator relevant to this study is SDG Target Six (SDG6), which is an anal part incorporated under food safety and hygiene within the street vending sector. SDG 6 has enabled as a requirement to ensure WASH's availability and sustainable management. These targets were initially set under the Millennium Development Goals (MDGs) from 2000 to 2015 to increase access and availability to WASH (Mackinnon et al., 2019). The importance of WASH has

contributed to addressing social, economic, and environmental outcomes and inequalities. SSA faces disproportionate burdens associated with poor-quality WASH services and facilities (Nkiaka et al., 2021). Thus, inadequate WASH services and facilities have led to the need to address social, economic, and environmental impacts. For example, in the region of SSA, approximately 663 million inhabitants lack access to safe and clean water (Matchawe et al., 2022: 2). Moreover, an estimated 319 million people in this region of SSA also consume unsafe water (Matchawe et al., 2022:2). This makes the street food vending sector vulnerable to foodborne diseases (Salamandane et al., 2023; Moges et al., 2024).

In addition, at a global scale, 2 billion people lack access to water, creating challenges daily, such as consuming contaminated water as well as unsafe food (Annan and Secretary-General 1995: 2; Mekonnen and Hoestra, 2016: 4; Nischal et al., 2019: 255). This can lead to unhealthy conditions such as diarrhea, impacting the quality of life. Magamba et al. (2023: 65) argue that in SSA, Latin America, and Southeast Asia, almost 70% of diarrheal cases are caused by consuming contaminated foods (Magamba et al., 2023: 65). In low-to-middle-income countries in Africa, Latin America, and Asia, approximately 70% of diarrheal cases are caused by consuming contaminated foods (Magamba et al., 2023: 65). A study conducted in Accra, Ghana, found that the significant *Escherichia coli* (E.Coli) outbreak in 2012 was traced to street food vending. Also, inadequate WASH facilities, lack of temperature control, and contaminated water from unsafe water sources are the reason for the *E.Coli* outbreak (Feglo and Sakyi, 2012). The findings revealed that the outbreak was caused by street food vendors not having proper WASH services to facilitate good hygiene practices. It was argued that many street food vendors were exposed to extreme weather conditions and relied on contaminated water for sanitary practices (Muyanga, 2011).

The lack of WASH facilities was detrimental to food preparation and poses a risk of contamination, leading to infectious diseases and illness in low to middle-income countries such as Africa, Asia, and Latin America. In the case of SSA, more than 70% of the SSA population lack adequate WASH facilities (Momberg et al., 2020: 2). The WASH concepts emerge from three components and those are access and availability of water, adequate sanitation, and hygiene (Ayah et al., 2018). These components were intertwined and related and could not exist without each other. Regarding human dignity, water access, availability, and WASH are fundamental human rights for every human being (Adane et al., 2018; Atangana and Oberholster, 2023). Water access and availability to street food vending can be summarised as important components ensuring food is prepared under safe and hygienic conditions, enabling clean utensils. During storage, serving, and preparation, all types of foods, including meat, were subjected to contamination (Aworh, 2023; Magamba et al., 2023). Removing contaminants from vegetables, fruits, and meat ensures that customers consume safe and healthy foods (Rakha et al., 2022; Magamba et al., 2023).

The United Nations International Children's Emergency Fund (UNICEF) (2019:6) has indicated that the access and availability of water in developing urban areas has improved by 96%. Despite this significant percentage, millions of citizens face challenges daily when accessing water. This perpetuates a vicious cycle whereby citizens were suffering from foodborne diseases and illnesses. For instance, India, Nepal, Philippines, Nigeria, Ghana, and South Africa are high-burden countries likely to experience increased contamination (Nischal, 2019).

Regarding case studies based on food safety measures, hygiene practices, and sanitary conditions, researchers have mentioned minimal contributions from local research organizations (Kadariya et al., 2014; Samapundo et al., 2015; Labovic et al., 2023). This is due to the need for more surveillance and monitoring of WASH services, which leads to street food vendors handling food unhygienically (Kadariya et al., 2014). Thus, this thesis aims to fill this research gap and contribute to the growth of knowledge. As a result, the knowledge of food safety and contamination continues to be challenging across developing countries (Labovic et al., 2023). The food contamination was mainly caused by the build-up of bacteria and viruses (Abubakari and Amoah, 2015). Food contamination was rife, intertwined with aspects such as lack of proper hygiene (Kamboj et al., 2020; Ehuwa et al., 2021), inappropriate food storage temperatures (Alimi, 2016; Rodriguez et al., 2020), and vendors that lack correct handling techniques to prepare food (Noor, 2016; Nkosi and Tabit, 2021). The lack of proper equipment to store food has negative consequences in exposing food to air pollution and other environmental contaminants, leading to food contamination (Adane et al., 2018; Sepadi and Nkosi, 2022). In addition, the lack of WASH facilities in street food vending was considered a food safety hazard to consumers due to the street food vendors lack of equipment that ensures safe food storage practices on street vending sites (Rane, 2011).

1.2 Motivation of the study

In developing countries across Africa, including South Africa (SA), Latin America, and Asia, the risk factors are intensified due to a lack of water and sanitation infrastructure, poor drinking water, hygiene, and food handling practices (Meierhofer et al., 2023). Many street food vendors needed more resources to implement the recommended safety measures, like handwashing stations and sanitation supplies (Adeyeye et al., 2023), due to the existing inequalities in having access to WASH facilities to maintain the spread of the virus.

Kaptchouang et al. (2022) reveal that listeriosis is caused by a causative agent called *Listeria monocytogenes*. The Listeriosis outbreak was associated with processed meat known as Polony. Tiger Brands and Rainbow Chicken were the two formal retailers responsible for the outbreak (Boatema et al., 2019). During this time, the South African Department of Health and existing organizations and relevant stakeholders declared the outbreak a public health emergency (Cherish et al., 2018). The laboratory analysis revealed that there were 1060 cases reported who were infected by the Listeriosis outbreak, which led to illness and fatalities (Smith et al., 2019 :525). The following year (2018), an environmental investigation was conducted in the province of Limpopo, South Africa, at a production facility. The findings revealed that this production facility needed more infrastructure upgrades. In this instance, the food was contaminated when it was being processed and would then be sold to street food vendors unaware of the contamination. Furthermore, there were potential areas of contamination, such as restricted movement of workers, congestion, cross-contamination, and the reuse of brine, which can accelerate cross-contamination (Smith et al., 2019).

As a cautionary note, it is advised that entry into the food vending industry should require basic training in food safety and hygienic procedures and that frequent inspection and monitoring be carried out regularly as well as the correct understanding of proper and safe hygiene practices (Hassan and Fweja, 2020). An important requirement for entry into the food vending industry should encompass basic training in food safety and hygiene standards, as well as frequent inspection and monitoring. This will ensure the application and knowledge of food safety and cleanliness into procedures for suitable and secure food regulations. In SSA, street vending activities are used to sustain many livelihoods. Data on street food vendors, food safety practices, and hygiene measures across SSA must be recorded (Adane et al., 2018). It has been reported that street food vendors were potentially at risk of infections due to the number of escalating cases of foodborne diseases. This was due to the need to adhere to strict measures that involve food safety and hygiene (Adane et al., 2018). In South Africa, more research and academic case studies are needed to express their perceptions on food safety measures, hygiene practices, and sanitary conditions in Umlazi and Isipingo, eThekweni Municipality, KZN. There is also a need for more surveillance and monitoring of food safety measures and hygiene, mainly when outbreaks occur in developing urban areas (Lin et al., 2020).

1.3 Aim of the study

To explore street food vendors' perceptions regarding food safety measures, hygiene practices, and sanitary conditions in Umlazi and Isipingo, eThekweni Municipality, KZN.

1.4 Research objectives

1. To provide an overview of existing literature on challenges and common diseases affecting street food vendors about WASH services across SSA.
2. To evaluate WASH challenges of the street vending environment in Umlazi and Isipingo, eThekweni Municipality, KZN.
3. To evaluate street food vendors' perceptions regarding food safety measures, hygiene practices, and sanitary conditions.
4. To assess the level of monitoring and enforcement of food safety hygiene requirements.
5. To propose strategies for improving the street vending environment and food safety measures.

1.5. Research questions

This study seeks to address the following research questions:

1. How will the existing literature on the challenges and common diseases affecting street food vendors about WASH services be reviewed?
2. What were some of the WASH challenges observed in the street vending environment in Umlazi and Isipingo?
3. How knowledgeable were the street food vendors on food safety measures and hygiene practices in Umlazi and Isipingo, eThekweni Municipality, KZN?
4. Is there a presence of food safety authorities and officers who monitor and enforce hygiene requirements in Umlazi and Isipingo?
5. What remediation can the eThekweni Municipality do to ensure food safety measures are monitored?

1.6. Scope of the study and limitations

The research methodology used was a mixed-method approach to address this study's aforementioned aims and objectives. Qualitative and quantitative research methods were used to collect the relevant data for this research study. The researcher provided relevant information on the street food vending environment, food safety, and hygiene measures. Additionally, the researcher addressed how food safety and hygiene measures were linked to WASH facilities, foodborne diseases, and illness.

To fulfil the quantitative approach, the researcher used questionnaires. These were administered to one hundred street food vendors in Umlazi, Isipingo, eThekweni Municipality, and KZN. The Statistical Package for Social Science (SPSS) version 25 was used to gather and capture data. Microsoft Excel produced the graphs and tables presented in Chapter Five. The qualitative approach involved interviewing with only one official from the eThekweni Municipality, KZN. This interview with the official was analysed thematically.

During the data collection process, researchers face numerous challenges that must be addressed. When administering questionnaires amongst the street food vendors, a significant limitation of this study was collecting data during Spring and Summer. The data was collected during Spring and Summer 2022 to obtain ethical clearance in August 2022. The researcher took one month to initiate the data collection process to prepare, plan, and organize how the questionnaires would be distributed for both study areas. It would be valuable to compare the other seasons, such as Autumn and Winter. In addition, the researcher took one month to prepare, plan, organize, and execute the questionnaires, which must be distributed and administered for both study areas. More data collection during Summer and Spring would have influenced the quantity and increased the sample size. Due to time constraints, this was not possible.

Another limitation was that street food vendors were reluctant to provide information about their household background, income, and profits. This category of questions made street food vendors in both study areas uncomfortable and uneasy. This can be considered and categorised as revealing sensitive personal information. The researcher may have felt the respondents were dishonest or not being transparent due to their uneasiness when asked these questions. This may have had a potential effect on the quality of the data. However, respondents were informed that the information provided would be kept confidential and private.

A shorter, concise, and clear questionnaire allowed for more rigorous data collection and improved the quality of the results and analysis. The researcher administered a lengthy questionnaire to the two hundred street food vendors: Umlazi and Isipingo, eThekweni Municipality, and KZN. This lengthy questionnaire also interfered with the business operations of the street food vendors in both study areas.

During the data collection process, it was crucial to consider the business hours of the street food vendors operating. The street food vendor could perceive the researcher as a hindrance to potential customers. A lengthy questionnaire can have a negative impact as street food vendors need to serve their customers. Furthermore, a lengthy questionnaire was cost-effective as it enabled the researcher to obtain as much information as was required from the respondents to complete the fieldwork promptly. Additionally, the data collection process had to be done in one year upon the research committees' approval.

1.7 Chapter outline

This thesis consisted of six chapters. This chapter was an introductory chapter that encompasses the study's background, the study's motivation, aims, objectives, and research questions, as well as the scope and limitations of the study. Chapter two provided a detailed overview of the literature highlighting the informal economy, street vending characteristics, risk factors associated with food safety and hygiene measures, government policies, foodborne diseases, and illness. After that, chapter three critically discussed the conceptual framework used in this study. Chapter four deals with a brief description of the desired study area and a detailed methodology analysis. Chapter Five analysed and discussed the quantitative and qualitative data. Questionnaires were administered to street food vendors who reside in Umlazi and Isipingo, eThekweni Municipality, KZN. Additionally, an interview with the key informant from the eThekweni was conducted and analysed. Chapter six assessed the findings of this research, provided suggestions, and delivered a conclusion to this study.

1.8 Chapter summary

The informal sector in SSA comprises street vending activities that help the poverty-stricken sustain their livelihoods. Therefore, street vending is an important component in addressing the economic growth of a country. Addressing public health and environmental health issues in the street vending industry can be perceived as a complicated task in South Africa. Food security, safety, hygiene measures, and WASH facilities must be considered. The subsequent chapters will focus on the literature review and theoretical framework.

Chapter Two: Literature Review

2.1. Introduction

The FAO defines street food vendors who sell ready-to-eat foods and beverages in public spaces for consumers (Abrahale et al., 2019; Alimi, 2019; Desye et al., 2023). Street food vendors sell a variety of foods, such as meat, vegetables, and fruits. These are common foods sold in urban areas and informal markets of developing countries SSA (Giroux et al., 2021; Dijkxhoorn et al., 2021; Marson, 2022; Kuboka, 2024). Street food vending was a concern in many developing countries across SSA (Alimi, 2016), and a plethora of studies argue that this is primarily due to the sector being unregulated, limiting vendors the opportunity to comply with proper personal hygiene and safety measures and as well as standards (Bayu, 2020). A case study done in Ghana, Accra, reveals that street food vendors work in poor hygiene environments that could be safer. The results reveal that poor personal hygiene was considered a risk factor during the serving stage for transmitting pathogens via cooked foods to humans (Mensah, 2002; Agyei et al., 2016). It is argued that emphasis should be put on understanding pathogens, handling, and equipment used to handle food and personal hygiene (Agyei et al., 2016). Consequently, research shows that most street vendors do not adhere to the highest hygiene and food safety (Monney et al., 2014; Adane et al., 2018; Verma et al., 2023). Food safety standards and measures must encompass food preparation, handling, effective waste disposal strategies, and WASH (Neto and Camkin, 2020).

According to Tabit 2021, Prevorsek et al. 2021, Gichunge et al., 2023, food handling, preparation, and safety play a critical role in street vending. This is supported by other studies that argue that a lack of basic training for street vendors limits them from practicing good hygiene and safety measures, making consumers vulnerable to foodborne diseases due to contamination. Limited WASH services, improper handling practices, and inadequate storage facilities contributed to the risk of contamination and compromised food safety standards. Food handling is the process of harvesting until it reaches the consumers (Heady, 1998; Clayton et al., 2010; Lebelo et al., 2021). In addition, food preparation involves cooking at appropriate temperatures and storing food in suitable conditions to decrease spoilage and contamination. It also involves regular handwashing with soap using water to prevent the spread of contamination to the food. Several case studies done in SSA have revealed that food handling, safety, and preparation were primary concerns in public areas (Mensah et al., 2012; Adane et al., 2018; Cudjoe et al., 2022). Studies have shown that 31.1% of street food vendors never handled food appropriately, 45% had no access to handwashing equipment, and 35.6% were unaware that street food causes illnesses (Cataluna and Rukmini, 2024: 1). Despite the concerns raised, there is a growing commitment to improve food safety and handling to reduce the risk of contamination.

Selling various street foods results in heterogeneity (Periman and and Kamalipour, 2022). Street vendors operate under harsh conditions when preparing and handling their food. These harsh conditions often compromise food safety standards and measures. The lack of access to WASH services and infrastructure and inappropriate food preparation and handling contribute to public health risks. Having access to safe and clean water is a fundamental universal human right. The United Nations SDG 6 has acknowledged and prioritised this, ensuring everyone can access water and sanitation services. Thus, SDG 6 commitments to WASH are to reduce inequality, enhance inclusivity, and promote health and safety among individuals. According to the WHO progress report (2021:8), 2.6 billion people globally lack access to basic sanitation, and over 884 million people do not have access to safe drinking water (Bayu et al., 2020: 2; Neto and Camkin, 2020: 1). This means that many of the global population, excluded from receiving essential sanitation services, continue to rely on highly contaminated water sources and still need to catch up to achieving the universal right.

Momberg et al. (2020) indicates that the SSA regions have tried increasing access to improved potable water. However, the water situation from rural to urban areas and the lack of preparedness to deal with the effects of climate change results in spatial differences (Dinaka et al., 2024). This inequality is the main spatial and geographical barrier to accessing potable water in leading countries in the SSA region. The WHO and UNICEF have revealed that 23 countries achieved the MDG 7 drinking water (WHO/UNICEF, 2023:3).

It was revealed that the target for safe drinking water was met in 2010 (Herrera, 2019). However, recent studies show that the SSA region is lagging in increasing urban potable water coverage, which needs to be achieved (WHO/UNICEF, 2015; WHO/UNICEF, 2023). The global target aims for 77% coverage, while SSA reached 30% sanitation coverage (Ohwo, 2019: 145). The inequalities and disparities also extend to hygiene practices in SSA. For example, a case study in Tanzania reveals that 77% of the population had access to safe potable water in 2005 (Herrera, 2019: 108). This improves hygiene practices as access to soap and water at handwashing facilities will increase. There are regions across the SSA region where the research has not been updated on the latest statistics on WASH and hygiene services. This makes it difficult and creates a barrier amongst populations to reduce inequalities. The SSA regions that have not met the SDG 6 target are due to unforeseen challenges such as ongoing conflict, war, and lack of investment in WASH infrastructure.

Global institutions such as WHO and UNICEF have launched the Joint Monitoring Programme (JMP) to assist with WASH monitoring and quantification in urban and rural areas. This report reveals that since 2015, access to water has increased from 69% to 73% globally. However, many developing countries in SSA, Southeast Asia, and Latin America still need to be challenged to deliver sustainable WASH services. In addition, the report revealed that poor WASH services perpetuate the outbreak of foodborne diseases in the SSA region. The JMP definition of improved safe and clean water access

includes piped water, rainwater collection, and public taps (UNICEF/WHO, 2015; Herrera, 2019). Over 2.2 billion people globally do not have access to safe drinking water, and their essential services have decreased from 2.4 billion to 2.3 billion. However, the drinking water target was achieved universally at 89%, and the population had improved access. For example, developing regions such as SSA, Southeast Asia, and Latin America have yet to achieve this target.

Similarly, the developing region of SSA has also reported disease outbreaks in urban areas due to the lack of WASH services. In addition, the report revealed that in the SSA region, the impact of poor WASH services perpetuates the outbreak of foodborne diseases, recording over 91 million cases and about 137 000 deaths per year (WHO, 2015; Arias-Granada et al., 2021: 169). In doing so, it will highlight some of the challenges facing street food vendors and provide recommendations on improving working conditions for street food vendors in the SSA region (WHO/UNICEF, 2015).

2.2 Methods and Materials

This review has acknowledged and assessed the literature about food safety measures, hygiene practices, and sanitary conditions. The search for relevant literature was conducted from January to July 2024. The databases used to obtain all information are Google Scholar (<https://scholar.google.com>), Scopus (<https://www.scopus.com/>), and ScienceDirect ([sciencedirect.com](https://www.sciencedirect.com)). In the database, the search engine criteria included usage of words such as: “food safety”, “hygiene measures”, “sanitary conditions”, “WASH”, “access”, “urban”, “street vending”, “inequality”, “water”, “contamination”; “COVID-19”, “foodborne diseases”, “illnesses”, ‘risk factors’, “ food handling”, “ food preparation”, “Sub-Saharan Africa”, “factors” and “influencing”. Institutional organisations such as WHO were found through their websites for references. All these searches were done using the English language and mainly focused on countries across SSA.

This review made use of the search engine and criteria to identify relevant articles for this study: (i) studies conducted between 2015 and 2024 that illustrate the contrast of the SDGs, (ii) research studies that made use of quantitative and qualitative methods for data collection and (iii) research studies that made use of the English language. This review did not use research studies that could not be accessed and needed more information. The researcher also used the research titles and abstracts of these studies. After that, I proceeded to download the articles. The diagram below depicts the search results from the internet using key terms about the research topic.

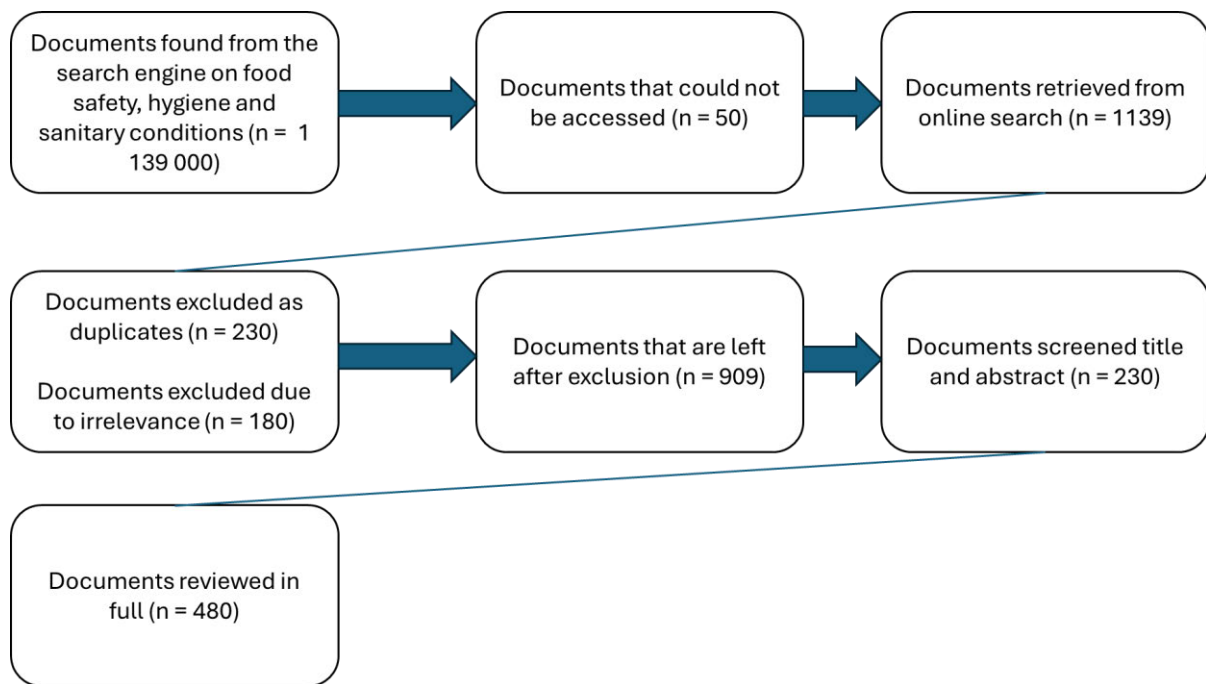


Figure 2.1 A flow chart depicting scholarly papers retrieved from database search engines.

2.3 Current trends in food preparation, food handling and the vending environments of street food vendors in SSA

Street food vendors play a significant role in providing affordable meals full of nutrition to most of the population across SSA (Njaya, 2014; Skinner, 2016; Tacoli, 2020). To ensure full potential throughout our livelihoods, it is imperative to maintain access to proper nutrition, which begins with consuming hygienic and safe food (Kanu and Turay, 2024). It contributes to health and well-being as well as against foodborne diseases. The FAO had indicated that street foods play a role in enhancing food security and strengthening the urban food systems. Thus, making street food more affordable and nutritious. FAO (2007: 2) estimates that 2.5 billion people consume street food daily. Giroux et al. (2017) reveal that street vending has assisted many low-income communities through poverty alleviation. Women and other low-income groups contribute to the informal economy by utilising street vending as a source of income and employment opportunities and fostering entrepreneurship (Njaya, 2014). Street vending activities have a significant impact on the economy. In the SSA region, 28.5% of the informal sector contributes to the economy (Medina et al., 2017: 5). These statistics reveal that most developing African countries' informal economies are constantly growing.

As much as street vending comprises the informal sector, which contributes significantly to the economy, there are concerns. These concerns involve food preparation, handling, and the vending environment in which street food vendors operate. Food preparation and handling can raise issues about food safety and hygiene (Haleegoah et al., 2020).

This vending environment was a challenge for street vendors and consumers. The reason for this could be vendors operating in harsh conditions. Vendors work in areas that lack WASH services, infrastructure, and waste disposal facilities. Furthermore, these areas in developing urban areas across SSA lack cleanliness and hygiene. This could lead to accelerated contamination and increased foodborne diseases, resulting in illnesses. The WHO has documented the consumption of unsafe food as a human health problem. More than 200 diseases are transmitted through food as new ones emerge (Mead et al., 1999: 607; Newell et al., 2010: 54). Educating street food vendors on food handling was essential to raising awareness of hygiene and food safety.

The contributing factors associated with food handling and preparation are inadequate WASH access, poor handling practices, and lack of training and education skills. Street food vendors have no designated place to wash their hands with soap and water. This is an indication that there is limited access to WASH services. These WASH services benefit street food vendors for food preparation, handling, cleaning utensils, and personal hygiene. Street food vendors in SSA lack these essentials to prevent and minimise the spread of diseases. A Polokwane, South Africa case study revealed that street

food vendors needed adequate handwashing WASH facilities. It was also revealed that street food vendors purchase water from other street food vendors who obtained it from unsanitary locations through contaminated water sources (Marutha and Chelule, 2020). This raises concerns about food safety and hygiene practices. The interplay of the lack of WASH services and using water that is not potable compromises the quality and safety of food. This is a breeding ground for disease outbreaks traced back to street food vendors (Hossen et al., 2020).

In terms of food preparation and handling practices across SSA. It strongly influences consumers' health outcomes, especially those from an informal setting such as street food vendors. Effective handling includes proper handwashing facilities, clean utensils, and safe food preparation storage. It also encompasses cooking, cleaning, separating, and chilling (Chen et al., 2019). A study conducted in eThekweni Municipality, South Africa, using cross-sectional methods, revealed that street food vendors have better knowledge and education on handling behaviour and hygiene (Makhunga et al., 2021). Another contributing factor is that the informal sector is unregulated, and some policies could be more effective. Disciplinary measures must be implemented to ensure street food vendors adhere to food safety standards and measures (Amaechi-Chijoke, 2024).

The WHO introduced the Five Keys to Safer Food in 2001, a framework prioritising and protecting street food vendors' food safety measures and hygiene practices (Omari et al., 2014: 37; WHO, 2016: 2). Before 2001, there were ongoing reported foodborne disease cases, which led to discussions on addressing food safety. The Five Keys to Safer Food Framework aims to be resourceful to food handlers and consumers. Keeping clean, separating raw and cooked foods, cooking thoroughly, keeping food at safe temperatures, and using safe water as well as uncontaminated ingredients are the core principles to ensuring safer food (WHO, 2016: 13). This framework addresses the food preparation and handling of street food vendors. There needs to be more food safety monitoring and surveillance of street food vendors handling and preparing foods. As a result, street food vendors operating in informal markets are vulnerable to climate change, contamination risks, and the spread of diseases in their workstations.

In some cases, the practices associated with preparing food involve cooking in unfavorable temperatures. The temperature in cooking and frying foods during preparation was crucial to killing harmful viruses and bacteria. The WHO guidelines recommend specific temperatures for meat and poultry foods (WHO, 2020). Understanding the different cooking temperatures can assist in promoting better food handling practices. Furthermore, it can assist in understanding contamination previously correlated to foodborne diseases such as cholera and diarrheal diseases (Alimi, 2016). Studies done in the SSA region focusing on countries such as Kenya, Ghana, and South Africa also reveal that street food vendors need more knowledge in using cooking temperatures for the different types of foods (Olasipo-Adekeye and Tabit, 2021). Table 2.1 summarises selected case studies to show some of the common issues around food preparation and handling in urban areas in the SSA region.

Table 2.1 Overview of urban case studies across SSA in relation to WASH, food safety measures and hygiene practices (Author's creation)

Reference	Country	Overview of the study	Materials and Methods	Key Findings
Gameda et al., 2023	Ethiopia	In this study, the knowledge, attitude and practices (KAP) relation to the tomato street food vendors was investigated. Other factors such as handling, safety and hygienic practices were taken into consideration to the risks associated during handling.	This study utilised a cross-sectional KAP survey on handling, safety and hygienic practices in two cities of Ethiopia.	The key findings reveal that street food vendors did not know about the importance of food safety, water quality and cleanliness. Additionally, street food vendors did not have adequate WASH infrastructure such as toilets and piped water.
Hassan and Fweja (2020)	Zanzibar	This study provided an overview of the compliance of food safety and hygiene in their surroundings.	A cross-sectional descriptive study method were used to assess hygiene and safety measures in the urban areas.	A few street food vendors had insufficient training on food safety and hygiene measures.
Alemayehu et al., 2021	Ethiopia	This study provided an assessment of food safety knowledge, handling practice as well as associated factors from handlers.	A cross-sectional study was conducted with structured questionnaires with an observational checklist. The data was analysed using SPSS version 25.	In this study, the results revealed that the level of education, training of food safety attitudes towards safety were favourable towards food safety.
Amaechi-Chijoke et al., (2024)	Nigeria	This study provided an overview of food safety and hygiene practices on consumer choice of food vendors. It also aimed at determining the standards of food safety and hygiene practices amongst food	A structured questionnaire and observational checklist were used to assess the conditions and the food safety and hygiene practices amongst the street food vendors.	Descriptive statistics were used to analyse the data. The findings reveal that the environment, location, price and quality of food influences consumers choice of the street food vendor. It was also suggested that the tertiary

		vendors in Abia State, Nigeria. This study was done in major tertiary institutions.	Convenience sampling techniques was adopted for the study to recruit participants. A structured questionnaire was used to administer questionnaires to street food vendors.	institutions need to train food vendors on preparing and serving healthy foods to consumers. Measures need to be put in place to ensure strict measures are adhered to.
Kanu and Turay (2024)	Sierra Leone	This study investigated food safety and hygiene practices including education, food, water, sanitation, waste management and policies as factors that contribute to safe handling and preparation of food.	This paper made use of a descriptive study and used a mixed methods approach. This type of approach enabled the research to gain insights on storage, services and preparation of food to ensure good quality and safety.	In this study, it was revealed that street food vendors. Had a good understanding on how to safely handle and prepare food. It was noted that 93% of street food vendors handled their food with bare hands. Additionally, the majority of street food vendors did not have WASH facilities in close proximity. As a result, food safety surveillance is limited.
Adane et al., (2018)	Ethiopia	This study sought out to to investigate personal hygiene of street food vendors and handlers in informal markets and workstations.	The study made use of a community-based cross-sectional study conducted in Dessie town, Ethiopia. A structured questionnaire and an observational checklist were employed in the study to gather data on the 116 food establishments.	The data revealed that the food establishments or workstation of food handlers had a good level of hygiene and safety practices. Food handlers were aware of diseases transmissions and the risk of contamination within their food establishments.
Boakye et al., 2023	Ghana	This study investigated knowledges, attitudes and practices towards food hygiene in the informal market.	This study made use of research instrument tools such as the structured questionnaires to collect data. A correlation analysis was used to examine socio-	The study revealed lack of basic amenities in the informal market has an influence on food practices of street food vendors.

			demographic variables in association with knowledge, attitude and practice.	A strong correlation was found. However, knowledge and attitude were weak.
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2.4 Challenges and common diseases in the street food vending in urban areas in SSA

In SSA, street food vendors who operate in informal markets in urban areas are subjected to significant risk factors. These risk factors impact their livelihoods, safety, and health. These risk factors include, but are not limited to, challenges with food safety measures, regulatory frameworks, and standards, as well as environmental risks. It is crucial to highlight the environmental risks as they directly affect street food vendors' ability to operate safely. The impact of climate change on the livelihood of street food vendors will be summarised. In addition, the impact of COVID-19 will be explored to understand the impact of global pandemics on the livelihood of street food vendors. Common diseases will also be explored to understand the prevailing challenges. This section aims to provide an overview of risks encountered by street food vendors.

2.4.1 Impact of climate change on street food vending

Developing cities across SSA are concentrated centers of people, assets, and economic activity (Baker, 2012). Climate change has become an important factor to consider when developing urban areas. Being situated in the city exposes you to the impacts of climate change, risks, and hazards, thus making them vulnerable. The vulnerability is accelerated due to the socio-economic background of the urban residents and street food vendors. Street food vendors are considered marginalised and typically reside in affordable areas. Some of these urban areas are undesirable and are subjected to the impacts of climate change. This is evident in a report issued in 2016 by the International Institute for Environment and Development (IIED), revealing that street food vendors are susceptible to droughts and floods. Climate change threatens street food vendors, food safety measures, and hygiene. Climate change directly compromises food safety practices, such as limited access to water for hygiene, inappropriate food storage, and disruption of supply chains (Blekking et al., 2022; Tirivangasi et al., 2023).

