**FACULTY OF SCIENCE AND ENGINEERING**

**SCHOOL OF GEOSCIENCES, DISASTER RISK REDUCTION AND SUSTAINABLE DEVELOPMENT**

# THE RELATIONSHIP BETWEEN HOUSEHOLD INCOME LEVELS AND FOOD SECURITY IN POOR URBAN SETTLEMENTS: LESSONS FROM HOUSEHOLD CONSUMPTION PATTERNS IN HOPLEY, HARARE, ZIMBABWE

**BY**

**PATONIA CHIROPA**

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## DECLARATION

PATONIA CHIROPA an undergraduate student studying Bachelor of Science honour degree in development studies declare that this document is my own project writing and all the information that was copied in it was followed by acknowledging to the original scholar or the source.

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Supervisor's section to complete

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Date _____

## DEDICATION

The student dedicates this project to my brothers and attachment work colleagues for the significant support they gave me throughout this research process. Without leaving the supervisor who always support guide. The God of heavens may he bless each of then according to their desire.

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Finally, I would like to thank the community of Hopley for their participation in this project through their information they shared during data collection.

## ABSTRACT

Although the is rapid rises of food insecurity, there remains a significant research gap in understanding how household income levels directly influence food security in small and crowded vulnerable community. To bridge this gap, the research examined the relationship between income levels and food security, addressing the socio-economic factors that mediate the relationship. The study used mixed methods approaches to apply both quantitative data and qualitative data from focus group discussion (FGDs) and household questionnaires. A sample of 67 participants who were selected using the random sampling technique. The findings show that majority of 82.4% of households in Hopley are living within food insecurity because of low incomes with many families earning less than $100 per month, hindering their ability to access enough food and balanced diet. The socio-economic challenges such as unstable income, high transport costs, and gender disparities greatly affects women and women who are single headed households. The research study showed a strong correlation between food stability and food utilization, both with the regression coefficient ($R^2$) of 0, 9342, indicated that household income explicates a significant part of variation of food security elements. While food accessibility with a regression coefficient ($R^2$) of 0, 7097 showed a moderate strong correlation with income indicated that financial stability improves the ability of food accessibility but does not completely determine access of food. The food availability with the $R^2$ of 0,666 showed the moderate correlation with household income suggested that income contributed to households' ability to secure food but external supports factors are also influential, exposed the importance of financial opportunities to enhance meal frequency food accessibility, availability, stability and utilization. The severe socio-economic challenges such as poor infrastructure poor unstable political base which hinders the positive effectiveness of income on food security. These findings noted the urgent need for specific economic programs and policy reforms to minimize the challenges experiencing households in Hopley. The findings suggest that for future research to adopt longitudinal methods to track changes in food security over time and detailed the qualitative inquiries into practical experiences of household which food insecure. Therefore, the study objected to inform stakeholders and guide the development of more effective ways to upgrade state of the current food security within Hopley and all other poor urban settlements with vulnerable households.

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## ACRONYMS

| | |
|---|---|
| FAO | Food and Agriculture Organisation |
| CAADP | Comprehensive Africa Agricultural Development Program |
| ZimVAC | Zimbabwe Vulnerable Assessment Committee |
| NGOs | Non-Governmental Organisation |
| PDS | Public Distribution System |
| ZimStats | Zimbabwe Statistics |
| ZNSA | Zimbabwe National Statistics Agency |
| FGDs | Focus Group Discussions |
| WID | World Inequality Database. |

# CHAPTER ONE: INTRODUCTION

## 1.1 Introduction

The chapter provides a comprehensive overview of the complex relationship between household income levels and food security in impoverished urban settlements, utilizing Hopely, Harare, Zimbabwe as a case study. It commences by contextualizing the historical background of this relationship, identifying existing knowledge gaps, and highlighting pivotal socio-economic dynamics. Subsequently, the chapter articulates the core problem statement, outlines the study's aim, specific objectives, and research questions designed to investigate the issue in-depth. Furthermore, it emphasizes the study's significance, delineates its scope, acknowledges its limitations, states the research hypothesis, and outlines the underlying assumptions. The definitions of key terms will be provided while the chapter concludes with a summary, setting basis for a full explanation of the research.

## 1.2 Background of the Study

Food insecurity is a crucial global challenge that impact almost six hundred and ninety thousand (690) million people around the world, with low-income households facing more significant challenges. These households often struggle to access sufficient, safe, and nutritious food due to limited income, resulting in poor health outcomes such as malnutrition and stunted growth (Smith and Haddad, 2015, United Nations 2020). High food prices and unstable economy increases situation, making it more difficult for low-income families to reach or to maintain food security. The Food and Agriculture Organization (FAO) (2019), states that disparities in food accessibility across different income classes highlight the quick need for specific assistance to help those most vulnerable.

Smith and Haddad (2015) emphasis the significant role of income in defining food security, as it affects both the quantity and quality of food that households can purchase. Income inequality significantly plays a greater role in food insecurity in developing countries. Thus, wealthier households afford variety and nutritious diets, poorer households depend on less cost foods full of carbohydrates lacking vital nutrients. This assertion also emphasized by Frayne, Crush, and McLachlan (2014), who noted that poor urban households spare more portion of their income to food, less for other important needs. Abdul-Hanan, Abdul-Rahaman, and Issahaku (2021) found that sustainable agricultural practices, farm income, and food security are closely linked,

specifically within rural households in Africa. Beyene (2023) emphasizes the impact of food insecurity on health effects, citing practical evidence of significant adverse impact in sub-Saharan African countries. This disparity in dietary quality has long-term implications for health and well-being, specifically for children and susceptible populations.

Food security is still a greater concern in Sub-Saharan Africa, where the region experiences some of the world's highest rates of food scarcity The Global Hunger Index (2020) notes that most of countries in the region are in severe alarming levels of hunger, caused by economic disparities. Jayne, Mather, and Mghenyi (2018) highlights the struggles faced by smallholder agriculture, whichh most of the low-income households depend on, including limited access to markets and resources. This limited market access hinders farmers from obtaining fair prices for their produce, thereby intensifies food insecurity. The rapid urbanization of Southern African cities has result in the growth of informal settlements, where low-income households fail to access enough food due to limited employment and poor living conditions (Frayne, Crush, and McLachlan, 2014). According to Bjornlund and van Rooyen (2022), food insecurity still continues in the region because of structural issues such as poor governance and poor infrastructure, which works as hindrance to effective food distribution and access.

There have been positive developments on food insecurity in the region, significant gaps remain in between. Programs such as the Comprehensive Africa Agriculture Development Programme (CAADP) focus on improve agricultural productivity and food availability by promoting sustainable agricultural practices and increasing investments in the agricultural sector. For example, Baptista et al. (2022) highlights that CAADP has enabling to enhancee agricultural productivity through various initiatives. Ouma et al. (2024) also acknowledge the role of CAADP in promoting food security but emphasize the need for localized strategies to address specific challenges faced by poor urban populations. Maxwell (2013) points out that while these programs are beneficial, they often overlook the unique needs of informal settlements, where low-income households fail to access nutritious food. These insights focus on the necessity for more specific interventions to address the exact needs of poor urban populations, particularly those in informal settlements.

In Zimbabwe, food security is a serious concern, especially in poor urban areas affected by economic challenges and political instability. Zimbabwe Vulnerability Assessment Committee (ZimVAC) (2020), notes that, approximately 5.5 million Zimbabweans were under food scarcity conditions. The economic crisis of the country characterized by hyperinflation and high unemployment rates, has significantly impacted household incomes, making it more challenging to many families to afford enough food (ZimVAC, 2020). Mawere (2015) notes that economic instability in Zimbabwe has result in demise in agricultural productivity and accessibility, further intensifies the food security crisis. These households often depend on informal sector employment, which is unstable and poorly paid. Therefore, they failed to meet their basic food needs, resulting in poor diets and susceptible health risks. The over reliance on informal markets for food, where prices are not stable, further worsen the situation for low-income families.

The consumption patterns of households in Hopley shows a reliance on inexpensive, calorie-dense foods lacking vital nutrients. This dietary pattern results from limited financial resources, as low-income families decide to choose quantity over quality to achieve basic caloric needs. French et al. (2019) Notes that lower household income is significantly associated with poorer diet quality. They note that households with lower incomes tend to purchase less nutritious food due to choosing affordability, resulting in diets that are rich in carbohydrates but lacking another important nutrient. Thompson (2021) discusses the impact of poverty on dietary health outcomes, noting that economic challenges force families to choose cheaper, less nutritious options, resulting in malnutrition and related health issues. Anderson et al. (2021) Highlights the need for interventions to improve healthy food choices in low-income housing. They started that behavioural economic-based adaptations to choosing architecture help encourage low-income families towards healthier food options, even within their financial limitations. These factors contribute to serious health implications such as malnutrition, stunted growth, and weakened immune systems, specifically within vulnerable populations, such as children and women.

Local initiatives such as community gardens and food assistance programs, aim to improve food security in Hopley, these efforts are not enough to solve the scale of the problem. Matamanda and Potts (2020) noted that such programs provide temporary relief without solving the underlying economic challenges. Sustainable and comprehensive strategies are necessary to enhance household income levels and food security. Chirisa and Chikowore (2022) highlights the

significance of economic empowerment programs, education, and access to healthcare services in meeting long-term food security. Ncube, Sibanda, and Zulu (2023) support that integrated policies solving both economic and social determinants are vital for reducing food scarcity in poor urban settlements in Zimbabwe. Solving these underlying problems is important for reaching sustainable food security in poor urban settlements, specifically in Hopley, and provides the basis of this research to investigate of the specific impacts of household income on food scarcity within this community.

Therefore, this study explores how different household income levels directly influence food security within poor urban settlements in Hopley. Although existing literature has examined economic instability, dietary quality, and food accessibility in these contexts, as well as poverty, it has neglected to investigate how household income levels impact food security based on specific socio-economic factors in poor urban settlements, in small-scale studies. This knowledge gap is vital in solving as it can significantly intensify food insecurity due to its negligibility within small-scale vulnerable populations. Bridging this gap is important for developing specific interventions to enhance food security in these vulnerable communities.

### 1.3 Problem Statement

The high levels of food insecurity in poor urban settlements, such as Hopley in Harare, are significantly geared by household income levels. Despite initiatives objected to solve food insecurity, including community gardens and food assistance programs, these efforts often fail to solve the root causes of food insecurity, which are economic instability, poverty, and income inequality (Chirisa and Chikowore, 2022). Current studies have minimum examination of how varying household income levels specifically affect availability, accessibility, stability and utilization which are pillars of food. French et al. (2019) Noted that lower household incomes are closely linked with poorer diet quality, as families opt to choose affordability over nutrition. Thompson (2021) notes that economic challenges force low-income families to choose cheaper food as best options yet less does not have proper nutrition, resulting in health issues such as malnutrition and stunted growth. Matamanda and Potts (2020) noted that existing programs provide temporary relief but fail to solve the deeper economic and structural problems

The distinct socio-economic changing of informal settlements, characterized by depending on informal employment and economic instability, are consistently overlooked in current policies and

interventions. Ncube, Sibanda, and Zulu (2023) noted that integrated policies solving both the economic and social factors of food insecurity are important for developing effective interventions. Baptista, Silva, and Oliveira (2022) asserted that, although agricultural initiatives such as the Comprehensive Africa Agriculture Development Program (CAADP) have made progress, they often fail to reach the more susceptible poor urban populations. This study investigation seeks to solve this gap by exploring the relationship between household income levels and food security in poor urban settlements, with Hopley, Harare resemblance as a case study.

### 1.4 Aim of the Study

The study aims to examine the relationship between household income levels and food security in poor urban settlement in Hopley, Harare, Zimbabwe

#### 1.4.1 Specific Objectives

i. To examine the correlation between household income levels and food security in poor urban settlement in Hopley Harare, Zimbabwe.
ii. To assess how different income levels, affect household consumption patterns in Hopley, Harare, Zimbabwe.
iii. To investigate the socio-economic factors that mediate the relationship between household income levels and food security in Hopley, Harare, Zimbabwe.

### 1.5 Research Questions

i. What is the correlation between household income and food security in Hopley Harare Zimbabwe?
ii. How do difference income levels influence household consumption patterns in Hopley, Harare Zimbabwe?
iii. How do socio-economic factors mediate the relationship between household income levels and food security in Hopley, Harare, Zimbabwe?

### 1.6 Research Hypothesis

($H^0$) There is a significant positive correlation between household income levels and food security in poor urban in Hopley, Harare, Zimbabwe. Settlements

($H^1$): There is no significant correlation between household income levels and food security in poor urban settlements in Hopley, Harare, Zimbabwe.

## 1.7 Significance of the Study

This study's significance stems from its potential to inform and enhance policies and interventions targeting food security in poor urban settlements. The research offers valuable insights into the relationship between household income levels and food security, and the mediating effects of socio-economic factors, benefiting diverse stakeholders: policy makers, NGOs, local governments, community members, academics, and researchers.

### 1.7.1 Policy Makers

The research findings will help policy designer and implementer to effactively set programs focusing on food insecurity in poor urban settlements. The clear picture on the specific relationship between household income levels and food security create easy pathway for policymakers to distribute resources more productively and create specific interventions. These interventions will solve the exact needs of poor urban communities, making sure that method taken are valuable prior to the problem on that ground. Silvestri et al. (2015) noted that understanding key factors involved in and household income level and food security is important for selecting effective methods. This comprehensive understanding will help to the development of policies that brings immediate aid and led to sustainability and resilience in food security. The poor urban households will benefit from improved food access, enhanced dietary quality, and better overall well-being, thereby reducing the persistent of malnutrition and related health issues. Theis research findings will contribute to the development of more practical solutions to solve food insecurity in poor urban settlements. Policymakers can create a more sustainable food security in this communityy through informed decision-making.

### 1.7.2 Non-Governmental Organization (NGO)

Non-Governmental Organizations (NGOs) focused on food security and poverty reduction will get the insights from this research to modify their programs and interventions, thereby ensuring specific needs of poor urban communities. The research will help NGOs to develop more specific and effective strategies. Ansah et al. (2019) State that resilience is vital for household food security and can be substantially enhanced through well designed programs. The research findings will inform NGOs' implementation of programs that provide immediate relief while strengthening sustainable food security in this community. These initiatives will encompass programs that

enhance access to nutritious food, promote sustainable agricultural practices, and foster economic stability, thereby paving a way to healthier and more resilient households.