Limited access to clean and adequate water for hygiene was a global challenge that stems from climate change (Grant and Willetts, 2024). In many developing countries across SSA, people who reside in marginalised communities do not have access to clean and safe water. As a result, SSA sanitation targets still need to be met. In 2017, 323 million people (46%) did not have access to clean and safe potable water (WHO, 2017: 12; Atangana and Oberholster, 2022: 13356). SSA needs to catch up to achieve its SDG 6 target. As a result of the failure, 673 million people lacked access to improved WASH services (WHO, 2017: 12; Atangana and Oberholster, 2022: 13356). In urban areas, 85% of the SSA population used improved sanitation facilities (WHO, 2017: 12; Atangana and Oberholster, 2022: 13356).

Climate change is associated with rising temperatures, extreme weather events, and changes in rainfall patterns. These are considered favorable conditions to enable the growth of bacteria and viruses, which

accelerates the risk of contamination through food preparation and handling (WHO, 2018). The lack of safe and clean water challenges the street food vending community. They operate in harsh conditions, and most street food vendors have limited access to WASH facilities within their workstations (LaPolt, 2021). These harsh conditions enable street food vendors to work under challenging conditions. Maintaining hygiene practices throughout the food preparation and handling process makes it challenging. Climate change also disrupts water supply systems and increases water scarcity. Throughout the disruption, street food vendors lack WASH services for food preparation and handling (FAO: Open Knowledge, 2018). This challenge is achieving SDG 6 globally and in SSA. This can increase foodborne diseases and contaminations (Mukherjee et al., 2022). The disruption of food supply chains caused by extreme weather events results in food shortages. This has forced street food vendors to utilize ingredients that are substandard or that were stored for more extended periods. In order to mitigate the impacts of climate change and enable a better environment for street food vendors. Improving access to WASH, training programs, and infrastructure upgrades are essential to address the WASH challenges in urban areas (LaPolt, 2021).

2.4.2 Impact of COVID-19 on street food vending

COVID-19, which emerged in 2019, has presented a serious and ground-breaking challenge globally and within the developing SSA region (Thanh et al., 2022). Severe acute respiratory syndrome (SARS-CoV-2) causes the illness COVID-19. The impact of COVID-19 has posed significant ongoing challenges for street food vendors (Martinez and Young, 2022). It has left many street food vendors impoverished and devastated their livelihoods. The government imposed ongoing restrictions and lockdowns to reduce the spread and transmission of this virus (Nyambeze and Chikoko, 2020). During this period, COVID-19 posed a serious health risk to the vulnerable and marginalised. Street food vendors are considered vulnerable, as 84% of the labor force live in poverty and earn below the minimum wage (Chigudu, 2021: 258). The poverty conditions for street food vendors worsened due to the ongoing restrictions and lockdowns, leading to the loss of jobs and expenditure (Dzawanda et al., 2021). Street food vendors already had pre-existing vulnerabilities, and the pandemic accelerated them into poverty. This led to financial hardship as most street food vendors rely on their vending activities as their source of income.

The transmission of COVID-19 raised some concerns about the public health of individuals. Health, safety, and welfare were considered a priority. COVID-19 deliberately changed the healthcare systems of the SSA. Mberu et al. (2021) reveal that street food vendors needed access to nearby healthcare facilities. This contributed to the spread of the virus into nearby vulnerable communities. After that, the WHO and UN introduced specific rules such as maintaining a distance of 2 meters (2m), regular handwashing through soap and clean water, and sanitising surfaces. These were put in place to delay the spread of the virus (Nyambeze and Chikoko, 2020). However, the food systems of the informal

market were disrupted (Verma and Mishra, 2022). Reduced access to food due to disrupted supply chains from the ongoing lockdown and restrictions. This resulted in food insecurity as many vulnerable populations who relied on street food could not access their food. Understanding the impact of COVID-19 on the livelihood of street food vendors remains pivotal in the fight to reduce future challenges associated with pandemics.

2.5 Common diseases and their impact on street food vendors

The widespread diseases associated with the lack of WASH were a significant concern and a public health issue among SSA developing countries (Mjoka and Selepe, 2017; Hossen et al., 2020; Tleane, 2020). This was a widespread issue that could create a breeding ground for the occurrence of other diseases. Poor hygiene practices, mainly contributed by the lack of soap can accelerate the contamination risks. Contaminated water can be consumed, which contains harmful bacteria and viruses that lead to foodborne diseases and illnesses. Inadequate WASH facilities and open defecation perpetuated the risk of contamination. As a result, this has caused millions of reported cases of foodborne diseases and illnesses. In addition, these diseases vary from countries across the continent and among those residing in urban areas. Diseases and illnesses due to waterborne contamination affect vulnerable populations such as women and children (Manetu and Karanja, 2021).

2.5.1 Foodborne diseases

Foodborne diseases cause a significant economic, public health, and social burden (Li et al., 2020; Pires et al., 2021). Populations residing in the SSA region experience a higher burden of foodborne diseases (Arias-Granada et al., 2021). There are 137,000 deaths and 91 million reported foodborne cases (WHO, 2015; Arias-Granada et al., 2021: 169). It can be very concerning as a public health emergency and risk as foodborne diseases can spread uncontrollably, caused by microorganisms such as bacteria and viruses. Food safety and hygiene practices in informal markets were not monitored in the SSA region. Hence, there is a lack of prioritization when foodborne outbreaks occur (Hugbo et al., 2024). The lack of access to WASH services creates a breeding ground for bacteria and viruses, causing contamination and foodborne diseases.

The severity of foodborne diseases and illnesses heavily depends on the bacteria and their survival capabilities, which can last for a long duration, such as weeks (Hugbo et al., 2024). The continued increase in foodborne diseases can be attributed to negligence (Alimi, 2016; Salamandane et al., 2023). For instance, the SSA region, which is comprised of countries such as Kenya, Senegal, South Africa, Ghana, and Nigeria, has the highest number of reported cases of foodborne disease (WHO, 2015). The statistics from the 2017 Global Burden of Disease (GBD) study reveal a high bacterial infection called

Salmonella experienced by children under the age of five years in the SSA region. *Salmonella* is the primary cause of foodborne diseases and is associated with gastroenteritis. Other pathogens commonly found in street foods, such as *Campylobacteriosis*, *Escherichia coli* (*E.Coli*), and *Listeriosis*, are found in everyday foods sold by street food vendors for consumption. These are the most common pathogens in developing countries in SSA (Tadesse et al., 2019). Many individuals residing in urban areas have access to food as a source of nutrition. In South Africa, street food vendors mainly sell fresh produce such as tomatoes, potatoes, and spinach, also known as leafy vegetables. Fresh produce is contaminated easily from the harvest to the distribution process. Sources of contamination are the picking of crates and poor food handling practices from pickers, packers, and sellers. Most handlers and packers have limited access to WASH services (Kgoale et al., 2024). This is important to understand the plant-food-nexus as the nexus is critical in identifying foodborne outbreaks (Richter et al., 2023; Kgoale et al., 2024). Statistics reveal that the lack of access to WASH facilities contributes to waterborne and foodborne infections in the SSA region. Lack of clean and safe water and proper hygiene practices contribute to the fatalities across the SSA region. For instance, in Nigeria, 90% of deaths from foodborne diseases in children were associated with the lack of WASH (He et al., 2018: 4). These fatalities are due to malnutrition, causing starvation and leading to death. These statistics underscore the critical role of WASH and the need to address these issues to protect individuals across the SSA region. The table below highlights some of the most common foodborne diseases and their characteristics. This table will provide an overview of foodborne diseases and their causative agents. It also highlights the importance of establishing the appropriate methods for cooking and maintaining good hygiene practices

Table 2.2 A summary of Salmonella Bacteria case studies causing foodborne diseases and outbreaks across SSA.

Reference	Causative agent	Country	Common street foods associated with the disease	Key findings
Gichunge et al., (2023)	Salmonella Bacteria	Kenya	Meat, chicken poultry, fresh produce	The findings revealed that the majority of street food vendors, lacked the proper hygiene practices and WASH facilities which lead to increased foodborne diseases in the area.
Wemedo et al., (2023)	Salmonella Bacteria	Nigeria	Meat, chicken poultry, fresh produce	The findings reveal that Salmonella contamination puts consumers in danger. This has a direct impact on street food vending as it pertains to food safety and public health. As this was found on the poultry, pork and egg. The occurrence of Salmonella is due to unsanitary conditions which contributes to the outbreaks in informal markets.
Aduah et al., (2021)	Salmonella Bacteria	Ghana	Meat, chicken poultry, fresh produce	This study sought out to investigate street food vendors perceptions and knowledge on meat contamination from Salmonella. This study highlights the prevalence of the Salmonella bacteria and the importance of street food vendors food safety knowledge. The results reveal that

				Salmonella is found in meat and street food vendors were aware of food safety and meat handling.
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Table 2.3 A summary of Campylobacter bacteria case studies causing foodborne diseases and outbreaks across SSA.

Reference	Causative agent	Country	Common street foods associated with the disease	Key findings
Martins (2006)	Campylobacter bacteria	South Africa	Poultry, meat and dairy products	The findings reveal that street food vendors operate in unsanitary conditions due to lack of WASH services and infrastructure. Thus, contributing to the prevalence of foodborne disease amongst consumers.
Kanadu et al., (2020)	Campylobacter bacteria	Ghana	Poultry, meat and dairy products	This study investigated fresh chicken, meat in informal markets, retail stores and supermarkets. It also looked at microbiological hazards by sampling water and collecting swabs at these markets. The results reveal that there are multiple bacteria actively found in chicken or poultry. <i>E.coli</i>, <i>Salmonella</i> was prevalent and <i>Campylobacter</i> in these informal markets and supermarkets.

Birgen et al., (2019)	Campylobacter bacteria	Kenya	Poultry, meat and dairy products	This study made use of a cross-sectional survey amongst street food vendors and consumers on food safety, knowledge and practices. A qualitative risk assessment was employed to gain sights on food safety, knowledge and attitudes. Swab samples were taken on equipment, utensils, raw and cooked portions of poultry. This study also considered risk factors. The results reveal that there is a high presence of contamination due to poor hygiene practices in conjunction with environmental factors of the street food vending environment. It was revealed that street food vendors lack food safety knowledge and handling practices was the primary reason for contamination and risks. Observations that were made also revealed that vendors operated in unsanitary conditions which accelerate foodborne diseases.
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Table 2.4 A summary of Escherichia coli case studies causing foodborne diseases and outbreaks across SSA.

Reference	Causative agent	Country	Common street foods associated with the disease	Key findings
Bisholo et al., (2018)	E. coli bacteria	South Africa	Meat (raw and overcooked), beef, poultry and fresh produce	This study highlighted the implications of foodborne diseases in SSA mainly due to inadequate food handling practices amongst street food vendors.
Moges et al., (2024)	E. coli bacteria	Ethiopia	Meat (raw and overcooked), beef, poultry and fresh produce	The study was conducted in Ethiopia to investigate food safety from street foods in open spaces. It employed cross sectional design. Samples were taken within their workstations. The results reveal the E.coli bacteria is present in their foods. 53% of the foods were contaminated with E.coli from the samples that were collected.
Salamandane et al., (2021)	E. coli bacteria	Mozambique	Meat (raw and overcooked), beef, poultry and fresh produce	This study was conducted in Mozambique and 83 samples were taken from different types of foods sold by street food vendors. Street foods such as rice, meat, beans, egg, fruit and tomatoes. The results reveal E.coli bacteria was found in these common foods. However, the vendors selling these foods in informal markets

				operated in unsanitary conditions. High levels of E.coli was found in sandwiches, fresh fruits and poultry due to pollution and unhygienic conditions.
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Table 2.5 A summary of Listeriosis monocytogenes case studies causing foodborne diseases and outbreaks across SSA.

Reference	Causative agent	Country	Common street foods associated with the disease	Key findings
Hill (2016)	Listeriosis monocytogenes	South Africa	Milk, eggs, cheese and other dairy products Prepared foods such as sandwiches and salads	This study revealed that street food vendors mainly sell unhealthy foods items or ingredients. Street food vendors in Cape Town, South Africa mainly lacked the nutrition knowledge and therefore, this has led to the increase of foodborne diseases and fatalities.
Tedesse et al (2019)	Listeriosis monocytogenes	Ethiopia	Milk, Fish, eggs, cheese and other dairy products	The study made use of a cross-sectional design to sample 218 street food vendors in Ethiopia. A structured questionnaire was administered to street food vendors to gain insights on socio-demographics and other factors. These results reveal that Listeria is a common

				pathogen or bacteria found in street foods. It also revealed that Listeria had is prevalent in informal markets. Street food vendors also revealed that they did not wash their hands with soap when handling and preparing foods. Hence, the prevalence of Listeria
Seyoum et al., (2015)	Listeriosis monocytogenes	Ethiopia	Milk, eggs, cheese and other dairy products	The investigated Listeria in street food vending environments. Samples were taken of milk or dairy products and results reveal that Listeria is detected in milk or dairy products. Lister was found in cheese (60%), milk (40%) and yoghurt (5%)

2.5.2 Salmonella

Salmonella can be a pathogen that causes foodborne diseases and fatalities (Cuypers et al., 2023; He et al., 2023). This threatens the health risks in the informal markets where street food vendors operate in SSA. Salmonella bacteria are commonly detected in raw poultry, meat, eggs, and dairy products such as milk (WHO, 2005; Tadesse et al., 2019; Niema, 2021). These foods were considered the most consumed in developing urban areas in SSA as they contain sufficient nutrition, and the growth of microorganisms is typical. A systematic and meta-analysis review and study done in SSA revealed that Salmonella is common in street-vended foods by 15.5% (Azanaw, 2022: 2).

These are common foods street food vendors sell in open markets in developing countries in SSA. Contamination of these common foods by Salmonella will occur due to the street vending environment in informal markets. The informal markets are unregulated. Therefore, inadequate WASH services and operating in unhygienic conditions are standard in developing urban areas in SSA. Thus accelerating the contamination process through food preparation and handling. A case study was done in Nairobi, Kenya, whereby a cross-sectional study design was employed, and food samples were taken. The results reveal that the street food samples (25.2%) tested positive for Salmonella (Kariuki et al., 2017: 342). This suggests that food contamination is rife and poses a significant risk to the health of individuals.

The impact of consuming contaminated street foods is profound. It can result in severe illnesses and fatalities, especially in women, children, and the elderly, who are vulnerable due to compromised immune systems. Children younger than five (5) years old carry a significant burden of Salmonella infections. Studies reveal that 1.8 million (8%) children under the age of five years die from foodborne infection (Hayamo et al., 2021: 1). The statistics are similar to a case study in Ethiopia, whereby 8.7% of children younger than five years of age are infected with Salmonella (Cuypers et al., 2023: 2).

Specific measures are being taken to reduce Salmonella contamination and infections. Some measures use effective chilling methods that significantly decrease Salmonella contamination. Research reveals that chilling foods assist in controlling microbial contamination (Buncic and Sofos, 2012). Long-term strategies such as increasing investment into WASH will improve access to WASH services and food safety measures.

2.5.3 Campylobacter bacteria

Campylobacter bacteria impact street food vendors operating in developing urban areas in SSA (WHO, 2015; Finsterer, 2022). These bacteria are responsible for the gastroenteritis cases across SSA. Research conducted in SSA reveals that Campylobacter was prevalent and considered an endemic. It also reveals that fifteen out of the forty-seven in the SSA region show high cases of Campylobacter (Paintsil et al., 2023: 117). The impact is significantly more significant in developing urban areas in SSA since food

safety measures are inadequate. *Campylobacter* bacteria can be transmitted through food that is contaminated. Common foods where *Campylobacter* bacteria can be detected are dairy products and undercooked poultry such as chicken and meat. Sixty percent of poultry and foods detected *Campylobacter* (Paintsil et al., 2023: 117). These are common foods sold in informal markets of developing urban areas in SSA.

Other sources of contamination were *Campylobacter* bacteria detected in water sources within farms where free-roaming cattle were present. In the SSA region, agricultural practices are an everyday activity widely practiced by farmers. Challenges in the farming process include poor livestock management, poor water quality, and inadequate WASH infrastructure (Espunyes et al., 2021). These factors contribute to the transmission of the *Campylobacter* bacteria (Espunyes et al., 2021; Machdar et al., 2013). This is closely linked to street food vending as they utilize poultry foods from farming, where contamination will occur. Farming activities are only sometimes present in urban areas. However, WASH infrastructure challenges are shared, thus exacerbating foodborne diseases and illnesses (Paintsil, 2023).

The body of research about *Campylobacter* in the SSA region remains limited. The limited number of research studies indicates an urgent need to research *Campylobacter*. The research can assist in formulating public health policies and initiatives. The increased access to WASH services and food safety measures will assist in policy formulation. This was deemed important due to the high mortality rate for gastrointestinal infections in children and young adults. Intense understanding will be vital in street vending to implement effective measures to improve the vending environment in informal markets.

2.5.4 *Escherichia coli*

E.coli is a pathogen prevalent in informal markets in developing SSA urban areas. It is commonly found in the gut of humans and animals (WHO, 2015). Numerous factors contribute to the spread and contamination of *E.coli*, such as improper food handling practices, inadequate sanitation, and use of contaminated water sources for preparing and handling food. In the SSA region, *E. coli* was found in everyday foods and water sources ranging from 14.7% to 82% (Kariuki et al., 2022: 3591). Being infected with *E. coli* can result in fatalities. On a global scale, 1.27 million deaths were associated with *E.coli*, whereas, in SSA, 23.5 deaths per 100 000 people (Mugampoza et al., 2013, p. 168; Kariuki et al., 2022: 3589). This underscores the need to address WASH services and infrastructure in the developing SSA region.

A case study in Nairobi, Kenya, assessed street food vendors' hygiene and food safety practices and employed a cross-sectional design. The study reveals that street food vendors operate in unhygienic conditions that lack WASH services. Furthermore, samples were taken from uncooked or raw chicken

and surfaces. The results revealed that uncooked or raw chicken had the highest sources of *E.coli*, which is commonly sold at informal markets. Other contributing factors are the presence of flies and the lack of waste management disposal facilities, causing litter within the surroundings (Birgen et al., 2020). *E.coli* is solely responsible for the outbreaks due to the lack of WASH. Poor sanitation was a significant concern in urban areas in the regions of SSA, such as Malawi, Tanzania, Zambia, Ghana, Mali, and Kenya.

Measures were being implemented to improve water quality and access to WASH services. Enhancing surveillance and monitoring and investing more in WASH infrastructure in developing urban areas are critical factors that will reduce the risk of contamination and fatalities amongst vulnerable communities. This will also assist in achieving universal access to safe and clean water as outlined in the United Nations SDGs.

2.5.5 Listeriosis monocytogenes

Listeriosis monocytogenes causes Listeriosis, a common bacteria in street foods that thrive in various environments, from processing to handling (El-Shenawy et al., 2011; Tabit, 2017). Ready-to-eat foods such as traditional dishes and sandwiches contain *Listeriosis monocytogenes*. Common foods such as vegetables, meat, milk, and cheese are often contaminated with *Listeriosis monocytogenes*. This is a public health concern as consumers find these foods nutritious and healthy. When these foods are contaminated, people are at risk. On an SSA scale, Listeriosis accounts for 20% to 30% of deaths in SSA (Jordan and McAuliffe, 2018: 181). The marginalised communities such as women, children, and the elderly are vulnerable to this infection or contamination.

Listeriosis monocytogenes can thrive in food processing environments from supermarkets or retail stores. Thus disrupting the supply chain. Due to hostility, *listeriosis monocytogenes* can survive in food processing environments (Jordan and McAuliffe, 2018). A Listeriosis outbreak in South Africa from 2017 to 2018 was linked to processed meats such as Polony, owned by Enterprise Foods. The outbreak caused 216 deaths and 1060 confirmed cases (Tchatchouang et al., 2020: 2). This impacted street food vendors using processed meats or ingredients for cooked foods. Furthermore, street food vendors and consumers became cautious about their food as they needed to adhere to strict food safety measures and standards. The lack of adherence is due to unregulated frameworks and bodies that do not enforce strict hygiene protocols.

South Africa has one of the strong frameworks and regulations. However, regulations on food safety measures and laws must catch up with international standards. In light of these outbreaks, there is a need for comprehensive measures. This will aim to improve food safety measures and hygiene practices amongst street food vendors through increased monitoring, strengthening of the surveillance system, and investment into research initiatives to conduct more research on outbreaks. In the next section,

recommendations are made for long-term strategies that can enhance the informal sector. The recommendations include enhancing community engagement and awareness, strengthening stakeholder engagement, and implementing policies that benefit street food vendors.

2.6 Future recommendations

The outbreak of various foodborne diseases and COVID-19 has highlighted the importance of access to WASH to minimise risks associated with public health. The pandemic and foodborne disease outbreak significantly impacted developing nations across SSA regions (Arias-Granada et al., 2021). This section recommends how street food vendors can improve their knowledge of food safety, hygiene practices, and sanitary conditions. These recommendations will also play a role in strengthening the WASH infrastructure and various stakeholders, such as the private sector and government.

2.6.1 Enhancing community involvement and educational awareness

There are existing policies and laws to improve WASH infrastructure, which can be deemed inadequate in some SSA regions. When considering the needs of street food vendors in SSA, it is crucial to promote SDG 6 to provide vulnerable communities access to WASH services and infrastructure. Top-down policies can be known as an institutional barrier, but when implemented, they still need to address the realities of street food. Vendors. The top-down policies do not include street food vendors but allow them to collaborate and provide their views and suggestions as they are important stakeholders. Therefore, community-based management is a more effective solution and strategy that will enable more participation amongst street food vendors and the representation of street food vendors.

Community-based management or participation was impactful as it involves meaningful participation from street food vendors to improve WASH infrastructure and hygiene practices (Mhando et al., 2021). Research suggests that there was an increase in participatory approaches in urban settings, which can assist in understanding WASH projects with community involvement through stakeholder engagement (Mhando et al., 2021). Street food vendors were important stakeholders who could assist in the decision-making process, and the solutions could be designed to suit their needs. This will result in a long-lasting impact on WASH.

Educating street food vendors on food handling practices and preparation is essential for minimising public health risks. This has been effective in recent years through workshops and training sessions beyond disseminating information to the public. These workshops and training sessions are important as they address key concepts such as handwashing techniques, safe food storage, cross-contamination, and temperature control. These concepts are essential in fostering the culture of food safety and hygiene practices and WASH.

A study was conducted in Kumasi, Ghana, employing the program as a multi-pronged approach. The FAO employed this in partnership with the Ghana Food and Drugs Authority (FDA). During this campaign, food safety principles and inspections were addressed. This campaign and program aimed to reduce outbreaks of foodborne diseases and illnesses linked to street food vendors (Ohene-Darko, 2018).

2.6.2 Strengthening stakeholder partnerships

Strengthening stakeholder partnerships between the government and the private sector was crucial in improving food safety in the informal economy. This collaboration with various stakeholder groups was essential as they shared a common goal. These stakeholders were street food vendors, the local government, and the municipality (Mhando et al., 2021). For instance, government agencies should be responsible for funding the frameworks that need to be amended. NGOs can assist by offering training materials and resources to street food vendors. Through partnership and collaboration, stakeholders can generate a comprehensive approach.

A comprehensive approach benefited street food vendors due to the need for access to WASH services and infrastructure in surrounding informal markets. This can be achieved through partnerships between local governments, municipalities, and street food vendor associations. A comprehensive approach can be achieved by designing more WASH infrastructure that can be easily accessed in urban areas and a case study in Kenya, where the water crises were highlighted. The Kenyan government partnered with a private company to expand WASH services and infrastructure (Cross Catholic, 2024). In South Africa, a similar situation has been documented. The Department of National Treasury and the eThekweni Municipality (Durban) had a history of funding water supply projects. These pilot projects have been undertaken and introduced in the 1990s (The Department of National Treasury, 2017). In addition, there was a need to prioritize and focus on additional investment and funding for sanitation projects in eThekweni Municipality, which can assist street food vendors. Furthermore, an evaluation and effectiveness of testing needs to be conducted to assess the overall suitability of the street food vendors.

2.6.3 Policy implementation and reform

In developing countries across the SSA region, the informal sector significantly contributes to the GDP. As such, marginalised street food vendors depend on the informal sector to sustain their livelihoods. In 2000, SSA developing regions contributed 42% to GDP (Aryeetey, 2015: 5). In recent years, the informal sector's contribution to the GDP has declined to 40% (Medina et al., 2017: 5; David et al., 2023: 276). This decline was mainly due to the COVID-19 pandemic, which forced the government to enforce restrictions and lockdowns. As a result, the informal sector was implicated and suffered a

significant loss, resulting in a decline in GDP. The contribution towards the GDP has created a unique identity characterized by youth participation and challenges street food vendors face due to the informality. Some of these challenges are the weak health systems and limited space to operate their workstation. The informality of the informal sector is an indication of policy intervention strategies.

The informality present in the informal sector reveals the complexity of challenges experienced by policymakers. Policymakers view the informal sector as an undeveloped economy that is unregulated. The recent COVID-19 pandemic and outbreak was seen as an opportunity for policy reform in the informal sector (Narula, 2020). The COVID-19 outbreak, and pandemic had a long-lasting effect globally. However, the SSA developing regions suffered immensely due to the stagnant economy, which impacted the vulnerable. The policy reform and recommendations are based on access to business training that will allow for financial assistance, programs, and initiatives to enhance food handling, preparation, and safety measures. Policymakers must consider an effective strategy to decrease inequalities and redistribution of resources to achieve access to WASH. This will reduce child mortality and fatalities from foodborne diseases and illnesses (Daniel et al., 2020). It will also adopt an understanding of the policy implementation required for the informal economy due to its informality and non-regulation. It will also promote inclusivity and the ability to provide a safety net amongst vulnerable communities (Etim and Daramola, 2020).

2.7 Chapter summary

This chapter provided an overview of the existing literature on street food vendors' perceptions of food safety measures, hygiene practices, and sanitary conditions across the SSA region. Tables, figures, literature, and case studies provided the current state of food safety, hygiene practices, and sanitary conditions, mainly in the SSA region. This analysis highlighted various perspectives, such as positive attitudes towards food: safety, handling, and preparation in the informal markets. Due to the harsh conditions that street food vendors work under within their workstations, there are risk factors associated with accelerated contamination of pathogens, which could lead to fatality. Some of these diseases are transmitted on surfaces such as COVID-19. These diseases are exacerbated by climate change and the lack of WASH services. As such, the developing countries in SSA regions still need to meet their SDG 6 goal of universal access to safe and clean water. This has caused a lag in most developing countries in SSA regions. However, there are areas for improvement. Recommendations include enhancing community and educational involvement, increasing private-public participation, and policy reform to tailor the needs of street food vendors. The subsequent chapter discusses the conceptual framework appropriate for this research study.

Chapter Three: Conceptual Framework

3.1 Introduction

A conceptual framework is a principle that serves as a foundation and cornerstone for robust research that aspires to achieve a goal (Varpio et al., 2020). This can be done by describing knowledge via the literature review, identifying gaps in the outlined problem, and outlining the methodological processes of the research study. A conceptual framework was generated to guide the research questions and study aims.

In this chapter, the conceptual framework utilised for this study was the sustainable livelihood approach (SLA) and political economy. This framework will address the street food vendors' perceptions of food safety measures, hygiene practices, and sanitary conditions in Isipingo and Umlazi, eThekweni Municipality, KZN, South Africa.

3.2 Sustainable livelihoods approach

The SLA attempted to underpin and reflect on what entails a livelihood due to its copious and multifaceted nature (Krantz, 2001; Bohle, 2009). The SLA is known to be a critical approach and tries to address poverty holistically. Therefore, the SLA was utilised to understand the factors affecting poverty and its associated complexities. The literature about the SLA incorporates the development of goals, policies, intervention strategies, and livelihood strategies for managing stresses and shocks in times of vulnerability. These goals, policies, and intervention strategies can be used as a guideline to overcome poverty (Morse and McNamara, 2013). This study used the principles of the SLA to address and understand the complexities of WASH challenges regarding poverty and the street food vending environment.

The SLA entails six core principles, which are described in detail below. These six core principles have been identified as a guideline for development activities strictly focusing on reducing poverty. The principles are as follows (Krantz, 2003:61):

- **People-centered:** Poverty alleviation or reduction can be achieved through prioritising people's priorities and needs. This means that poverty can be recognised in various socio-economic aspects such as gender, age, skills, and access to resources, which were not all the same. A one-size-fits-all solution cannot be utilised. Therefore, a tailor-specific solution that caters to the entire community was required.
- **Responsive and participatory:** The poor and marginalised individuals were key in assisting in developing a way to reduce poverty. A paradigm shift was necessary as this added to identifying

livelihood priorities. This enabled a transition among the key stakeholders and players in the participatory process.

- **Multi-level:** can be referred to as a vital step for eliminating poverty. The involvement of local, national, and international organisations ensures collaboration and effective communication, which can be achieved via a multi-level approach. Across these levels, a strategy was required to tackle the root cause of poverty while empowering communities and enabling a more sustainable future.
- **Conducted in partnership:** a partnership between the public and private sector. To collaborate to reduce poverty by going beyond traditional NGO and government partnerships. The private sector can play a huge role in innovation and developing strategies. Some of these include launching initiatives, programs, and skills training. This can assist with bridging the gap between knowledge transfer and implementing solutions for sustainable development for future generations.
- **Sustainable:** Economic, institutional, social, and environmental sustainability are four crucial dimensions for sustainability and poverty reduction. A livelihood needs to be sustainable by earning a decent wage or living (economic), creating a supportive community that respects one's values (social), ensuring justice and compliance (institutional), and ensuring that the available resources are currently also available for the future generations (environmental).
- **Dynamic:** The SLA seeks to understand what influences the dynamic nature of livelihoods. The reason for this can be fluctuations in people's livelihoods due to environmental and technological changes. These changes require external support to assist with such transitions, which can serve as a foundation for recognising the complexities of livelihoods. External support needs to be provided on a long-term basis. This enables the fostering of a long-term partnership between NGOs and the government.

The SLA was utilised in this study to assess the street food vendors' perceptions of food safety measures, hygiene practices, and sanitary conditions in Isipingo and Umlazi, eThekweni Municipality, KZN, South Africa. It explored street food vendors' livelihoods and utilisation of resources based on the six core principles of the SLA about WASH. Furthermore, it attempted to understand the need for access to WASH services for street food vendors. In addition, the SLA tried to understand the livelihoods and vulnerability of street food vendors in Isipingo and Umlazi, eThekweni Municipality, KZN, South Africa. To gain insights from street food vendors' livelihoods and perceptions of WASH, various case studies from the SSA region, such as South Africa, were used to evaluate and gather information on

WASH. Additionally, a socio-economic section was listed in the questionnaire to understand the trends and livelihood capabilities of the street food vendors of Isipingo and Umlazi and relate to other studies in SSA. Furthermore, the research findings can be policy recommendations for marginalised street food vendor communities.

This study addresses poverty reduction in street food vending by improving access to WASH services across low-income communities such as Isipingo and Umlazi. The socio-economic and demographics from this study will assist in gathering the status quo of street food vendors from the low-income strata. The street food vendors belonging to the informal sector were chosen as there was a high presence of informal markets in these developing urban areas. The street food vendors are selling unsafe foods, which are unknowingly being the consumers who belong to the low-income strata. Thus, causing foodborne illnesses and diseases. Furthermore, the lack of WASH services and facilities and poor education and knowledge have further led to challenges among the informal sectors.

3.2.1 Sustainable livelihoods framework

The sustainable livelihoods framework (SLF) was introduced in the early 1990s. This conceptual framework was widely applied in academia and research, mainly in rural areas such as households and low-income communities of developing countries in Africa, Southeast Asia, and Latin America. Natarajan et al. (2022:2) define a livelihood as follows:

A livelihood comprises the capabilities, assets (stores, resources, claims, and access), and activities required for living. A living is sustainable and can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation, contributing net benefits to other livelihoods at the local and global levels and in the short and long term.