### 1.7.3 Local Government

Local government will benefit from this research by utilizing a detailed insight into the socio-economic factors that affect food security within their faculties. The study' results will help local authorities to develop more effective strategies and initiatives prior to the specific challenges encountered by poor urban communities. Leveraging the research study local government will implement policies and programs that solve the primary causes of food insecurity, such as poverty, unemployment, and limited access to basic services (OECD, 2023). These informed programs will not only improve the overall food security of this communities but also contribute to their sustainable resilience and well-being. Henceforth, local governments will be more equipped to create sustainable solutions that enhance the quality of life for their communities.

### 1.7.4 Academics and Researchers

The research study will contribute to the academic literature on food security and household income, providing a basis for future research and examination. Lukwa et al. (2020) Noted that the socio-economic inequalities in food insecurity and malnutrition in children in Zimbabwe, shows the need for specific research in this area.

### 1.7.5 Community Members

The research study is also objected to benefit the people in poor urban settlements by selecting effective ways to positively change their food security situation and overall well-being. FAO (2023), noted that food security achieved when all people, systematically, able to experiencing physical, social, and economic access to enough, safe, and nutritious food that reaches their balance diet basis and food choices for an active and healthy life.

## 1.8 Scope of the Study

The research study will be carried in Hopley, a poor urban settlement in Harare Province in Zimbabwe. The area is chosen because of its high levels of poverty and food scarcity, makes it more significant to a condition for investigation of the relationship between household income levels and food insecurity. The study will incorporate data from 2021 to 2024, providing an enhanced overview of trends and changes in household income levels and food security over these periods. The research will focus on households within Hopley, combining a different household to

have varying income levels that are congruent to food security statuses. Key variables are household income levels, food insecurity status, and household consumption patterns, while also considering other factors such as employment status, household size, and access to social services. The mixed-methods study will employ both qualitative and quantitative research methods, using focus group discussion (FGDs) and interviews using household questionnaire to gather primary data, and sourcing secondary data from relevant reports and studies.

The research study will focus on Hopley community a poor urban settlement in Harare or Zimbabwe. This will be done to maintain relevance of the study, allowing for a more in-depth investigation. While the study will consider various socio-economic factors, it will primarily focus on household income levels and food security. Other factors, such as education, health, and housing conditions, will be acknowledged but not deeply analysed. The study p include data beyond 2024. This temporal boundary ensures that the research remains relevant and manageable within the given timeframe. The study will also be limited to a specific number of households to ensure data collection is feasible and results are statistically significant. The exact sample size will be determined based on preliminary surveys and available resources. The study will be conducted in Shona, which may include targeted participants in households. The researcher will translate to English for academic purpose.

### 1.9 Definition of Terms

Defining the main key terms is essential to ensure a clear understanding of these concepts, as they will be frequently used throughout the research study. The main frequent words to be used are Household Income Levels and Food Insecurity These definitions will assist in clear understanding and ensure relevance in their use throughout the research study.

#### 1.9.1 Household Income Level

Household income levels is a combination of the total earnings from all household members, including wages, salaries, business income, and other sources (Pindiriri, 2015). Pindiriri states that low household income is main payer to poverty within Zimbabwe. The World Inequality Database (WID) observes a global view of household income levels, describing them as the total income received by household members from wages, salaries, profits, rents, and transfers. WID notes that importance of understanding income distribution to solve inequality and poverty (WID, 2023).

Therefore, this research will use the definition provided by Pindiriri which explains that low household income is the main player to poverty within Zimbabwe.

### 1.9.2 Food Security

Food security is defined in different studies, but the main ideology remains the same. The World Bank Group (2023) states that food security is the state in which all people experiencing physical, social, and economic access to adequate, safe, and nutritious food reaching their dietary needs and food choices for an active, healthy life. Matus and Tilly (2016) and Shakeel (2018) describe food security as a condition enabling access to enough, safe, and nutritious food for an active and healthy life. Notably, these definitions converge on the essential elements of food security which are Accessibility, Availability, Stability and Utilization Therefore, this study adopts the World Bank Group's (2023) definition for its comprehensive scope and relevance to the research objectives.

## 1.10 Chapter Summary

This chapter provides an overview of the research, highlighting its historical background, stating the aim, explaining key terms, and outlining the significance of the study, while pinpointing the main problem that drives the researcher to conduct this study. Focusing on the relationship between household income levels and food security, drawing on household consumption patterns in Hopley Settlement, the study area, this section further explains in detail the study's scope and outlines the clear main aim of the study, research questions, and specific objectives that guide the researcher in achieving the intended results.

# CHAPTER TWO LITERATURE REVIEW

## 2.1 Introduction

The mandate of this chapter is to explore the existing literature prior to the relationship between household income level and food security in poor urban settlements, with a focus on socio-economic factors and mediating factors that influence this relationship worldwide. The chapter explicate and give detailed concepts from views of the study queries on the influence of household income levels on consumption patterns and aid provided to residents in poor urban settlements. The literature examines these aspects, with a focus on knowledge gaps relevant to this research investigation. The section also outlines the theoretical framework, conceptual framework and presentation of relevant case studies.

## 2.2 Conceptual Framework

Sen proposed the entitlement approach and provided a framework for understanding famines and food security that goes beyond mere food production to consider socio-economic factors (Sen, 1981). This approach has been adopted to this study on the relationship between household income levels and food security in poor urban settlements, particularly in Hopley, where the study focuses. Sen's entitlement approach noted that food security does not focus on the availability of food, rather on access to it through legal ways such as income, trade, or social security. In the lenses of Hopley community this means examination of how variations in household income levels affect access to food. Higher income levels are related to provide greater entitlements, thereby achieving food security (Sen, 1981). Thus, taking into consideration to the examination of the correlation between household income levels and food security which is one of the goals of the research study.

The entitlement approach also notes the importance of legall ways in order to getfood. Examining household consumption patterns in Hopley exposes how different income levels affects the ability to purchase and utilize food. This assessment can show whether low-income households encounter entitlement failures, leading to limited food consumption despite the availability of food (Sen, 1981). Thus, the study focuses to assess household consumption patterns in Hopley, Harare, Zimbabwe. Sen's framework suggests that the role of socio-economic processes influence food security. The research study is objected to investigate these factors aligns with Sen's approach, as it looks to unpack how different socio-economic factors such as employment, education, and social

networks, mediate the relationship between household income levels and food security in Hopley (Sen, 1989).

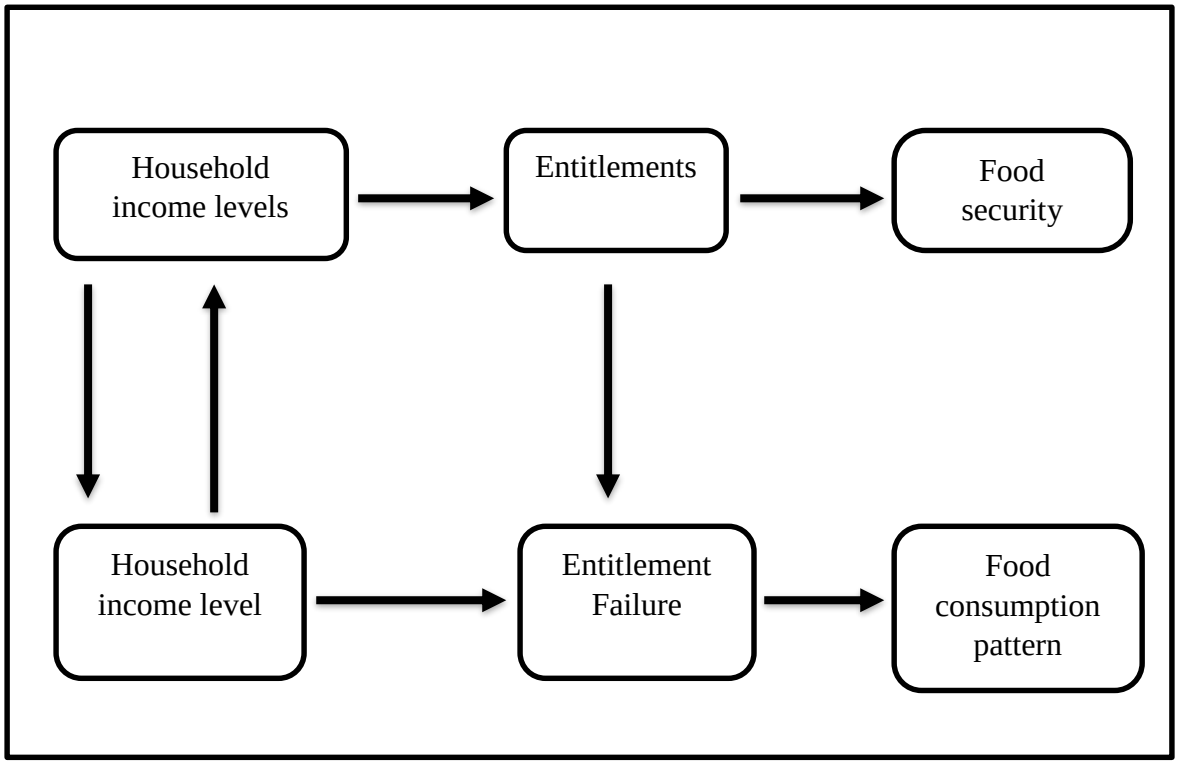



*Figure 2. 1 Shows the Conceptual Frame Work of Household Income Level and Food Security*

The diagram shows an exchange between household income levels, entitlements, and food security in Hopley, Harare. It explains how income levels affect access to food through legal ways as described in Sen's entitlement approach. Socio-economic factors such as employment, education, and social networks mediate this relationship, while entitlement failures reveal barriers that low-income households encounter in reaching food security besides food availability. The framework links income, entitlement access, and food consumption patterns to provide direction into food insecurity changes.

### 2.3 Household income and food security around the world

Household income greatly affect global food security. Fanzo et al. (2022) Shows that households with low incomes commonly chooses low cost foods rich in carbohydrates yet lacking other food nutrients due to financial challenges. Drewnowski and Rehm (2020) point out how income stability led families to have varieties in their diets, which minimize the susceptibility to malnutrition.

Gender disparities intensifies food insecurity; as Placzek (2021) noted, female headed households are particularlyy exposed to food in security due to low earnings.

Gaiha et al. (2023) presents how economic instability disturbs income streams, causing unstable in food availability and accessibility Policy interventions such as India's Public Distribution System (PDS) present constructive solutions, as Banerjee and Duflo (2021) explain, by offering affordable grains to millions of low-income households, especially in times of economic crisis. Ethiopia noted a positive correlation between higher incomes and improved dietary varieties (Beyene et al., 2024).

### 2.3.1 Household Income and Food Security in Africa

Sub-Saharan Africa is still facing household income challenges yet plays a vital role in food security particularly in poor urban context. Mutua et al. (2022), states that low income households in Kenyan urban slums often opt to choose staple foods due to financial challenges, hindering dietary varieties and the whole quality of nutrition. Crush and Frayne (2023) argues that the important purpose of social welfare programs, such as South Africa's child grant system, in promoting food accessibility and stabilizing dietary patterns for poor families. Income inequality in Ghana contribute greatly in worsening food security disparities, with poor urban households mostly use their higher amount of their limited income to purchases food. Iversen et al. (2022) explain how the situation of informal employment in Nigeria contributes to inconsistent income sources, results in frequent changes in food availability and increase susceptibility.

Kinyanjui et al. (2023) noted that the effects of rapid increase in food prices across East Africa, which directly affect poor urban households who earns low income, worsens their food scarcity. Moderate rises in earnings, have been exposed to reduce some of these issues. Mutua et al. (2022) observe that the increase in income within people in informal settlements in Nairobi results in better dietary varieties and minimize changes of malnutrition. Crush and Frayne (2023) state that social safety nets in South Africa support households to experience consistent supplies of food although they are facing economic challenges, exposing a potential related program across the Africa.

### 2.3.2 Household Income and Food Security in Zimbabwe

Zimbabwe is still facing economic struggle which has worsens food insecurity, in poor urban settlement such as Hopley community which is the study area of this research project. Tawodzera

(2024) explains that households earn low income in such areas depend on informal markets to get food, exposes them to frequent price increases. Chimhowu et al. (2023) states that poor urban families in Harare usually spare more of their limited incomes to food expenses, and use remain few dollars for other important uses. ZimStat (2022) observe how inflation, together with high unemployment rates, has significantly destroys purchasing strength among poor urban households, thereby increases food scarcity. Masuku and Marunda (2021) stated that urban agriculture work as a second source of food for families that earns low income, even though its effects is challenged by minimum access to equipment. Social safety nets, such as food aid programs, are failing to meet the rapid increase of demands from vulnerable communities, left a large number of households at high risk (Dube and Mujuru 2023).

The of food insecurity is a significant challenge in Harare settlement such Epworth, where informal markets work as the main source of food for most of the households. Masuku and Marunda (2021) stated that urban agriculture programs in Harare offers vital supportive role to household food supplies, which minimize over relying on inconveniences of market conditions. To add on this aspect ZimStat (2022) reports that frequent increase in rates have cause basic food products unaffordable for a large number of people in poor urban households, resulting in high level of food scarcity across the country.

While existing studies establish a strong link between household income and food security, several research gaps persist. Globally, there is limited focus on how urban-specific factors, such as dependency on informal food markets and irregular income streams, shape food security outcomes. Settlement specific studies, particularly in Sub-Saharan Africa, often generalize urban food security challenges without addressing the unique changes of informal settlements such as Hopley. In Zimbabwe, the role of household income level in worsening food insecurity has not been exhaustively studied especially in small areas where there is overcrowded are commonly neglected in research studies

### 2.4 Household Income and Food Consumption Pattern Globally

Income levels determines household consumption behaviour. Banerjee and Duflo (2021) asserted that increased income enables households to proportionally distribute their expenses evenly to healthcare and education together with food. Drewnowski and Rehm (2020) noted that lower-income households focused on energy foods but minimum nutritious food because of affordability

challenges. Gaiha et al. (2023) observe that income challenges forces families to choose short term needs at the expense of long-term investments, such as education or healthcare. Placzek (2021) emphasizes that gender earning or income gaps impact families to diversify consumption. Studies shows that financial aid programs such as Bolsa Família in Brazil, improved consumption patterns within low income households (Fanzo et al. 2022).