In the context of this study, water can be seen as an essential asset to vulnerable communities and low-income households as it plays a vital role in their livelihoods. Mensah (2011: 13) has identified five categories of resources which are:

- Natural capital: comprises soil, water, biodiversity, and other environmental services. These services were seen as crucial in low-income communities. This can be attributed to the importance of these resources as they are utilized by individuals who consider them beneficial to their livelihoods. The natural capital was used to sustain their livelihoods. In the context of this study about street food vendors, water was a helpful resource used to sustain their livelihood. The reason is that street food vendors require water for sanitation purposes, cooking, cleaning utensils, and food preparation. Access to natural capital ensures a stable source of

income for street food vendors as income is generated. This ensures a stable source of income and food security. Furthermore, the outcome in terms of accessing water under the SLF contributes to improved food security, stable or increased income, improved well-being for humans, and reduced vulnerability (Nkosi et al., 2021; Meher et al., 2022; Salamandane et al., 2023).

- Social capital refers to the connected network of relationships between communities. It enables individuals and groups to access resources, information, and support that were seen as a component of their livelihoods. Social capital can assist street food vendors by strengthening their formal association through sharing knowledge and advocating for their rights as they belong to the informal sector. This sector can be exploited by various stakeholders, such as local government, as they are vulnerable and poverty-stricken. However, with a connected and inclusive network among various stakeholders, improvement can occur via negotiation skills, access to business training and skills, support when merchandise is confiscated, and thorough representation from various associations. Thus, holistic support for marginalised street food vendors is provided (Peimani and Kamalipour, 2022).
- Human capital refers to the knowledge, health, skills, education, and other labour resources, such as the capacity to work to sustain their livelihoods. Human capital can be known as an essential component when achieving sustainable livelihood. Acquiring educational and training skills leads to an informal street food vendor who can make informed decisions when adapting to change.
- Physical capital: commonly referred to infrastructure such as roads, shelter, housing, and WASH services. These were essential assets to sustain a livelihood for families, communities, and households. Having access to appropriate infrastructure will assist street food vendors in accessing markets. Furthermore, access to infrastructure can assist street food vendors by distributing their goods and services across the markets (Mensah and Joseph, 2011). In this context of street food vendors, WASH services were crucial for food preparation, safety, and hygiene. The lack of access to WASH services accelerates foodborne diseases and illnesses, leading to health risks among poverty-stricken consumers.
- Financial capital: credit, debits, investments, savings, income, and wages. Financial capital can be known as an asset that can sustain livelihoods through monetary means. In terms of this study, street food vendors belong to the low-income sector, which was unregulated and

fluctuating in terms of consumer demand. The consumers in this sector also belong to the unskilled and low-income sector, thus creating a volatile market for street food vendors to build up capital.

3.3 Political Economy

The political economy emerged in the eighteenth century (Walker, 2024). The emergence of the political economy was to create controversy regarding the economy and how is the current economy benefitting all its citizens especially the marginalised (Peet, and Thrift, 2023). The political economy can be used to examine the dynamic relationships between various components namely politics, society and economics. In addition, political economy seeks to understand the distribution of resources, power dynamics and wealth in societies due to its complexities (Cohn and Hira, 2020). Also, it aims to inform and develop policies to promote well-being and social justice. Power dynamics, economic equality, globalisation and public policy were key concepts in understanding political economy (Walker, 2024).

In this study, the political economy was used to examine the relationship between street food vendors as a marginalised sector comprising of the urban informality who are vulnerable and succumb to a lack of WASH facilities creating an impact economically and socially on all stakeholder via consumers, street food vendors and local government officials. The street food vendors contribute greatly to the informal unregulated economy yet at times their dignity and human rights can be violated. As their surroundings and working conditions are unfavoured. In this study of Isipingo and Umlazi, eThekweni Municipality, KZN. The street food vendors are subjected to lack of infrastructure and WASH facilities which makes them vulnerable and at risk to unhygienic conditions. In terms of power dynamics, street food vendors have little to no power of the informal economy since it is unregulated by authorities. Their surroundings and working conditions are unfavourable. As they were subjected to the lack of suitable infrastructure and WASH facilities making them vulnerable and at risk. As a result, the vulnerable unregulated street food vendor of the urban informal area succumbs to economic and health impacts.

Economic inequality involves how the current trading system displays inequality in society (Brady and Sosnaud, 2010). Also, focusing on exploitation of the unregulated informal sector. Street food vendors are trapped in a vicious cycle of inequality as they were categorised under the low-income sector. For instance, the inequalities vary from high costs to access WASH services, limited access to clean, safe water and discrimination in relation to sex, gender, race as well as ethnicity. Street food vendors were unable to afford the access to WASH services as they were unable to purchase permits which can grant

them access to these WASH facilities. Street food vendors in this study have numerous challenges however, one of them related the affordability to access WASH services as they cannot afford permits.

Globalisation plays a crucial role in the political economy as it considers the impact of global forces on local economies such as the informal economy in the SSA region (Etzold, 2013). An example of globalisation elaborates on the increased partnerships of private organisations to provide access to WASH facilities at an affordable rate. This has made it challenging for street food vendors to access WASH facilities at affordable rates. Leading to unequal access to the WASH services for those who cannot afford. This was evident in marginalised low-income communities. The promotion of privatisation markets in the economy is due to the adoption of the neoliberal ideologies which are adopted by many developing countries across the SSA region (Carlquist and Phelps, 2014). Adama,2020) further elaborates that this will result in increased inequality in access and affordability to services. Minimal involvement from the government in the region of SSA results in increasing further violation of human rights and dignity (Wikan, 2015) for those within a developing context

The environmental consequences have an impact on the vulnerable group of street food vendors. In April 2020, the heavy rainfall and flooding events that occurred in Durban, KZN exposed vulnerability of the communities in Umlazi and Isipingo. Critical WASH services and infrastructure was left severely damaged (Africa News, 2022). Similarly, in Cape town, South Africa, environmental hazards such as the recent floods that occurred in June 2024. Which have caused the lack of WASH provision in surrounding areas in Khayelitsha and Gugulethu. The Daily Maverick (2024) revealed that eThekweni Municipality community members have been complaining about the lack of running water for the last five years. This case can be applied in the eThekweni Municipality communities in Umlazi and Isipingo. These challenges continue to be persistent as they are underdeveloped and are subjected to vulnerability.

3.4 Chapter summary

This chapter discussed various conceptual frameworks in relation to this study. The conceptual framework aimed to understand the challenges related to the lack of access to WASH in urban areas. The SLA and political economy conceptualised on the significance of WASH in urban areas utilising the assets to sustain the livelihoods of street food vendors. And how these challenges faced by street food vendors such as the impacts of climate change, flooding and extreme weather events have affected the street food vendors of Umlazi and Isipingo, eThekweni Municipality, KZN. The subsequent chapter will focus on the research methodology which were seen fit for the research study.

Chapter Four: Methodology

4.1 Introduction

This chapter presents the research methodology used in this study. Furthermore, this chapter is further divided into the following sections: study area and description, research design, research methodology, different sampling strategies and data collection instruments, and fieldwork experiences. The investigated case studies were Umlazi and Isipingo, eThekweni Municipality, KZN. Both of these case studies are located in South Africa, in the province of KZN. This study used the mixed methods approach and was collected from September to December 2022. The mixed methods approach was suitable for this study as it allowed the researcher to administer questions and interview a key informant.

4.2 Study area and Description

4.2.1 Background of the study areas

This study was conducted in two study areas which are Umlazi and Isipingo, eThekweni Municipality, KZN. This study sites are Umlazi and Isipingo situated in eThekweni, KZN (Figure 3.1). The geographical coordinates for Umlazi and Isipingo, eThekweni, KZN respectively are as follows:

- 29° 58' 16'' S 30° 52' 42'' E; and
- 29° 58' 22'' S 30° 55' 44'' E

This study area falls within the eThekweni Municipality, KZN, a coastal province known for its coastlines, beaches, and mountains. eThekweni Municipality, KZN's main economic drivers are agriculture and manufacturing, and it has the largest port (The Real Economy Bulletin, 2016). Furthermore, the busiest ports were known as Durban and Richards Bay. Notably, the province of KZN was well known for the industrial zones such as the Dube Trade Port and the Richards Bay Industrial Development Zone (RBIDZ), which has created employment opportunities and further boosted industrial growth (The Department of Trade, Industry, and Competition, 2021). This province has shown diverse agricultural activity, mainly in the capital city of KZN, Pietermaritzburg (PMB) (KwaZulu-Natal et al., 2018). Evidence reveals that agriculture contributes to the KZN economy, accounting for approximately 3% of its output (KwaZulu-Natal et al., 2020: 7). This contribution was relatively small compared to the other industries and sectors, such as manufacturing (16%) (The Real Economy Bulletin, 2016:3). At the provincial level, KZN was known to be the second largest contributor to the growth of the economy and contributes 16% of the GDP of the country (KwaZulu-Natal et al., 2019: 3).

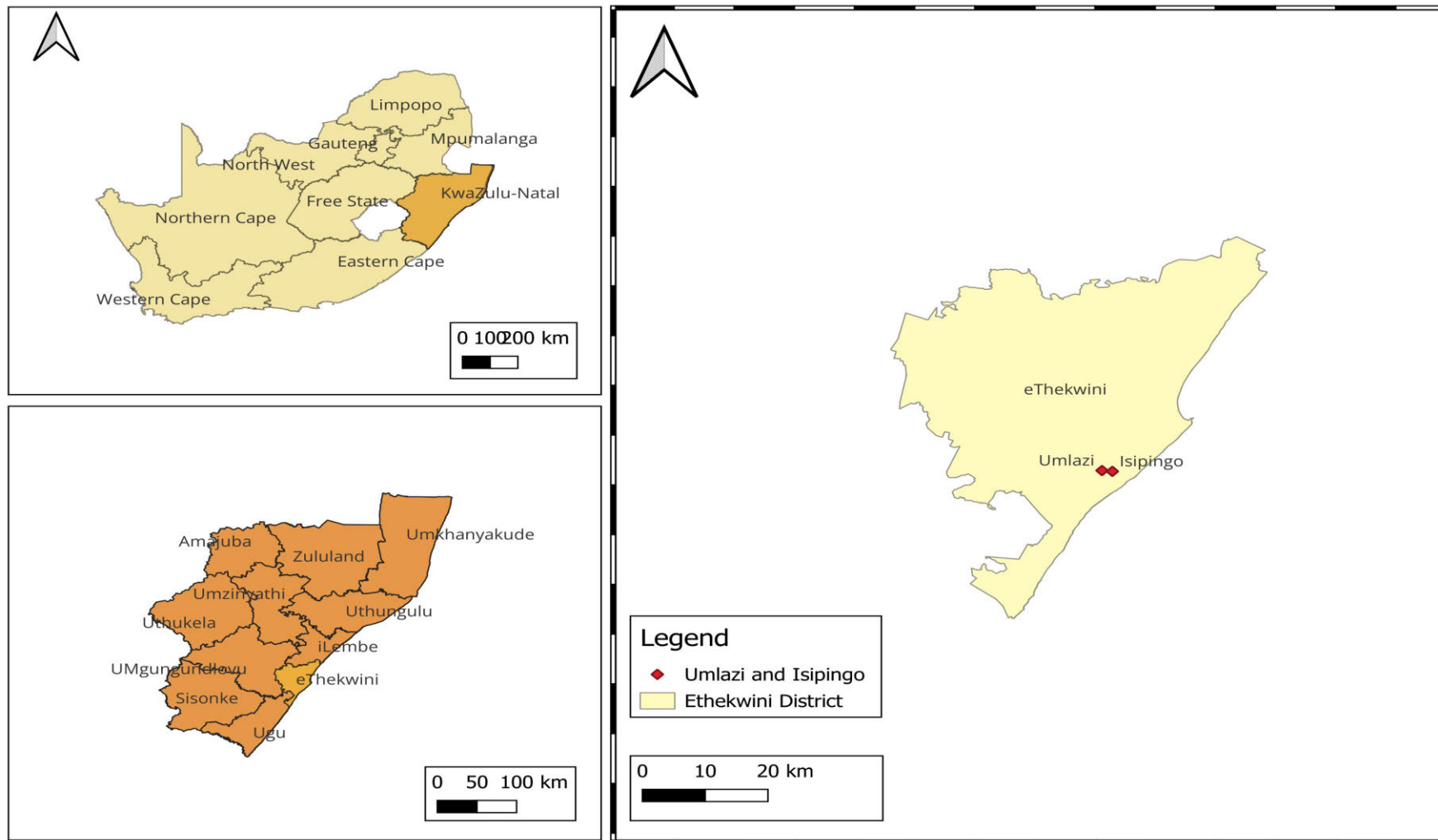


Figure 4. 1 Study area showing Umlazi and Isipingo, eThekweni Municipality, KZN

4.2.1.1 eThekwini Metropolitan Municipality

Metropolitan Municipality, commonly known as eThekwini, can be located on the east coast of South Africa in the province of KZN (Figure 4.1). The eThekwini Metropolitan is the third largest metropolitan municipality in South Africa (Douwes, 2018). Thus, Johannesburg and Cape Town are the second and third largest metropolitan cities. The eThekwini Municipality, KZN, covers an area of 2 55km², making it accessible via national roads such as N2, N3, and King Shaka International Airport. The eThekwini Municipality, KZN is divided into the Central eThekwini Region (CER), Southern eThekwini Region (SER), Outer West eThekwini Region (OWER) and Northern eThekwini Region (NER) (Kwazulu-Natal Economic Development, Tourism and Environmental Affairs, 2018; Cooperative Governance and Traditional Affairs, 2020).

The eThekwini Municipality, KZN, has a total of approximately 3.9 million people, of which 34.7 % accounts for the total population of the KZN province (KwaZulu-Natal Provincial Planning Commission, 2016:4). Statistics show that at least 2.1 million residents who reside at eThekwini live below the poverty line (Integrated Development Plan, 2019:4). Official statistics from the Stats SA (2016:2) derived from the Stats SA Community Survey reveal that 17.1% of the population receive no income. The people who reside in the eThekwini Municipality areas come from different ethnic backgrounds. The African community is the majority of the population (74%), the Indian community (18%), the white community (6%), the colored community (2%), and other nationals (0.4%) (Cooperative Governance and Traditional Affairs, 2020: 3).

eThekwini, the municipality, can be known and labeled as an economic powerhouse for the growth of the South African economy for both the formal and informal sectors (The Real Economy Bulletin, 2016). eThekwini Municipality, KZN, was known for its tourist attractions. These tourist attractions are holiday destinations for many: the beachfront, uShaka Marine World, the Moses Mabhida Stadium, and the Durban International Convention Centre (ICC) (KwaZulu Natal Economic Development, Tourism and Environmental Affairs, 2018).

The study areas that will be discussed are Umlazi and Isipingo, eThekwini Municipality, and KZN, as well as their relevance to this study. Umlazi, eThekwini Municipality, KZN was a well-known township, and prior to colonization, it was formerly known as Vumengazi tribal area. Dense informal settlements characterized Umlazi Township, and it is popularly known for its flourishing local economy. The density of the Umlazi Township was comprised of people searching for employment opportunities. For example, street food vending and the local food system were one of the opportunities. Light Industrial Hub, eZimbuzini Automotive Hub, kwaMnyandu shopping center, and Informal Trading stalls are the most popular, vibrant areas and hubs used for street food vending. The Umlazi Township comprises neighboring industrial areas such as Isipingo, Amanzimtoti, and Jacobs (Mkhize

et al., 2023). Isipingo, eThekweni Municipality, KZN, is an area well-known for its industries. Isipingo falls under the South Durban Basin of KZN, where most businesses and employment opportunities exist. Furthermore, Isipingo had been associated with impoverished communities. Isipingo was known for its wholesale and retail sector and markets such as the Isipingo Market and Isipingo Traders Shelters (Women in Informal Employment: Globalising and Organising, 2015).

4.2.1.2 Isipingo

Isipingo is a small town in the south of Durban in KZN, South Africa. Isipingo can also be considered a part of the eThekweni Municipality, KZN. The Southern region of the eThekweni Municipality is on the border and adjacent to the central and western metropolitan regions. Isipingo was well-known for its historical background and predominance of Indians, leading to the historic struggle for the right to trade within the area. The predominance of Indians in Isipingo and the surrounding areas enabled them to establish a strong foundation within the local economy. Therefore, it significantly contributes to job creation in the local economy. During the apartheid era, certain areas were reserved only for whites. Thus creating segregation among the races.

Therefore, the Indian presence grew through the CBD and south of Durban (Kumar et al., 2018). The south of Durban was commonly known as Durban's industrial hub. This is due to an array of services and businesses. Some of these businesses are directly related to the informal sector known as street food vending markets, such as Isipingo Market and Isipingo Traders Shelters. The informal trading can be traced back to the 1870s when most Indians set up their food stalls in Warwick Market and Grey Street (Ngubane, 2023). The informal markets have become popular as a place for entertainment and for other tourist activities. The Isipingo region is dominated by lower to middle-income residents and individuals (KwaZulu Natal Economic Development, Tourism and Environmental Affairs, 2018).

4.2.1.3 Umlazi

Umlazi is known to be located on the east coast of KZN and to the south of the eThekweni Municipality. Umlazi covers an area of 47.5 km², making Umlazi township the fourth largest township in South Africa after Soweto, Tembisa (Murwirapachena et al., 2018; Sosibo, 2023). The Umlazi area comprises a population of 404,811 residents or inhabitants, with approximately 99% comprising the African community (Murwirapachena et al., 2018: 9). Only 43% of the households or informal settlements in the Umlazi township are headed by women (Integrated Development Plan, 2019:14). Women living in these areas are fully involved in the informal economic activities within their community. The Umlazi township is comprised of African residents who were allocated to this area due to the Group Areas Act. This Act was used to segregate African people from other racial groups (Venter, 2020). During this time, the apartheid government rolled out housing projects in the townships to accommodate the black

African residents. Thus, the Umlazi township emerged in an attempt to resolve the housing crisis. The Umlazi area is renowned for the KwaMnyandu Mall and Umlazi Megacity, which have a dense presence of informal traders or street food vendors (Mukwidigwi and Naidu, 2023). These two shopping centers or malls are critical in developing the local economy and SMMEs of the Umlazi Township. The Integrated Development Plan (2020) states that small to medium enterprises (SMEs) in the informal economy aim to equip their businesses by providing sufficient training. The development of shopping malls in the Umlazi Township has stimulated the economic growth of the South Durban Basin (KwaZulu Natal Economic Development, Tourism and Environmental Affairs, 2018).

Additionally, it resulted in further growth opportunities as there was also a presence of informal economic activities such as street vending and SMME businesses (Amoah-Mensah, 2016; Cooperative Governance and Traditional Affairs, 2020; Marliati, 2020). Umlazi and Isipingo, eThekweni Municipality, and KZN were chosen as suitable study areas for this research study due to the similarities of street food vendors operating within informal markets. Umlazi and Isipingo, eThekweni Municipality, KZN are known for economic opportunities, accessibility, convenience, and the diversity of the consumers and traditional dishes sold by street food vendors. These two communities are located in the southern coastal region of eThekweni Municipality, KZN. Floods occurred in April and May 2022, which enabled street food vendors to be more susceptible to the risk of contamination. Street food vendors were subjected to poor hygiene and cleanliness within the area.

4.3 Research methodology

Using the correct research methods results in an accurate representation of data. The research process follows three strategies: data generation, which is also known as acquisition, analysis and display, and presentation of findings (Alam, 2021). Data generation was highly dependent on data sources. These data sources can be primary and secondary data.

4.3.1 Pragmatism paradigm

This study employs the pragmatism paradigm approach to support and complement the mixed methods research approach. The pragmatism paradigm can be seen as a justification and partner for the mixed methods approach. The combination of the quantitative and qualitative methods allows pragmatism paradigm to effectively bridge these two methodologies. By bridging these methodologies, the researcher is able to seek practical solutions to the real-world problems. Thus, allowing the researcher to address specific research questions through diverse data sources and methodologies.

4.3.2 Mixed methods

Mixed-method research refers to a particular research design incorporating at least one qualitative and at least one quantitative component, contrasting with mono-method research (Creswell, 2013). Numerous justifications for this design have been provided by other authors (Creswell, 2013; Lamm and Lamm, 2019).

A mixed method was used to conduct this study, employing both quantitative and qualitative aspects. Quantitative research methods can be conducted to test the objectives by determining the relationship among the variables used in the study (Khaldi, 2017). Quantitative methods are divided into two research design categories: experimental and non-experimental. Qualitative methods are used in this study via a semi-structured interview schedule with the key informant from eThekweni Municipality. The appropriate category used for this study was a non-experimental study.

The non-experimental research design is categorised into descriptive, comparative, and correlational. The descriptive study is the most suitable research design. Khalid (2017) mentions that descriptive research can be beneficial when emphasising the conditions and situations collected by the primary investigations.

4.3.3 Convergent Parallel Design

Mixed methods are adaptable and flexible, which can be used to reveal the differences in the results between studies. Mixed methods can be designed into four types: convergent parallel, embedded, explanatory sequential, and exploratory sequential. The type of mixed methods design used for this research study is the convergent parallel design. This design assisted the research study by utilising quantitative and qualitative data which co-occurred in one area. Both qualitative and quantitative data were analysed separately. The researcher interviewed the key informants and street food vendors from the eThekweni Municipality.

4.3.4 Qualitative

Based on the concept of qualitative research methods comprises in-depth interviews, video footage, audio materials, observation, and focus groups, which can be used to gain a deeper understanding of people's behaviours and experiences (Renjith et al., 2021). Qualitative research methods assist the researcher with decision-making and addressing the 'how' and 'why' (Renjith et al., 2021). Qualitative research methods can be structured, unstructured, and semi-structured interviews.

Greeff (2005) and Ruslin et al. (2021) stated that the semi-structured interviews that can be employed in a research study were meant to provide in-depth analysis and understanding from the respondents' point of view and allow for the elaboration and development of new ideas. The focus of these semi-

structured interviews was based on the official's profile, the impact of COVID-19 on street food vendors and food safety, flooding that occurred in April and May 2022, the perceptions of food safety and hygiene measures, and sanitary conditions. These insights were discussed thematically before a conclusion was drawn. Only one key informant for this study was identified using purposive sampling. An interview with the official from the eThekweni Municipality Business Support Unit assisted in providing detailed information on street food vendors' livelihoods, food safety, hygiene measures, and sanitary conditions. The eThekweni municipality consisted of a department dedicated to supporting and looking after the interests of the informal traders and other SMMEs named the Business Support Unit. Only one key informant was selected using the purposive sampling technique since only one individual manages the central regions in the eThekweni Municipality. Other employees from the Business Support Unit were excluded since they needed to meet the minimum requirements. The researcher searched for a key informant with experience in the informal sector for more than a decade. This fit as the key informant could provide the researcher with valuable information and insights.

Furthermore, the interview lasted approximately 60 to 90 minutes. Notes were documented during the interview. The key informant provided sufficient and helpful information based on the semi-structured interview schedule (Appendix II). The key informant had much experience after working for more than a decade in the Business Support Unit; thus, it was helpful when analysing the data. This response assisted in providing recommendations and allowed the researcher to provide an informed narrative when answering the objectives.

4.3.5 Quantitative

Quantitative research methods were described using deductive logic. Using variables, these quantitative methods can separate the social or physical world (Shannon et al., 2018). Quantitative research ignores human experiences and responses, creating an objective setting (Rutberg and Bouikidis, 2020). The questionnaire consists of open and close-ended questions. Open and unstructured questions were simple 'Yes' or 'No' questions. Furthermore, quantitative methods involve formulating a hypothesis that can later be used to distinguish between variables and outcomes (Shannon et al., 2018).

A structured questionnaire consisting of open and closed-ended questions was constructed. The structured questionnaire was administered to street food vendors within their stalls who operate legally under the laws of the eThekweni Municipality. The first set of questionnaires was administered on 16th September 2022 after being granted ethical clearance, which was obtained from the HSSREC. The researcher sampled one hundred street food vendors in Umlazi, eThekweni, KZN. The initial one hundred street food vendors were collected from 16th September 2022 to 30th October 2022. The researcher encountered inconveniences such as rainy days in the Spring season in 2022. At a later stage,

another one hundred street food vendors were sampled in the Isipingo, eThekweni Municipality, KZN, which is widely known can be widely known as a busy and dynamic area (Chen, 2012).

The Isipingo, eThekweni Municipality, KZN study area data was collected from 1st November 2022 to 20th December 2022. The data was collected from 08h00am to 16h00pm, and during this data collection period, the Summer season had just commenced. Therefore, there were more sunny days; however, Durban does experience Summer rain, which may have affected the data collection process. The researcher took advantage of the sunny days, which made it suitable for data collection. All two hundred respondents from Umlazi and Isipingo, eThekweni Municipality, KZN, were requested to respond to the structured questionnaire. When the questionnaire was administered, the participants were asked if they would participate and signed an indemnity form. These questionnaires were close-ended, simple, and easy to understand with a Yes or No answer. These responses will differ based on the experiences of different street food vendors across the stalls. Thus, this gives the researcher a more detailed, structured, and extensive view of the perceptions of street food vendors. These questions and responses contain vital statistical information that can be coded into the IBM SPSS version 23.0. This software can be used to analyse complex data sets and manage data.

By incorporating mixed methods research, the quantitative and qualitative sources are combined. The researchers gained valuable insights, which were explained in chapter five. The study evaluated street food vendors' perceptions of food safety measures, hygiene practices, and sanitary conditions in Umlazi and Isipingo. The questionnaires assessed and measured the quantitative data on food safety measures, hygiene practices, and sanitary conditions. Interviews from the key informants in the eThekweni Municipality provided qualitative data on the street food vendors' experiences, opinions, and perspectives. The findings were compared with the existing literature about the perceptions gathered from this study. This was further elaborated in chapter five.

Table 4. 1 Table showing the difference between qualitative and quantitative methods (Namey et al., 2005; Langkos, 2015)

Characteristic	Qualitative	Quantitative
Type of data	Described in a narrative manner	Described numerically
Analysis	The analysis and data that is interpreted remains non-statistical	The analysis and data that is interesting remains statistical
Primary advantage	The primary advantage of the qualitative studies is normally rich and in-depth	Samples large data, statistical valid and accurately reflects the population
Primary disadvantage	Small sampling of data	Superficial thoughts and feelings
Scope of inquiry	A large portion of qualitative data is based on broad and thematic concerns	Based on hypothesis and specific questions

4.4 Selection of sample

4.4.1 Sampling

While sampling is classified as a tool, in research it is difficult to represent the entire population. Thus, researchers use sampling to avoid assessing the entire population. Sampling is a subset of the population. However, the sample can be seen as dependable and credible (Lakens, 2022; Julius, 2023). The sampling size is dependent on the degree of confidence in data analysis. The bigger the sample, the more accurate the data (Julius, 2023). Non-probability and probability sampling methods were explained below within this study's context.

4.4.2 Sampling size

Sampling is necessary in research investigations to represent the entire population statistically. For this study, a sample size of two hundred respondents from Umlazi and Isipingo, eThekweni Municipality, KZN, were chosen and included. This sample size was considered to be a reliable sample for this study. This study included street food vendors or handlers selling cooked foods, fruit, and vegetables within their stalls. Furthermore, it is vital to note that the street vendor population needs to be discovered in the south of Durban (Mahopo, 2022). This is due to the fluctuating population of street vendors. In the developing context, the population is dynamic, and urban cities constantly change (Salamandane et al., 2023). Therefore, it is impossible to provide the actual population. The street food vendors in this study were sourced from shopping malls, shopping centers, taxi ranks, schools, and pavements. The sample size 200 was determined based on the non-probability purposive sampling method, which ensured adequate representation of street food vendors in Umlazi and Isipingo. This size aligns with Krejcie and Morgan's sample size represented in their determination table for a population exceeding 10,000. Additionally, prior studies focusing on informal vendors in urban areas have utilised similar or smaller sample sizes to derive meaningful insights. In addition, in this study the time frames and resources also restricted the researcher from choosing a larger sample size. However, meaningful analysis was carried out to ensure statistical validity. The available time and resources also constrained the choice while ensuring statistical validity and meaningful analysis. In this study, inclusion and exclusion criteria for choosing the respondent were as follows:

Inclusion criteria

- Two hundred street food vendors from Umlazi and Isipingo area such as shopping malls and centres, taxi ranks, schools and on pavements;
- street food vendors who handled cooked foods;
- street food vendors who handled meat, fresh produce such as fruits and vegetables;
- street food vendors who worked on the premises or within their food stalls;
- street food vendors who were sheltered and unsheltered;
- street food vendors who prepared foods from raw ingredients; and

- an official from the Business Unit Support with more than ten years of experience in the industry.

Exclusion criteria

- Street food vendors who refused to provide consent;
- Street food vendors who had any acute or chronic conditions that would limit the ability of the respondents to participate in this study; and
- street food vendors who do not cook or handle food;

4.4.3 Sampling strategies

In the research phenomenon, multiple sampling strategies can be used to collect and gather data. Practically, it was only feasible to study some of the population. Therefore, a sample representative of a population was sufficient to draw necessary conclusions (Laken, 2022). When taking samples, a researcher needs to consider sampling methodology and size.

Non-probability sampling allows for the determination of sampling error to a target population, which, therefore, introduces bias into the investigation or study (Stratton, 2021). A sampling technique used to administer questionnaires to the street food vendors within their food stalls is a non-probability sampling technique used interchangeably with convenience sampling (Vehovar, 2016; Rahman, 2022). A non-probability or convenience sampling technique was appropriate for this study as it allows researchers to sample at little or no cost. Furthermore, it was appropriate to sample street food vendors due to the accessibility and availability of street food vendors at that given time. For instance, street food vendors are accessible at a given location and area. Therefore, to sample street food vendors, it would be appropriate to sample at popular attractions where street food vendors are more likely to be visible and available. The questionnaires conducted amongst street food vendors were determined by what was being measured and did not ensure bias and randomness.

The sampling technique used to sample the key informant was purposive. This sampling method benefited the study as it considered the small sample and population within the research study. It can often be used when the researcher is targeting a specific population and has insights into what makes up the target population. The researcher approached potential participants who were willing to participate in this study. An observation was used to check and detect the working conditions and the surrounding environments for each food stall. Limitations and suggestions were recorded on the observation sheet used for reporting. The researcher purposively chose the official from the eThekweni Business Unit Support. The official from Business Unit Support was selected as the key informant due to the ten (10) years of working experience in the department. Therefore, a purposive sampling technique was used to identify the official. A meeting took place with the Programme manager from

the eThekweni Municipality and Municipal Institute of Learning (MILE) via a Zoom meeting. During this Zoom meeting, the researcher informed the MILE official about the research aims, objectives, and sampling methodologies. The purpose of the Zoom meeting was for the researcher to explain the purpose of conducting the research study. This meeting took place via a Zoom meeting in March 2022.

4.5 Research Instruments

There are various ways and procedures for collecting data using research instruments (Zohrabi, 2013). Research instruments include interviews, observations, and questionnaires (Hagan, 2014). The research instruments assist the researcher and investigator align the questionnaires and interviews based on the research aims and objectives. This section explains which research instruments were used when collecting data. The research instruments are divided into two categories: (1) primary and (2) secondary data (Oluwastosin, 2023).

4.5.1 Primary data sources

The use of primary data sources is highly vital in research, especially when the data is collected by the researcher (Jones et al., 2023). Various methods are employed to assemble primary data sources. These include observations, surveys, interviews, case studies, and questionnaires. The use of primary data sources is important as it assists the researcher in finding solutions to the research problem of the study or investigation. However, there are advantages and disadvantages associated with using primary data sources which need to be considered.

The advantages of primary data include the researcher's ability to collect data using various tools. These tools include interviews, emails, and telephone surveys. This is beneficial as the researcher can use the data collected to remain original and relevant to the study. On the one hand, primary data provides the researcher with current and up-to-date perspectives based on the study (Kabir, 2016; Jones et al., 2023). On the other hand, primary data sources have disadvantages. Primary data sources are time-consuming (Oluwastosin, 2023). Therefore, the design and structures of the tools used are essential. Another disadvantage is that primary data collection is costly to researchers (Kabir, 2016). Especially when conducting surveys and interviews. For this study, the researcher used questionnaires and interviews. The questionnaires were administered to the street food vendors, and the researchers were able to collect valuable information. This information consisted of the socio-demographic profile, household income, sanitary conditions within the environment, food preparation, food safety, environmental exposure, and recommendations. An interview with the eThekweni official about food safety and hygiene measures

and WASH facilities in the eThekweni Municipality, KZN, was conducted. The questionnaires were administered by trained field assistants under the researcher's supervision. The field assistants underwent a two-day training workshop covering this purpose of the study, ethical considerations, and the proper manner of administering questionnaires to ensure consistency and reliability. Of the 200 questionnaires distributed, 195 were completed and returned, yielding a response rate of 97.5%. Reasons for non-responses included time constraints and vendor unwillingness to participate.

4.5.2 Secondary data sources

Secondary data sources mean that the data collected is by someone else (Oluwastosi, 2023). This means the data collected is collected using other sources such as websites, books, journal articles, and government publications. This study used secondary data sources such as Stats SA, IDP, and ILO. These are vital sources when conducting a study based in South Africa as they provide an understanding of street food vendors' livelihoods, household backgrounds, and socio-demographic profiles. Secondary data sources serve as an upper hand as they assist with identifying research gaps and opportunities.

The significant advantage of secondary data sources is their cost effectiveness (Kabir, 2016). This enables the researcher to utilize the information that has already been collected. Secondary data sources enable the researcher to understand the research aim and problem. However, there are disadvantages to using secondary data sources. These are incorrect citations and issues with copyright and authenticity (Rabinovich and Cheon, 2015). On the one hand, the researcher may experience obsolete data, which is often unreliable. On the other hand, secondary data sources provide the endeavour with insights that can contribute to the existing literature.

4.6 Data validity

Data validity is a critical aspect of research to ensure the accuracy and reliability of the collected data. Data validity ensures that the measurements of the observed and collected data accurately represent the results and analysis in chapter five. This will allow the researcher to conclude and make well-informed decisions. Valid data plays a vital role in maintaining the integrity of research findings and enhancing them in real-world scenarios. It ensures accuracy and credibility and reduces errors in data collection. Data validation was utilized for the research study. The reliability of the questionnaire was tested in a pilot study using 10 street food vendors in Isipingo and Umlazi, respectively. These questions were also evaluated under a panel of experts with experience in food safety and hygiene—Cronbach's alpha (α) ranged from 0.689 to 0.821 for the different constructs.

4.7 Data analysis

Data analysis includes collecting the necessary data on paper; the data were captured and categorised for analysis. This was done through a questionnaire and a semi-structured interview with a key informant. Data analysis involves reviewing and interpreting data using different statistical tools. The tools used to analyse data are Excel spreadsheets via Microsoft Excel. Pie charts and graphs were computed for visibility purposes. The data from the semi-structured interviews were also analysed using themes. Interviews were not recorded; however, an in-depth analysis was reported to identify key points and aspects for interpretation. The in-depth interviews captured the perspective of the key informants related to the aspects of street food vendors: hygiene measures and food safety. However, privacy was respected between the researcher and the respondent being interviewed. All data and information collected during the sampling process were kept with a password-used computer to prevent outside users from accessing the data.

4.8 Ethical considerations

This study did require an ethical clearance from the Humanities and Social Science Research Ethics Committee (HSSREC) through the Ethics Unit Research Office using the RIG online platform. The entire process for approval took three months, and in August 2022, the researcher was ethically cleared (see Appendix IV). The researcher was given a HSSREC number HSSREC/00004404/2022. The University of KwaZulu-Natal (UKZN) approves and monitors processes for using animals and humans in research. In addition, the applications are filled out on the appropriate application form following the specific guidelines as instructed in the online platform. The researcher needs to consider the following aspects: permission, informed consent, privacy, and confidentiality. To gain permission to sample the study site, the researcher must obtain a gatekeeper's letter from the eThekweni municipality (see Appendix III).

Additionally, the researcher requires permission from the UKZN Research Committee. Once the researchers are ethically cleared, sampling and data collection can be done. The ethical clearance was valid for one year. This ensures that the research and data collection process is carried out within a specified time frame. An informed consent is required for the respondents to sign to maintain confidentiality. Also, this is a critical step, especially since it involves sampling human participants, and sensitive information may be revealed. When the researcher approached street food vendors, they were informed about the background of this study. The researcher gave the respondents a choice on whether they preferred to participate in this study. The informed consent was in English and IsiZulu. To maintain privacy and confidentiality, the data collection information was used for research purposes only, and respondents' personal information was not revealed. Quantitative reliability was ensured through pilot testing, while qualitative credibility was achieved via triangulation of interviews and observations. Data validity was enhanced by member checking and an audit trail.

4.9 Limitations and fieldwork experiences

During the data collection process, researchers were faced with several challenges. During the process of collecting data among street food vendors, the main limitation of this study was collecting data in Spring and Summer only. The data was collected during Spring and Summer 2022 due to obtaining ethical clearance in August 2022. The researcher took one month to start the data collection process to prepare, plan, and organize how the questionnaires were distributed for both study areas. This information would have been valuable and essential in comparing the different season data sets. More data collection during summer would have influenced the quality and sample size. Due to time constraints, this was not possible.

Another limitation was that street food vendors were reluctant to provide information about their household background, income, and profits. This type of information made street food vendors uncomfortable and uneasy. This is considered and categorised as revealing sensitive information. The researcher may have felt the respondents were dishonest or not being transparent due to their uneasiness when asked these questions. This may have had a potential effect on the quality of the data. However, respondents were informed that the information they provided to the researcher would be considered confidential and private.

A shorter, concise, and clear questionnaire allowed more data collection and improved the quality of results and analysis. The researcher administered a detailed and lengthy questionnaire to the two hundred respondents in Umlazi and Isipingo, respectively, who were street food vendors. A lengthy and detailed questionnaire was designed and administered to save time and cost so that the researcher could collect as much data as possible (see Appendix I). However, the lengthy questionnaire also interfered with the business operations of the street food vendor. During the data collection process, it was crucial to be considerate of the street food vendors' businesses as it may appear that the researcher was being a hindrance to potential customers and, additionally, implicating their business and income. The interview with one key informant from the eThekweni Municipality was conducted (see Appendix II). Thus, the interview occurred at the eThekweni Municipality Business Support Unit in the Isipingo area in December 2022.

4.10 Chapter summary

This study adopts a mixed methods approach focusing on the study areas: Umlazi and Isipingo, eThekweni Municipality, KZN. Qualitative and quantitative techniques were used to interpret and analyse data displayed in tables, graphs, or figures. The questionnaire formed part of the quantitative technique, and the interview with the eThekweni official formed part of the qualitative technique. The researcher had identified limitations and fieldwork experiences in this study. These limitations were essential as they assisted with reflecting and providing guidance to improve the methodology for future

research endeavours. In the subsequent chapter, the findings and results are derived from the data collected from the study areas in Umlazi and Isipingo, eThekweni Municipality, KZN.

Chapter Five: Data presentation, analysis and discussion

5.1 Introduction

This research study investigated perceptions on food safety, hygiene measures and sanitary conditions. The questionnaires were distributed and administered to the street food vendors of Umlazi and Isipingo of eThekweni Municipality, KZN respectively. These questionnaires were administered to a total of two hundred street food vendors using convenience sampling. The results that were obtained and presented, analysed and discussed in this chapter. Microsoft Excel was used to formulate the frequency tables and bar graphs. The data in this chapter was captured and analysed via the use of SPSS version 25. In addition, an interview with the Business Unit Support Official at the eThekweni Municipality, KZN took place using the purposive sampling technique. The data was used to gain an understanding of the street food vendors business operations in eThekweni Municipality, KZN. The results were analysed in themes. This chapter will be divided accordingly into the following themes:

Questionnaire

- Socio-demographic profile;
- background information on household;
- locality of street food vendor;
- employment and business of street vendors;
- sanitation and storage;
- food preparation and food safety;
- environmental exposure; and
- recommendations and suggestions.

Interview with eThekweni official

- Profile;
- permit access;
- sanitary conditions and infrastructure;
- COVID-19 and street food vendors; and
- floods and its impact on street food vendors.

5.2 Socio-demographic profile

A total of two hundred street food vendors in Umlazi and Isipingo, eThekweni Municipality, KZN respectively was sampled using the non-probability sampling also known as the convenience sampling method. The researcher administered questionnaires to street food vendors in Umlazi and Isipingo, eThekweni Municipality, KZN respectively. The purpose of this section were to reveal socio-demographic information such as household information, education, gender, age and profits. This can

be seen as a very crucial aspect in the urban and human geography field as it gives the researcher and reader an idea of the current economic situation of the particular region or country.

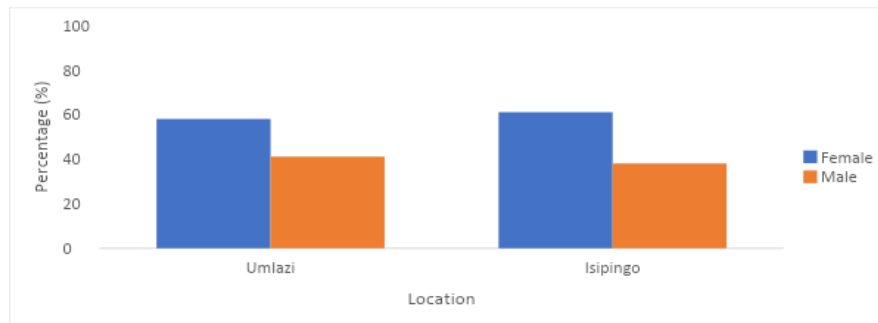


Figure 5. 1 Gender of respondent (in %)

Figure 5.1 indicate that there were about 59% and 61% female street food vendors in Umlazi and Isipingo, eThekweni Municipality, KZN respectively. Whilst male street food vendors are estimated at 41% and 38% in Umlazi and Isipingo, eThekweni Municipality, KZN. This is in correspondence with Hariparsad and Naidoo (2019) who put forward that women are the main drivers of the informal economy. Moreover, in KZN, women also make up 58% of the informal sector and are involved in the selling of cooked foods (Hariparsad and Naidoo, 2019:2). Women are more likely than men to engage in economic activities in this sector (Moussie and Alfes, 2018). This occurs as a result of the informal sector favouring women over men. Another explanation for this result is that according to Statistics South Africa (Stats SA) (2021:20), the female population is approximately 30.7 million and the male population is amounted to 29.3 million. There are about 11.5 million people who reside in the province of KZN (Stats SA, 2020: 16). This can be interpreted that there are more females than males in the South African population which results in a longer life expectancy of females compared to males (Stats SA, 2021). The main reason for the gender imbalance in the informal sector can be attributed to rural-urban migration whereby younger females who are widowed, single or divorced are migrating to urban areas (Dunn and Maharaj, 2023). These females on entering the urban area are unskilled and without prospective employment. Feminisation of poverty refers to an increase in inequality due to widening gender gap (Adeola et al., 2023). This imbalance requires in-depth understanding of migration patterns. The main reason for more female participation in the informal sector can be attributed to the vulnerable economic situation women were faced with. Thus, this informal sector is attractive as it is not regulated. Furthermore, women partake to escape poverty (Duna and Maharaj, 2023; Peprah et al., 2023). Black women engaging in the informal sector has its origins in the apartheid era where they experienced exclusion from formal economic activities (Dunn and Maharaj, 2023). Black women were disadvantaged, in the apartheid era was mainly engaging in domestic work in urban areas due to the patriarchal nature of the South African society (Mutukwa and Tanyanyiwa, 2021). Men were expected

to work and provide for their family (Griffith and Cornish, 2018) With the first democratically elected government in South Africa there was a shift in gender patterns whereby, women migrated to urban areas and participated in the informal sector (Zondi and Magwaza, 2023). These were efforts made to address the injustices of the past which allowed more opportunities for black women.

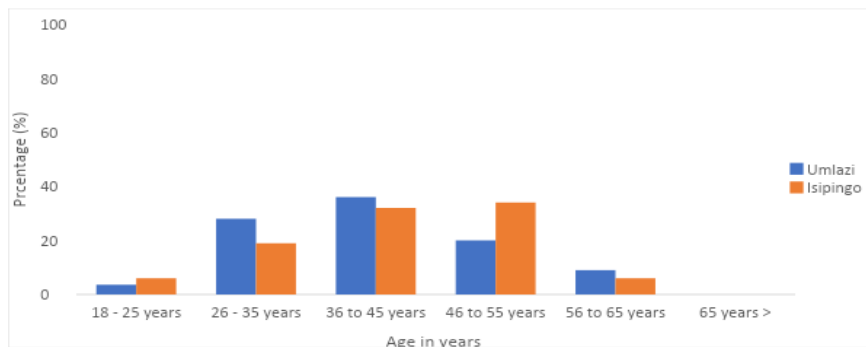


Figure 5. 2 Age of respondents (in %)

Figure 5.2 indicates that the majority of street food vendors vary between 36 to 45 years age group with approximately 36% and 32% in Umlazi and Isipingo, eThekwni, KZN respectively. This simply means that this age group can be considered the working population for the majority of street food vendors. This is in correspondence with a study done in Vietnam in Can Tho City whereby the age group of 36 to 55 years accounted for 56% of street food vendors (Ba Huynh-Van et al., 2022). Age can be an important indicator as to which age group, actively contributes to the informal sector. Also, indicative that it can be difficult to obtain employment in the formal sector.

The lowest number of street food vendors were in the age categories of 18 to 25 years which amounts to 4% and 6% in Umlazi and Isipingo, eThekwni Municipality, KZN respectively. This age group is considered the youth of South Africa. The Statistics South Africa Quarterly Labour Force Survey indicates that youth from 18 to 25 years is extremely vulnerable. There has been an increase in youth unemployment by 2% (Quarterly Labour Force Survey, 2022:2). None of the street food vendor respondents in Umlazi and Isipingo, eThekwni Municipality, KZN respectively belonged to the age category of 65 years and above. This age group were considered to be the pensioners. There are approximately 5.5 million people in the 60 years and over age group category (Statistics South Africa, 2022:5). Furthermore, in 2019 the emergence of COVID-19 has impacted the vulnerable age category of 60 years. This means there was a higher fatality rate amongst this age group during and post COVID-19 (Cloete and Rajartnam, 2020). Thus, decreasing life expectancy for both males and females in the 60 years and over (Statistics South Africa, 2020). This can be attributed to a weak health care system. Based on the Figure 5.2 above the distribution of ages in the informal sector especially street food

vending activities show that age were not a barrier when it comes to participating in the informal economy.

Race	Umlazi (n=100)	Isipingo (n=100)	Total (n=200)
African	100	86	93
Indian/Asian	-	14	7

Table 5. 1 Racial composition of respondents (in %)

The Table 5.1 reveals that 86 % in Isipingo, eThekweni Municipality, KZN were African. Fourteen percent of respondents from Isipingo, eThekweni, KZN comprise of Indian or Asian descent. The African population makes up 81% of South Africa's population (Statistics South Africa, 2021:8). Additionally, the African population is considered the majority of the population and are mainly located in poorer rural and urban areas (Tumwesigye et al., 2023). Africans were overrepresented amongst street food vendors in Durban or eThekweni due to the nature of the workforce. Evidence also shows that the African population is highly dependent on the informal sector to sustain their livelihoods (Beresford, 2019). Key factors contributing to this is due to lack of skills development and access to quality education, excessive rules and regulation as well as financial exclusion by the formal sector (Makgetla, 2020; Abel, 2023).

This has resulted in a gap in terms of inequality across South Africa can be attributed to apartheid. The cause of the huge inequality gap in South Africa amongst the different races is due to apartheid. In 1948, the Nationalist Party (NP) came into power which proceeded to keep African's inferior compared to their white counterparts whereby they had access to power and more economic control over the inferior. During the apartheid era, there were laws and legalisation that were put in place to keep Africans segregated thus creating differences amongst all races. Therefore, Africans were denied a good quality education in townships as well as rural and urban areas which perpetuated the cycle of poverty (Gama and Willemse, 2015). Towards the end of the apartheid era, there was an emergence of SMEs especially in the informal sector which benefited the African population creating a survivalist economy to sustain their livelihoods (Rogerson, 2000; ILO, 2009). Some of these laws and legalisations benefited Africans to make amends for the past. Furthermore, the African population saw the informal sector as an opportunity to change their economic situation of their households as a survivalist strategy and to increase their livelihood (Gama and Willemse, 2015; Newman and Barney, 2023; Van Wyk et al., 2023).

Nationality	Umlazi (n =100)	Isipingo (n =100)	Total (n =200)
South African	94	100	97
Non-South African	5	-	2.5

Table 5. 2 Nationality of respondents (in %)

The Table 5.2 reveal that the majority of street food vendors were South African in Umlazi (94%) and Isipingo (100%). The reason for a high presence of South African street vendors could be due to the urban growth rates and more employment opportunities found in the informal economy. This means that South Africans see the informal sector as a source of income to end the cycle of poverty and to combat unemployment. Statistics reveal that unemployment in South Africa is relatively high and is currently in a crisis (Uys et al, 2007; Quarterly Labour Force Survey, 2019). The unemployment rate in South Africa is 32.6 % (Quarterly Labour Force Survey, 2019:1; Quarterly Labour Force Survey, 2023:1). The escalating unemployment rate has resulted in the individual's seeking employment in the informal economy. However, to account for more South Africans in the informal economy as street food vendors were due to the minimal requirements to be employed in this sector.

Non-South Africans such as Malawians and Somalians were not present in Isipingo, eThekweni Municipality, KZN. Approximately 5% of street food vendors were non- South African in Umlazi, eThekweni Municipality, KZN. The main reason for the rapid increase of the urban population is due to rural-urban migration resulting in urbanisation. This involves the movement of individuals or a population from one place to another. Migrants or immigrants are constantly seeking better employment opportunities, healthcare and improvement to their standard of living. However, the shift from rural to urban is expected to continue. Additionally, less educated people are compelled to engage in street food vending in order to make a living and improve their standard of living as there are very few chances for them to succeed in the formal sector of the South African economy (Tshikhudo and Manenzhe, 2021). Many migrants engage within the informal sector as their only source of income (Sohel et al., 2022; Recchi, 2021). Rural-urban migration strongly contributes to the variation of the demographics of an urban area especially in South Africa (Mthiyane et al., 2022; Weinreb et al., 2020).

Foreign nationals finding it extremely difficult to obtain documentation or permits (Rech, 2021). It could also be due to the tension between South Africans and foreign nationals as evidenced by xenophobic attacks in 2008 and more recently by violent protests being organised, vigilante violence, arson attacks on the homes and businesses of migrants, and even murder of foreign nationals (United Nations, 2022). Xenophobia is defined as (Mubangizi, 2021:141):

Fear and hatred of strangers or foreigners or of anything that is strange or foreign

The xenophobic attacks originated in Alexandra, Johannesburg and further migrated to the city of Durban where further riots and violent protests erupted (Matunhu, 2008). The hatred of foreign nationals originated from South Africans stating that foreigners are stealing their jobs. These jobs are in the informal and formal sector. However, foreign nationals migrate from their countries to South Africa to seek a better life due to economic recession and social unrest. These are called push factors. Most of these jobs were in the informal sector. These informal businesses are mainly operated by foreign

nationals who are the targets for these violent attacks. During these protests, foreign nationals were encouraged to go into hiding (Grant and Thompson, 2014).

On the one hand, the emergence of these attacks on foreign nationals are disastrous for the formal and informal economy, with the latter bearing the brunt (Mubangizi, 2021). Many urban areas have a high presence of immigrants and foreign nationals because street trading is an opportunity where an individual can maximise profits. This is also due to a diverse metropolitan attitude from locals, street food traders, regardless of nationality street food vendors can find an opportunity to maximise profits (Arias, 2019).

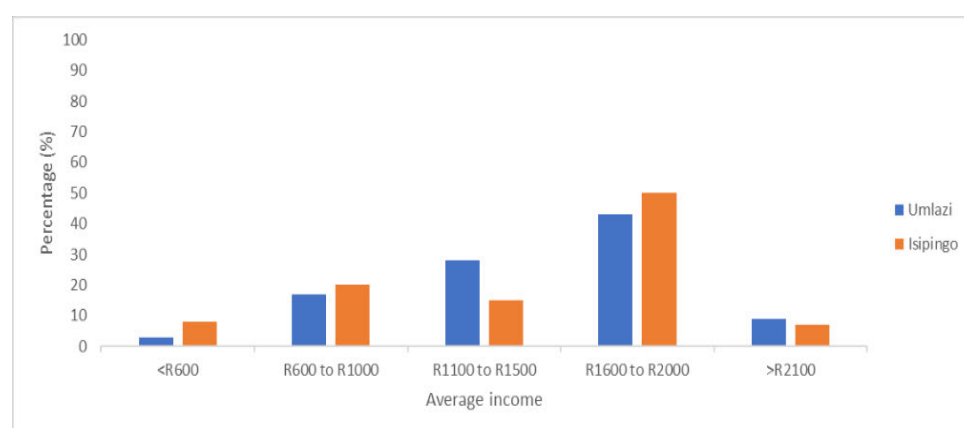


Figure 5. 3 Respondent average income (in %)

The Figure 5.3 above indicates that the majority of respondents earn an average income of R1600 to R2100 South African Rands (ZAR). A study done in the Johannesburg CBD indicated that a large number of respondents earn an average income of less than R5000 per month (Oladipo-Adekeye and Tawit, 2021). Respondents further elaborated that their income is utilised to pay taxes and other expenses and that street food vending is their only source of income (Knox et al, 2019; Oladipo-Adekeye and Tawit, 2021). Street food vendors earn below the minimum wage in South Africa. Therefore, the profits can only sustain their livelihoods (Knox et al., 2019). Street food vending is considered labour intensive and requires individuals to be productive during the operation of their business. Based on evidence, it was noted that female street vendors utilise their income to take care of their family members. This is due to female street food vendors' domination within the informal economy (Hill et al., 2019). Female street food vendors have more responsibilities than their male counterparts (Olah et al., 2018). This applies to the formal and informal sector. Women tend to take on more additional responsibilities at home than at work (Olah et al., 2018; Achmand, 2023). These activities include child-bearing activities, breastfeeding, cooking and cleaning. This finding is consistent, and a particular study found that among women street food vendors, they supported themselves and their families with the daily money from food vending, which covered expenditures for

food, utilities and essentials like water, power, and education. They were the main providers in their houses. Their income is highly dependent on the number of hours you work in a day and that street food vendors' earnings are typically erratic and subject to change from week to week (Skinner and Valodia, 2003; Bhoola and Chetty, 2022).

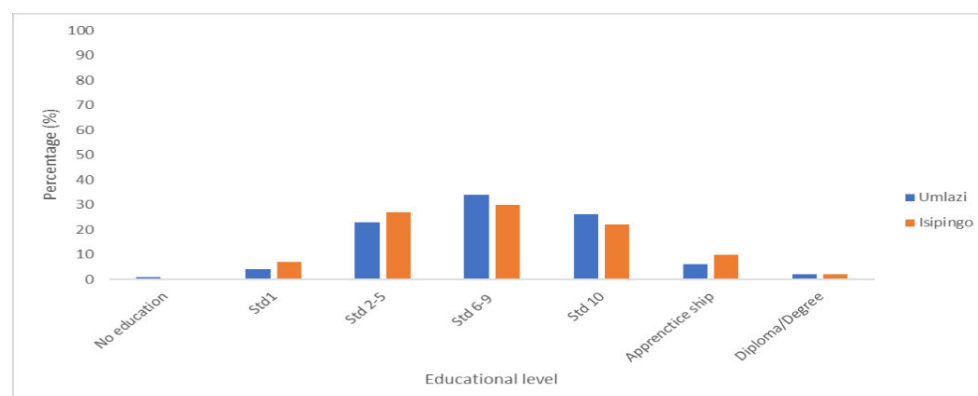


Figure 5. 4 Respondent's education levels (in %)

The Figure 5.4 reveal that 38% of respondents from Umlazi and Isipingo, eThekweni Municipality, KZN received education up to Standard 6 to 9 (Grade 8 to 11). The low levels of education amongst street food vendors simply exposes the current situation of their livelihoods. Therefore, the formal education component is necessary to gain knowledge as it allows for their business to grow and implement the necessary technologies to their business (Tshikhudo and Manenzhe, 2021).

In South Africa, many street food vendors do not have the necessary funds to further their studies as many of them are underprivileged (Oladipo-Adekeye and Tabit, 2021). Therefore, street food vendors tend to resort to the informal business as the requirements are not strict compared to the formal sector. However, the street food vendors are more likely to have not completed secondary school and have lower levels of education. Only 26% and 22% in Umlazi and Isipingo, eThekweni Municipality, KZN respectively have attained a matric pass. This is in correspondence with a study done in Johannesburg Central Business District (CBD). The results indicated that 14% of street food vendors have reached Grade 7 to 12 (Oladipo-Adekeye and Tabit, 2021). The results for these two study areas are similar. There are approximately a 1% of street food vendors who have not received an education. Further questions were asked about respondents who have degrees or diplomas. Most respondents have received a diploma, certificate, degree in hospitality or catering. Many women who responded have worked in the hospitality industry for more than 5 years and familiar with the catering and cooking business.

The results concern the varying levels of education of street food vendors are in line with the results of the study by Bhoola and Chetty (2022). That study found that all respondents acknowledged that they had applied for employment in various sectors in eThekweni Municipality, however they had been

unsuccessful. Three respondents claimed that they resorted to selling street food after obtaining their university bachelor's degrees and applied for numerous graduate jobs which were unsuccessful. Furthermore, three participants did not finish their secondary education. Since these women do not have other means of support, selling street food became their chosen form of employment. Although completing their matric (Grade 12) and completing secondary school, respondents indicated that they lacked the financial means to pursue a tertiary education (Bhoola and Chetty, 2022).

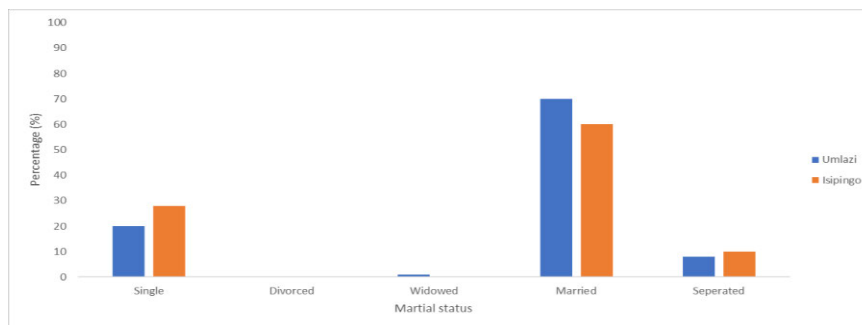


Figure 5. 5 Respondents marital status (in %)

Figure 5.5 indicates that a majority of respondents were married street food vendors for both Umlazi (70%) and Isipingo (60%), eThekweni Municipality, KZN respectively. Therefore, there was a dominance of street food vendors who are married. Being married plays a huge role in a household. It implies that there is a presence of a dual income (Tuffour, 2022). Furthermore, street food vendors who are married are women, they perceive the street food business as an additional income to sustain their households and livelihoods (Mahopo et al., 2020). Tuffour (2022) also examines that being a street food vendor who is married implies that there is a presence of responsibilities in the household. These responsibilities are namely family and community which may have an effect on the growth of the business.

These findings are in correspondence to those of Kirumirah and Munishi (2021) and Omenu and Aderoju (2008) indicating that there are predominately married street food vendors in contrast to being single. Furthermore, the large proportion of married street food vendors further confirm that marriage enhances their financial situation within their households (Muyanga et al., 2011). Figure 5.7 also shows that 20% and 28% of street food vendors in Umlazi and Isipingo, eThekweni Municipality, KZN are single. Whilst there are about 8% and 10% who were separated street food vendors in Umlazi and Isipingo, eThekweni Municipality, KZN respectively.

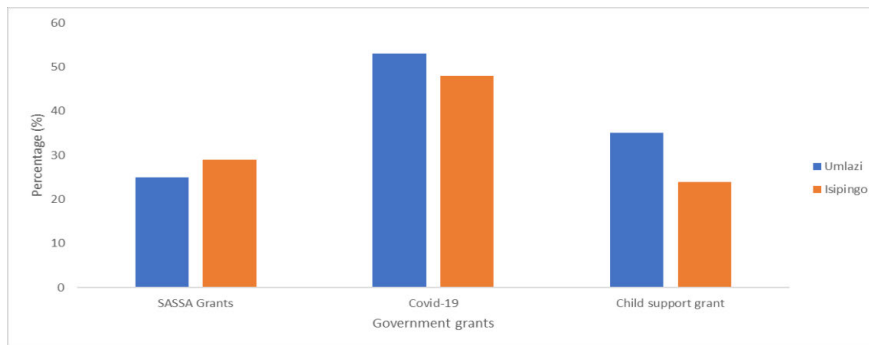


Figure 5. 6 Government grants (in %)

All respondents in Umlazi and Isipingo, eThekweni Municipality, KZN have indicated that they were living with disability. The Figure 5.6 above reveals that there were approximately 53% and 48% of street food vendors that are dependent on COVID-19 relief grants in Umlazi and Isipingo, eThekweni Municipality, KZN respectively. The reason for this were due to the South African government that had introduced lockdowns and restrictions in March 2020. These ongoing lockdowns and restrictions forced street food vendors to reside at home and businesses were not operational. Due to the lockdown measures to curb the spread of the pandemic, their livelihoods suffered in turn affecting their profits. The negative impacts include loss of profits and decrease in sales especially in their businesses. Other factors include not being able to afford to purchase stocks at supermarkets when prices increased due to inflation and the stagnant growth of the economy. Additionally, business owners form the informal sector had no choice but to lay off employees within their business (Gaffar et al., 2022). Thereafter, the South African government introduced the COVID-19 Social Relief of Distress (SRD) as a strategy and response to alleviate poverty. The COVID-19 SRD was initially rolled out for six months in April/May 2020 and was extended to April 2021. In 2022, one of the commitments of the State of the Nation Address (SONA) given out by the President Cyril Ramaphosa reveals to (SONA:2022:14):

Extend the R350 Social Relief of Distress Grant to provide a minimum level of support for those who are unemployed. As we work to grow the economy and create jobs, we will expand support to poor families to ensure that no person in this country has to endure the pain and indignity of hunger

The Department of Social Development (DSD) and the South African Security Agency (SASSA) plays a critical role in providing the COVID-19 SRD to unemployed individuals and those facing economic hardships during COVID-19 (Mokoena and Mazenda, 2023). The SRD is also known as the special R350 COVID-19 grant. The SASSA is responsible for administering the social grants especially the COVID-19 SRD. A case study was done Khayelitsha, Cape Town to assess the experiences COVID-19 SRD in South Africa. Those findings were in correspondence to the results above whereby the informal sector were mainly dependent on the COVID-19 SRD. It is estimated that 1.5 million street

food vendors and other informal sector workers were heavily dependent on the SRD (Megannon, 2023:9). The majority of street food vendors lost their jobs during COVID-19 thus making them even more vulnerable (Thanh and Duong, 2023). Furthermore, 54% of respondents in that study who were women benefited from the COVID-19 grant. Approximately, 70% of respondents were men who were beneficiaries (Megannon, 2022:8).