Fanzo et al. (2022) supported that Brazil's Bolsa Família program improved dietary varieties by helping families to distribute more money toward healthy and nutritious food products. Banerjee and Duflo (2021) explained how India's PDS ensured normal food consumption for households that earns less during financial challenges. Beyene et al. (2024) The studies show that higher incomes directly led to better food variety and improved dietary consumption patterns (Beyene et al. 2024)

### 2.4.1 Household Income and Food Consumption Pattern in Africa

In Sub-Saharan Africa, income disparities heavily influence household consumption. Anang et al. (2021) found that higher-income households in Ghana spend more on non-food essentials, while low-income households prioritize food purchases. Mutua et al. (2022) observed that in Kenyan urban slums, low-income families allocate most of their earnings to staple foods, limiting spending on diverse goods. Crush and Frayne (2023) showed that child support grants in South Africa enabled families to expand consumption into non-food items such as education. Iversen et al. (2022) revealed how irregular income streams from informal work in Nigeria affect consumption priorities. Kinyanjui et al. (2023) demonstrated that inflation in East Africa disproportionately impacts low-income households' ability to maintain balanced consumption.

### 2.4.2 Household Income and Food Consumption Pattern in Zimbabwe

Consumption patterns in Zimbabwe are related to income levels in poor urban areas. Tawodzera (2024) points out that households with low income in Epworth rely on informal markets for food because of financial challenges, which left less funds for other vital expenses. Chimhowu et al. (2023) state that poor urban families in Harare commonly chooses food expenditures as a first priority over healthcare and education, showing the challenge being encountered by these households. Inflation greatly affects consumption patterns by deducting purchasing power, results in households to fail to afford healthy selection of goods (ZimStats 2022). Meanwhile, Masuku and Marunda (2021) reveal that urban agriculture has supplementary play in meeting food needs

of households with low income although in has less effectiveness on reducing pressure on income cater for other necessities besides food. The studies have shown that social safety nets, such as food aid programs, which fail sufficiently support household consumption within poor urban households (Dube and Mujuru 2023).

The economic challenge on poor urban households in Zimbabwe also shows that coping strategies they introduce their communities. In Epworth, Tawodzera (2024) In Epworth studies notes that families respond to high food prices by cutting expenses on healthcare and education, which worsens their susceptibility to social risks (Tawodzera 2024). Masuku and Marunda (2021) states that urban agriculture programs in Harare minimize over reliance on market purchased food products which enables households to spare income to other essential needs. Although ZimStat (2022) the severe effects of inflation are forcing households spent their income on food over other essential goods, which narrows the overall consumption patterns and quality of living.

Research on the relationship between income levels and household consumption patterns shows the important trends, but significant gaps remain. Globally, limited studies explore how income disparities shape spending patterns specifically in informal urban settlements, where survival priorities often override diversity in consumption. In Sub-Saharan Africa, there is insufficient research on how households allocate income to balance food expenditures versus other essentials such as healthcare and education. Zimbabwe is facing challenges of how hyperinflation and an increase in costs directly affects household spending choices in poor urban areas such as Hopley. Household income and consumption patterns in small crowded are still not exhaustively studied thus the gap the researcher seeks to explore in this study.

**2.5 The Socio-Economic Factors that Mediate Household Income Levels and Food Security**

Across the globe, the socio-economic factors such as education, employment and healthcare accessibility significantly mediate the relationship between household income and food security. Fanzo et al. (2022) state that learning has an important role in building up proper food purchase choices, empowering households to reach better dietary patterns. Drewnowski and Rehm (2020) state how significant employment stability, noting that consistent income is crucial for keeping sustainable food security. According to Gaiha et al. (2023), argue that microcredit services provide a bridge for households with low income during time of economic challenges, makes them to have consistent food consumption although facing financial challenges. Studies reveals that gender-

based earnings disparities and unequal employment opportunities have worsen food insecurity, especially among households that are vulnerable (Placzek 2021). Banerjee and Duflo (2021) advocate for social programs, suggest that mechanisms such as food subsidies help to minimize income linked disparities and upgrade accessibility to nutritious and health food for poor families.

The positive effects of socio-economic programs are shown across different case studies. Banerjee and Duflo (2021) noted how India's Public Distribution System effectively addresses income linked gaps in food accessibility, significantly improving dietary results for millions of households. The role of microfinance programs in Bangladesh powers financial resilience among families with low income, ensuring consistent access to food although still experiencing economic shocks (Gaiha et al 2023). Stable employment among European families with low income enhances their capability to afford different range of food options, which led to improving the whole results of food security status (Drewnowski and Rehm 2020)

### 2.5.1 Regional View

Socio-economic factors in sub Saharan Africa such as education, informal employment, and access to social services play a significant role in building up the relationship between income and food security. Mutua et al. (2022) shows that households in urban slums of Kenya with better education capabilities are better equipped to manage their limited resources, making them to ensure enough nutrition. Anang et al. (2021) notes that, informal employment in Ghana results in decrease in income streams, which adversely impact food security among poor families. According to Crush and Frayne (2023), social safety net programs such as South Africa's child grants provide important help by ensuring food accessibility during period of economic challenges. Iversen et al. (2022) argues on indirect benefits of healthcare subsidies in Nigerian cities, stating that by decreasing health linked expenditures, families can distribute more funds toward securing enough food. The impact of inflation in East Africa, showing that it directly affects households with low income that are already struggling with food insecurity (Kinyanjui et al 2023)

These findings show the different coping strategies and interventions that impact food security results in the region. For example, Mutua et al. (2022) noted that educated households in Nairobi slums are better equipped to address nutritional challenge which led to improved food security. Crush and Frayne (2023) state that South African child grants assists families to maintain consistent food supplies, effectively decreases hunger levels. Iversen et al. (2022) noted how

healthcare subsidies in Nigerian cities indirectly helps food security by reducing up household income for essential food purchases, even during the time of economic challenges. These studies collectively explain the link between socio economic factors and household food security in Sub Saharan Africa.

### 2.5.2 Zimbabwean Context

The socio-economic factors in Zimbabwe such as education, informal employment, and limited accessibility to social services greatly influence food security for urban households with low income. Chimhowu et al. (2023) noted that households in Harare with better educational capacity are better assigned to manage food related expenses, resulting in improved dietary varieties. Tawodzera (2024) point out that dependency of poor urban households on informal employment, noting that the uncertainties of income from such jobs increases risks of food insecurity. On the same note, ZimStat (2022) reports that hyperinflation continues to weakens household purchasing power, severely reducing the capabilities of poor urban families to afford enough food. Masuku and Marunda (2021) explore urban agriculture as a coping strategy, discover that its support to household food needs in some instances, resource constraints slows down its effectiveness to achieve large solutions.

Socio-economic factors that mediates between income and food security are studied gaps still persist need to be studied. Inadequate data collection on these mediators limits the ability to fully understand their impact. Sub-Saharan African studies also fail to address how informal employment, which dominates poor urban areas, affects households' ability to maintain food security. In Zimbabwe, research into how limited access to education and healthcare indirectly influences food security remains underdeveloped, especially in small settlement yet with overcrowded such as Hopley, which is the study area of this research project. Hence the study seeks to explore on that knowledge gap.

## 2.6 Theoretical Framework

The theoretical perspective of Sen's entitlement approach centres on the concept of "entitlements," which refers to the set of alternative commodity bundles that a person can legally acquire. This approach shifts the analysis from aggregate food availability to an individual's ability to access food through various legal means, such as production, trade, and labour. Sen's framework

highlights that entitlement failures, such as sudden price hikes, wage reductions, or loss of employment, can lead to starvation even when food is available (Sen, 1981).

The principles of the entitlement approach include the idea that famines result from economic and social processes rather than from natural disasters or food shortages. It emphasizes the importance of market and non-market institutions in determining access to food. Sen's approach underscores the need for policies addressing these institutional failures to prevent famines (Sen, 1981).

The assumptions underlying the entitlement approach are that individuals have different entitlements based on their initial endowments and the institutional context in which they operate. It assumes that legal channels of acquiring food are crucial in determining whether a person can access sufficient food to survive. Additionally, it assumes that entitlement failures are a significant cause of famines and that addressing these failures can prevent starvation (Sen, 1981)

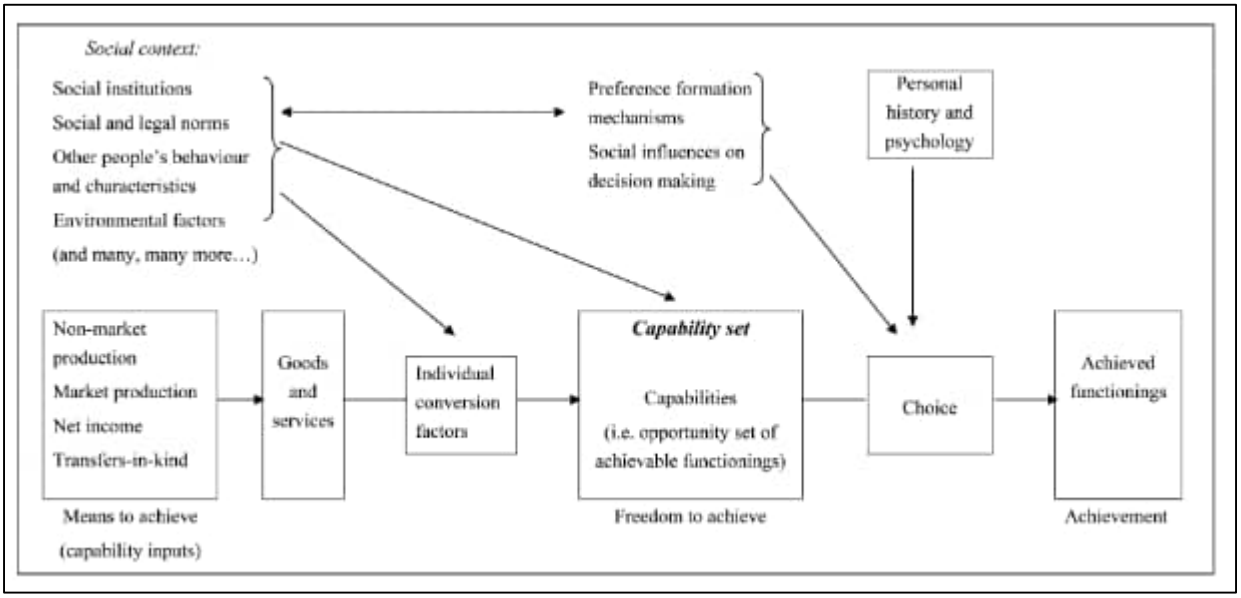



*Figure 2. 2 Shows the Sen's Entitlement Approach*

In the context of the household income level and food security, one may note that the Sen's entitlement approach framework is useful in analysing the relationship between household income and food security in poor urban settlements. The investigation of this study is to address the gaps of finding the relationship between household income and food security in poor urban areas in

small areas where researchers richly neglect to address, maybe assuming that small scale areas are insignificant, yet some may appear as small areas but call for effective interventions.

### 2.7 Chapter Summary

This chapter has provided existing knowledge that clarifies the relationship between household income levels and food security in poor urban settlements, highlighting the socio-economic factors and mediating factors that influence this relationship. The review has addressed the concepts underlying the study's queries, specifically the influence of household income levels on consumption patterns and aid provided to residents in poor urban settlements. The chapter also identifies knowledge gaps relevant to this research investigation and provides a theoretical and conceptual framework of thought, supported by relevant case studies, which contributes to a deeper understanding of the relationship between household income and food security in poor urban settlement.

# CHAPTER THREE RESEARCH METHODOLOGY

## 3.1 Introduction

The goal of this chapter is to explain and lay out an overview of the methods, used in the research study, which are quantitative and qualitative methods. This chapter will highlight the description of the study area, research design, research approach, and targeted population, sample sizes and sampling techniques. It also explains the data collection instruments used, such as questionnaires and focus group discussion guide. The chapter outlines the data analysis methods and discussion of the ethical considerations that lead the research process. The chapter provides a clear explanation of the research methodology. This involves a detailed description of the study's sampling strategy and data collection method. The chapter also explore the potential limitations of research methodology. Lastly, the chapter concludes with a summary of the discussed aspects.

## 3.2 Description of the Study Area

The community of Hopley is cited on southwest of Harare, the Zimbabwe's capital city within Harare Province as part of the Harare Metropolitan District. The characterised by informal settlements, overcrowded and poor infrastructure such as roads sanitation, electricity and healthcare services. The community is made up of poor housing structures which are not conducive to withstand strength of rains during rainy season, some of the frequently affected by intermittent flooding when heavy rains occurs (Matamanda, 2020).

Hopley Community is dominated by households with low income. Residents in Hopley community depend on informal employment, such as street vending, party time labour, and small-scale trading. The average income of the households is below the national average, paving a way to extreme poverty and food insecurity. Zimbabwe National Statistics Agency's 2022 of Population and Housing Census recoded that the population of Hopley Community has reach to approximate size of 200,000 residents. Accessibility of essential services, such as clean water, sanitation, and healthcare, is limited, which worsen the problems encountered by the community (ZIMSTAS 2022). Education level is generally low large number of children failing to complete the recommended level of schooling to support families. The community also encounter social issues, such as high rates of crimes and substance abuse. The incorporation of physical and socio-economic factors shows that Hopley Community is one of the most serious areas in Harare, needs

specific programs or interventions to positively change their living conditions and food security (Gouvernerur, 2015).

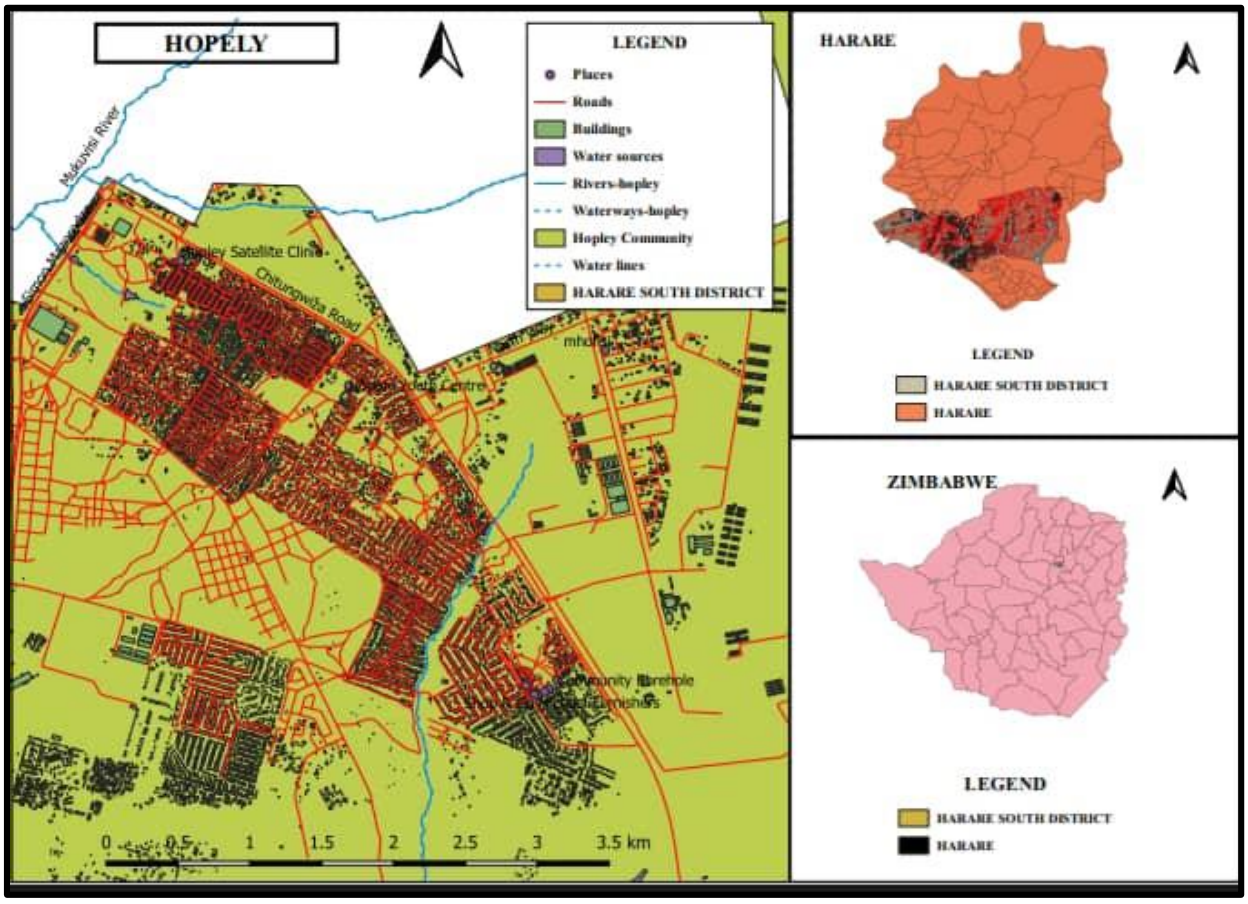



*Figure 3. 1 Shows the Study Area Map of Hopley Harare Zimbabwe*

### 3.3 Research Design

A comparative cross-sectional research design was used in collecting data or information from households in Hopley, Harare. The research design employed through its capabilities of simultaneous collection of quantitative and qualitative data. Quantitative data, which include household income and food security status, was collected through household questionnaires. Qualitative data involving socio economic factors was gathered through Focus Group Discussions (FGDs). This mix method approach helped to effectively indemnify and analyse the relationship between household income levels and food security. The design's ability to be applicable in mixed method is identifiable, providing its applicability not only to this study but also to different research areas (Musingafi, 2016).

A comparative cross-sectional research design is a methodology that includes collecting data from different groups at a one point in time. This approach identifies differences or correlations between variable after comparing groups. It was applicable to the research study which was objected to examine relationships without using longitudinal ways, thus making it more efficient and less cost yet effective. The design helped to brings clear understanding of the state of current variables making them easy to work on and identify patterns and correlations after comparing groups (Simkus and Guy-Evans, 2023).

The comparative cross-sectional research design has a capability to observe variables, without manipulating interventions Simkus and Guy-Evans (2023). This minimized errors and enable findings produce practical and real situations. The design is applicable to various research areas, such as social sciences, health studies and educational research. Data gathered at one point in time helped immediate analysis, showing timely insights without need of follow-up studies. The cost effectiveness of this research design, needs less equipment and minimum commitment time. (Imam et al., 2019).

Henceforth, the comparative cross-sectional research design was more effective and less cost for this study. It incorporates both qualitative and quantitative data, giving a detailed clear understanding of household income levels and food security in the Hopely Harare Zimbabwe.

### 3.3 Research approach

This research study used a mixed-method approach, incorporating quantitative and qualitative methodologies to giving a detailed clear understanding of the research objectives. Binding together strengths of both approaches, the study offers a clear insight on the intricate relationship between household income levels and food security.

#### 3.3.1 Quantitative Component

Quantitative method was important in this research study as it helped to collate and analyse numerical data to identify patterns and correlations. Household questionnaire was used to capture the food security status of households and analyse its variations across different income levels. This approach gives a concrete foundation for coming up with generalizable conclusions and making recommendations. Manikas et al. (2023), notes using household questionnaire is more important for precisely accessing food security status and understanding its relationship with income levels, as these methods yield detailed and reliable data.

Quantitative methods helped to achieve more accurate or relevant collection of meeting realistically statistically relevant results that helped to interpret the wider number of households. The Pearson Correlation and regression analysis was used to identify the connection between household income and food security. This analysis assisted to qualify the impact of income on food Accessibility, Availability, Stability and Utilization, identify trends and consumption patterns in different demographic and socio-economic classes or groups. Tawodzera (2023), noted that applying quantitative methods, such as Pearson correlation and Regression analysis is very important for precise examination of the effects of income on food security as they offer relevant results.

### 3.3.2 Qualitative Component

The qualitative component was more suitable for this research investigation as it helped to offered clear explanation of Socio-economic current view and experiences of households. The qualitative methods were more vital for clear grasping of the concept of socio-economic problems because they provide full and clear insight on quantitative part that usually overlook. (Parak and Reinke 2024). The focus group discussions (FGDs) was the most relevant to collect real and relevant data of how different income levels impact household consumption patterns and coping mechanism. Muntean Jemna (2023) suggest that qualitative research component is vital for gathering data for food security which can strengthen quantitative method's limitations. The qualitative method is more important in providing clear and unpack hidden factors and real experiences that build Socio Economic behavior and choices (Chhibber et al

### 3.4 Targeted Population

The research investigation was focusing on households in Hopley community which is a poor urban settlement located in Harare, Zimbabwe. The Zimbabwe National Statistics Agency (2022), has recorded an estimated population of approximately 200,000 people. Suggesting an average household size of four people per each household as recorded by the ZNSA (2022). It is estimated that there are approximately 50,000 households in this settlement characterised very low and inconsistent incomes, poor housing and minimum availability of essential infrastructure and services. People of Hopley community are experiencing serious problems leading to extreme food insecurity. Households in Hopley participate different income generating program to leverage social networks for support, and depend on food aid to improve their food security status. The

study investigation seeks explore relationship between these socio-economic factors and their effects on food security and consumption patterns within this poor urban settlement.

### 3.5 Cochran's Sample Size Formula

It is of greater important to identify the relevant sample size to achieve practical and real results especially in broader population. Calculate precise sample size is very important when explore household incomes, consumption patterns and their correlation with food security. Cochran's Formula is clearly applicable to offer a base to identify the relevant figure of participants to achieve reliable results. This formula was used to calculate the sample size needed to investigate the relationship of household income level and food security.

The sample size formula considers important factors such as initial sample size (n), Z value being the desired confined level (commonly 95% or 1.96 confident level), the estimated population (usually 0.5 when not identified), and the acceptable margin of error is 0.05. This research study used the margin of error of 0.12% to meet the relevant representative required results prior to the numbers of households. Adjusting the margin of error can change or reduce the sample size to meet expected results (James et al 2014). A large margin of error reduces sample size while small margin of error increases. Henceforth, by combined variables the formula enabled the researcher to identify a representative sample size of the population.

Hence, the estimated sample size is 67 using the margin of error of 0, 12%.

### 3.6 Sampling Techniques

The strata identified by dividing the households in Hopley community into three different income groups or strata. The low income, middle income and high-income households. Stratification is very important to collect different data within household giving an opportunity for a relevant examination of how different income levels affect food security and consumption patterns (Zimbabwe National Statistics Agency, 2022).

The stratified sampling was applicable for the study of correlation of household income, food security, household consumption patterns, and the mediating socio economic between household income and food security in Hopley, Harare, Zimbabwe. The technique helped with detailed representation of different income levels from the community of Hopley.

### 3.6.1 Stratified Sampling

The identification of sample size for stratum was determined by the concept of proportional distribution to enable enough or relevant representation of each group or class. In this case Hopley community has 50000 households as recorded by the Zimbabwe National Statistics Agency (2022) the allocation will be shown in table below.

*Table 3. 1 shows the Identification of Strata*

| **Stratum** | **Number household** | **Percentage** |
|---|---|---|
| Low income households | 25000 | 40% |
| Middle income households | 12500 | 40% |
| High income households | 12500 | 20% |
| Total Household Population | 50000 | 100% |

This proportional allocation means the sample size of the study which is 67 households was distributed as follows:

Low income:

Middle income:

High income:

The random selection within the strata was applied within the stratum. This includes assigning number to each household using excel random selection command to choose the expected household's number from each income group. The combining of data from selected households

using household questionnaire designed to gather detailed information on income food security and consumption patterns across income groups.

The stratified sampling technique applied to this research investigation because it allowed researcher to identify the relationship of household income, and consumption pattern. The grouping the households into different income groups or strata to enabled of proper classification of representation of each group collecting changes within the community of Hopley. This technic offers accurate trends and differences in consumption of food patterns within household income groups. Taherdoost (2018) and Acharya et al. (2020) noted the advantages of stratified sampling which were enhanced accuracy, reduction of sampling differences and positively changes the representation of subgroups.

### 3.7 Data Collection Instruments

The research questions solving the correction of household income, food security, household consumption patterns and the mediating position of socio-economic factors they play Hopley community, were thoroughly explored by incorporation of data collection instruments. The instruments include household questionnaire used through face to face interaction to gather quantitative data and FGDs structured for effectively applicable for group communication of interaction and examined different views. This method helped the validation of the results through incorporating both instruments that is household questionnaire and focus group discussion.

#### 3.7.1 Household Questionnaire

The household questionnaire was designed and designed to gather data relevant to the objectives of the research project. It is categorised in to five sections that is Household Demographics characteristics, household income, food security was explained through its element which are accessibility, availability, stability and utilization. Household consumption patterns and socio-economic factors and coping strategies.

##### 3.7.1.1 Section A: Household Demographics

Household demographics section was sectioned to collect important information about household heads and household composition. Asking questions on the gender, age, education status, household size, and occupation or job. The variables helped to bring a foundation of clear

understanding of socio-economic characteristics which were important to analyse the concept in which income level and food security were assessed (Creswell and Creswell, 2018).

#### 3.7.1.2 Section B: Household Income

Household Income gather information about household income per month and primary sources of income helped the exploration of the correlation of income and food security assessed how different income levels impact household consumption patterns (Field, 2018).

#### 3.7.1.3 Section C: Food Security

The food security section explored the extent of food scarcity within each household combining questions on accessibility, availability, utilization and stability and whether household receives food Aid or not, this offers vital information for clear understanding the level and intensity of food insecurity within the different income categories or groups (Pallant 2020).

#### 3.7.1.4 Section D: Household Consumption Pattern

The section of household consumption pattern gathered information on eating patterns and food expenses which are number of meals per day and monthly food expenses this information brings relevant insights into how different income level build of influence household consumption flow or pattern and nutritional choices (Creswell and Creswell 2018).

#### 3.7.1.5 Section E: Socio-Economic Factors

The socio-economic factors section gathered information on essential services such as healthcare, education water, sanitation and social services. It also collects information on how they were coping from food shortages which assisted to identify mediators that impact the relationship between income level and food security (Russell et al., 2018)

The household questionnaire was used to ask heads of the families or the elder of the family who were the leader for example mother, father, elder brother or sister, etc. The individuals were chosen because they usually understand the process and have relevant information for the research questions and knowledge about their household income, consumption and food security status.

### 3.7.3 Focus Group Discussions (FGDS)

The FGD is the research instrument that is designed in sections that seeks to collect detailed qualitative data on socio economic factors that impact the relationship between household income and food security which are accessibility. The adapted strategies they used were also collected to

have relevant results. The design of the FGD allowed participants to experience open and free interactions bringing insights into the research questions semi-structured format of the FGD allowed participants to engage in open and meaningful dialogue, provided deeper insights into the research questions. FGD comprised of open-end questions structured to offered smooth interaction and motivated participants to freely share their experiences and views. The questions were formulated prior to the research objectives to completely address the topics within the research project.

FGD used to help the group conversation to different views on socio economic factors that mediate household income and food security which were food accessibility, food stability, food availability and food utilization. Every session was comprised of eight to twelve participants, showing different income levels, gender and age groups income levels, genders, and age groups. The researcher together with the assistants carry out the interaction in open and free setting. Response from participates was noted down with ethical consideration and each question was expected to take ninety to one hundred and twenty minutes (Smith and Subramanian 2020)

FGD is very important tool for research study because it allowed gathering of different views and detailed qualitative data. FGDs were more efficient in examining the socio-economic changes and grasping the collective experienced views (Nyumba et al., 2018). They offered an environment for respondent to freely express. This paved a way to clearly grasp the concept of the relationship of household income levels and food security. The discussion among respondents also triggers the emergence of new and insights which failed to be clearly explained in individual interviews (Ribiee 2017).