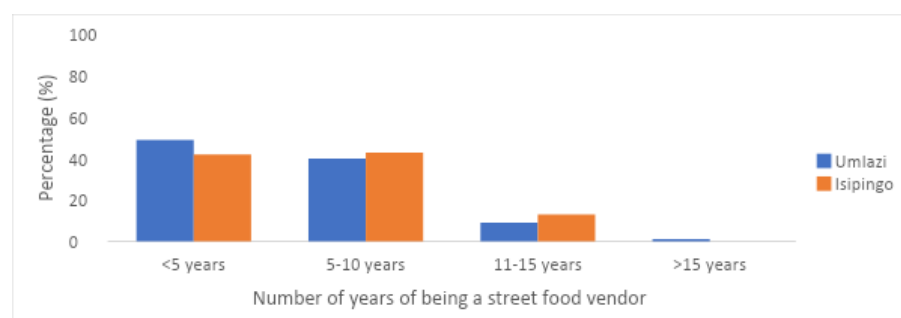


Figure 5. 7 Number of years being a street food vendor (in %)

Figure 5.7 reveal that there are approximately 49% and 42% in Umlazi and Isipingo, eThekwin Municipality, KZN respectively who have worked for less than 5 years. This is due to the nature of their labour. The informal business is constantly busy and dynamic. Therefore, most employees experience uncertainties within the informal business industry due to the lack of security and unstable income (Mpofu and Sibindi, 2022). The number of years worked as a street food vendor is co-dependent on the conditions and treatment under which they trade in. Figure 5.7 reveals that 40% and 43% of the respondents were in street vending for 5 to 10 years in Umlazi and Isipingo, eThekwin Municipality, KZN respectively. Whilst 9% and 13% of the respondents in Umlazi and Isipingo, eThekwin Municipality, KZN respectively, have worked between 11 to 15 years. These findings were in correspondence with the study that was conducted in Mpumalanga. In that study, 66.7% of vendors have less than five years of experience, while 16.7% have more than five but fewer than ten years. Only 3.3% of participants answered having less than 20 years of vendor experience, compared to 13.3% who mentioned that they had more than 10 years (Tshikhudo and Manenzhe, 2021).

5.3 Background information on the respondent's household

Head of household	Umlazi (n = 100)	Isipingo (n = 100)	Total (n = 200)
Head of the household			
Yes	52	58	55
No	48	42	45

Table 5. 3 Respondents findings on headed households (in %)

Table 5.3 reveals that there are approximately 58% and 52% of the respondents indicated that they were the head of the household in Isipingo and Umlazi, eThekweni Municipality, KZN respectively. Additionally, the respondents further commented that they receive support from other family members. The majority of the respondents were female headed households in Isipingo, eThekweni Municipality, KZN. In terms of the urban informal sector which applies to street food vendors, female headed households were found to be the poorest. Statistics reveal that women were mainly employed in the informal sector in South Africa. Furthermore, this implies that the informal sector is attractive to women from the middle- and lower-income strata. Additionally, women are contributing to the household expenditure especially women who have dependants such as elderly family members, siblings or children of their own (Khan and Khan, 2009).

A recent case study in Kumasi, Ghana was done to assess the dynamic role women play in the informal economy (Peprah et al., 2023). Results reveal that 57.6% of women who are street food vendors contribute immensely on the household expenditure due to their engagement of economic activities (Peprah et al., 2023).

Number of people	Umlazi (n=100)	Isipingo (n=100)	Total (n=200)
Respondent	15	12	13.5
Mother	26	24	25
Grandmother	24	39	31.5
Husband	8	10	9
Father	20	15	17.5
Sister	2	-	1
Uncle	5	-	2.5

Table 5. 4 Number of people living in respondent's households (in %)

From the Table 5.4 the majority of respondents (39%) indicated that grandmothers were the head of the household in Isipingo, eThekweni Municipality, KZN. Followed by 26% of respondents in Umlazi, eThekweni Municipality, KZN indicated that their mothers were the head of the household. In South Africa, research implies that elderly women such as grandmothers are highly present in the South African household (Stats SA, 2022). The General House Survey (GHS) (2022:6) reveal that in KZN there is approximately 40.1% of extended households. Extended households imply that there are more family members living in the same household such as aunts, uncles, grandmother and uncles creating security and a nurturing environment for their grandchildren.

The household composition is important to understand the dynamics in a household in South Africa. In a typical household setting, the support from the households originates from extended family members. Household composition plays a pivotal role for demographic purposes which include the poverty line and minimum wage (White and Masset, 2003; Posel, 2023). Evidence reveals that the household size

changes with pension being present in their household. This finding implies that elderly individuals, especially black women are the primary caretaker of the household (Burns et al., 2005).

The poverty levels are an indication of the current state of the economy and country. The DSD has stated that the elderly group have no access to additional income to support their households. Furthermore, the elderly receive free healthcare, housing subsidy and additional grants from the South African government. Therefore, the elderly support their households within the low-income communities (Goven and Leite, 2016).

Only 26% of respondents in Umlazi, eThekweni Municipality, KZN indicated that their mothers were the head of the household. There has been discourse around the female and male headed households in relation to the nuclear family. A nuclear family assumes the presence of the biological parents and offspring. Both these gender differences play a role in society and mould the structure of the family as they provide stability to the household. Female headed households were known to be vulnerable. Approximately, 15% and 12% of respondents in Umlazi and Isipingo, eThekweni Municipality, KZN respectively indicated that they live alone which implies that they do not receive any additional support from other family members.

Number of people	Umlazi (n=100)	Isipingo (n=100)	Total (n=200)
0	10	4	3.5
1	0	0	0
2	6	8	7
3	25	20	22.5
4	21	30	25.5
5	28	27	27.5
6	10	9	9.5

Table 5. 5 Number of people residing in households (in %)

From the Table 5.5 the results reveal that in Isipingo, eThekweni Municipality KZN there were 30% of households that indicated that there were at least 4 people in a household. Only 28% of the respondents in Umlazi, eThekweni Municipality, KZN indicated that there were about five people in a household. Only 25% of the respondents in Umlazi, eThekweni Municipality, KZN indicated that there were about three people in a household. The household data gives an insight on how street food vendors reside within their households. These insights also describe on the type of background, the demographic characteristics as well as their cultural factors influence their economic decisions. Family size and composition include number of dependents, children and infants (Malik and Khan, 2008). The importance of household composition is an indicator of the well-being of these extended family members. In a developing country such as South Africa, it is typical to find extended family members in a household resulting in the increase of the household size (Amoateng, 2008). The importance of

household composition and size is significant as it indicates the economic situation of the household (Anakpo and Kollamparambil, 2023). During, the COVID-19 lockdown whereby many South Africans underwent an economic and financial crisis, many street food vendors had to return to their households. During the recession of the economy many individuals lost their jobs and income. There was an increase in household size and composition whereby many individuals returned to their original households for economic support. Thus, resulting in a shift to larger households with an increase in size (Posel et al., 2023). A similar case study was done to examine the household size of the informal sector during the COVID-19 pandemic in South Africa. The findings reveal that 19 respondents out of the 218 respondents for the survey stated that there was an increase of household size during the lockdown (Pitoyo et al., 2021).

Sources of income	Umlazi (n =100)	Isipingo (n =100)	Total (n =200)
Child support grant	60	70	65
Informal income	25	20	22.5
Remittances	-	-	0
Pension	-	-	0
Wages	15	10	12.5

Table 5. 6 Main source of income (in %)

The Table 5.6 illustrates that the street food vendors are dependent on another source of income which are mainly child support grants. The results in the Table 5.6 reveal that grants are used to provide street food vendors additional income within their household. Statistics indicate that there are about 60% and 70% of street food vendors in Umlazi and Isipingo, eThekweni Municipality, KZN respectively that are making use of the child support grant as their main source of income. As such, the majority of the respondents were female street food vendors who utilise the child support grant. Approximately, 12 million children in South Africa are receiving the child support grant (Ubisi et al., 2023:268).

The child support grant is administered through the SASSA offices and ranges from R480 to R500 per month and per child (The Department of Social Development, 2020). The reason for the dependency of the grant is due to the precariousness of the labour market in the informal sector especially street food vendors who operate in townships or rural areas such as Umlazi and Isipingo, eThekweni Municipality, KZN. Both these study areas show characteristics of high unemployment rates, informal businesses and most of the individuals are dependent on the grants provided by the government (Masuku and Nzewi, 2023; Rajesh et al., 2023). This is an indication that the majority of street food vendors cannot meet the basic needs for survival and live below the poverty line. As a result, the street food vendors or informal workers are dependent on government grants such as child support grant as a strategy to alleviate poverty. The child support grant provides support and social security to their children. However, a case study was done in Buffalo City Metropolitan in Duncan village, Eastern Cape to assess the socio-

economic levels in the township or rural area. The results revealed that the street food vendors in Duncan village are indeed dependent on grants such as the child support grant (Masuku and Nzewi, 2023).

5.4 Employment and business of street vendors

Employment and business	Umlazi (n=100)	Isipingo (n=100)	Total (n=200)
Season of the year which the business is most occupied			
Summer	81	90	85
Winter	-	-	0
Spring	15	15	15
Autumn	1	3	2
Employment in the formal sector			
Yes	30	20	25
No	70	80	75

Table 5. 7 Business and employment (in %)

The Table 5.7 illustrates that street food vendors residing in Isipingo, eThekweni Municipality, KZN indicated that their business is mostly occupied during the summer (90%), followed by spring (15.45%). Approximately, 81% of street food vendors in Umlazi, eThekweni Municipality, KZN who were also busy during the summer season. Winter is the least busy season of the year for street food vendors. This implies that street food vendors perceive to make the most profits during the summer. On rainy days and wet seasons street food business owners do not operate. In relation to this finding, in their study on street vending as an occupation, it was revealed that participants adjusted their daily routines and street trading activities to the changing seasons by learning new skills or selling items that are in demand. Additionally, summer and spring are good seasons to make more profits as there are more tourists during those times (Boonjubun, 2021). This indicates that street food vendors in South Africa are compelled to adjust to the seasons which accommodate the unpredictable nature of the weather. In the event of extreme weather events, transportation costs might not be recovered.

Owner and number of employees of the business	Umlazi (n=100)	Isipingo (n=100)	Total (n=200)
Owner of the business			
Yes	73	60	66.5
No	27	40	33.5
Number of employees			
One	20	8	14
Two	40	42	41
Three	13	34	23.5
More than four	-	-	0

Table 5. 8 Owners of their business (in %)

From the Table 5.8 the majority of the respondents (73%) indicated that they were the owners of the business in Umlazi, eThekweni Municipality, KZN. Whilst 60% of respondents indicated that they are the owners of the business in Isipingo, eThekweni Municipality, KZN. Based on observations, street food vendors who owned their business were not present. As a result, business owners employ food handlers or employees to manage their business throughout the day. The food handlers mainly engage with customers by serving them food. Additionally, food handlers are heavily involved in the business as they work longer hour throughout the day (Choudhury et al., 2011; Guha, 2022).

An additional question was asked to business owners on how many employees they have hired within their business. The majority of respondents indicated that 46% of respondents who owned the business indicated that they employ between two to three people. Therefore, the majority of SMEs are known as survivalist businesses which mainly employ two to three people. This is an indication that street food vendors generate more employment opportunities in the SME sector (Mkhize et al., 2013). Other findings reveal that the employer of the street food vendor business on average employs two to four employees per business (Huynh-Van, 2022). From the Plate 5.1 below it illustrates the type of employment that street food vendors are engaged in such as selling fruits and vegetables.

Previous work experience	Umlazi (n=100)	Isipingo (n=100)	Total (n=200)
Never been employed permanently	65	55	60
No formal qualifications	20	15	17.5
Worked as a retail assistant	5	2	3.5
Worked as a domestic worker	3	8	5.5
No formal working experience	7	20	13.5

Table 5. 9 Previous employment (in %)

From the Table 5.9, the majority of respondents indicated that 65% and 55% have never been employed permanently in Umlazi and Isipingo, eThekweni Municipality, KZN respectively. Being employed permanently in South Africa is when employees that have benefits and unlimited duration with the company (Kahn, 2016). This is an indication that finding secure employment in South Africa is very difficult. It also suggests that the formal sector consists of strict requirements to be employed in a secure employment (Recchi, 2021).

Approximately, 20% of respondents who have no formal working experience in Isipingo and no formal qualification in Umlazi, eThekweni Municipality, KZN. On the one hand, 15% of respondents have no formal qualifications in Isipingo. Only 8% and 2% of respondents who reside in Isipingo, eThekweni, KZN have worked as a domestic worker and retail assistant respectively. Approximately, 7%, 5% and 3% of respondents who reside in Umlazi, eThekweni Municipality, KZN indicated that they have no formal working experience, worked as a retail assistant and worked as a domestic worker. This is a strong indication of the current economic situation in South Africa. This is possibly due to exclusion

based on race and other social factors such as religion and gender. In the informal sector, the nature of employment includes self-employment which is known as a survivalist business. Additionally, the majority of street food vendors are not able to secure employment due to the poor working conditions, high unemployment rate and exploitation (Ekobi, 2022). A street food vendor further commented and indicated that working in the factory consisted of long working hours and little pay which were suggestive of exploitation.

Employment and workplace challenges	Umlazi (n =100)	Isipingo (n = 100)	Total (n=200)
Harassment from Metro police			
Yes	62	73	67.53
No	38	27	32.5

Table 5. 10 Harassment from the metro police (in %)

From the Table 5.10 above the majority of respondents (62% and 73%) have experienced harassment from the Metro police in Umlazi and Isipingo, eThekwini Municipality, KZN respectively. A study done by Chen (2016), emphasised on the harassment that street food vendors undergo such as being shoved by the side of the roads for no apparent reason. The reason for this excessive harassment of the Metro police is due to the lack of legal protection within the informal sector. Due to the lack of legal protection an individual is more likely to get exploited. This is common in the informal sector. Furthermore, people who are employed in the informal sector do not sign any agreements or formal contracts (Nazneen and Huq, 2023). Therefore, there is a lack of protection within their work environment. Street food vendors get their goods confiscated by Metro police as they assume street food vendors are criminals. Furthermore, street food vendors perceive that local governments and municipalities are working against them. Street vendors are convinced that the local government and municipal authorities communicate with the metro police to arrest them (Mkhize et al., 2013).

5.5 Locality of street food vendor

Type of indoor and outdoor locations for street vending	Umlazi (n=100)	Isipingo (n=100)	Total (n=200)
Roadside with no shelter	33	25	29
Roadside with shelter	7	5	6
In a facility or permanent building	60	70	65

Table 5. 11 Type of street vending facility (in %)

All respondents from Umlazi and Isipingo, eThekwini Municipality, KZN indicated that their street food vending facility were located in their respective areas where they operate in Umlazi and Isipingo, eThekwini Municipality, KZN. From the Table 4.11 it reveals that in Isipingo, eThekwini, KZN the majority of respondents operate their business in a facility or permanent building (70%) and in Umlazi, eThekwini Municipality, KZN approximately 60% of street food vendors operate in a facility or

permanent building, a quarter of respondents operate on roadside with no shelter (25%) and roadside with shelter (5%). On the other hand, there are approximately 60% of respondents who operate in a facility or permanent building, 33% of respondents who operate on the roadside with no shelter and 7% of street food vendors who operate on the roadside with shelter. South African street food vendors operate their business on the streets, pavements and facilities. This is in correspondence with a study done by Oldadip-Adekeye and Tabit (2021) which stated that the majority of respondents may have experienced financial implications which prevented them from operating in well maintained facilities. Additionally, the rental costs seem unaffordable to street food vendors. The locality of street food vendors is vital. Street food vendors are not allowed to trade in public roads, areas that are not approved by the municipality and by sidewalks close to churches, synagogues or national monuments (South African Legal Information, 2014). From the Plate 5.1 below, it illustrates street food vendors operating on the roadside in a caravan which is where they are commonly found. This is an indication that street food vendors can operate their businesses in the busiest corners of the streets in urban areas.



Plate 5.1 A street food vendor operating their business in a caravan

5.6 Sanitation and storage

The lack of sanitation and storage are significant challenges that street food vendors encounter within their environment and workstation (Rosales et al., 2023; Moreira et al., 2024). These challenges can result in the spread of diseases resulting in waterborne diseases from common bacteria and viruses such as *E.Coli* and *Salmonella*. These diseases associate with lack of sanitation and storage facilities are

mainly foodborne diseases and illnesses. Furthermore, open defecation is widely practiced in developing countries in SSA (Salamandane et al., 2023). For street food vendors, in particular, there are limited access to WASH services for handwashing and cleaning of utensils when preparing for food. In Durban, most street food vendors resort to paying an extra fee to access WASH services within close proximity which is expensive. Paying for these WASH services does not guarantee quality (Carr, 2019). This can create faecal-oral transmission of pathogens. Improper food storage can also increase contamination risks especially in humid and warm weather which is breeding ground for bacteria and viruses (Edopayi et al., 2017). This has resulted in fatalities amongst the youth and women in marginalised communities.

Sanitation and storage	Umlazi (n=100)	Isipingo (n=100)	Total (n=200)
Water stall obtained			
Outside tap	66	82	74
Kitchen tap	9	8	8.5
Rainwater tank	18	9	13.5
Availability of soap			
Yes	91	72	81.5
No	9	28	18.5
Cleanliness of workstation			
Yes	95	85	90
No	5	15	4
Covid-19 impacted the manner in which you prepare food			
Yes	40	30	35
No	60	70	65
Extreme sunlight affects your food			
Yes	90	80	85
No	10	20	15
Presence of waste pickers from eThekweni municipality			
Yes	80	70	75
No	20	30	25
Unpleasant odours in the surrounding areas			
Yes	75	65	70
No	25	35	30
Cleanliness of storage containers			
Yes	7	12	9.5
No	93	88	90.5
Plastic wrap, foils to cover your food			
Yes	90	75	82.5
No	10	25	17.5

Table 5. 12 Sanitation and storage (in %)

The Table 5.12 reveal that 80% and 90% of street food vendors residing in Umlazi and Isipingo, eThekweni Municipality, KZN respectively lack refrigerators. Street food vendors further commented that the lack of refrigerators was the main cause of spoiled foods. Additionally, street food vendors use

a cool box to chill their food. Furthermore, the lack of refrigerators contributes to unhygienic sanitary conditions leading to contamination (Hill et al., 2018).

Approximately, 81% and 72% of the respondents in Umlazi and Isipingo, eThekweni Municipality, KZN respectively have indicated that there were always soap available within their working stations. The WASH concept is therefore applied by these vendors as indicated by this finding. This is in contrast to the study by Nkosi and Tabit (2021) in the Zululand district who found that only 30.8% of respondents correctly responded that washing one's hands with soap and warm water while it is flowing and wiping them dry with a clean, dry towel should be done when preparing and serving food. Additionally, washing your hands with soap and water can reduce disease related infections and risks by half (Sepadi and Nkosi, 2022:7).

Only 75% and 65% of respondents in Umlazi and Isipingo, eThekweni Municipality, KZN respectively indicated that there is an unpleasant odour in the area, this is similar to explanation that street food vendors in the Zululand district are exposed to unhygienic conditions (Nkosi and Tabit, 2021). This were mainly due to the lack of dust bins in the area or in close proximity and the eThekweni Municipality lack of service delivery. Thus, creating a pile up of waste and litter in the area and surroundings. Furthermore, the littering is a violation of the by trading law of the eThekweni municipality which promotes keeping the area and surroundings clean to reduce health risks (Sepadi and Nkosi, 2023). Additionally, it is mainly caused by unsheltered street food vendors that operate their business on the roadside. Unsheltered street food vendors do not have access to nearby waste bins therefore, they resort to throwing their litter on the roadside. This leads to an unhealthy and toxic working environment for the surrounding street food vendors. Unsheltered street food vendors do not have access to nearby waste bins therefore, they resort to throwing their litter on the roadside. This leads to an unhealthy and toxic working environment for the surrounding street food vendors (Sepadi and Nkosi, 2023).

From the Table 5.12 it can be deduced that 59% and 63% of street food vendors utilise an outside tap in Umlazi and Isipingo, eThekweni Municipality, KZN. This finding is similar to Nkosi and Tabit (2021) who found that in the Zululand district, the majority of street food sellers cooked food in their location of business. Furthermore, that study indicated that vendors would need to obtain significant financial resources to buy suitable street food vending infrastructure, which is frequently not feasible for many of them. Most street food sellers make the food at their selling locations, offering both take-out and eating on-site meal services in an effort to increase sales and profits, frequently in unhygienic conditions.

The results from the respondents show that 40% and 30% of street food vendors in Umlazi and Isipingo, eThekweni Municipality, KZN indicated that COVID-19 has impacted the way they prepare food. This is concerning as diseases, particularly the Coronavirus (COVID-19), could be spread by street food sellers with inadequate personal hygiene and insufficient knowledge of food safety. However, the same

authors explain that the possibility of someone getting COVID-19 via food or food packaging is quite unlikely. Since COVID-19 is a respiratory illness, the main means of transmission are direct interaction with respiratory secretions produced when an infected person coughs or sneezes, as well as person-to-person contact. There is currently no evidence that viruses that trigger respiratory illnesses can spread through food or food packaging (El-Latief and Abouelenein, 2020).

The emergence and outbreak of COVID-19 has enabled street food vendors to alter their food handling and preparation methods to essentially comply with the health guidelines outlined by WHO. This was done in an effort to reduce the spread of the virus from surfaces. Increased sanitation measures such as handwashing using soap which effectively removes any viruses, bacteria and dirt which are found in meat, poultry and eggs. In the context of street food vendors this can assist in minimising the risk of contamination during the food handling and preparation process to prevent further outbreaks. Outbreaks such as COVID-19 have heightened the awareness on food safety measures and hygiene practices of street food vendors. The reason for this is due to transmission concerns where the virus can be transmitted via the surfaces which is a concern for street food vending as they operate in harsh conditions. These outbreaks have enabled street food vendors to be more conscious about their behaviour towards food safety, handling and preparation of food as they are at a greater risk of contamination (Tchuenchieu Kamigain et al., 2022). The Plate 5.2 below illustrates a street food vendor in Umlazi who uses buckets to store water. This is an indication that there is a lack of clean and safe water within the area.



Plate 5.2 A street food vendor using buckets to store water due to the lack of WASH facilities

Different ways waste is disposed	Umlazi (n=100)	Isipingo (n=100)	Total (n=200)
Access to dustbin			
Yes	20	35	27.5
No	80	65	72.5
Disposal of waste			
Thrown on the floor	25	26	25.5
Thrown in plastic bag	30	31	30.5
Left on site	25	35	30
Not applicable	20	35	27.5

Table 5. 13 Waste disposal facility (in %)

From the Table 5.13 it can be deducted that approximately 80% and 65% of street food vendors who reside Umlazi and Isipingo, eThekweni Municipality, KZN do not have access to dustbin or a waste disposal facility within close proximity. Additionally, street food vendors further elaborated that the waste from the food stalls were disposed on the floor, plastic bags or left on site. Approximately, 35% of street food vendors leave their waste on site in Isipingo, eThekweni Municipality, KZN. Thirty percent of street food vendors in Umlazi, eThekweni Municipality, KZN throw their waste in a plastic bag. Having access to waste disposal facilities such as dustbins were a way to address infrastructure challenges in the eThekweni Municipality, KZN. Furthermore, it is important to address waste management due to the repercussions of the accumulation of waste in urban areas. Some of the repercussions are increased odour, presence of rodents or rats, breeding ground for diseases and illness as well not aesthetically pleasing especially for consumers and tourists (Kala et al., 2022).

Equipment used to chill food	Umlazi (n=100)	Isipingo (n=100)	Total (n=200)
Refrigerator			
Yes	20	10	15
No	80	90	85
Options to chill food			
Cool box	80	90	85
Not applicable	20	10	15

Table 5. 14 Access to refrigerator (in %)

The statistics from Table 5.14 reveal that the majority of street food vendors do not have access to a refrigerator. Approximately 90% and 80% of street food vendors in Isipingo and Umlazi, eThekweni Municipality, KZN do not have access to a refrigerator. Street food vendors make use of a cool box filled with ice cubes as a method to keep the food chilled especially meat-based dishes. This is an indication that street food vendors often work with little refrigeration equipment to chill their food. The importance of the use of a refrigerator in the informal market is extremely vital. Refrigerators provide the opportunity to leapfrog harmful environmental contaminants which in this case are highly present in the informal market (Christina et al., 2023). Additionally, these contaminants include the survival and accumulation of bacteria and viruses due to increase in temperature (Bywater et al., 2023). Kushitor

et al. (2022:07) states that having access to refrigerator equates to having access to electricity therefore, street food vendors who had access to refrigerators were approximately 5.6% in Kumasi, Ghana.

Training and sources of training received	Umlazi (n=100)	Isipingo (n=100)	Total (n=200)
Training received			
Yes	9	20	14.5
No	91	80	85.5
Various departments offering training			
Department of Education	-	-	0
Department of Health	-	-	0
Another cook or handler	-	18	9
Previous employee	6	-	2
Inservice training	-	-	0
Business Unit Support	3	2	2.5

Table 5. 15 Training received (in %)

From the Table 5.15 above the vast majority of the respondents (91%) and (80%) have not received training in Umlazi and Isipingo, eThekweni Municipality, KZN respectively. A study done by Nkosi and Tabit (2021), indicated that since many foodborne illness incidents relating to inadequate understanding of proper food-handling procedures, more emphasis needs to be placed on their need for food safety training to prevent the spread of infectious diseases. Being unable to access adequate training on how to prepare and handle food. Additionally, there should be a level of enforcement and training once street food vendors have received the necessary training. The level of enforcement and training can be beneficial with effective monitoring in place (Dipeolu et al., 2007; Oladipo-Adekeye and Tabit, 2021).

5.7 Food preparation and food safety

Different retailers and suppliers	Umlazi (n=100)	Isipingo (n=100)	Total (n=200)
Name of retail suppliers			
Shoprite	23	-	11.5
Dubazane meat	20	-	10
Izwelethu Butchery	18	-	9
KwaMax Butchery	9	-	4.5
Fruit and Vegetables market (in Clairwood)	30	15	22.5
Reunion trading in Isipingo	22	80	51
Cambridge Foods	-	3	1.5
Boxer	-	2	1
Raw materials obtained			
Formal retailers	46	68	57
Wholesale stores	54	32	43
Informal business	-	-	0

Table 5. 16 The different suppliers and where raw materials are obtained (in %)

All respondents in Umlazi and Isipingo, eThekweni Municipality, KZN indicated that they make use of fresh foods and they do not sell processed ingredients to their consumers. The use of fresh foods or produce implies that street food vendors are interested in selling quality foods that are safe to consume. Selling fresh foods and produce rather than processed ingredients reduced the risk of contamination of foodborne pathogens. However, fresh produce can still harbour pathogens when they are not handled and prepared in the appropriate manner. Plate 5.3 below illustrates a street food vendor selling fresh produce such as fruits and vegetables for consumers. Plate 5.4 below illustrates a street food vendor selling processed ingredients.

The reason for this is that street food vendors sell pre-cooked foods that are easy to consume and are nutritious (Verma, 2023). From the Table 5.16 it reveals that street food vendors operating in Umlazi and Isipingo, eThekweni Municipality, KZN were asked to list the names of their suppliers. In Isipingo, approximately 80% of street food vendors purchase their goods from Reunion Trading. The majority (30%) of street food vendors who sell fruits in Umlazi, eThekweni Municipality, KZN purchase their goods from the Fruit and Vegetables market in Clairwood. Followed by 23% who purchase at Shoprite, 22% at the Reunion trading in Isipingo, 20% at Dubazane meat, 18% at Izwelethu Butchery and 9% at KwaMax Butchery. Approximately, 54% of street food vendors in Umlazi, eThekweni Municipality, KZN purchase their food from wholesale stores. Additionally, 62% of street food vendors in Isipingo, eThekweni Municipality, KZN purchase their food from formal retailers. Formal retailers in South Africa are shops such as Shoprite, Pick n' Pay, Boxer and Cambridge foods. The use of formal retailers is seen as a convenience for street food vendors as they can make purchases at a competitive price. However, both the informal and formal retailers can co-exist. These findings simply can be interpreted as street food vendors are purchasing their goods or products at a lower price with more value at retail stores (Berger and Helvoirt, 2018).

Street food vendors mainly purchase their goods or items from formal retailers, wholesale stores and informal businesses. This type of information is important to consumers and street food vendors as this will assist to identify the source and quality of the raw materials used to prepare food. The use of raw materials tends to introduce biological, chemical and physical risks and hazards. Biological hazards are introduced through cross contamination especially using utensils and storage containers that are not cleaned appropriately. Chemical hazards such as detergents, soaps, disinfectants and bleaches are introduced using unauthorised chemical cleaners for their working stations which further increases the risk of being contaminated (Rane, 2011). Physical handling is introduced by irresponsible handling of food such as not washing your hands before and after cooking. Other examples are the use of plastics to wrap the food for their customers. These are crucial to address food safety concerns in the street food vending environment. A study done in Colombia identified street food vendors and described the manner in which they handled food. Evidence reveals that 30% of street food vendors carried

microorganisms which include Salmonella and E. coli (Rane, 2011). The biological hazards and pathogens such as Salmonella and *E.coli* are bacteria and viruses that have the potential to affect human health. The risk and hazard is greater when the food is not handled in the appropriate manner.



Plate 5.3 A street food vendor selling fruit and vegetables



Plate 5.4 A street food vendor selling a variety of goods other than cooked foods

Aspects related to shelf life of food stock	Umlazi (n=100)	Isipingo (n=100)	Total (n=200)
Shelf life of stock			
<1 week	72	86	79
1 week	22	14	18
2 weeks	6	-	3
Food being consumed			
Food is thrown away	18	11	15
Given to a friend	9	29	19
Kept for the next day	64	54	59
Cooks/food handlers consume food	-	-	0
Given to the homeless	9	6	7.5
Power supply			
Coal	10	28	19
Gas	80	70	75
Fire	10	2	6

Table 5. 17 Food safety and food preparation (in %)

Based on the Table 5.17 only 72% and 86% of respondents in Umlazi and Isipingo, eThekweni Municipality, KZN indicated that the shelf life of their stock were less than a week. Only 22% and 14% of respondents in Umlazi and Isipingo, eThekweni Municipality, KZN indicated that their stocks last up to a week. The shelf life of food or stock for street food vendors may vary amongst them. This simply

means that a street food vendor selling meat-based dishes is more likely to stock up almost every one to two days to prevent the meat from rotting. Furthermore, it is an indication that meat can get contaminated and cause human health risks, diseases and hazards (Cortese, 2016). Meat and poultry can harbour pathogens in the vending environment due to incorrect preparation and handling practices. The contamination is accelerated in these communities of the street vending environment due to absence of refrigeration when handling and preparing food. A study done in Ibada, Nigeria investigated the operations and roles of street food vendors in the informal market. The results reveal that the majority of street food vendors re-stock their food on an average of five days to one week. A street food vendor in that study indicated that (Adeoson, 2022: 5):

I restock when the available ones have almost finished. I go to the market every 5 days. I do not allow the available food materials to finish before I buy another, when gauge with my eyes and realised the remaining will only last a day or two, I must buy another one

Based on the Table 5.17, the results reveal indicated that 64% and 54% of street food vendors in Umlazi and Isipingo, eThekweni Municipality, KZN respectively have kept excess food for the following day. Only 18% and 11% of street food vendors in Isipingo and Umlazi respectively have indicated that excess food has been thrown away. Additionally, 9% and 29% of street food vendors in Umlazi and Isipingo, eThekweni Municipality, KZN respectively have indicated their excess food were given to the homeless person or to a friend. All respondents from Umlazi and Isipingo, eThekweni Municipality, KZN indicated that their utensils were cleaned regularly, do not combine raw and cooked foods as well as storing cooked foods in a container before selling to customers.

Based on the Table 5.17, approximately 82% and 72% of street food vendors in Umlazi and Isipingo, eThekweni Municipality, KZN respectively make use of gas stoves. Cooking food using gas which is referred to liquid petroleum gas (LPG) was the main type of energy or fuel used. Street food vendors either use one or more fuels to cook their food. Making use of a gas stove in the street food vending environment is essential as street food vendors are able to cook food in the appropriate temperatures which can kill common pathogens found in food. The use of LPG has many benefits for street food vendors. Some of the benefits are as follows (Mohlakoana and Annecke, 2009:3):

- Gas is portable, safe, efficient and easy to use;
- gas is clean and controllable in terms of releasing few emissions and pollutants;
- gas has international safety standards and assurance unlike electricity; and
- you pay for what you use which is an indication that you will not be billed an excessive amount and therefore, it is cost effective.