### 3.8 Data Analysis

This research investigation used the different statistical ways for analysis of data such as Pearson correlation and regression analysis to navigate the relationship between household income, food security and food consumption. The quantitative data brought from the household questionnaire will be linked to statistical analysis techniques. The qualitative data gathered from FDGs were analysed using manual thematic analysis.

#### 3.8.1 Quantitative data analysis

The procedure of data cleaning and preparations was used to minimise errors and inconsistency thus solving errors, missing values and outliers. This stage was more important because it provided

reliable datasets offered accuracy analysis. Descriptive statistics such as mean median modes and standard deviations was then computed to bring an overview of the data offered the identification of trends and patterns (Field 2020).

The Pearson correlation and regression analysis was used to explain the relationship of household income and food security identifying the strength and the direction of their association. This analytical method helped to find if the higher incomes are associated to better food security results or vice versa. Pearson correlation was very important because it quantifies the two variables that were linked offering a clear association. (Field 2018 and Mukheriee 2021).

Descriptive statistics was used to find out various income level affected household consumption patterns officered relevant insights into food security results. The method was important because it summarised and interpreted main characteristic of the data. Bringing a transparency in grasping of different income and their impact on consumption. Osborne (2017) noted that descriptive statistics aid Osborne (2017) descriptive statistics aid in finding out central tenancies distribution and variation providing a detailed explanation on the relationship between income and food security. Quantitative methods such as descriptive statistics can shows important patterns in consumption status making then more crucial to this study (Wooldrifge 2019).

### 3.8.2 Qualitative Data Analysis

The manual thematic analysis was used to arrange and provided detailed meaning or bringing clearly recurring themes and patterns linked to household income, food security and socio-economic factors. The method enabled for more detailed qualitative understanding of the complex issues. Braun and Clarke (2016) state that thematic analysis identify more respondents' views of experiences offering insights that may not be appear using quantitative alone. Therefore, the research obtained a relevant ideal into socio economic factors mediating food security and household income level.

## 3.9 Ethical Consideration

### 3.9.1 Informed Consent

Informing the participants about the purpose of the study was very important, explaining clearly about their rights and risks that might occur before reach consensus. The protocol comprises of clear ways of offering clear and detailed information, ensuring every respondent decides due to

informed information about their inclusion (Houghton et al, 2010). The written consent was very important to document participants' voluntary consensus where necessary. It is very useful in Hopley community where trust or authenticity significantly considered.

### 3.9.2 Confidentiality

The execution of ways to securitize the participant's identity and secrets during the research study was essential. This involved keeping the data in a secure place or records to avoid viral speculation of responded information. The strategies are important for keeping trust and safety in qualitative research. (Laryeafio and Ogbewe 2023). This study was relevant example to this ethic where FGDs were held at safe and comfortable environment that allowed participants to respond freely without fear of loss of privacy. It is of greater important to notify participants about who will reach out their information to offer transparency and trust (Kaiser, 2020).

### 3.9.3 Sensitivity to Power Dynamics

The consideration of sensitivity to power dynamic in this research study was one of the first to priority. In Hopley community social disparities is common moderators created an environment specifically for participants to feel safe, open, free while they were being respected (Tracy. 2019). This include being attentive to respondents' socio-economic spheres identifying challenge they encountered and assisted or tackled them with sympathy and cultural consideration. This enhances relevant quality of data.

### 3.9.4 Data Integrity and Transparency

This research study valued the data intensively to avoid and distortion, manipulation and misrepresentation of results of findings. This involved precise data gathered, clear and relevant documentation and faithful reported of results (Resnik 2021). Keeping up the level of transparency during the research process offered a concise and clear open sharing of information with the community enhances relevance and reliability to the research project. Transparency offered trust to participants and stakeholders showed that the research considers high ethical standards (Resnik2021).

### 3.9.5 Respect for Cultural Sensitivity

The consideration of respect and cultural sensitivity during the research was very important to avoid risk of violence and disrespect. This was very vital to the researcher to have a clear understanding of traditions and norms within the community or society to prevent any potential

action that hinders toleration of each other (Smith 2020). Showing cultural sensitivity shaped not only strong trust between parties but also enables respect and inclusive during the research process (2020). This helped to achieved relevant and quality data gathered and considered ethical standards. Johnson and Garcia (2020) mention that cultural sensitivity is very important in achieving relevant insights from participants because it promotes open and honest interaction leading to accurate research findings.

### 3.10 Chapter Summary

In summation this chapter section has explore in detail the methods use in the research investigation comprises of qualitative and quantitative methods. It has also described the area of the study, research design, research approach and targeted population. Sample size was calculated and sampling techniques where mentioned and explained in the chapter while data collection instrument such as questionnaires and focus group discussions explained in detail. The data analysis methods explicated with clear explanation of ethical consideration.

# CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND DISCUSSION

## 4.1 Introduction

This chapter objected to provide a representation of findings or results that were gathered or collected during the data collection period. It uses the manual thematic analysis, regression analysis and Pearson correlation to find out the trends and patterns to present demographic characteristics and themes in the presentation of data and provide summary based on the objectives of the study. The examination of results on the correlation of household income and food security, how different income level affect consumption patterns and the how socio-economic factors mediate the relationship between household and level and food security. The chapter will also explain on the state on response rate based on fieldwork experience during the period of data collection.

## 4.2 Response Rate

The study achieved a one-hundred percent response rate, as all the participants responded from household questionnaire through the researcher's method of conducting face-to-face interviews, asking questions directly to the respondents, and recording their responses on their behalf in a book designed with columns to fill in the data corresponding to the questions in the questionnaire. The group discussion meeting achieved a remarkable response rate of 98%, with only two participants failing to attend. Hence, the response rate was effectively achieved.

## 4.3 Demographic Characteristics

### 4.3.1 Food Security Status

The figure 4.1 is shows a concerning trend emerges from the food security data, where 82.4% (7 households) are classified as food insecure, meaning they struggle to obtain sufficient food for their basic needs. Only 17.6% (6 households) are accessed are food secure, highlighting significant challenges related to household nutrition and access to stable food supplies. Given the correlation between income levels and food security, it's likely that the high percentage of low-income households contributes directly to food insecurity, exacerbated by unstable employment conditions.

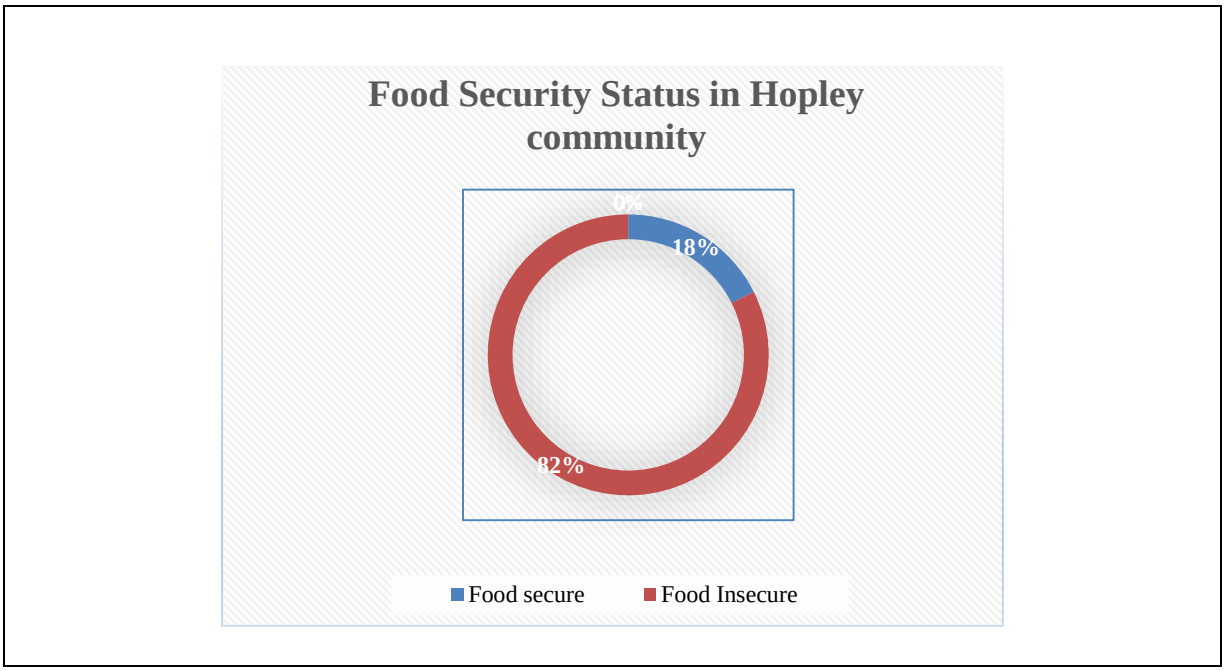



*Figure 4. 1 Shows Food Security Status in Hopley Community*

### 4.3.2 Employment Status

The number of households in the Hopley community falls within the low-income category, earning less than $100 per month (36 households). A smaller group, earning between $100 and $200, constitutes the medium-income bracket (19 households). Only a very small number (2 households) earn more than $300 per month, indicating that high-income opportunities are rare. This distribution reflects widespread financial constraints, which likely affect access to necessities, including food, healthcare, and education as shown by figure 4.12.

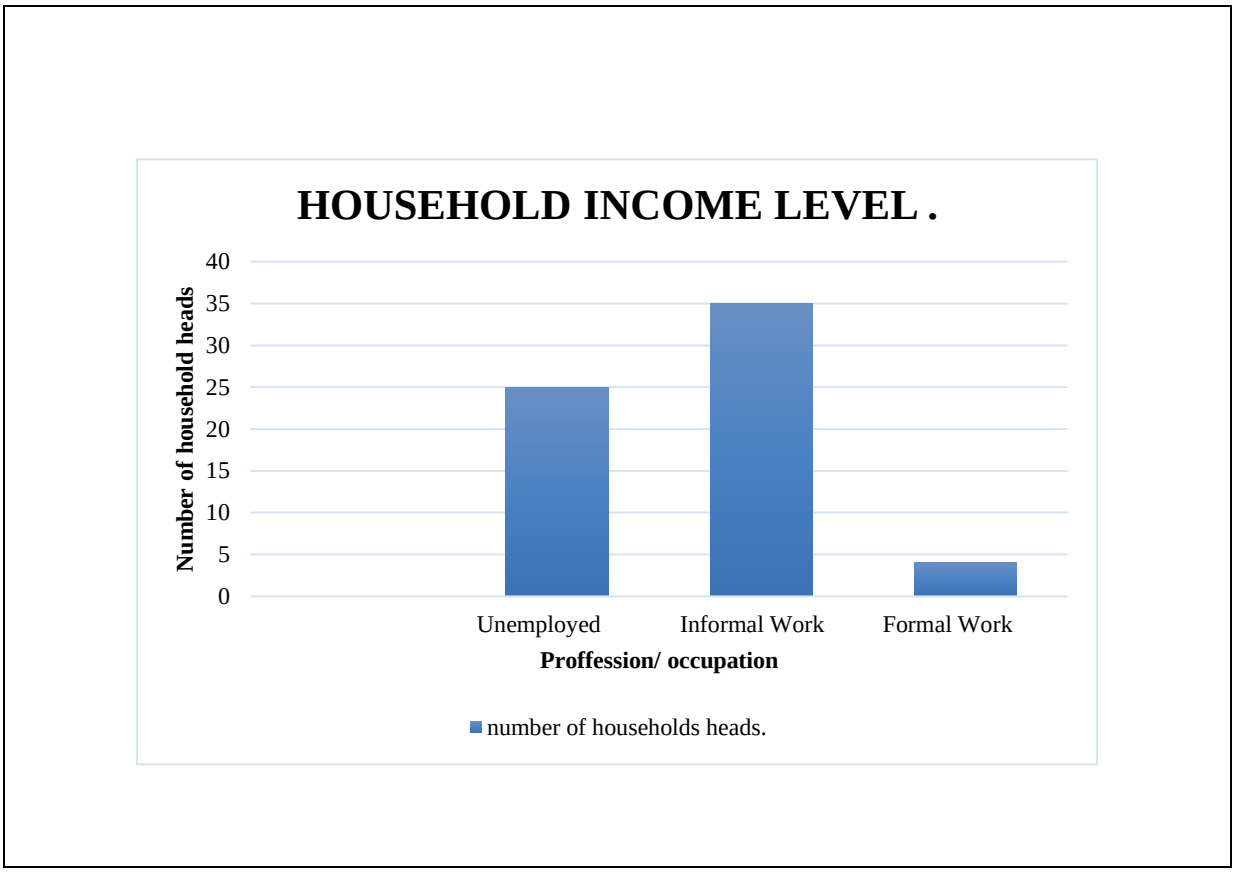



*Figure 4. 2 Shows Employment Status of Hopley Community*

### 4.3.3 Income Level Status

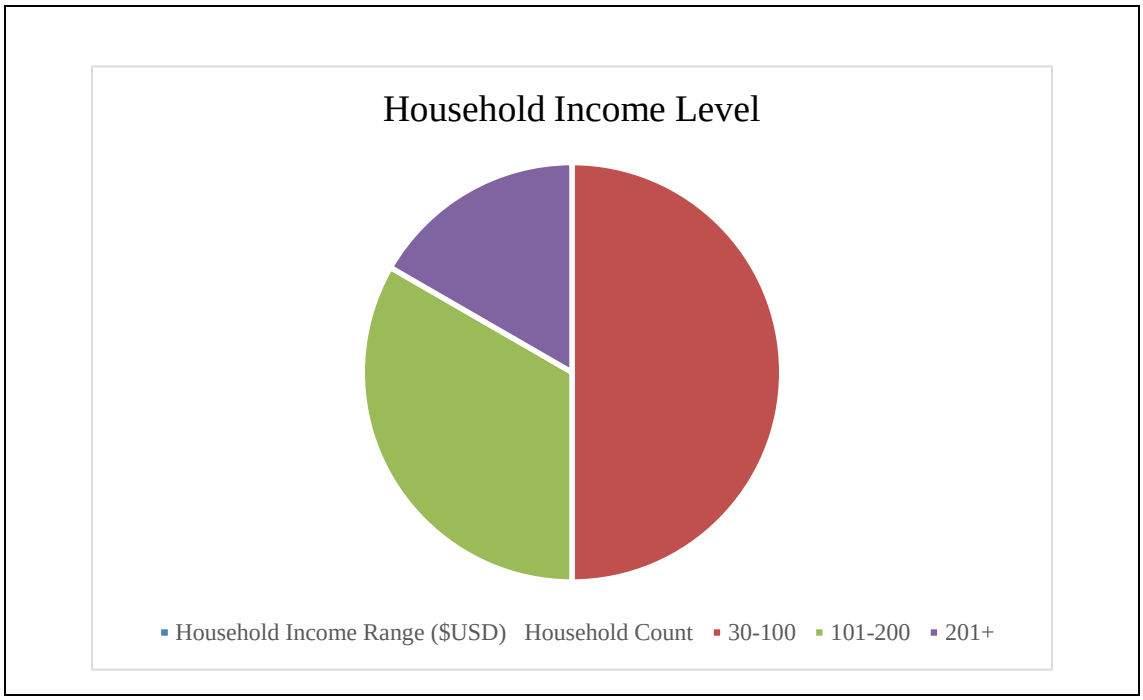



*Figure 4. 3 Shows Income Level of Hopley Community*

The household income distribution chat above shows the different income levels within households, grouped into three ranges: 30-100 USD, 101-200 USD, and 201+ USD. The largest part consists of households earning between 30-100 USD, indicating a prevalence of lower-income households. The middle-income range (101-200 USD) represents a moderate number of households, while the 201+ USD group is the smallest, showing that fewer households earns better.

### 4.4. Socio-Economic Factors that Mediate Household Income Levels and Food Security

The qualitative responses collected during the Focus Group Discussion (FGD) highlight key socio-economic struggles affecting food security and household income levels. This analysis identifies recurring themes such as income instability, food accessibility challenges, gender disparities, and coping mechanisms. This was achieved after an effective thematic analysis.

#### 4.4.1 Income Instability and Food Security

Many participants emphasized the uncertainty of income, particularly among unemployed individuals and informal workers. A respondent stated,

> *"Our income comes from temporary work, selling small goods, or farming, but it is not consistence. In some months we have money and some we have nothing."*

This reflects the inconsistent nature of earnings, making regular food purchases difficult. Inflation intensifies the problem, with another participant explaining,

> *"Food prices are rising, and our earnings don't increase. Inflation makes buying essentials harder every month."*

Unemployment remains a major contributor to food insecurity, with one individual lamenting, "Without jobs, we don't have money to buy food. Some days, we go hungry."

This highlights the direct correlation between employment status and food stability. Similarly, informal workers struggle with unpredictable wages, stating,

*"We work hard, but our earnings are inconsistent, making food accessibility difficult."*

These responses illustrate a pattern of economic vulnerability that limits households' ability to secure consistent meals.

### 4.4.2 Food Accessibility and Rising Costs

Food accessibility is one of the major concerns, particularly due to high transport costs and inflation. One respondent explained,

*"Transport costs are high, so even if food is available, we may not be able to afford to reach the market."* This indicates that geographical access to food sources is significantly impacted by economic constraints. Many participants rely on low-cost or subsidized food, which often lacks nutritional value. One respondent stated,

> "*We cannot always afford nutritious food. Cheap meals, such as maize porridge, are what we eat most of the time."*

This illustrates how poverty forces individuals to compromise on food quality, increasing the risks of malnutrition. Although food aid exists, its distribution appears inconsistent and unreliable. A respondent remarked,

*"Government food aid programs exist, but they don't reach everyone who needs them."*

This shows that current interventions are inadequate, failing to cover the full extent of food insecurity in Hopley.

### 4.4.3 Gender Disparities in Food Security

Women and female headed household encounter classified hardships as they bear the responsibility to look after their children alone particularly on feeding them. One respondent shared her experience,

*"As a single mother, I fail to buy food because I have no stable income."*

This gives a clear picture of how limited economic opportunity for women increases household susceptibility. Women also experiencing employment discrimination which hinders their ability to secure jobs that have better salaries. A respondent state that,

*"It is really happening that as women we are facing discrimination in access to employment, making it more difficult to earn a reliable income for food"*

This shows that economic barriers are still emanating from the issue inequality which stretches to hinder access to food to female headed household in Hoply. Mothers they even sacrifice their meals to prioritize their child feeding as mentioned by one of respondent,

*"We as women, sometimes we skip meals so that our children can eat"*

This shows that the effects of food shortages on the maternal health and wellbeing of them points. On the same note another participant raised the impotence of supporting women operated business saying that,

> *"If government improve support for women who do business could also changes are food security status."*

This respond shows that empowering women economically can lead to better results of food in poor households in Hopely community.

### 4.4.4 Coping Mechanisms and Community Solutions

Poor Households uses various coping strategies to sustain food insecurity some uses debts expecting to return back when supposed to return for them to buy food. This was stated by one of the respondents saying,

*"In some cases, we borrow money or by food on credit."*

This shows that distresses in finances where individuals are forced to into debt just to afford basic meals. On the same situation others look towards community food collection where they put the money together of about 10 people and then use it to buy food and share or collaborate in farming inputs and share yield. These strategies only solve the little problem leaving the huge one as stated by one of the participants saying,

*"Community food cooperatives assists but they do not solve the bigger problem of poverty."*

The respond has shown that community programs offers short term relief and they do not solve main economic challenges such as lack of necessary resources and poor infrastructure which leads to continuous severe food insecurity. This was also emphasized by some of the participants saying

> *"As people who understands our situation we grow our plant foods, but infrastructure and lack of water make it difficult to achieve results that complement other sources of our food"*

The need for investing in agriculture and supporting the community is the huge need for the community of Hopley.

### 4.4.5 Policy and Government Support

The existing government programs of support are active in the community but most of the participants complained about the effectiveness of these programs in minimising food insecurity especially to the specific people who need these programs in the community. One stated that,

> *"The government food programs offer assistance but they do not solve the main affected group where the toot cause is being emanated. "Government food programs exist, but they don't address the root causes of food insecurity."*

These responds indicate the need for practical and moral approach full of honest and dedicated to solve the issues like that to improve the effectiveness of the programs to reduce the alarming problem of food shortages within households.

The formal workers have stable income to access food adequately but in this community is different because they are still facing difficulties due to inflation and economic challenges one of the formal workers stated that,

*"Even though we have a stable job, inconsistence of transport costs and food lead to difficult"*

This respond indicate that even the one who are admired in this community are being facing same challenges and the ones who do not have jobs but in different level of intensity. Hence, support for each group is needed to change this community prior to their levels of needs in order to bridge these employment gaps and improve household food availability, accessibility, stability and utilization.

### 4.5 The correlation between household income and food security

The presentation of these correlation results between household income and food security examines household income alongside the four elements of food security: accessibility, availability, stability, and utilization. This structured approach provides a deeper understanding of the findings and the relationship between the two variables, recognizing that food security cannot be measured by a single element. Therefore, based on these four determinants of food security, conclusions were drawn using the results of each element, which are presented in the scatter diagrams below:

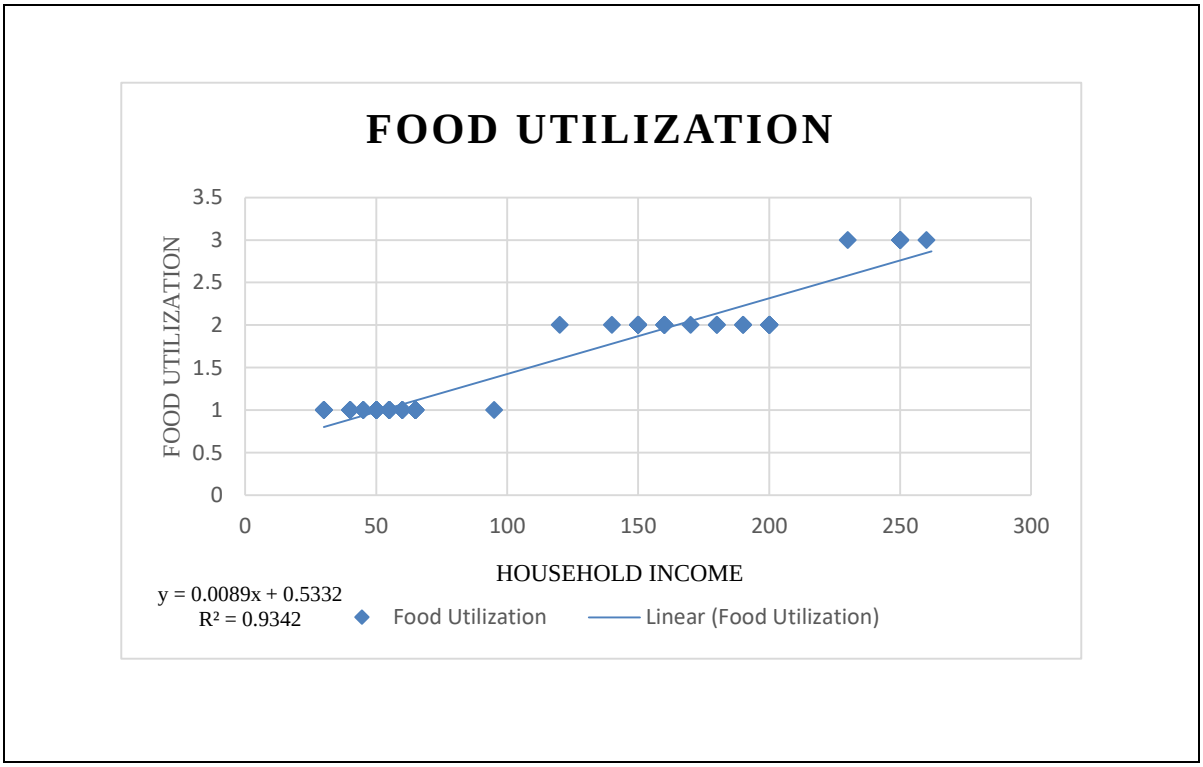



*Figure 4. 4 Shows the relationship between household and food utilization*

The analysis shows a strong positive correlation between household income and food utilization, as indicated by the high $R^2$ value of 0.9342, meaning 93.42% of the variation in food utilization is

explained by income levels. The regression equation (y = 0.0089x + 0.5332) suggests that higher income leads to better food utilization, reinforcing the idea that wealthier households have improved access to food preparation, consumption, and nutrition. This finding highlights the importance of economic stability in ensuring food security, lower-income households face barriers to proper food utilization, requiring targeted interventions such as food assistance programs and nutrition education. The similar existing trends for food stability, accessibility, and availability, also validate that income inequality directly impacts overall food security, emphasizing the need for economic growth policies to improve household financial conditions and food security outcomes.

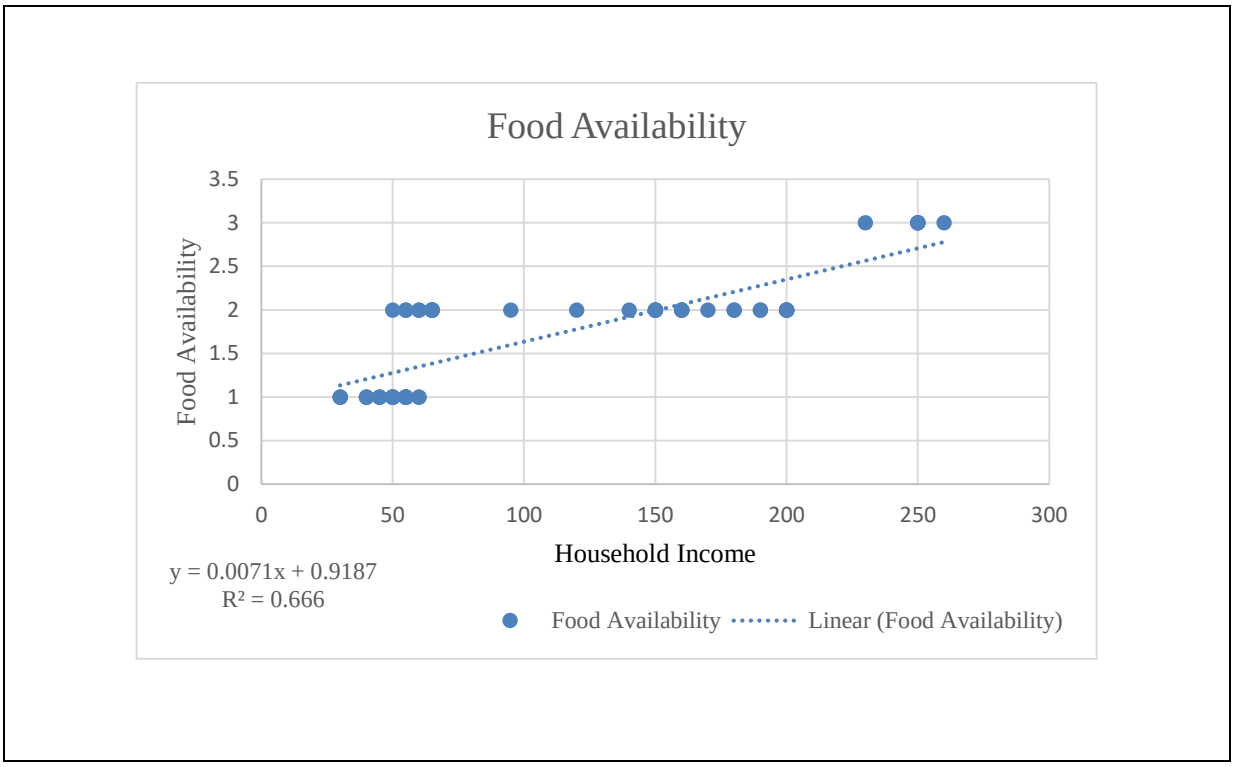



*Figure 4. 5 Shows the Relationship between Household Income and Food Availability*

The regression results y = 0.0071x + 0.9187 and $R^2$ = 0.666 indicate a moderate to strong positive correlation between household income and food availability. The slope (0.0071) signifies that for every $1 increase in household income, food availability improves by 0.0071 units, suggesting that income has a direct but gradual impact on food access. The intercept (0.9187) implies that even at zero income, food availability is still present at a baseline level of 0.92, meaning external sources

such as aid, subsidies, or communal food-sharing might contribute to food access beyond direct financial means.