The lack of clean energy and access is an example of insufficient resources that could make it difficult to conduct safe food procedures, putting food at risk of contamination and spoilage (Nkosi and Tabit, 2021). Another case study from Senegal used to analyse the energy usage and consumption patterns in the informal sector. It was found that the majority of street food vendors (43%) make use of LPG or gas to cook and prepare food (Diouf et al., 2020:20). Street food vendors in Senegal further stated that their use of gas was to increase productivity to accommodate their customers (Diouf et al., 2020).

Based on the Table 5.17, approximately 10% and 28% of street food vendors in Umlazi and Isipingo, eThekweni Municipality, KZN respectively use coal to prepare their food. There are street food vendors who cook food on an open fire through the use of wood. Approximately, 10% and 2% of street food vendors who operate using an open fire in Umlazi and Isipingo, eThekweni Municipality, KZN.

Protection of employees at the workplace	Umlazi (n=100)	Isipingo (n=100)	Total (n=200)
Safety in the workplace			
Yes	95	85	90
No	5	15	25

Table 5.18 Safety and security of the workplace and surroundings (in %)

From Table 5.18 it can be deduced that approximately 95% and 85% of respondents have indicated that their safety has been compromised in their workstation. This is due to the nature and the environment as well as surrounding of their business. The majority of street food vendors operate on the roadside without shelter which makes them more likely to be exposed to crime. According to the National Development Plan (NDP), which is a policy document planned and drafted by the South African government in 2012 under the administration of the former President Jacob Zuma. The NDP prioritises safety and security in South Africa as a human right. Furthermore, South African individuals should be safe and not live in fear within their communities and surroundings. This reflects the crime rates and statistics in South Africa. The Stats SA conducted a Victims of Crime Survey (2020:29) highlights that street or common robbery is the most committed crime in SA which approximately 21.7%. This is similar to the study by Nkosi and Tabit (2021), who found that among street food vendors in the Zululand District, only 34.6% of the respondents served food at a fixed facility or location, while 47.4% did so in a temporary shelter and 17.8% did it outside, without a shelter or location. As such, the type of location exposes street food vendors and they are subjected to crime in the area and surroundings.

5.8 Environmental exposure

Exposure in the workplace	Umlazi (n=100)	Isipingo (n=100)	Total (n=200)
Extreme conditions in the workplace			
Yes	80	85	82.5
No	20	15	17.5
Presence of rodents or rats			
Yes	30	20	25
No	70	80	75

Table 5. 19 Environmental exposure (in %)

The findings from Table 5.19 indicated that environmental exposure is indeed a risk that may potentially affect their health. All respondents from Umlazi and Isipingo, eThekweni Municipality, KZN indicated that there were a presence of smokers in the public urban areas as well as where they operate. Only 80% and 85% of the respondents in Umlazi and Isipingo, eThekweni Municipality, KZN respectively indicated that their workplace were hazardous. Street vendors work outside and were exposed to the extreme temperatures and heavy rains. Many street food vendors also indicated that this is due to a lack of sanitary facilities and services. Inadequate supply and access to water and sanitation facilities has an impact on food preparation. Exposure to air pollutants is a major contributing factor which can contaminate food especially when operating in busy corners of the streets. The successful application of safe food storage techniques at street food vending locations is hampered by a lack of suitable food service equipment. To implement food safety precautions at street food vending locations successfully, one must have the necessary infrastructure, equipment, and knowledge (Nkosi and Tabit, 2021). Making use of the appropriate equipment and utensils especially when preparing and cooking foods can reduce contamination.

Only 30% and 20% of the respondents in Umlazi and Isipingo, eThekweni Municipality, KZN respectively indicated that there was a presence of rodents, rats or cockroaches. The presence of pests, rodents and rats are an indication of unsanitary conditions within the area. In the eThekweni Municipality communities, there has been water shortages that has been reported within these areas (News 24, 2024). The water shortage in these communities means that street food vendors are operating in environments with inadequate sanitation that lack cleanliness resulting in pests and rodents. The combination of the inadequate sanitation and presence of pests and rodents creates a dangerous situation for food safety and contamination of food (Gichunge et al., 2023).

Satisfaction of infrastructure	Umlazi (n=100)	Isipingo (n=100)	Total (n=100)
Satisfaction of infrastructure			
Yes	23	18	20.5
No	77	82	79.5

Table 5. 20 Satisfaction of the infrastructure provided by the eThekweni municipality (in %)

Approximately, 82% and 77% of respondents in Isipingo and Umlazi, eThekweni Municipality, KZN were dissatisfied with the infrastructure provided by the eThekweni municipality. The street food vendors further indicated that the eThekweni Municipality, KZN needs to upgrade their facilities and infrastructure. Infrastructure was ranked second most negative driving force which limits the operation of street food vendors (Mkhize et al., 2013). Another similar study indicated that lack of infrastructure is the main cause of contamination, hygiene and food safety (Majoka and Selepe, 2017).

The infrastructure includes WASH facilities and waste disposal facilities such as dustbins. Infrastructure plays a critical role in food safety, hygiene measures and sanitary conditions. When neglected it is more likely to intensify contamination which contributes to food borne diseases and illness (Verma et al., 2023).

A study done in the city of Johannesburg assessed the street food vending environment. It was revealed that the existing infrastructure in the city of Johannesburg was poor due to lack of upgrades and stall shelter (Sepadi and Nkosi, 2023). The plate below displays the typical street food vendors food stall, illustrating shelter used to sell food to their customers. In most instances, the type of infrastructure is used to display foods and merchandise as seen below. The materials used to construct the containers lacks durability which can easily contaminate food especially during the floods that occurred in April and May 2022. Hence, the decaying of infrastructure of the containers in which they operate in which can lead to foodborne diseases and fatalities.



Plate 5.5 A take-away container in which street food vendors sell their foods

5.9 Floods and its impact on street food vendors

Climate change is a risk factor associated with informal markets in many ways. Climate change may result in increase in floods which will pollute and contaminate food and potential water sources. These flood waters and water sources contain bacteria and viruses which is harmful to consumers especially when street food vendors are preparing food. These unhygienic conditions lead to foodborne diseases and illnesses.

The eThekweni Municipality, KZN is a well-known coastal city located in South of Durban, KZN. Residing in a coastal city can lead to excessive rainfall which results in floods. These floods can be destructive and can result in fatality (Olanrejawu and Reddy, 2022). In 2022, severe and hazardous floods happened in April and May in eThekweni Municipality, KZN which left many people homeless and an increase in fatalities. The President of South African, Cyril Ramaphosa together with the KZN Provincial government made funds available for relief interventions (Government of South Africa, 2022). In terms of the informal sector, these funds were distributed to informal traders such as street food vending and other businesses who were impacted by these floods. In this section, various topics are covered such as the impact floods had on their business and in terms of food safety as well as hygiene.

Impact of floods	Umlazi (n=100)	Isipingo (n=100)	Total (n=200)
Impact of floods in April 2022			
Yes	92	98	95
No	8	2	5

Reasons			
Business was not operational	12	16	14
Closing of business	10	20	15
No income due to loss of customers	60	55	57.5
Damage of products	10	7	8.5
Not applicable	8	2	5

Table 5. 21 Respondents on how the floods have impacted their businesses in April 2022 (in %)

Based on the Table 5.21 the results reveal that the majority of street food vendors (98% and 92%) of street food vendors in Isipingo and Umlazi, eThekweni Municipality, KZN respectively revealed that the floods had an impact on their business in April 2022. Floods are climate related natural disasters that mainly influence low-income communities leaving them vulnerable (Udo and Naidu, 2022). Many businesses were impacted as as they were not operational leading to an economic displacement. Many street food vendors could not access local retailers as the logistics supply chain was disrupted. This resulted in a delay in deliveries of goods and other supplies. Therefore, this is an indication that the informal sector is dependent on formal retailers and wholesalers. This is in correspondence with a study done by Hildago et al. (2022), which revealed that street food vendors experience displacement and disruption from extreme floods thus affecting their income and profits.

The respondents from Umlazi and Isipingo, eThekweni Municipality, KZN provided various reasons as to how their businesses got impacted during the April 2022 floods (Table 5.21). Responses from street food vendors in Umlazi, eThekweni Municipality, KZN indicated that loss of customers (60%), business was not operating (12%), stated that goods or products were damaged (10%) and closing of business (10%). Moreover, respondents in Isipingo, eThekweni Municipality, KZN revealed that loss of income due to less customers (55%), shut down of their business (20%), business was not operating (16%), goods or products were damaged (7%). The results indicated that the majority of street food vendors goods and products were damaged due to the floods in April 2022. The level of damage was unprecedented due to heavy rainfall which led to floods. Many businesses closed down and were not operating during these floods. Furthermore, the floods resulted in damage to infrastructure such as bridges and roads. Therefore, street food vendors were not able to commute to where they operate their business. Thus, there were no profits made during that time due to loss of customers. This is a reflection on informal workers including street food vendors and their household income. Based on the socio-demographic profile street food vendors are employed in low-income jobs and earn approximately R1000 to R2000 Rands only (Stats SA, 2022). This has affected their household income as they are seen as the main contributor for their household. The Plate 5.6 below illustrates how the container in which street food vendors operates in. The floods that occurred during April and May 2022 accelerated the rusting and damaging of the container which is harmful for street food vendors due to the risk of contamination.

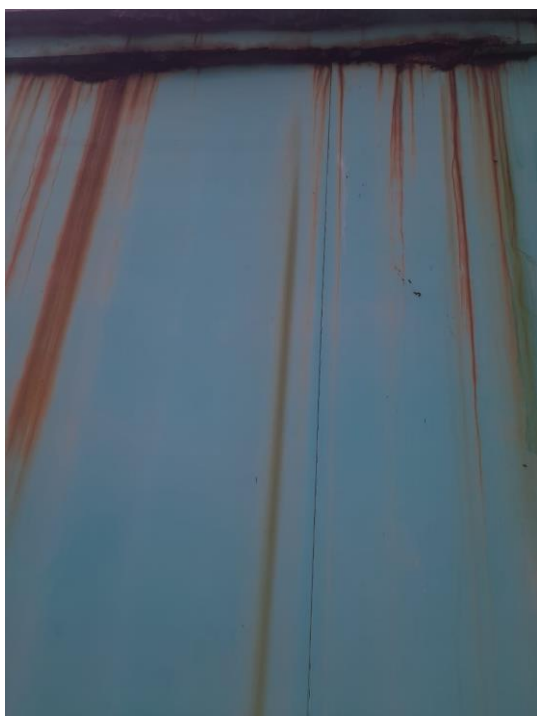


Plate 5.6 Damaged and rusted container

Floods and business of street food vendors	Umlazi (n=100)	Isipingo (n=100)	Total (n=200)
Impact of floods in May 2022			
Yes	95	90	92.5
No	5	10	7.5
Reasons			
Business was not operational	5	8	13
Closing of businesses	20	22	21
Loss of income	23	20	21.5
Damaged goods and products	50	40	45
Not applicable	5	10	7.5

Table 5. 22 Respondents on how the floods have further impacted their businesses in May 2022 (in %)

The Table 5.22 illustrates that street food vendors were asked whether the floods that occurred in May 2022 had an impact on their business. Approximately, the majority of street food vendors (95% and 90%) of street food vendors in Umlazi and Isipingo, eThekweni Municipality, KZN revealed that the floods further impacted their business in May 2022. This can be seen as a setback as many street food vendors were in a recovery stage from the previous floods that happened in April 2022. The KZN EDTEA decided to support all SMEs that were affected by the floods by creating a flood relief fund. The purpose of this flood relief fund was to support SMEs to restore business operations and assist employees. Additionally, the relief fund was mainly to assist and prioritise the following businesses in rural areas, townships and small towns (International Organisation Labour, 2023).

Table 5.22 provides a list of reasons identified by the respondents from Umlazi and Isipingo, eThekwini Municipality, KZN as to how their businesses were impacted during the May 2022 floods (Table 5.19). Responses from street food vendors in Umlazi, eThekwini Municipality, KZN stated that goods or products were damaged (50%), no income due to loss of customers (23%), shutdown of business (20%) and business was not operating (5%). On the other hand, respondents in Isipingo, eThekwini Municipality, KZN revealed that the products damaged (40%), business not operating (22%), no income due to loss of customers (20%) and shut down of their business (8%). The results indicated that the majority of street food vendors goods and products were damaged due to the floods in May 2022. These products had to be disposed of or not used for selling purposes due to safety concerns such as contamination. Similar findings are presented in a study done in Kampala, Uganda whereby floods occurred in the urban areas. The descriptive findings indicate that the floods induced damage to property and products (31.4 %) (Veeravalli et al., 2022:10).

Floods and food and safety standards	Umlazi (n=100)	Isipingo (n=100)	Total (n=200)
Compromise of food and safety standards in April 2022			
Yes			
No	93	89	91
	7	9	8
Reasons			
Food was thrown away	10	45	27.5
The area and surroundings were unhygienic	50	12	31
The area and surroundings had litter everywhere	30	10	20
Increased odour in the area and surroundings	3	22	12.5
Not applicable	7	9	8

Table 5. 23 Impact of the floods on food and safety standards in April 2022 (in %)

Based on Table 5.23 the majority of street food vendors (93% and 89%) of street food vendors in Umlazi and Isipingo, eThekwini Municipality, KZN revealed that the floods impacted the food and safety standards. All respondents indicated that the floods that occurred in April 2022 did not make them consider relocating. The occurrence of floods has an impact on food and safety standards. The situation is likely to be worsened due to inadequate hygiene and increased contamination of harmful substances such as biological and chemical agents. The implications of increased contamination can result in food borne illness and diseases due to consumption (Senkus et al., 2022).

Table 5.23 provides a list of reasons identified by the respondents from Umlazi and Isipingo, eThekwini, KZN as to how the food and safety standards were compromised during the floods in April 2022. Responses from street food vendors in Umlazi, eThekwini Municipality, KZN stated that the area and surroundings were unhygienic (50%), the area had litter everywhere (30%), food was thrown away (10%) and increased odour in the area and surroundings (3%). This reflects food and safety standards in South Africa especially in the eThekwini Municipality, KZN. There were a lack of surveillance and

monitoring systems to ensure that the area were hygienic especially after a disaster such as flooding. Furthermore, it has been argued that street food vending spaces are areas of concern due to the congestion and hygiene (Thangavel, 2023).

Respondents from Isipingo, eThekweni Municipality, KZN revealed food was thrown away (45%), increased odour in the area and surroundings (22%), the area and surroundings were unhygienic (12%) and the area had litter everywhere (10%). These results indicated that the majority of street food vendors throw away food to maintain food safety measures and hygiene standards. Throwing away food is a safety measure that is considered especially when your food is contaminated with flood waters.

Floods and food and safety standards	Umlazi (n=100)	Isipingo (n=100)	Total (n=200)
Compromise of food and safety standards due to floods in May 2022			
Yes	82	90	86
No	18	10	14
Reasons			
Food was thrown away	50	35	42.5
The area and surroundings were unhygienic	2	45	23.5
Increased spoilage of food	20	6	13
Damaged containers and food stalls	10	4	7
Not applicable	18	10	14

Table 5. 24 Respondents on how the floods jeopardised the food and safety standards in May 2022 (in %)

The Table 5.24 the majority of street food vendors (90% and 82%) of street food vendors in Isipingo and Umlazi, eThekweni Municipality, KZN revealed that the floods impacted the food and safety standards. All respondents indicated that the floods that occurred in May 2022 did not make them consider relocating. The FDA recommends that all products need to be disposed of especially during the exposure of floods. The reason for this is flood waters may contain diseases, pathogens and contaminants which may be harmful (Misiou and Koutsoumanis, 2022).

Table 5.24 provides a list of reasons identified by the respondents from Umlazi and Isipingo, eThekweni Municipality, KZN as to how the food and safety standards were compromised during the floods in May 2022 (Table 4.21). On the one hand, responses from street food vendors in Umlazi, eThekweni Municipality, KZN stated that food was thrown away (50%), increased spoilage of food (20%), damaged containers and food stalls (10%) and the area and surroundings were unhygienic (2%). On the other hand, respondents in Isipingo, eThekweni Municipality, KZN revealed that the area and surroundings were unhygienic (45%), the food was thrown away (35%), increases spoilage of food (6%) and damaged containers and food stalls (4%). To minimise public health risks and hazards, street food vendors throw away food that was spoiled during the floods in May 2022. The area was unhygienic due to open drainage systems especially in areas where street food vendors operate. Therefore, enabling

an unclean environment. This is in correspondence with the findings of a case study carried out in the central state of Northern Nigeria. Approximately, 40% of street food vendors operate in places or areas nearby the drainage systems and dirty roads (Nurudeen, 2014:178).

5.10 Recommendations and suggestions

Recommendations on how street food vendors business can be improved	Umlazi (n=100)	Isipingo (n=100)	Total (n=200)
Able to make a profit to sustain their livelihoods	60	5	32.5
Able to get all profits in a day	10	4	7
Street food vending business is a fast-growing business	5	65	35
Flexible working hours	20	25	22.5
All earnings and profits proceed to employee and employer	5	1	3

Table 5. 25 List of advantages of being a street food vendor (in %)

Based on the Table 5.25 the majority of respondents in Umlazi, eThekweni Municipality, KZN respondents indicated that they are able to make a profit to sustain their livelihoods (60%), flexible working hours (20%), able to get all profits in a day (10%), earning and profits come to the employee and/or employer (5%) and street food vending business were a fast-growing business (5%). The profit street food vendors receive from their business were able to sustain their livelihoods and their households. This is seen as an advantage as they are able to support and supplement their family members (Solidum, 2023). In addition, this is an indication that street food vending or informal work can be seen a potential strategy to combat poverty.

In Isipingo, eThekweni Municipality, KZN the majority of respondents indicated that the street vending business is a fast-growing business (65%), are able to work flexible hours (25%), able to sustain their livelihoods (5%), able to get all profits in one day (4%) and all earnings and profits go to employee and employer (1%). Women in Informal Economy Globalising and Organisation, (2012) believes that street food vendors create employment for themselves, their businesses and others. Street food vending is considered a fast-growing business for the following reasons: flexibility, lack of formality and legal requirements, locality as well as operating for longer hours in a day (Blekking et al., 2022; Huynh et al., 2023). These characteristics make them competitive in the informal market (Solidum, 2023).

Multiple reasons on why being a street food vendor is a disadvantage	Umlazi (n=100)	Isipingo (n=100)	Total (n=200)
No shelter	5	25	20
High crime rate in the area	20	62	41
No safety and security	5	3	4
Metro police harassment	10	6	8
Income is dependent on the number of hours in a day	60	4	32

Table 5. 26 List of disadvantages of being a street food vendor (in %)

From the Table 5.26 the majority of 60% of respondents in Umlazi, eThekweni Municipality, KZN indicated that their income is dependent on the number of hours in a day, a high crime rate in the area (20%), no shelter (5%), metro police harassment (10%) and no safety and security (5%). It were observed that most street food vendors had no protection and shelter. This were due to the neglect of street food vendors due to the incompetence of the eThekweni Municipality, KZN. Street food vendors or informal workers work long hours in a day. The number of hours they work in a day is dependent on their income. During COVID-19 this was not the case. The majority of informal workers including street food vendors were unpaid due to the closing down of their business and the little hours they worked (Ogando et al., 2022).

From Table 5.26 it can deduct that the majority of street food vendors indicated that there was high crime rate in the area (62%), no shelter (25%), metro police harassment (6%), the income is dependent on the number of hours you work in a day (4%) and no safety and security (3%). Furthermore, the street food vendors in Isipingo, eThekweni Municipality, KZN indicated that they were concerned about their safety during the operation of their business due to the high crime rate in the area. There were complaints about Metro police harassing street food vendors on multiple occasions. In many developing urban areas, it is considered a breeding ground for crime (Kohnert, 2023). South Africa faces high levels of crime. The main contributors of crime are due to high unemployment rates, poverty and inequality which enable street food vendors to be victims of crime (Henrico et al., 2020). To confirm this in South Africa, Johannesburg the findings indicate that crime is the main problem in the informal market (Nnaeme, 2022).

Access to capital funding	Umlazi (n=100)	Isipingo (n=100)	Total (n=200)
Expand the business	65	80	72.5
Buy more stock or goods for business	25	15	20
Buy more storage containers	10	5	7.5

Table 5. 27 List of reasons on how the access to capital can assist their business (in %)

The majority of respondents (65%) in Umlazi indicated that they would expand the business, buy more stock or goods for business (25%) and buy more storage containers (10%). In Isipingo, eThekweni Municipality, KZN the majority of respondents indicated that access to capital can assist in the expansion of their business (80%), buying more stock for business (15%) and buy more storage containers (5%). The majority of these responses were seen as a positive contribution to their business. In this regard, street food vendors would be able to transform their business and to sustain their livelihoods. All the mentioned responses in the table above (Table 5.24) are seen as an investment into the business. This means that business owners will see a larger return in the future.

Access to security and safety	Umlazi (n=100)	Isipingo (n=100)	Total (n=200)
Selling of products without being harassed	10	20	15
Expansion of business due to safety in the area	20	63	41.3
Increased profits due to items not being stolen	65	7	36
Leaving the workstation unattended due to improved safety in the area	5	10	7.5

Table 5. 28 List of reasons on how improved access to security can assist their business (in %)

The Table 5.28 above reveals that in Umlazi, eThekwini Municipality, KZN increased profits due to items not being stolen (65%), expansion of business due to safety in the area (20%), selling of products without being harassed (10%) and leaving the workstation unattended due to improved security (5%). This is an indication that street food vendors want to operate in a safe and secure environment. This can be done when the eThekwini Municipality, KZN promotes safety through beneficial legislation and laws.

In Isipingo, eThekwini Municipality, KZN the majority of respondents (63%) indicated that they would expand on their business due to improved safety and security in the area, selling of products without being harassed (20%), leaving the workstation after hours (10%) and increased profits due to items not being stolen within their station (7%). It is known that street food vendors operate on pavements and sidewalks therefore, their safety is compromised. Many street food vendors consider these responses as decent working conditions and a healthy working environment (Sepadi and Nkosi, 2023). In Tanzania, a study was done to assess street food vendors and their businesses. It was found that improved safety and security is a vital intervention that will enable street food vendors to be successful in their businesses (Mramba, 2015)

Government assistance towards street food vendors	Umlazi (in %)	Isipingo (in %)	Total (in %)
More shelter in working station	2	4	3
More storage facilities in the area	3	5	4
Infrastructure upgrades	15	46	30.5
Nearby water facilities	20	25	22.5
Access to capital and funding	50	11	30.5
Access to electricity	10	9	9.5

Table 5. 29 List of reasons on how the eThekwini municipality can assist street food vendors (in %)

In the Table 5.29 above, half of the respondents (50%) in Umlazi, eThekwini, KZN revealed that having access to capital and funding from eThekwini municipality can assist street food vendors. Followed by access to water facilities (20%), infrastructure upgrades (15%), access to electricity (10%), more storage facilities in the area (3%) and more shelter in the working station (2%). Access to capital and funding will serve as an advantage for street food vendors and their businesses. This will enable them to expand their businesses to other locations. Additionally, the capital and funding will be able to expand on the

business resources, enable investor protection, employ more people and boost the local economy (Sultana et al., 2022).

In Isipingo, eThekweni Municipality, KZN infrastructure upgrades were a top priority up to 46%, nearby water facilities (25%), access to capital and funding (11%), access to electricity (9%), more storage facilities in the area (5%), and more shelter in working stations (4%). These services were utilities that the eThekweni Municipality, KZN can implement to ensure a sustainable city. This means that the local government, municipalities and other urban authorities need to increase partnerships that ensure citizens and residents benefit from these services. Infrastructure upgrades include storage units for their goods and products, WASH facilities as well as waste disposal facilities. The Independent Online (IOL:2023) states that the eThekweni Municipality, KZN has set aside 120 million for infrastructural upgrades for the informal sector. This was stated in the summit held at Inkosi Albert Luthuli International Conventional Centre. Furthermore, it was stated that the infrastructure upgrades are necessary as they will boost the local economy, enable partnerships between private and public enterprises and tourism.

5.11 Interview with the Key informant from the Business Unit Support eThekweni Municipality

This section primarily focuses on a face-to-face interview conducted on the 20th of December 2022 with a key informant from eThekweni Municipality, KZN. Mr Sbu Masuku is an Area manager for informal traders in the Southern region of the Business Unit Support of eThekweni Municipality, KZN. The interview was conducted face-to-face and taken approximately 60 minutes. The following section is critically analysed in themes based on the responses given.

Profile

When the eThekweni Business Unit Support official was asked about his role within the eThekweni Municipality, KZN he responded by indicating that he has been working for the eThekweni Municipality, KZN for approximately 9 years. This official has played a vital role for the eThekweni Municipality, KZN. Furthermore, he indicated that he is an Acting Area Manager for the Southern region of the eThekweni Business Support Unit. His profile mainly deals with informal businesses pertaining to street vending activities. He also commented that the informal business were not limited to street food vendors. Street vending activities range from SMEs selling automotive spare parts, informal waste pickers, to arts and crafts such as beadwork.

Challenges

The official also highlighted and addressed the issues that street food vendors encounter such as financial and business management issues. In addition, this implies that street food vendors encounter financial difficulties as they utilise their profits from their business, for personal use rather than

investing into their businesses. Street food vendors require skills such as business management and financial management skills. This will benefit street food vendors because they will be taught on how to manage their businesses effectively, to maximise profits, work collaboratively and invest in their businesses.

Space

The official was asked how the official plans to address the challenges that street food vendors undergo. These challenges include space in terms of locating street food vendors and other informal traders into operating their business or food stall. The official responded by indicating that there were not enough space for street vendors to operate their business. In addition, finding space to allocate street food vendors were an issue amongst the municipality. This can be due to ownership of private land in most areas in Umlazi and Isipingo, eThekweni, KZN. However, the eThekweni municipality has attempted to address these issues by increasing private-public partnerships. This is done by creating initiatives and pilot programmes as well as workshops which support street food vendors to be successful in their business endeavours.

Permit Access

The Business Support Unit official reiterated that the access to having a permit were important when operating a business. A permit also known as a licence for street food vendors to allow them to operate and sell foods on pavements and sidewalks in the city (Roever, 2016; Choumwer, 2023). In most cities, a permit is issued by the local government or municipality (Roever, 2016). These permits come with fees that vary amongst municipalities and governments (Tester, 2010). The official indicated that having access to a permit allows for street food vendors to have access to municipality services such as trading stalls, water and sanitation facilities. The eThekweni Municipality, KZN also benefits from these permits as they can have access to a secure database. Furthermore, the eThekweni Municipality in KZN has access to control the informal sector and businesses operating within their region. The official also indicated that demographics are important for the informal sector for instance, how many women are operating their businesses. The official added that there has been a shift in demographics in the informal economy and sector. The official stated that there were no competition between foreign nationals and South African residents. Additionally, foreign nationals are allowed to apply for the permit to operate as an informal trader given that they meet the criteria. The criteria to be an informal trader are as follows: (1) Must be a South African citizen; (2) be over the age of 18 years and older and; (3) copy of South African Identity document (ID). He further indicated that there were indeed competition amongst South Africa nationals of diverse races. The majority of the street food vendors were South African nationals. This can be due to the allocation policy. The allocation policy simply targets marginalised communities mainly the youth, women and children above 18 years old to be allocated and given preference to operate as a street food vendor. The aim of the allocation policy is creating more employment

opportunities by being inclusive and support the growth of the economy by addressing the injustices of the past.

Sanitary conditions and infrastructure

The eThekweni Business Support Unit official mentioned that the eThekweni Municipality, KZN has assisted street food vendors to have easy access to clean and safe water as well as sanitation facilities. These benefits come with having access to a permit. A street food vendor's permit were essentially a legal document issued by the local government or the municipality. This permit gives street food vendors access to operate their business in public areas. This official further admits that the eThekweni Municipality has experienced budget constraints especially for providing shelter to street food vendors.

COVID-19 and street food vendors

The eThekweni Business Support Unit officially specified on the use of the COVID-19 protocols which were adhered to. The COVID-19 protocols which were formulated by the WHO in 2020 state that if you are exposed to the virus, one should wear a mask, make use of a sanitiser regularly and practice hygiene by hand washing regularly. During the ongoing lockdown and restriction that occurred in 2020, the lockdown resulted in the instability of the economy. Thus, influencing the performance of SMMEs in South Africa. Therefore, The eThekweni Municipality, KZN partnered up with the recognised financial institutions for instance Small Enterprise Development Agency (SEDA) and State Information Technology Agency (SITA). This was to ensure small to medium business owners in the informal sector received funding and grants during the ongoing lockdowns and restrictions which happened in the year 2020. The main purpose was to rehabilitate informal businesses. The official mentioned that the grants were valued up to R30 000.

Civil unrest

The civil unrest had left extensive damage on the informal business of street food vendors and other vending activities. For instance, informal businesses were not able to buy stock and some of the stock would pile up in their homes. This further illustrates that there were no profits made during these civil unrest. The eThekweni Municipality decided to issue cheques to those who were affected. The cheques were used to pay and recover any losses from the civil unrest.

Floods and its impact on street food vendors

It has been reported by the official that the eThekweni Municipality, KZN has made great efforts to ensure the effects of the April and May 2022 floods were dealt with accordingly. The official further

elaborated that the effects of the floods were only minimal damages for instance damage of sewerage lines and infrastructure for sheltered street food vendors. Unsheltered street food vendors were impacted the most during the floods as they did not have any protection. These floods that occurred in April and May 2022 have left many street food vendors at risk of being homeless. The official stated that street food vendors were alerted to dispose of any food that can potentially harm citizens to ensure a healthy, safe and clean environment for all. The official further mentioned that infrastructure were the main priority and concern for the eThekweni Municipality, KZN especially in the outlying and core areas of the city. The floods also resulted in the damage of roads and bridges which street food vendors rely on. These damaged bridges and roads resulted in street food vendors unable to commute to their workplaces. Therefore, addressing infrastructure related issues were not an easy task as this were related to addressing the basic provision of services which every citizen has to benefit from.

5.12 Chapter summary

This chapter had summarised the data collected from the two study areas in Umlazi and Isipingo, eThekweni Municipality, KZN which has been presented in the form of tables and figures. This chapter had analysed and discussed key and significant findings in relation to street food vendors perceptions on food safety measures, hygiene practices and sanitary conditions. The data presented that street food vendors were essential in addressing food safety related challenges. These challenges were providing a good understanding of food safety, the street vending environment and the nature of sanitary condition within their surroundings. From the data collected, it can be interpreted that both these study areas in Umlazi and Isipingo, eThekweni Municipality, KZN were critical in the involvement of the informal sector such as street food vending as there were economic hubs for the province of KZN. There were also an emphasis on improving infrastructure for street food vendors, access to WASH facilities, ensuring food safety by implementing measures of good hygiene practices and food handling. Furthermore, the findings of this research have led to provide recommendations and suggestions in relation to the research objectives as outlined in the first chapter.

Chapter Six: Summary, Recommendations and Conclusions

6.1 Introduction

Chapter six is based on the results outlined and highlighted in the previous chapter. This chapter provides a summary of the objectives. The data was collected from the study areas in Umlazi and Isipingo, eThekweni Municipality, KZN, using the mixed methods approach. This research made use of qualitative and quantitative research approaches. The quantitative research approach was used to administer questionnaires to two hundred street food vendors in Umlazi and Isipingo, eThekweni Municipality, KZN. This data was then displayed as tables and graphs using Microsoft Excel. The qualitative research approach was used for the key informants from the eThekweni Business Unit. This data was analysed using themes, which are highlighted in chapter five. This chapter focuses on key findings. These key findings can be used to provide recommendations and to assist street food vendors within the developing context. Furthermore, the reflection focusing on the conceptual framework is discussed in this study, which aims to seek a deeper understanding of the relationship between street food vendors in South Africa and safety measures as well as hygiene practices.

6.2 Summary of findings

The summary of the findings is provided below and is based on the objectives outlined in Chapter 1. This will address the research objectives and questions outlined in Chapter 1.