With an $R^2$ value of 0.666, the model explains 66.6% of the variation in food availability, indicating that income is a significant factor, though not the sole determinant. This suggests that households with higher financial resources generally experience improved food availability, but other variables could contribute to the remaining 33.4% of unexplained variation. The strength of this correlation reinforces the idea that policies aimed at increasing household income such as employment programs, wage improvements, or social welfare initiatives can substantially enhance food security by ensuring stable and sufficient access to food.

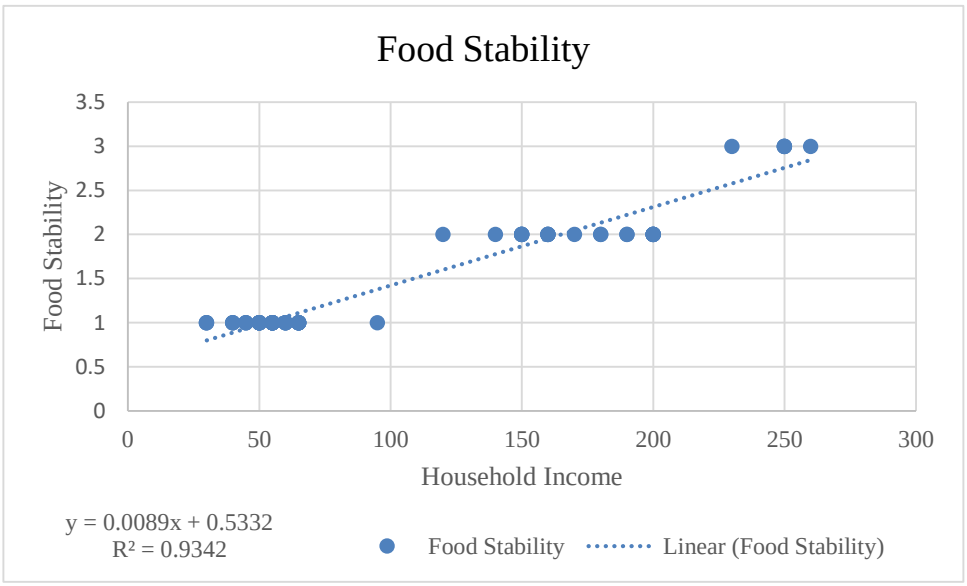



*Figure 4. 6: Shows the Relationship between Household Income and Food Stability*

The regression equation $y = 0.0089x + 0.5332$ and $R^2 = 0.9342$ indicate a very strong positive correlation between household income and food stability. The slope (0.0089) suggests that for every $1 increase in household income, food stability improves by 0.0089 units, confirming that higher income contributes significantly to a household's ability to maintain consistent access to food. The intercept (0.5332) implies that at zero income, the predicted food stability value would

be 0.5332, meaning some baseline level of food stability exists even without income, potentially due to social support systems or communal food sharing.

With an $R^2$ value of 0.9342, the model explains 93.42% of the variation in food stability, demonstrating that household income is a primary determinant of food stability, with very little unexplained variability. This strong correlation suggests that increasing household income directly enhances food stability, ensuring that families experience fewer fluctuations or disruptions in their food supply. The results reinforce the idea that policies aimed at economic growth, wage improvements, and poverty reduction can significantly boost food security by stabilizing access to essential nutrition.

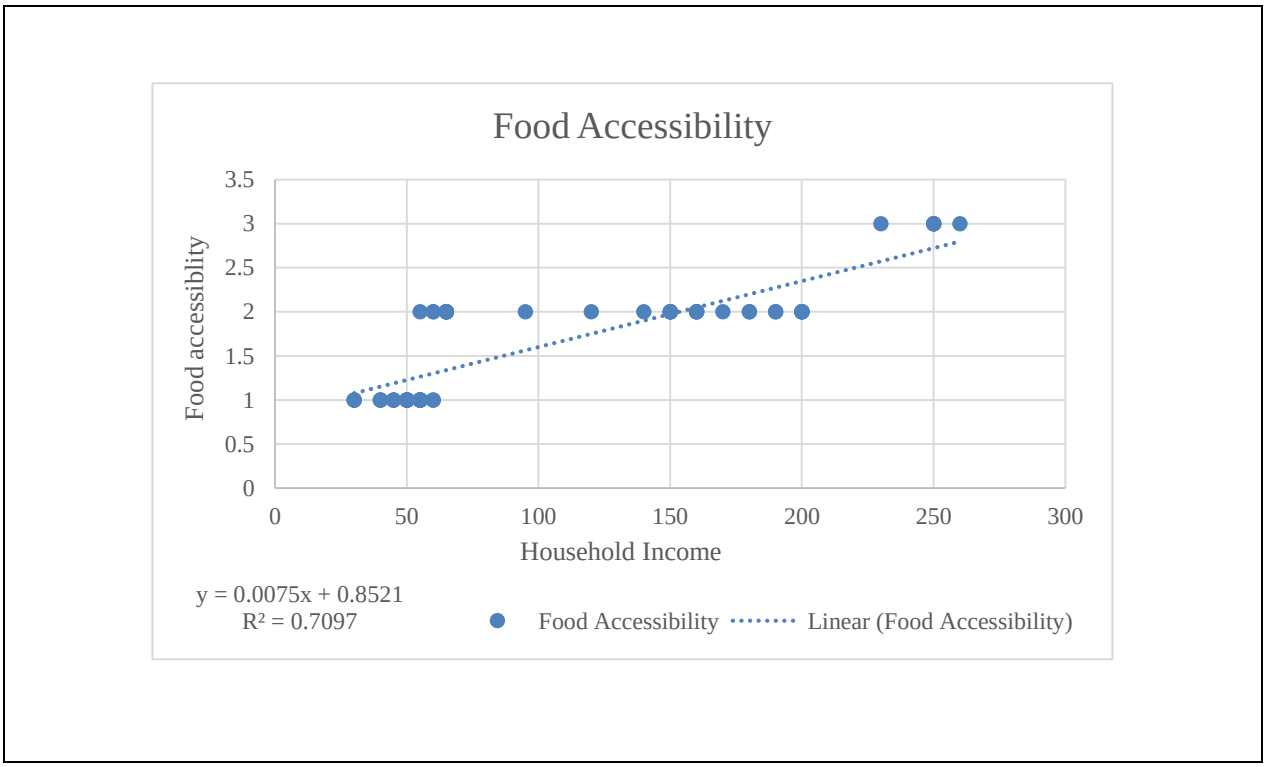



*Figure 4. 7 Shows the Relationship of Household Income and Food Accessibility*

The regression equation y = 0.0075x + 0.8521 and $R^2$ = 0.7097 indicate a moderate to strong positive correlation between household income and food accessibility. The slope (0.0075**)** suggests that for every $1 increase in household income, food accessibility improves by 0.0075 units**,** demonstrating that income has a significant impact on a household's ability to access food. The intercept (0.8521) shows that even at zero income, the predicted food accessibility value would be

approximately 0.85**,** suggesting some baseline level of accessibility exists regardless of household earnings.

The $R^2$ value of 0, 7097 the graph explicates that 70, 97 of the variation of in food accessibility shows that household income is the main influence of food accessibility. The strength of this correlation shows that as income increases, households gain better access to food through the purchasing power, transportation and affordability emphasizing that the stability of income improves food security.

### 4.5.1 Overall Correlational Analysis of Household Income and Food Security

The analysis of the correlation of household income and food security has shown different levels of influence across the four elements of food security. The strong correlation is shown in food stability and food utilization, both with the value $R^2$ being 0, 9342, indicating that household income explicates a significant part of variation in these factors. This indicate that financial capacity within households plays a significant role in helping access to food and the efficient use of available food resources. Food accessibility with an $R^2$ of 0, 7097 shows a moderate strong correlation with income means that financial stability improves the ability of food accessibility but it does not completely determine access of food. Food availability of value $R^2$ of 0,666 shows the moderate correlation with household income suggesting that income contributes to an ability of households to secure food but external supports factors are also influential. Therefore, these results show a significant relationship between household income and food security in Hopley community food stability and utilization having a highest dependency, confirming that household income has an influential role in food stability, availability, utilization and accessibility

### 4.4.5 Household Income and Food Consumption Pattern

The results of the relationship of household income level and food consumption pattern were presented and analysed using descriptive statistics in identifying trends and offer and clear insight of the findings. They were presented by the use of tables and graphs and the conclusion was given through a collective analysis prior to the findings which are to be presented below

*Table 4. 1 Shows the Household Income level and Food Consumption Trend*

| **INCOME LEVEL** | | **1 MEAL /DAY** | **2 MEALS\ DAY** | **3 MEALS\DAY** | **4 MEALS/DAY** | **TOTAL** |
|---|---|---|---|---|---|---|
| LOW | | 21 | 12 | 0 | 0 | 33 |
| MEDIUM | | 0 | 9 | 12 | 0 | 21 |
| HIGH | | 0 | 0 | 5 | 8 | 13 |
| TOTAL | | 21 | 21 | 17 | 8 | 67 |

The representation of the table 4.11 shows the relationship between income level and food consumption patterns. The low-income group being the larger group having one meal a day, with the low-income group mainly consumes one meal per day and those who are managing two meals being small group of households indicating an element of food security. The average group shows a shift towards three meals per day indicating that better income food stability. The high-income group of households has no one who experiencing one or two meal per day, most of them are having three to four meals per day meaning that thy are food secured. Therefore, the findings state that as income rises the meal frequency rises.

*Table 4. 2 Shows Household Income and Average Meal Frequency*

| Income Level | Mean Meals Per Day | Median Meals Per Day | Mode (Most Common) |
|---|---|---|---|
| Low | 1.36 | 1 | 1 meal/day |
| Medium | 2.57 | 3 | 3 meals/day |
| High | 3.62 | 4 | 4 meals/day |

The table 4.2 indicate that how household income influence meal consumption patterns. The low-income group having the lowest average meal consumption, with a mean of 1, 36 meals per day, a median of 1 and the mode of 1 meal per day. This shows that most of the households in this group they eat once a day because of low income or financial challenges. The medium income group has a higher mean of 2, 57 meals per day, a median of 3 meals per day and having a mode of 3 meals per day showing that there is better stability of meal patterns with most households having three meals per day. The high-income group has a highest meal frequency with a mean of 3, 67 meals per day, a median of 4 and mode of 4 meals per day indicating that everyone in this

group are having enough access to food every day. Therefore, the analysis indicate that as household income increases the meal frequency increases.

The figure 4.8 shows the relationship between household income and meal consumption patterns indicating the clear different income levels. The low-income group has a highest household consuming one meal per day, indicating food security and financial challenges that hinder meal frequency. When income increases meal, consumption become more stable. The medium group consumes three meals per day showing a better food security. The high-income group having a highest meal frequency with most of the households consuming three meals per day showing enough accessibility of food. The graph shows that meal consumption increases with household income, showing financial disparities in food access where low income are having limited meals and wealthier households are having consistent meals pattern in the community of Hopley.

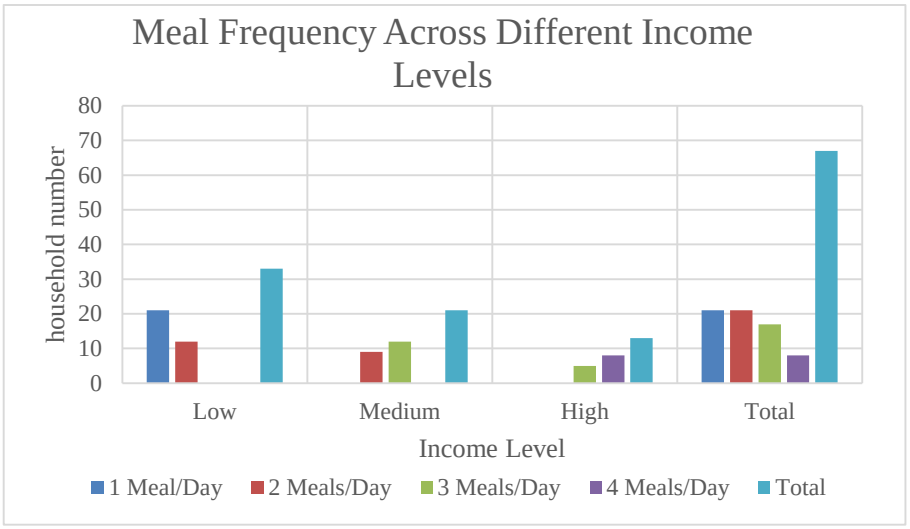



*Figure 4. 8 Shows the Meal Consumption Pattern across Income Levels*

The analysis of the household income level and consumption pattern confirms that income has a decisive role in building consumption patterns. The low income having limited meal frequency with most of the households having one or two meal per day showing restricted food access. The

medium income with three meals a day household shows more stable showing a potential ability of maintaining consistent meal per day. The higher income households indicating the highest meal frequency with a significant household consuming up to four meal per day showing a greater stable dietary routine Higher-income household show the highest meal frequency, with a significant portion consuming up to four meals per day, highlighting greater access to food and a more consistent dietary routine. Hence forth income has a significant role in meal consumption pattern in Hopley community.

### 4.6 Discussion of Findings

The correlation of household income and food security findings are strongly supported by other scholars who do their studies earlier. Matamanda (2020) explore the socio-economic conditions of hopley farm settlement and identify that financial capacity influences strongly food stability and food utilization. The findings indicate that household with higher incomes are better in securing food resources. Nyati and Ndlovu (2022) studied on livelihood diversification in Zimbabwe and come up with ideal that income generating programs enhance food security supporting the findings that financial stability has an important role in food accessibility and availability.