6.2.1. Objective 1: To provide an overview of existing literature on challenges and common diseases affecting street food vendors about WASH services across SSA.

The first objective of this study aimed at providing an overview on the existing literature affecting street food vendors in relation to WASH services across SSA and SA. The literature review highlighted in Chapter two, which is aimed at providing an overview on the WASH services affecting street food vendors across SSA and SA. A comprehensive overview of existing literature reveals that across SSA and SA there are growing concerns and challenges that street food vendors face with regards to WASH facilities, infrastructure, flooding and inadequate access to waste disposal facilities within close proximity. Research studies conducted in SSA and SA have proven that these challenges exist as they compromise food and safety standards especially those who experience difficulties in meeting their needs (Dos Santos et al., 2017; Salamandane et al., 2023). Having access to sanitary conditions reduces public health risk, foodborne diseases and illnesses as well as cross contamination especially in developing countries across SSA and South Africa where the outbreaks normally occur in the street food and local markets amongst street food vendors. Lack of personal hygiene aids the growth of bacteria and viruses which are key factors for the transmission of food borne diseases (Neme, 2017).

Food handling and preparation plays a significant role as some of the challenges street food vendors encounter in relation to food safety. Food handling and preparation ranges from cooking, cleaning of utensils and using the appropriate storage containers (Ernwati et al., 2021). These have an impact on the food safety measures and hygiene practices in informal markets. Informal markets are known to be unhygienic as they operate in busy corners of urban areas (Grace, 2015). In the SSA region, the urban areas are developing, and the informal markets are not regulated. Additionally, there is minimal monitoring and surveillance in place. Throughout the food preparation and handling process their possible contamination that occurs from the cooking process up until consumption (Salamandane et al., 2023). *Escherichia coli*, *Salmonella* and *Campylobacter* are examples of pathogens that can contaminate water sources and common foods. Due to the lack of knowledge of street food vendors, the food preparation and handling done inappropriately. Consequently, the knowledge gap has contributed to the outbreaks and pandemics.

6.2.2. Objective 2: To evaluate the WASH challenges of the street food vending environment in Umlazi and Isipingo, eThekweni Municipality, KZN.

This objective aimed to address the WASH trends of the street food vending environment in Umlazi and Isipingo, eThekweni Municipality, KZN. This study showed that the nature of sanitary conditions for street food vendors was water availability, primarily through an outside tap. The statistics revealed that 82% and 60% of street food vendors in Isipingo and Umlazi, eThekweni Municipality, KZN, use a tap in proximity. This indicated that street food vendors had access to water services within proximity. The availability of soap for handwashing, sanitising, COVID-19 awareness, and waste removal also focused on the nature of the sanitary conditions. The results further revealed that most street food vendors need access to toilets and taps within proximity. Riyandi and Bangun (2017) revealed a concept known as the three-bucket system, which street food vendors mainly use in informal markets. The primary purpose of the three-bucket system is to ensure and maintain the cleanliness of the food stalls and items such as dishes and utensils. Another reason is to avoid food contamination. Wash, rinse, and sanitize are the three concepts of the bucket system. They are efficient, easy to use, and portable. Based on the observations, some street food vendors carry buckets filled with water to meet sanitary conditions (see Plate 5.3). This was also an indication that the sanitary conditions around the eThekweni Municipality, KZN, were not easily accessible, thus resulting in a constraint within their street food vending environment.

Furthermore, 91% and 72% of street food vendors in Umlazi and Isipingo, eThekweni Municipality, and KZN indicated that soap was available. This indicated street food vendors' hygiene, which implies that street food vendors were in the habit of washing their hands regularly with soap to reduce the spread

of bacteria and viruses, especially after touching and handling food. Similar findings were found in Addis Ababa city, known as the capital city of Ethiopia, where 60% of street food vendors use soap to wash their hands, especially when handling food before and after cooking (Neme, 2017: 64).

Many studies have been conducted that have highlighted the non-compliance of food handling and environmental hygiene within their surroundings and where they operate. For example, in Ile Ife, Southwestern Nigeria's informal market, street food vendors mainly operate in congested areas that need more infrastructure, such as WASH and waste disposal facilities. Waste disposal facilities include having access to dustbins within proximity. Approximately 80% and 65% of street food vendors in Umlazi and Isipingo, eThekweni Municipality, KZN, need access to dustbins within proximity. This is important as it was categorised under the sanitary conditions of a street food vendor. Most street food vendors also indicated that a plastic bag was the best method to dispose of waste from their stalls. Similar findings were found in a case study in Manguang, South Africa, whereby all street food vendors use plastic bags to dispose of waste due to a lack of dustbins within proximity (Lenatha et al., 2019). Access to waste disposal facilities in South Africa is one of the biggest challenges in the street vending informal market (Marutha and Chelele, 2020; Sepadi and Nkosi, 2022). In Polokwane CBD, South African street food vendors were found not to make use of disposal sites or facilities provided by the municipality therefore, 11.8 % of street food vendors leave the waste or garbage on site (Marutha and Chelule, 2020: 6). Similar findings were presented in Table 5.13 whereby 35% of street food vendors in Isipingo, eThekweni Municipality, KZN indicated that their waste was left on site.

The type of infrastructure within their food stalls was a vital component observed in the street food vending environment. Based on the qualitative data from the key informant from the Business Support Unit, the official stated that the infrastructure provided by the eThekweni Municipality, KZN, was currently obsolete and needs more integration of modern technology tools to enhance the infrastructure. Furthermore, the official stated that there needed to be better infrastructure, which inhibited the growth of the informal sector. The official reveals that the challenges for sheltered and unsheltered street food vendors were space and infrastructure.

The surrounding area plays a crucial role in the street food vending environment. The cleanliness of the environment and surroundings was vital in the street vending environment. The statistics revealed that 93% and 88% of street food vendors in Umlazi and Isipingo, eThekweni Municipality, KZN need clean storage containers. Although 95% and 85% of street food vendors in Umlazi and Isipingo, eThekweni Municipality, KZN indicated their clean workstation. Similar findings in a study done in Lesotho, Maseru informal market whereby 55% of street food vendors indicated that the cleanliness of the informal market was generally poor (Gadaga, 2014: 5). The odour in the street food vending environment in the informal market was a concern as statistics revealed that 75% and 65% of street

food vendors in Umlazi and Isipingo, eThekweni Municipality, KZN indicate that there was an odour in the area, respectively.

Additionally, all respondents in Umlazi and Isipingo, eThekweni Municipality, and KZN indicated that smokers were in the area. The presence of smokers was one of the contributors to the increased odour in the area. These odours, dust, and smoke contribute to the outbreak of foodborne diseases as they pollute and contaminate the food (Ovuru et al., 2023).

6.2.3. Objective 3: To evaluate street food vendors' perceptions regarding food safety measures, hygiene practices, and sanitary conditions in Umlazi and Isipingo, eThekweni Municipality, KZN.

The third objective of this study was to evaluate street food vendors' perceptions regarding food safety measures, hygiene practices, and sanitary conditions. Of the parameters cited in the questionnaire, all respondents in Umlazi and Isipingo, eThekweni Municipality, KZN, were aware of food safety measures such as using separate containers for cooking utensils. Followed by street food vendors needing clean storage areas to store food in Umlazi (93%) and Isipingo (88%), eThekweni Municipality, KZN. This is a strong indication that street food vendors need access to storage units that are well-maintained and clean.

All respondents indicated that they often clean and wash their utensils in Umlazi and Isipingo, eThekweni Municipality, KZN, especially during food preparation. Food preparation is an important aspect of street vending as it involves assembling, cooking, and preparing meals. Furthermore, food preparation is found to have the most sources of contamination (Siluma et al., 2023). Similar findings were found in a case study at the University of Cape Coast Campus and surrounding communities based in Ghana. These findings reveal that street food vendors have a positive attitude towards food preparation. Additionally, it was found that 67% of street food vendors often wash and clean utensils often (Ankomah-Appiah, 2023: 6). In Thohoyandou, Limpopo province in South Africa, it was found that street food vendors wash their utensils regularly and three out of four street food vendors keep separate utensils for cooked as well as raw foods (Siluma et al., 2023:6).

Most street food vendors use plastic wrap to cover their food 90% and 75% in Umlazi and Isipingo, eThekweni Municipality, KZN, respectively. Using plastics to wrap the ready-to-eat foods is a simple and effective way to package the food for consumers (Boateng et al., 2022). In Accra, Ghana, it was found that street food vendors make use of plastics to package food as they are easy to clean and offer protection from bacteria, viruses, contamination, extreme sunlight, and moisture (Othman et al., 2022). In Nairobi, Kenya, it was found that 67.8 % of street food vendors use plastic bags to serve and wrap their food (Kariuki et al., 2017:68). Interestingly, most street food vendors have extreme sunlight,

affecting the food 80% and 85% in Umlazi and Isipingo, eThekweni Municipality, KZN. Similar findings and trends were observed whereby 56.1% of ready-to-eat foods were exposed to dust and sunlight due to a lack of shelter in Arba Minch Town, Ethiopia (Alealign et al., 2023:2883). Extreme sunlight and weather events like floods usually impact unsheltered street food vendors. Furthermore, the April and May 2022 floods affected food safety measures and hygiene. The results reveal that most street food vendors in Umlazi and Isipingo, eThekweni Municipality, KZN disposed of their food due to increased spoilage.

6.2.4. Objective 4: To assess the level of monitoring and enforcement of food safety hygiene requirements.

The fourth objective of this study was to assess the level of monitoring and enforcement of food safety hygiene requirements in the street food vending environment. The results of this study showed that the formal training received in the food sector was minimal in Umlazi and Isipingo, eThekweni Municipality, and KZN, respectively. Approximately 90% and 80% of street food vendors in Umlazi and Isipingo, eThekweni Municipality, KZN, have not received any training. Azanaw et al. (2021:6) reveal that 39.2% of street food vendors in Gondwar City, Ethiopia, have not received any training on food safety and business operations. Similar findings were observed in a case study done in Vhembe District, Limpopo, by Mahopo (2023:5), whereby 17% of street food vendors lacked training in meat handling. The lack of training is a primary contributor to food safety-related issues and increased contamination (Mnguni and Giampiccoli, 2022). Access to training improves enforcement and monitoring of the street food vending environment.

Additionally, the training received by employees enables them to raise awareness of food safety measures and hygiene practices. Furthermore, it can help other street food vendors impart their understanding of food safety to each other. The supervision, monitoring, and enforcement of food safety within the street food vending environment of Umlazi and Isipingo, eThekweni Municipality, KZN, is currently being overlooked. Food safety and hygiene officers need more appropriate tools to monitor and supervise the food stalls (Mjoka and Selepe, 2017).

Within the street food vending environment and surroundings, the majority of the respondents stated that waste or garbage pickers from Umlazi (80%) and Isipingo (70%), eThekweni Municipality, and KZN were present, and dust bins were within proximity. This indicates that the eThekweni Municipality, KZN, has implemented waste management initiatives and programs to keep the city clean and ensure a healthy environment for the citizens. The official revealed that the Department of Water and Sanitation (DWS) is actively involved in these initiatives and campaigns. The DWS has launched a hygiene

education campaign and initiative, the strategy of which is to educate people on safe hygiene practices. Furthermore, the Hygiene Education campaign will seek to educate street food vendors in urban areas on keeping their food stalls clean, washing their hands regularly when preparing food, and keeping water uncontaminated (National Sanitation Policy, 2016). In Polokwane, Limpopo City, it was revealed that waste pickers collect waste in urban areas, ranging from 30% to 77% (Sekgobela and Semanya, 2023: 3). This waste is taken to landfill sites. Furthermore, the official commented that the eThekweni Municipality ensures that the waste is removed from urban areas, mainly where street food vendors operate.

6.2.5. Objective 5: To propose strategies for improving the street vending environment and food safety measures

This objective aims to provide recommendations and strategies for this study. Recommendations, solutions, and strategies are important since they provide a way to address the relevant problem. It is important when focusing on research as it provides a sense of change and transformation within an organization and research institution. Monitoring food safety and hygiene measures is critical to improving the street vending environment and ensuring safety. Additionally, the eThekweni Municipality, KZN, needs access to tools to monitor food safety and hygiene measures. These tools consist of using the appropriate methods to collect data and the ability to analyse the data and find possible solutions to significant problems.

The results outlined in chapter five, specifically under recommendations and solutions, reveal that the majority of street food vendors in Isipingo (80%) and Umlazi (60%), eThekweni Municipality, KZN are open to easy access to capital or funds for the expansion of their businesses. Ufua et al. (2022) reveal that the need for more available funds is a current problem in Nigeria that prevents the expansion of most businesses in the informal sector. In Ghana and South Africa, having access to finances from commercial banks and leading financial institutions such as loans is not easily accessible to SMEs. Turkson et al. (2022) reveal that the informal sector experiences difficulties accessing credit and finances from leading financial institutions. This qualitative case study was also done in Ghana, revealing that access to capital for businesses in the informal sector increases their performance (Turkson et al., 2022).

Safety and security were reiterated by street food vendors when asked about possible recommendations and solutions. Approximately 65% of street food vendors in Umlazi, eThekweni, Municipality KZN, indicated that improved security could assist their business. A recent case study in Addis Ababa, Ethiopia, reveals that street food vendors who are women are more likely to experience safety and security issues in urban areas (Kacharo et al., 2022). Hove et al. (2019) reveals that in Harare, Zimbabwe, improved and enhanced security in urban areas, which has minimised crime, such as

pickpocketing and robbery. These are seen as obstacles to effectively running street food vendors' businesses.

Approximately 46% of street food vendors in Isipingo, eThekwin Municipality, KZN believed improved infrastructure, such as access to nearby WASH facilities, was a priority. Approximately 80% and 60% of street food vendors in Umlazi and Isipingo, eThekwin Municipality, KZN, need access to waste disposal services. Most street food vendors in Umlazi (80%) and Isipingo (60%), eThekwin Municipality, KZN, have access to gas as an energy source for preparing and cooking foods. Cant (2017) reveals that most street food vendors in South Africa are located in areas where service delivery could have been minimal and lacking. This can improve and minimise food safety-related issues in urban areas, especially areas of congestion. Basic access to infrastructure and services in conjunction with regular monitoring by urban authorities and officers is provided by the eThekwin Municipality, KZN (Ghatak and Chatterjee, 2018). Access to infrastructure is important for urban development and to reduce the risk of foodborne diseases and fatalities. A case study in Ethiopia and across SSA noted that 40% of street food vending businesses are not connected to electricity and use other energy sources such as wood, coal, and gas (Mbedzi, 2023: 8). access to energy, such as electricity, is crucial in cooking, handling, and preparing food. It is used to kill any potential pathogens through proper cooking and adjustment of temperature to avoid overcooking.

6.3 Reflecting on the conceptual framework

This research adopted the conceptual frameworks, namely SLA and political economy to fully comprehend and conceptualise the complexities of the street food vendors within the two selected communities in eThekwin Municipality in KwaZulu-Natal. The key findings from this research will be evaluated regarding the conceptual framework below:

6.3.1 Sustainable Livelihood Approach

The SLA has become one of rural research's most prominent conceptual frameworks (Morse and McNamara, 2013). However, the SLA has been employed in this thesis in the urban context of geography. The SLA was used to understand the livelihoods of marginalised and impoverished communities, such as street food vendors (Ackello-Ogutu et al., 2019). The SLA prioritised the strengths and capabilities of rural and urban communities. This perspective has enabled one to understand the local assets and capabilities of the poverty-stricken and marginalised communities within the developing context. The SLA strives for participatory research and constant engagement throughout the project lifecycle with communities from inception to development and implementation (Skhosana, 2021). This collaborative approach will assist in empowering marginalised communities to

identify resources required to sustain their livelihoods. The vulnerabilities they face and how they navigate poverty throughout their livelihoods. Therefore, the urban poor should be able to identify and recognise stakeholders regarding access in order to minimise the risks of contamination. This study utilised the SLA to explore perceptions and challenges of WASH, food safety measures, and hygiene in Umlazi and Isipingo, eThekweni Municipality, KZN.

Some of the strengths and assets of street food vendors were unique contributions to the livelihoods of the urban community. Therefore, this study utilised the non-probability purposive sampling method to recruit street food vendors. This allowed one to understand the socio-economic background associated with one's livelihood. The key informant from the Business Support Unit was interviewed using the convenience sampling approach. For example, some recurring themes were business skills, cultural significance, and social capital. These themes can be associated with capabilities and assets that improve street food vendors' livelihoods and enable safer food practices.

The SLA have five assets, namely the financial, human, social, physical, and natural. The financial capital considers access to funding and investments to access the resources (Espaldon, 2009). Most respondents, 53% and 48% in Umlazi and Isipingo, eThekweni Municipality, KwaZulu-Natal, depend on grants such as the COVID-19 relief grant. Due to the restrictions and lockdown, this grant was used to support street food vendors' households and livelihoods, resulting in job loss. It was also used to support their business. The dependence on these grants was due to the unemployment rate of street food vendors, which caused economic conditions to stagnate. This shows that street food vendors do have access to financial capital.

Human capital consists of knowledge, skills, education, and experiences. These skills can be utilized to enhance decision-making by the street food vendor. Relevant skills assist when dealing with various stakeholders. Skills and education were crucial when engaging with stakeholders, especially relevant NGOs and associations. Regarding education, 26% and 22% of street food vendors in Umlazi and Isipingo, eThekweni Municipality, KZN, have matriculated. Education plays a critical role in the street food vending environment. The lack of knowledge and education on food handling, hygiene practices, foodborne diseases, and illness was limited among street food vendors. Street food vendors who need more education and knowledge need access to information on food handling, best practices, and business opportunities.

Social capital comprises raising awareness and forming networks about the marginalised communities that these networks provide. Social capital plays a crucial role in the SLA through resource mobilisation, dissemination of information, social support, and advocacy. These four aspects of social capital aim to strengthen communities through fostering social connections and networks. Therefore, these social networks can promote sustainability in developing urban areas. There are no support groups within the street vending community to support each other and mobilize their grievance.

Natural capital is a fundamental aspect of the SLA. It is significant as street food vendors rely on these to sustain their livelihoods. Natural capital for street food vendors would be the quality and availability of ingredients such as fruits, vegetables, and meat sold to consumers. Street food vendors source their ingredients from sustainable agricultural practices. Access to water is crucial for food handling, sanitation, and hygiene practices. The lack of WASH services potentially leads to health risks within their workstations.

Physical capital includes essential equipment such as storage containers, refrigerators, and utensils, which are essential for food preparation and handling. Infrastructure plays a significant role in physical capital and their livelihoods. Infrastructure includes waste disposal facilities and access to WASH infrastructure to minimise contamination.

6.3.2 Political Economy

The political economy approach encompasses power relation dynamics between the tiers of the national, provincial, and local government relationships, economy, and politics. Political economy seeks an interconnectedness between political and economic procedures in society (Peet and and Thrift, 2023). The influence of resource distribution and how it impacts their livelihoods as street food vendors. The political economy aims to evaluate marginalised communities' power dynamics and imbalances. This may cover water distribution and reform of laws as well as legislation. The influence of neoliberalism and the private sector influences livelihoods.

In the analysis chapter, most street food vendors revealed that they had yet to receive any training from the eThekweni Municipality. This may have contributed to the accelerated contamination of food, which was done unknowingly. Privatisation was classified as companies not owned by the government (De Wet et al., 2002). This means that the cost of accessing water will not be affordable to people who reside in marginalised communities and who come from poverty. Street food vendors had to pay to access WASH services. In the case of the City of Johannesburg (CoJ), South Africa, Johannesburg Water was the water supplier to surrounding areas. The CoJ went under a new configuration and contract awarding. This resulted in an administrative malfunction in the service delivery of communities (De Wet et al., 2002).

6.4 Recommendations

Street food vending SMEs promote urban development, employment, and poverty alleviation (ILO, 2015). Street food vendors depended highly on their local environment to operate their businesses. Based on the findings and summary of the study, the following recommendations were made:

6.4.1 Policy support and reform

The International Labour Organisation (2015) has acknowledged that institutional support in training, credit, and brand management is necessary for transforming African informal industries into economic growth engines. At the same time, policies and laws are practiced and regulated by a particular municipality. Implementing an integrated and holistic system that constitutes the relevant policy and law, as well as the development of standards and regulations that specifically target street food vendors and food system control, is important. A law can be defined as a set of rules and regulations that determines the power and structure of the government (World et al., 2017). These laws should target the informal economy as this will enable transformation, inclusivity, and empowerment of those participating in this sector.

Additionally, the involvement of the appropriate stakeholders, such as food safety officials, eThekweni Municipality officials, and LED officials, formulate new policies to benefit the street food vendors and other informal workers in the informal economy (Lemessa et al., 2021). Furthermore, all relevant stakeholders must be engaged while introducing new policies and reforms to benefit street food vendors. Thus, all relevant stakeholders can provide their input when formulating policy.

A case study was done in Nigeria, mainly focusing on the government, whereby measures and policies were enforced to improve food safety and hygiene. Furthermore, this case study revealed that the enforcement of these policies needed to be better implemented. As a result, the surveillance and inspection had barely improved. Food safety reports compiled by the Nigerian government revealed that 95% of these reports needed to be actively ensuring the data were collected, analysed, and disseminated appropriately (Cudjoe et al., 2022:15). This means there needs to be more data regarding food safety hygiene measures, outbreaks of diseases, and hazards. This can be seen as challenging as relevant stakeholders and affected parties could not provide effective intervention strategies due to the lack of accessible data. Furthermore, the lack of data has resulted in government and municipalities needing help to provide adaptive measures. The lack of data created misconceptions, leading to insufficient knowledge of food safety and hygiene measures.

6.4.2 Implementation of modern technology tools

In many developing countries, unsafe food can be perceived as a massive problem in the informal sector across SSA and South Africa. The street vending environment, especially in South Africa, can be seen as outdated (Unnevehr, 2022). There is a need to introduce and implement modern preservation technologies into the street food vending environment to ensure the safety of consumers and the environment. This can assist with enabling a safe street food vending environment for consumers, developing food safety monitoring, and assisting the municipality in identifying areas of improvement

within the urban areas. Unnevehr (2022) reveals that food safety issues and challenges can be resolved by introducing original technologies and tools to strengthen food safety standards in a specific region.

In chapter five, it was outlined that the majority of street food vendors need access to a refrigerator in Umlazi (80%) and Isipingo (90%), eThekweni Municipality, KZN. Street food vendors selling ready-to-eat foods often use cold storage such as Coolbox to chill their food. A similar study was conducted in West Africa, the Republic of Benin, which revealed that all the street food vendors do not utilize refrigerators (Hounkpe et al., 2023: 8).

This implies a need for more food safety measures due to proper food storage appliances such as refrigerators. Hence, upgrades were needed in these sites for proper food safety measures, hygiene practices, and sanitary conditions. There needs to be an advancement that integrates modern preservation tools and technologies. These preservation tools and technologies can improve the street food vending environment by rolling out affordable, energy-efficient, cost-effective refrigerators and heating units. Access to refrigerators supplied by the eThekweni Municipality, KZN, can assist by prolonging the shelf-life of products and food.

6.4.3 Waste management initiatives and strategies

In South Africa, many municipalities, such as eThekweni Municipality and KZN, still need help resolving waste management challenges within the vicinity and surrounding areas, especially in the urban context. In the context of street food vendors in Umlazi and Isipingo, eThekweni Municipality, KZN, it was noted that there was an excess of food on days when they were unable to meet the consumers' needs; some excess food is discarded either by using a bin or left for the subsequent days for consumption. Discarding food was a cheap, simple, and convenient way for street food vendors. In addition, discarding food leads to waste challenges within the eThekweni Municipality.

In chapter five, most street food vendors in Umlazi (85%) and Isipingo (65%), eThekweni Municipality, KZN, revealed that they do not have access to waste disposal facilities in the vicinity. The respondents from Isipingo (35%), eThekweni Municipality, KZN, indicated that the leftover food is on site. Followed by 26% of street food vendors in Isipingo, eThekweni Municipality, KZN throw their food on the floor, contributing to the area's pollution. South African street food vendors perceive waste management as a task done by the eThekweni Municipality, KZN. To further confirm this, a qualitative interview occurred whereby the official raised waste management issues in the urban areas. The official stated that waste management was a challenge in the urban areas. Additionally, the official revealed that the Durban Solid Waste and the Department of Water and Sanitation (DWS) within KZN collaborated to resolve the waste management and sanitation challenges of eThekweni Municipality.

A case study in Kampala, Uganda, noted that 15% of street food vendors dispose of their remainder of food and garbage on the floor, contributing to the risks to public health (Muyanja et al., 2011: 1554). This can result in the accumulation of waste and the increased presence of rodents and flies that may infect the food sold to consumers. To resolve this issue, there is a need to improve infrastructure and enforce disposal units within proximity. Additionally, local governments and municipalities should be committed to upgrading the infrastructure, such as waste disposal, shelter, and WASH facilities in areas lacking these necessities. The eThekweni Municipality, KZN, can place this disposal unit nearby, which can help keep the surroundings and city clean. Thus, enabling a good street vending environment that corresponds with the eThekweni municipality by-law legislation and rules. While the eThekweni Municipality, KZN, works on improving infrastructure in the urban areas, the urban authorities need to implement maximising environmental education and awareness for food safety measures and hygiene.

6.4.4 Increased community engagement and training

Street food vending is critical in fostering vibrant communities that are vital to the urban community and environment. Street food vending offers a diverse range of economic opportunities and benefits. The benefits span a wide range, such as offering customers nutrition options and easy access to street food vendors (Lin and Yamao, 2014; Menes et al., 2019; Peimani and Kamalipour, 2022). As to food safety and hygiene measures and WASH facilities, disseminating food safety and hygiene knowledge is valuable and advantageous. Through increased community engagement and educational training, street food vendors can assist in mitigating foodborne diseases and illnesses. In chapter five, the majority of the street food vendors in Umlazi (90%) and Isipingo (81%), eThekweni Municipality, KZN indicated that they have yet to receive training to enhance their knowledge on their business, food safety measures, and

A case study was done in Ghana to assess the street food vendors' knowledge of safety and hygiene measures of Ejisu-Juaben Municipality. This study also emphasised the importance of education and training to enhance street food vendors' knowledge. The reason why street food vendors need to empower their community is due to the negligence they experience. They are often regarded as marginalised communities (Abdullah et al., 2023). Addo-Tham et al. (2020) reveal that training initiatives conducted by the municipality are essential in enhancing their knowledge of food handling and hygiene measures.

Furthermore, using Environmental Health officers (EHO) in the municipality served as an advantage in educating street food vendors on food safety measures and hygiene practices. This enables easy access to information and education to address the challenges street food vendors face. The impact of the training and initiatives led to improved hygiene practices in the municipality, strengthening regulations and compliance.

6.4.5 More investment into WASH infrastructure to improve food safety and hygiene measures

Addressing food safety, hygiene measures, and sanitary conditions within the street food vending environment is essential. Advocating for increased investment into WASH infrastructure is an effective intervention strategy and approach (Nelson et al., 2021). Strengthen WASH infrastructure or facilities, namely access to clean and safe water and improved sanitation systems. Investing in WASH infrastructure can enable street food vendors to elevate their standards of food safety measures and hygiene practices. Through increased private-public partnerships to finance WASH infrastructure, this can help build resilience (Johannessen et al., 2014; Machete and Marques, 2021). The investment provides a safer and healthier street food environment and reduces the risk of contamination and foodborne diseases.

Low to middle-income countries across SSA, including South Africa, have experienced burdens about food safety measures and increased foodborne diseases (Grace, 2023). A case study was conducted to review and assess the sanitary conditions of SSA countries. The SSA region consists of Ghana, Nigeria, Cote d'Ivoire, and Congo, to name a few. The findings suggest that SSA countries spend much time collecting water due to a lack of WASH services nearby. Furthermore, the WASH services from municipal citizens still need to be higher. Therefore, the investment in WASH facilities suggests that an increased piped water supply can lead to achieving the SDG to have access to safe and clean water by 2030 (Fuente et al., 2020). Atangana and Oberholster (2023) reveal that SSA countries suggest that increased investment in WASH infrastructure can assist in improving WASH services in specific regions that cannot access essential services. For example, the SSA region has achieved a 20% improved drinking water and a 6% increase in WASH facilities (Atangana and Oberholster, 2023: 13354). The recommendations were that municipalities across SSA need to bridge the gap of the existing challenges and incorporate modern technologies to improve WASH infrastructure.

6.5 Conclusion

This study focused on investigating street food vendors' perceptions regarding food safety measures, hygiene practices, and sanitary conditions in eThekweni Municipality, KZN, by focusing on two sites: Umlazi and Isipingo, eThekweni Municipality, KZN. Food safety practices, hygiene measures, and WASH services and the SDGs were discussed. Quantitative data was collected using questionnaires with open and closed-ended questions, as guided by the research objectives. The data was analysed using Microsoft Excel and represented by tables and charts. According to the findings, many

respondents were married South African women, did not complete secondary school, and had low education levels in Umlazi and Isipingo, eThekweni Municipality, KZN. Most respondents or street food vendors in Umlazi (80%) and Isipingo (90%), eThekweni Municipality, KZN, revealed that they had yet to receive any training from the municipality.

Additionally, most street food vendors in Umlazi and Isipingo, eThekweni Municipality, KZN work in harsh and extreme conditions, such as exposure to air and sunlight pollutants, and their safety and security are compromised. The recommendations would help keep up with the outlined policies and use this to improve street food vendors' knowledge regarding food safety measures, hygiene practices, and sanitary conditions in Umlazi and Isipingo, eThekweni Municipality, KZN. Upgrading street food vendors' infrastructure, environment, and operations would enhance the food safety of the area. Based on the results from this study area in Umlazi and Isipingo, eThekweni Municipality, KZN, it was vital to provide training to street food vendors. This training can assist street food vendors' knowledge of food handling, preparation, and hygiene practices. Furthermore, it is crucial for the eThekweni Municipality, KZN, to address the challenges that street food vendors experience when operating their business and educate themselves on food safety hygiene measures.

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Appendix I (Questionnaire Survey in English and IsiZulu)



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Student number: 215021467

Thesis title: Street food vendors perceptions on food safety measures, hygiene practices and sanitary conditions: Case studies of Isipingo and Umlazi, eThekweni Municipality, KwaZulu-Natal, South Africa

Please remember to wear a mask, sanitize, and keep a distance of 2 m apart.

*Please tick the appropriate boxes and answer the longer questions where necessary.
Multiple responses are allowed where indicated*

Administering of questionnaire date: / /
DD/MM/YY

Section 1: Profile

1. Gender

1. Female	
2. Male	

2. Age classification

1. 18-25 years	
2. 26-35 years	
3. 36-45 years	
4. 46-55 years	
5. 56-65 years	
6. >65 years	

3. Race

1. Black	
2. White	
3. Coloured	
4. Indian/Asian	

4. Are you South African?

1. Yes	
2. No	

4.1 If not, please state your nationality?

5. What is your average income per month?

1. <R500	
2. R600-R1000	
3. R1100-R1500	

4. R1600-R2000	
5. >R2100	

6. Which of the following best describes your education level?

1. No education	
2. Std 1 (grade 1-3)	
3. Std 2-5 (grade 4-7)	
4. Std 6-9 (grade 8-11)	
5. Std 10 (grade 12)	
6. Apprenticeship	
7. Diploma or Degree	
8. Other (specify)	

7. What is your marital status?

1. Married	
2. Divorced	
3. Widowed	
4. Single	
5. Separated	
6. Other (specify)	

8. Are you dependent on the government grants below:

1. SASSA Grant	
2. Covid -19 relief grant	
3. Disability grant	
4. Child support grant	
5. War veteran grant	
6. Pension grant	
7. Other (specify)	

9. Are you living with a disability?

1. Yes	
2. No	

10. How long have you been working as a street food vendor?

1. <5 years	
2. 5-10 years	
3. 11-15 years	
4. >15 years	

Section 2. Background information on household

11. In your household, are you the head of the household?

1. Yes	
2. No	

11.1 If not, then who is the head of your household?

12. Number of people living in your household

0	1	2	3	4	5	6	7	8	9	10	>10

13. What is the main source of income in your household?

1. Wages	
2. Informal income	
3. Pension	
4. Remittances	
5. Grants	
6. Other (specify)	

14. Please can you list the amount.

Section 3. Locality of street vendor

15. Where is your food vending facility located?

1. Isipingo	
2. Umlazi Township	
3. Other (specify)	

16. Which of the following best describes you as a street food vendor facility?

1. Roadside with no shelter	
2. Roadside with shelter	
3. In a facility or permanent building	

Section 4. Employment and business of street vendor

17. Which season of the year is your business the most occupied?

1. Summer	
2. Winter	
3. Autumn	
4. Spring	

18. Are you the owner of this business?

1. Yes	
2. No	

18.1 If yes, how many people do you employ or have employed?

1. One	
2. Two	
3. Three	

4. > Four	
-----------	--

19. Have you been employed permanently?

1. Yes	
2. No	

19.1 If not, please explain further.

20. Have you ever been harassed by the Metro police?

1. Yes	
2. No	

21. Is street food vending your only source of income?

1. Yes	
2. No	

Section 4. Sanitation and Storage

22. Where is the water obtained for the food stall?

1. Outside tap	
2. Kitchen tap	
3. Rainwater tank	
4. Communal water supply (collected)	
5. Other (specify)	

23. Have you received any training on food safety and hygiene measures?

1. Yes	
2. No	

23.1 If yes to the above question, which of the following is applicable.

1. Department of Education	
2. Department of Health	
3. Another cook or handler	
4. Previous employer	
5. Through in-service training	
6. Other (specify)	

24. Is there soap available for hand washing?

1. Yes	
2. No	

25. Is there running tap water available at your nearest food stall?

1. Yes	
2. No	

26. Do you use separate containers for cooking utensils?

1. Yes	
2. No	

27. Is your work station or area cleaned or sanitised?

1. Yes	
2. No	

28. Are you aware that the corona virus (Covid-19) can be spread via coughs and surfaces?

1. Yes	
2. No	

29. Has the corona virus (Covid-19) impacted the manner in which you prepare food?

1. Yes	
2. No	

29.1 If yes, please elaborate further?

30. Does extreme sunlight affect your food?

1. Yes	
2. No	

31. Are the waste or garbage pickers from the eThekweni municipality present?

1. Yes	
2. No	

32. Are there dust bins in close proximity?

1. Yes	
2. No	

32.1 If not, where do you dispose of your waste?

33. Is there an unpleasant odour in the surrounding area?

1. Yes	
2. No	

34. Are the storage areas clean?

1. Yes	
2. No	

35. Is there a refrigerator nearby?

1. Yes	
2. No	

35.1 If not, how do chill your food?

36. Do you use plastic wrap, foils and covers for your food?

1. Yes	
2. No	

37. Do you use processed ingredients?

1. Yes	
2. No	

Section 5. Food preparation and food safety

38. What is the name of your supplier?

39. How long does your stock last?

1. <one week	
2. 1 week	
3. 2 weeks	
4. Other (specify)	

40. Where do you obtain your raw materials (fruit, vegetables, meat) from?

1. Formal retailer	
2. Wholesale stores	
3. Informal businesses	
4. Other (specify)	

41. Has your safety and security been compromised in your work station?

1. Yes	
2. No	

41.1 If yes, please elaborate further?

42. Do you clean and wash your utensils often?

1.Yes	
2. No	

43. Do you combine cooked and raw foods?

1.Yes	
2. No	

44. Do you store cooked foods before selling to customers?

1.Yes	
2. No	

45. What happens to the left-over food that is not purchased by the consumers? (Tick as many that are applicable).

1.Thrown away	
2.Given to a friend	
3.Taken home	
4.Kept for the next day	
5.Cooks/food handlers consume the food	
Other (specify)	

46. Which power supply is used to prepare your food?

1. None	
2. Gas	
3. Diesel	
4. Electricity	
5. Fire	
6. Paraffin	
7. Other(specify)	

Section 6. Environmental exposure

45. Is there a presence of smokers in the workplace?

1.Yes	
2. No	

46. Is there a usage of chemical cleaners in the surrounding areas?

1.Yes	
2. No	

47. Do you often work in extreme conditions?

1.Yes	
2. No	

48. Are you satisfied with the infrastructure that is provided at your trading bay or workstation?

1.Yes	
2. No	

49. Are there presence of rodents or rats and insects?

1.Yes	
2. No	

Section 7. Floods and its impact on street food vendors

50. Have the April 2022 floods impacted your business?

1.Yes	
2. No	

50.1 If yes, please elaborate further?

51. Have the May 2022 floods further impacted your business?

1.Yes	
2. No	

51.1. If yes, please elaborate further?

52. Have the floods that happened in April 2022 made you consider on relocating?

1.Yes	
2. No	

52.1 If yes, please elaborate further?

53. Have the floods that happened in May 2022 made you consider on relocating?

1.Yes	
2. No	

53.1 If yes, please elaborate further?

54. As a street food trader has the April 2022 floods compromised the food and safety standards?

1.Yes	
2. No	

54.1 If yes, please elaborate further?

55. As a street food trader has the May 2022 floods compromised the food and safety standards?

1.Yes	
2. No	

55.1 If yes, please elaborate further?

Section 8. Recommendations and suggestions

56. List and elaborate on the advantages of being a street food vendor?

57. List and elaborate on the disadvantages of being a street food vendor?

58. How can access to capital assist with your business?

59. How can improved access to security assist you with your business?

60. List and elaborate on the assistance that you require from the eThekweni Municipality.

61. Would you like to provide any further comments?

Thank you for your participation!



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Sicela ukhumbule ukugqoka imaski uhlanze futhi ugcine ibanga elingu-2m.

Sicela uphawule amabhokisi afanele bese uphendula imibuzo emide lapho kudingeka khona.
Izimpendulo eziningi zivunyelwe lapho kukhonjisiwe khona

Ukulawulwa kosuku lwemibuzo: ____ / ____ / ____ DD/MM/YY

Isigaba esisodwa: iphrofayili

1. Ubulili

1. owesifazane
2. owesilisa

2. Iminyaka

1. Iminyaka eyi-18
kuye kwengama-
26

2. Iminyaka eyi-26
kuye kwengama-
35
3. Iminyaka eyi-
36 kuye
kwengama-45
4. Iminyaka eyi-46
kuye kwengama-
55
5. Iminyaka eyi-56
kuye kwengama-
65
6. Iminyaka edlula
kwengama-65

3. Luyini uhlanga lwakho

1. Umuntu
Omnyama
2. Umuntu
Okumhlophe
3. umuntu
wekhaladi
4. iNdiya

4. Ingabe ungowaseNingizimu Afrika?

1. Yebo
2. Cha

4.1 Uma kunjalo, ngicela usho ubuzwe bakho?

5. Ingakanani imali oyitholayo ngenyanga?

1. Ngaphansi kuka-
R500
2. R600 kuya ku-
R1000
3. R1100 kuya ku-
R1500

4. R1600 kuya ku-
R2000

5. Ingaphezulu
kuka-R2100

6. Yikuphi kokulandelayo okuchaza kangcono izinga lakho lemfundo?

1. Ayikho imfundo

2. Std 1 (grade 1-3)

3. Std 2-5 (grade 4-7)

4. Std 6-9 (grade 8-11)

5. Std 10 (grade 12)

6. ukufundela umsebenzi

7. idiploma noma iziqu

8. Okunye (chaza)

7. Siyini isimo sakho somshado?

1. Ushadile

2. ohlukanisile

3. umfelokazi

4. Ongashadile

5. ihlukanisiwe

6. Okunye
(chaza)

8. Ingabe uncike kuzibonelelo zikahulumeni ezingezansi:

1. Imali ye-SASSA

2. Isibonelelo
sikahulumeni seCovid-
19

3. Isibonelelo
sokukhubazeka

4. Imali yesibonelelo
sezingane

5. Isibonelelo
sikahulumeni sezempi

6. Imali yempesheni

7. Okunye (chaza)

9. Ingabe uphila nokukhubazeka?

1. Yebo
2. Cha

10. Unesikhathi esingakanani usebenza njengomthengisi wokudla emgwaqweni?

1. Ngaphansi kwe-15
2. Phakathi kweminyaka emihlanu kuya kweyishumi
3. Phakathi kuka-10 kuya ku-15
4. Iminyaka engaphezu kwe-15

Isigaba sesibili. Ulwazi lwasekhaya

11. Uyinhloko yekhaya?

1. Yebo
2. Cha

11.1 Uma kungenjalo, ubani-ke inhloko yomuzi wakho?

12. Inani labantu abahlala ekhaya lakho

- 0
- Umuntu oyedwa
- Abantu Ababili
- Abantu abathathu
- Abantu abane
- Abantu abahlanu
- Abantu abayisithupha

Abantu abayisikhombisa

Abantu
abayisishiyagalombili

Abantu
abayisishiyalolunye
Abantu abayishumi
Abantu abangaphezu
kweshumi

13. Imuphi umthombo wemali engenayo ekhaya lakho?

1. Amaholo
2. imali engenayo
engekho emthethweni
3. impesheni
4. Imali ethunyelwayo
5. Izibonelelo
6. Okunye (chaza)

14. Sicela ubhale inani.

Isigaba sosithathu. Indawo yomthengisi wasemgwaqweni

15. Ikuphi indawo yakho yokuthengisa ukudla?

1. Isipingo
2. Umlazi
3. Okunye
(chaza)

16. Ikuphi kokulandelayo okukuchaza kahle njengendawo yokuthengisa ukudla emgwaqeni?

1. Eceleni komgwaqo
engenakho umpheme

2. Eceleni komgwaqo
enendawo yokukhosela

3. Esikhungweni noma
esakhiweni esihlala
njalo

Isigaba wezine. Ukuqashwa kanye nebhizinisi labadayisi basemgwaqweni

17. Iyiphi isizini yonyaka ibhizinisi lakho elimatasa kakhulu?

1. ihlobo
2. Ubusika
3. Ikwindla
4. Intwasahlobo

18. Ingabe ungumnikazi waleli bhizinisi?

1. Yebo
2. Cha

18.1 Uma kunjalo, bangaki abantu obaqashile noma obaqashile?

1. Umuntu oyedwa
2. Abantu ababili
3. Ezintathu abantu
4. abantu abangaphezu
kuka-4

19. Ngabe usuqashwe unomphela?

1. Yebo
2. Cha

19.1 Uma kungenjalo, sicela uchaze kabanzi.

20. Uke wahlukunyezwa ngamaphoyisa kaMasipala?

1. Yebo
2. Cha

21. Ingabe ukudla kwasemgwaqweni kuwumthombo wakho wemali okuwukuphela kwawo?

1. Yebo
2. Cha

Isigaba sesine. Ukuthuthwa kwendle kanye Nesitoreji

22. Aphi amanzi atholakala endaweni yokudayisa?

1. Kampompi
ngaphandle
2. Umpompi wekhishi
3. Ithangi lamanzi
emvula
4. Amanzi omphakathi
(aqoqiwe)
5. Okunye (chaza)

23. Ingabe ulutholile ukuqeqeshwa mayelana nezindlela zokuphepha kokudla kanye nenhlanzeko?

1. Yebo
2. Cha

23.1 Uma uthi Yebo embuzweni ongenhla, yikuphi kokulandelayo okusebenzayo.

1. UMnyango
wezeMfundo
2. UMnyango
Wezempilo
3. Omunye umpheki
noma isibambi
4. Umqashi
wangaphambilini
5. Ngokuqeqeshelwa
umsebenzi
6. Okunye (chaza)

24. Ingabe ikhona insipho yokugeza izandla?

1. Yebo
2. Cha

25. Ingabe akhona amanzi ampompi atholakalayo endaweni yokudlela eseduze nawe?

1. Yebo
2. Cha

26. Ingabe usebenzisa izitsha ezihlukene ukwenza izitsha zokupheka?

1. Yebo
2. Cha

27. Ingabe uyakuhlanganisa ukudla okuphekiwe nokuhlaza?

1. Yebo
2. Cha

28. Ingabe uyazi ukuthi igciwane le-corona (Covid-19) lingasakazwa ngokukhwehlela nangaphandle?

1. Yebo
2. Cha

29. Ingabe i-coronavirus (Covid-19) ibe nomthelela endleleni olungisa ngayo ukudla?

1. Yebo
2. Cha

29.1 Uma kunjalo, ngicela ungichazele kabanzi?

30. Kuyaba nomthelela omubi?

1. Yebo
2. Cha

31. Bakhona abacosha udoti noma udoti kumasipala weTheku?

1. Yebo
2. Cha

32. Ingabe ikhona imigqomo yothuli eduze?

1. Yebo
2. Cha

32.1 Uma kunjalo, ulahla kuphi imfucuza yakho?

33. Ingabe kunephunga elibi endaweni ezungezile?

1. Yebo
2. No

34. Ingabe kunephunga elibi endaweni ezungezile?

1. Yebo
2. Cha

35. Ingabe sikhona isiqandisi eduze?

1. Yebo
2. Cha

35.1 Uma kunjalo, ukupholisa kanjani ukudla kwakho?

36. Ingabe usebenzisa i-warp yepulasitiki, ama-foil namakhava ekudleni kwakho?

1. Yebo
2. No

37. Ingabe usebenzisa izithako ezicutshunguliwe?

1. Yebo
2. Cha

Isigaba lwesihlanu. Ukulungiswa kokudla kanye nokuphepha kokudla

38. Ubani igama lomphakeli wakho?

39. Sihlala isikhathi esingakanani isitoko sakho?

1. Ngaphansi
kwesonto elilodwa

2. isonto elilodwa
3. amasonto amabili
4. Okunye (chaza)

40. Uzithola kuphi izinto zakho zokusetshenziswa (izithelo, imifino, inyama)?

1. Umthengisi
osemthethweni
2. Izitolo ezinkulu
3. Amabhizinisi
angahlelekile
4. Okunye (chaza)

41. Ingabe sikhona isimo esibeka wena noma umsebenzi wakho encupheni ngokwephepha?

1. Yebo
2. Cha

41.1 Uma kunjalo, sicela ucacise kabanzi?

42. Ingabe uyazihlanza futhi uwashe izitsha zakho njalo?

1. Yebo
2. Cha

43. Ingabe ukuhlenganisa ukudla okuphekiwe futhi eluhlaza?

1. Yebo
2. Cha

44. Ingabe uyakugcina ukudla okuphekiwe ngaphambi kokudayisela amakhasimende?

1. Yebo
2. Cha

45. Kwenzekani ngokudla okusele okungathengwa ngabathengi? (Khetha okuningi okusebenzayo)

1. Uhlwe kude	
2. Inikezwe umngane	
3. Kuyiswe ekhaya	
4. Kugcinelwe usuku olulandelayo	
5. Abapheki/abaphathi bokudla badla ukudla	
6. Okunye (chaza)	

46. Yikuphi ukunikezwa kwamandla okusetshenziselwa ukulungisa ukudla kwakho?

1. Akukho
2. Igesi
3. Udizili
4. Ugesi
5. Umlilo namalahle
6. Upharafini
7. Okunye (chaza)

Isigaba sesithupha. Ukuchayeka kwemvelo

45. Ingabe kukhona ababhemayo emsebenzini?

1. Yebo
2. Cha

46. Ingabe kukhona ukusetshenziswa kwezinto zokuhlaza amakhemikhali ezindaweni ezizungezile?

1. Yebo
2. Cha

47. Ingabe uvame ukusebenza ezimweni ezimbi kakhulu?

1. Yebo
2. Cha

48. Ingabe wanelisekile ngengqalasizinda enikezwa endaweni yakho yokuhweba noma endaweni yokusebenzela?

1. Yebo
2. Cha

49. kungabe zikhona izilwane ezikuhluhayo?

- 1.Yebo
- 2. Cha

Isigaba sesikhombisa. Izikhukhula kanye nomthelela wazo kubadayisi bokudla basemgwaqweni

50. Yiba nezikhukhula zango-April 2022 zibe nomthelela ebhizinisini lakho?

- 1.Yebo
- 2. Cha

50.1 Uma kunjalo, sicela ucacise kabanzi?

51. Yiba nezikhukhula zangoMeyi 2022 zibe nomthelela ebhizinisini lakho?

- 1.Yebo
- 2. Cha

51.1. Uma kunjalo , sicela ucacise kabanzi?

52. Ingabe izikhukhula ezenzeke ngo-Ephreli 2022 zikwenze ucabange ngokuthuthela kwenye indawo?

- 1.Yebo
- 2. Cha

52.1 Uma kunjalo , sicela ucacise kabanzi?

53. Ingabe izikhukhula ezenzeke ngo-Meyi 2022 zikwenze ucabange ngokuthuthela kwenye indawo?

- 1.Yebo
- 2. Cha

53.1 Uma kunjalo, sicela ucacise kabanzi?

54. Njengomhwebi wokudla emgwaqeni izikhukhula zika-April 2022 zabeka engcupheni ukudla nokuphepha kwamazinga?

1. Yebo
2. Cha

54.1 Uma kunjalo, sicela ucacise kabanzi?

55 Njengomthengisi wokudla emgwaqweni izikhukhula zangoMeyi 2022 zibeke engcupheni ukudla nokuphepha kwamazinga?

1. Yebo
2. Cha

55.1 Uma kunjalo , sicela ucacise kabanzi?

Isigaba sesishiyagalombili. Izincomo neziphakamiso

56. Bhala bese uchaza kabanzi ngezinzuzo zokuba umdayisi wokudla emgwaqweni?

57. Bhala bese uchaza kabanzi ngobubi bokuba umthengisi wokudla emgwaqweni?

58. Ukuthola imali kungasiza kanjani ngebhizinisi lakho?

59. Ukufinyelela okuthuthukisiwe kwezokuphepha kungakusiza kanjani ngebhizinisi lakho?

60. Bhala bese uchaza kabanzi ngosizo oludingayo kuMasipala weTheku

61. Ungathanda ukunikeza noma imaphi amanye amazwana?

Siyabonga ngokubamba kwakho iqhaza!

Appendix II (Questionnaire for Key Informant)



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Thesis Title: Street food vendors perceptions on food safety measures, hygiene practices and sanitary conditions: Case studies of Isipingo and Umlazi, eThekweni Municipality, KwaZulu-Natal, South Africa

Please remember to wear a mask, sanitize, and keep a distance of 2 m apart.

Administering of questionnaire date: ____ / ____ / ____

DD/MM/YY

Interview Questions for the Official at the Business Unit Support eThekweni Municipality

Section 1: Profile

1. Kindly describe your role within the Business Unit Support of eThekweni Municipality.

2. How long have you worked within the eThekweni Municipality?

2.1 List and elaborate on the challenges that the street food traders have to undergo?

3. What are the challenges that the eThekweni municipality is facing now?

3.1 How do you address these issues?

Section 2: Permit access

4. Is it important for a street food vendor to have access to a permit?

1. Yes	
2. No	

4.1. How does the eThekweni municipality benefit from having licensed street traders?

4.2. Are the street food vendors foreigners or South Africans?

5. Is there competition amongst foreign and South African street food vendors?

1. Yes	
2. No	

5.1 If yes, please elaborate further?

6. What procedures do the Metro police utilise when confronting street food vendors?

7. Are the Metro police using effective methods when confronting the street food vendor?

1. Yes	
2. No	

7.1 If not , please elaborate further?

8. Do street food vendors receive training?

1. Yes	
2. No	

8.1 If yes, please explain the type of training that is received?

Section 3: Sanitary conditions and infrastructure

9.Are there any requirements to access infrastructure, water, electricity, and resources for trading?

1. Yes	
2. No	

9.1 If yes, can you list and elaborate on these requirements to access infrastructure, water, electricity and resources for trading?

10. What is the biggest challenge that the eThekweni municipality is facing in providing sanitation for sheltered street food traders?

11. What is the biggest challenge that the eThekweni municipality is facing in providing sanitation for sheltered street food traders

12. Is there a presence of rodents and insects in the street food vendors workstations?

1. Yes	
2. No	

12.1 If yes, elaborate on these measures to secure a healthy and safe working environment?

13. Do the street food vendors represent themselves via a union?

1. Yes	
2. No	

13.1 If not, can you elaborate on the lack of representation?

Section 4: Covid-19 and street food vendors

14. Do authorities encourage street food vendors to follow the strict COVID-19 protocols? (Such as wearing a mask, 2m social distancing and sanitising?)

1. Yes	
2. No	

14.1 If not, please elaborate?

15. Did the eThekweni municipality offer grants or relief funds for licensed street vendors during the lockdown restrictions and measures?

1. Yes	
2. No	

15.1 If yes, please explain further?

16. Can you elaborate on the use of the COVID 19 relief funds?

17. Did the civil unrest in July 2021 impact street food vendors?

1. Yes	
2. No	

17.1. If yes, elaborate further?

Section 5. Floods and its impact on street food vendors

18. Has the EtheKwini municipality considered on strengthening any existing structures to ensure the effects of the April 2022 floods were dealt with?

1. Yes

2. No

18.1 If yes, please elaborate further?

19. Has the EtheKwini municipality considered on strengthening any existing structures to ensure the effects of the May 2022 floods were dealt with?

1. Yes	
2. No	

19.1 If yes, please elaborate further?

20. Does the eThekwini Municipality consider resilient infrastructure to protect the safety of street food vendors?

1. Yes	
2. No	

20.1 If yes, please elaborate further?

20. Are there any additional comments:

Thank you so much for your time!



School of Agriculture, Engineering and Science
Discipline of Geography
P/Bag X01 Scottsville
Pietermaritzburg, 3209
South Africa

University of KwaZulu-Natal Research Ethics Committee Details
Prem Mohun (Mr)
University of KwaZulu-Natal
Research Office: Ethics
Govan Mbeki Centre
Tel+27312604557
Fax+27312604609

Email: mohunp@ukzn.ac.za

Name: Lungisa Ziyanda Tenza

Student number: 215021467

Thesis Title: Street food vendors perceptions on food safety measures, hygiene practices and sanitary conditions: Case studies of Isipingo and Umlazi, eThekweni Municipality, KwaZulu-Natal, South Africa

Sicela ukhumbule ukugqoka imaski uhlanze futhi ugcine ibanga elingu-2m.

Ukulawulwa kosuku lwemibuzo: _____ / _____ / _____ DD/MM/YY
--

Imibuzo Yenhlolokhono Yesikhulu Ophikweni Lwezamabhizinisi Sekela Umasipala WeTheku

Isigaba sokuqala. iphrofayili

1. Sicela uchaze ngeqhaza lakho oPhikweni Lwezebhizinisi Lokweseka kuMasipala weTheku.

2. Usebenze isikhathi esingakanani kuMasipala weTheku?

2.1 Bhala bese uchaza kabanzi ngezindlelo abadayisi bokudla basemgwaqweni okumele babhekane nazo?

3. Yiziphi izindlelo umasipala weTheku obhekene nazo manje?

3.1 Uzilungisa kanjani lezi zinkinga?

Isigaba sesibili: Imvume yokufinyelela

4. Ingabe kubalulekile ukuthi umdayisi wokudla wasemgwaqweni akwazi ukuthola imvume?

1. Yebo	
2. Cha	

4.1. Uhlomula kanjani umasipala weTheku ngokuba nabadayisi basemgwaqweni abanelayisensi?

4.2. Ngabe abadayisi bokudla basemgwaqweni ngabakwamanye amazwe noma baseNingizimu Afrika?

5. Ingabe kukhona ukuncintisana phakathi kwabadayisi bokudla bangaphandle nabaseNingizimu Afrika?

1. Yebo	
2. Cha	

5.1 Uma kunjalo, sicela ucacise kabanzi?

6. Yiziphi izinqubo ezisetshenziswa amaphoyisa kaMasipala uma ebhekene nabadayisi bokudla basemgwaqweni?

7. Ngabe amaphoyisa kaMasipala asebenzisa izindlela ezisebenzayo uma ebhekene nomdayisi wokudla emgwaqweni?

1. Yebo	
2. Cha	

7.1 Uma kungenjalo, sicela ucacise kabanzi?

8. Ingabe abadayisi bokudla basemgwaqweni bathola ukuqeqeshwa?

1. Yebo	
2. Cha	

8.1 Uma kunjalo, sicela uchaze uhlobo lokuqeqeshwa olutholwayo?

Isigaba sesithathu: Izimo zenhlanzeko nengqalasizinda

9. Ingabe zikhona izidingo zokufinyelela ingqalasizinda, amanzi, ugesi, kanye nezinsiza zokuhweba?

1. Yebo	
2. Cha	

9.1 Uma kunjalo, ungabhala futhi ucacise ngalezi zidingo ukuze uthole ingqalasizinda, amanzi, ugesi kanye nezinsiza zokuhwebelana?

10. Iyiphi inselelo enkulu umasipala weTheku obhekene nayo yokuhlinzeka ngezindlu zangasese kubadayisi bokudla basemgwaqweni abacashile?

11. Iyiphi inselelo enkulu umasipala weTheku obhekene nayo yokuhlinzeka ngezindlu zangasese kubadayisi bokudla basemgwaqweni abacashile?

12. Ingabe zikhona izilwane endaweni yakho yokuthengisa ezinisbenzisa kabhlungu?

1. Yebo	
2. Cha	

12.1 Uma kunjalo, chaza kabanzi ngalezi zinyathelo zokuvikela indawo yokusebenza enemphilo nephephile?

13. Ingabe abathengisi bokudla basemgwaqweni bazimele ngenyunyana?

1. Yebo	
2. Cha	

13.1 Uma kungenjalo, ungachaza kabanzi ngokuntuleka kokumelela?

Isigaba sesine: I-Covid-19 kanye nabathengisi bokudla basemgwaqweni

14. Ngabe iziphathimandla ziyabakhuthaza abathengisi bokudla basemgwaqweni ukuthi balandele imigomo eqinile ye-Covid-19? (Njengokugqoka imaskhi, ukuqhelelana nomphakathi okuyi-2m nokuhlazwa kwenhlanzeko?)

1. Yebo	
2. Cha	

14.1 Uma kungenjalo, sicela ucacise?

15. Ngabe umasipala weTheku unikeze izibonelelo noma izimali zosizo kubathengisi basemgwaqweni abanamalayisense ngesikhathi kunemikhawulo nezinyathelo zokuvala umnyango?

1. Yebo	
2. Cha	

15.1 Uma kunjalo, ngicela uchaze kabanzi?

16. Ungakwazi ukuchaza kabanzi ngokusetshenziswa kwezimali zosizo ze-COVID 19?

17. Ingabe izibhelu zombango ngoJulayi 2021 zaba nomthelela kubathengisi bokudla basemgwaqweni?

1. Yebo	
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2. Cha	
--------	--

17.1. Uma kunjalo, chaza kabanzi?

Isigaba sesihlanu. Izikhukhula kanye nomthelela wazo kubadayisi bokudla basemgwaqweni

18. Ngabe umasipala weTheku usekucabangile ukuqinisa izinhloka ezikhona ukuze uqinisekise ukuthi imiphumela yezikhukhula zika-April 2022 iyabhekwanayo nayo?

1. Yebo	
2. Cha	

18.1 Uma kunjalo, sicela ucacise kabanzi?

19. Ngabe umasipala weTheku usekucabangile ukuqinisa izinhloka ezikhona ukuze kubhekwanenemiphumela yezikhukhula zikaMeyi 2022?

1. Yebo	
2. Cha	

19.1 Uma kunjalo, sicela ucacise kabanzi?

20. Ngabe uMasipala weTheku ubheka ingqalasizinda eqinile ukuvikela ukuphepha kwabadayisi bokudla basemgwaqweni?

1. Yebo

2. Cha

20.1 Uma kunjalo, sicela ucacise kabanzi?

20. Ungathanda ukunikeza noma imaphi amanye amazwana?

Siyabonga ngokubamba kwakho iqhaza!

Appendix III (Gatekeepers Letter)



For attention:
 Chair of Research Ethics Committee
 Department of Geography
 School of Agriculture, Earth and Environmental Sciences
 University of Kwazulu Natal
 Westville Campus
 Durban
 4000

24 May 2022

RE: LETTER OF SUPPORT TO L.Z TENZA, STUDENT NO. 215021467 - GRANTING PERMISSION TO USE ETHEKWINI MUNICIPALITY AS A STUDY SITE FOR A MASTERS RESEARCH

The Business Support, Markets and Durban Tourism Unit and Municipal Institute of Learning (MILE) in eThekweni Municipality, have considered a request from Lungisa Ziyanda Tenza (Ms) , a registered student at UKZN to use eThekweni Municipality as a research study site in fulfilment of a Master of Science (Geog & Env.Sc.) research in eThekweni Municipality. The study is entitled **"Street food vendors perceptions on food safety measures, hygiene practices and sanitary conditions: Case studies of Isipingo and Umlazi, eThekweni Municipality, KwaZulu-Natal, South Africa."**

We wish to inform you of the acceptance of her request and hereby assure her of our utmost cooperation towards achieving her academic goals; the outcome which we believe will help the municipality improve its services. The student is reminded of the current health regulations when conducting the research. The student must take all necessary measures to ensure that her personal safety is prioritized during the research period as eThekweni Municipality indemnifies itself from any incidental claims that may arise. **Your point of contact for this study is Mr.Sibusiso Masuku, from our Business Support Unit.** In return, we stipulate as mandatory that the student contacts Dr Collin Pillay to present the preliminary results and recommendations of this study to the related unit/s. ,

Wishing the student all the best.

.....
 [Redacted Signature]

Mr. Oswald Nzama
 Head: Bus. Support, Markets & Durban Tourism
 eThekweni Municipality

.....
 [Redacted Signature]

Dr. Collin Pillay
 Program Manager: MILE
 eThekweni Municipality

I Lungisa Ziyanda Tenzahereby accept as conditional that I will comply fully as per the conditions stipulated above.

Signed: [Redacted Signature] Date: 2022/05/24

04 August 2022

Lungisa Ziyanda Tenza (215021467)
School Of Agri Earth & Env Sc
Pietermaritzburg Campus

Dear LZ Tenza,

Protocol reference number: HSSREC/00004404/2022

Project title: Street food vendors perceptions on food safety measures, hygiene practices and sanitary conditions: Case studies of Isipingo and Umlazi, eThekweni Municipality, KwaZulu-Natal, South Africa

Degree: Masters

Approval Notification – Expedited Application

This letter serves to notify you that your application received on 21 June 2022 in connection with the above, was reviewed by the Humanities and Social Sciences Research Ethics Committee (HSSREC) and the protocol has been granted **FULL APPROVAL**.

- Please note that the use of video recording and photographs is not permitted.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. **PLEASE NOTE:** Research data should be securely stored in the discipline/department for a period of 5 years.

This approval is valid until 04 August 2023.

To ensure uninterrupted approval of this study beyond the approval expiry date, a progress report must be submitted to the Research Office on the appropriate form 2 - 3 months before the expiry date. A close-out report to be submitted when study is finished.

HSSREC is registered with the South African National Research Ethics Council (REC-040414-040).

Yours sincerely,



Professor Dipane Hlalele (Chair)

/dd

Humanities and Social Sciences Research Ethics Committee

Postal Address: Private Bag X54001, Durban, 4000, South Africa

Telephone: +27 (0)31 260 8350/4557/3587 **Email:** hssrec@ukzn.ac.za **Website:** <http://research.ukzn.ac.za/Research-Ethics>

Founding Campuses:  Edgewood  Howard College  Medical School  Pietermaritzburg  Westville

Language editing certificate

KwaZulu-Natal
South Africa
13 December 2024

To whom it may concern

Title: Street food vendors perceptions on food safety measures, hygiene practices and sanitary conditions: Case studies of Isipingo and Umlazi, eThekweni Municipality, KwaZulu-Natal, South Africa

Student: Lungisa Ziyanda Tenza

I have extensively commented on this thesis's general structure, grammar, and format. I have not seen the final version of the thesis, but should she have addressed them, the thesis will be suitable for submission. The student has put much effort into this study, and I have therefore tried to respect her voice in the representation of her work.

Regards,

Ntandoyenkosi L. Msomi

MMedSci, B.Speech-Lang-Path

Academic Editor | Tel: 063 942 1862