Zivhave and Dzvairo (2022) examined that urban agriculture and food security in Hopley urban agriculture and food security in Hopley and bring up with the related finding stating that financial challenges are main determinant of food security. The studies of these scholars are aligned with the findings from Hopley community indicating that stable income sources change positively food utilization and food accessibility. Russell et al. (2018) researched on food security using household consumption expenditure surveys and found that income has a significant role in influencing consumption. Chitekwe (2020) studied on urban struggles in Zimbabwe and bring up the finding stating that financial stability is directly influence food security, putting much emphasis on the idea that household income is the main factor that that influences accessibility and utilization.

However, other scholars provide other views on the correlation between household and food security. Olabiyi and Adedokun (2024) documented that food consumption patterns in Africa and found that socio economic problems such as limited infrastructure weaken the direct relationship of income and food security. Their research proposed that high level of economic instability reduces positive effects financial capacity. Matamanda and Mphambukeli (2022) explored urban

insecurity in Hopley farm settlement and asserted that political victimization and poor infrastructure play more role in food insecurity than household income alone.

Household income contribute significant role in building food security patterns. This is supported by some studies on food security. The study by Murendo, Sisito, and Chirongwe (2023) discover that financial challenges limits the food accessibility forcing lower income households to adjust to have limited meal per day. This study is similar to research findings of Hopley Community showing how household income directly affects meal frequency. Olabiyi and Adedokun (2024) further views that stable income enables households to of higher income to put much enough resources to food to maintain meal consumption and dietary varieties

However, some researchers challenge the notion that income alone determines food consumption pattern. Matamanda (2022) noted that the unstable political base and poor infrastructure have a notable role in food insecurity offering household income a less impact when considered alone the major determinant of food insecurity. Charlton and Russell (2023) argue that cultural prioritisation and accessibility of food in the market determines the choices showing that household experiencing few meal frequencies despite having enough income.

### 4.7 Chapter Summary

The chapter has detailed explain the findings through the presentation of tables, charts and graphs using statistical methods such as manual thematic analysis, Pearson correlation and descriptive statistics to show demographic characteristic and main pattern in the data. The research findings discussed on the household income and food security, household consumption patterns and socio-economic factors that mediate the relationships. Response rate was presented based on the field work methodology and outcomes.

# CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

## 5.1 Introduction

The research study on the relationship of income level and food security in poor urban settlement, lessons from food consumption patterns in Hopley Harare Zimbabwe shows a summary of findings key and limitations in this section. The chapter also present recommendations based on the research finding discussed in chapter one to four.

## 5.2 Summary of Key Findings

The research study title is relationship between household income level and food security in poor urban settlements, lessons from food consumption pattern in Hopley, Harare, Zimbabwe. The study was carried out because of the overlooking of researchers on poor urban settlement that is overcrowded on how their household incomes affect food security. The study was conducted in Hopley to focus on the significant of the study on national food security.

The investigation had three objectives. The first was to examine the correlation between household income levels and food security in poor urban settlements in Hopley, Harare, Zimbabwe. The second was to assess how different income levels affect household consumption patterns in Hopley, Harare, Zimbabwe. The final objective was to investigate the socio-economic factors that mediate the relationship between household income levels and food security in Hopley, Harare, Zimbabwe. The study is expected to benefit the residents of the Hopley community, policymakers, and development practitioners.

The chapter also reviews literature on the relationship between household income levels and food security, utilizing Sen's entitlement approach as a framework. It highlights that food security extends beyond food availability, emphasizing access through financial means such as income, trade, and social security. The study focuses on Hopley, Zimbabwe, analysing how variations in household income impact food access and consumption patterns. The chapter outlined global and regional perspectives, indicating that low income households experiencing challenges such as depending on informal markets and inadequate resources for variate of balanced diets. The socio-economic factors including education and employment mediate this relationship significantly. The study shows research gaps, on understanding the changes of informal settlements and the impact of economic instability, whilst promoting for specific programs to improve food security within poor urban households.

The research study also uses both quantitative and qualitative research methods to examine the relationship between household income levels and food security in Hopley, Zimbabwe. It provides detailed description of the study area, characterized by informal settlements and severe poverty and apply a comparative cross-sectional design to facilitate simultaneous data collection. The targeted population consists of approximately 50,000 households, with a sample size identified using Cochran's formula which is 67 households and stratified sampling techniques to enables representation in different income levels. Data collection instruments such as household questionnaires and focus group discussions (FGDs), designed to gather detailed information on demographics, income, food security, and socio-economic factors. The data analysis was presented through the lenses of ethical considerations. Limitations where outlined showing the importance of transparency and cultural consideration during research process.

The research study also provided the research finding on the correlation between household income levels and food security in the Hopley community, showing significant aspect into the demographic characteristics and socio-economic challenges experienced by the people in Hopley community. A one hundred percent response rate was achieved through face to face interviews, showing that 82.4% of households are food insecure, because of low income and unstable employment. Most households earn less than $100 per month, hindering them to access necessities and helps high levels of food scarcity. Qualitative data from FGDs explicate issues such as income instability, food accessibility challenges, and gender disparities affecting women and households headed by single parent.

The four food security elements which utilization, stability, accessibility, and availability were presented how they bring up a conclusion on food security in influences from household income, that is strong positive correlations observed in food stability and utilization. The research findings show that higher income directly correlates with better food security outcomes, with higher income households consuming more meals per day and experiencing better meal consumption patterns. However, the study also acknowledges other views that states that the importance of socio-economic factors, such as infrastructure and political stability, which may reduce the impact of income alone on food security.

## 5.3 Conclusion

The quantitative data shows the high level of food insecurity in the Hopley community, with 82.4% of households experiencing food insecure because of low-income levels. Most families earn less than $100 per month are failing to access enough food and consistently. This correlation between income and food security indicate the importance of economic stability, as households with higher incomes experiencing better meal frequency and variety of balanced diet.

The qualitative data was complementary to quantitative data from FGDs offering a clearer understanding of the socio-economic challenges experienced by households. The participants raised issues including income instability, high transport costs, and gender disparities affecting women and households headed by single women. These responses show barriers that intensify food insecurity, exposing that financial challenges alone do not show data in full picture. The experiences shared by participants indicate the need for practical and effective strategies that solve both economic and social spaces of food security.

## 5.4 Recommendations

### 5.4.1 Policymakers

Policymakers advised to enhance economic support programs by creating and expanding social safety nets such as cash transfers and food assistance to specific group of people who an exact needy that is households with low income. This financial assistance will reduce or solve the current food insecurity and help families meet their meal consumption frequency.

Policymakers are expected to support and promote job creation by implementing programs that create local employment opportunities. Launching vocational training programs is very important to equip residents with relevant skills to better job market, thereby increasing their earning potential and promote sustainable food security.

### 5.4.2 Future Studies

Future studies are encouraged to prioritize conducting longitudinal research to track changes in food security over time. This research must specifically examine the impact of income fluctuations and policy interventions on household food access, providing critical insights into the effectiveness of various strategies over the long term.

It is also vital to expand qualitative research focused on the lived experiences of food-insecure households. In-depth studies exploring these experiences will yield richer insights into the socio-economic factors influencing food security, guiding more targeted interventions that respond to the actual needs of the community.

### 5.4.3 Non-Governmental Organizations (NGO)

(NGOs) are encouraged to increase community-based programs that empower residents to address over food assistants that are not sustainable to solve food insecurity directly sustainable. Initiatives such as community gardens and food cooperatives are recommended to foster local solutions and encourage self-sufficiency among community members.

## 5.5 Limitations

The key limitation of the study was limited of sample representation. Focus group discussions (FGDs) involve smaller number of participants to reflect the bigger perspectives within the larger number of households. Households with unique socio-economic situations or different coping mechanisms were overlooked, limiting the strength of the study's findings. On the same note, more vocal and socially active participants dominated FGDs, while others were not able to express themselves remain underrepresented.

Future studies researchers can consider increase of sample size to ensure that households across different income levels, food security statuses, and coping mechanisms are involved. Larger sample can provide a more reliable basis for statistical analysis, strengthening the accuracy of correlations between household income and food security to be more applicable to others similar community. The increase can be achieved by expand data collection efforts across multiple geographical locations or increasing the number of households accessed within the study area.

Incorporating mixed household interviews techniques to enhance data collection efficiency. The face-to-face interviews can allow for detailed discussions, combining them with phone or online questionnaires can help reach a wider audience with access to online services. This approach can allow researchers to gather more quantitative data while still maintaining qualitative depth through structured FGDs, which can balance the effectiveness of the findings.

A potential area for further study is focusing on examining the impact of socio-economic shocks on household food security over time. Economic changes, policy changes, and unpredictable

events such as inflation or natural disasters can affect household income and food access. Tracking these variables can provide a deeper understanding of resilience strategies and reveal patterns in how households adjust to financial instability.

A longitudinal data collection approach can be used in future studies conducting periodic surveys at multiple intervals. This can highlight trends in household consumption patterns and identify long-term coping mechanisms. Integrating qualitative case studies would allow for a more detailed exploration of how individual households survive in socio-economic changes, ensuring that the findings are both statistically practical and real.

### 5.6 Chapter Summary

In this chapter summarises the whole study of relationship between household income levels and food security in poor urban settlements, drawing lessons from food consumption patterns in Hopley, Harare, Zimbabwe. It provides conclusion a presentation of findings and suggestions. The chapter summarises key insights on how income influences food security and consumption patterns within the community. Lastly, it outlined recommendations based on the investigation covered in Chapters one to four, offering valuable guidance for addressing food insecurity in similar urban settlements

## REFERENCES


Abay, K. A., Berhane, G., Hoddinott, J., and Taffesse, A. S. (2021). The impact of social protection programs on food security and nutrition in urban Ethiopia. Journal of Development Studies, 57(5), 789-806.

Acharya, A., Prakash, A., Saxena, P., and Nigam, A. (2020). Sampling: Why and How of it? Indian Journal of Medical Specialities, 4(2), 330-333.

Afoakwah, C., Deng, X., and Onur, I. (2020). Income diversification and household food security in Ghana. Food Security, 12(6), 1289-1302.

Agyei-Mensah, S., and Owusu, G. (2020). Market access and household consumption in urban settlements. Urban Studies, 57(3), 507-522.

Alene, A., and Aga, M. (2025). Urban agriculture and food security in Addis Ababa: A case study on supplemental income. Urban Food Studies Journal, 14(2), 45–60.

Anang, B. T., Bäckman, S., and Sipiläinen, T. (2021). Income inequality and food security disparities in urban Ghana. Journal of Development Studies, 57(5), 780–798.

Anderson, E., Wei, R., Liu, B., Plummer, R., Kelahan, H., Tamez, M., Marrero, A., Bhupathiraju, S., and Mattei, J. (2021). Improving healthy food choices in low-income settings in the United States using behavioral economic-based adaptations to choose architecture. Frontiers in Nutrition, 8, 734991. https://doi.org/10.3389/fnut.2021.734991

Ansah, I. G. K., Gardebroek, C., and Ihle, R. (2019). Resilience and household food security: A review of concepts, methodological approaches and empirical evidence. Food Security, 11(6), 1193-1208. https://doi.org/10.1007/s12571-019-00946-6

Banerjee, A., and Duflo, E. (2021). Public Distribution System and food security: A policy analysis. Development Economics Review, 36(1), 12–28.

Beyene, T., Abera, M., and Tadesse, G. (2024). Income levels and dietary diversity in Ethiopian households. Nutrition and Development Studies, 18(3), 30–42.

Bhandari, A. (2023). Ethical Research Practices in Educational Institutions: A Literature Review. International Journal of Current Scientific Research and Studies.

Bjornlund, H., and van Rooyen, A. (2022). Why food insecurity persists in Sub-Saharan Africa: A review of existing evidence. *Food Security, 14*(2), 845-864. https://doi.org/10.1007/s12571-022-01256-1

Bourke, R. M., and Betitis, S. (2015). Food shortages are associated with droughts, floods, frosts and ENSO in Papua New Guinea. Agricultural Systems, 139, 1-10. https://doi.org/10.1016/j.agsy.2015.02.002

Braun, V., and Clarke, V. (2016). Thematic Analysis. In E. Lyons & A. Coyle (Eds.), Analysing Qualitative Data in Psychology (2nd ed., pp. 84-103). SAGE Publications.

Carletto, C., Corral, P., and Guelfi, A. (2020). Agricultural commercialization and nutrition revisited: Empirical evidence from three African countries. Food Policy, 67, 106–116. https://doi.org/10.1016/j.foodpol.2016.09.020

Chazovachii, B., Mutami, N., and Mavhura, E. (2013). Urban Agriculture as a Food Security Strategy for Urban Dwellers: A Case Study of Mucheke Suburb in Masvingo, Zimbabwe. *Journal of Sustainable Development in Africa, 15*(1), 160-174.

Chhibber, P., Jenkins, H., Taylor, B., and Rankin, C. (2023). Qualitative Research in Economic Behaviors. Springer.

Chimhowu, A., Munro, L. T., and Mano, R. (2021). Resilience capacities and implications for household consumption in Zimbabwe. African Journal of Agricultural and Resource Economics, 16(4), 198-212.

Chimhowu, A., Ncube, P., and Mutizwa, E. (2023). Socio-economic determinants of dietary diversity in Harare households. Zimbabwe Journal of Development Studies, 20(1), 45–60.

Chingono, H., Mujuru, M., and Chikanda, A. (2022). Market access and food security in Zimbabwe's urban areas. Journal of Agriculture and Food Security, 17(3), 275-289.

Chirisa, I., and Chikowore, G. (2022). Urban poverty and food security in Zimbabwe: The case of Hopley in Harare. Development Southern Africa, 39(4), 512-527. https://doi.org/10.1080/0376835X.2022.2028218

Chitekwe, B. (2020). Struggles for urban land by the Zimbabwe Homeless People's Federation. Environment and Urbanization. Retrieved from [https://www.scirp.org/reference/referencespapers?referenceid=3693555]

Coleman, P. (2019). In-depth interviewing as a research method in healthcare practice and education: Value, limitations and considerations. International Journal of Caring Sciences, 12(3), 85-91.

Conrad, A. G., Tolar-Peterson, T., Gardner, A. J., Wei, T., and Evans, M. W. (2022). Addressing Food Insecurity: A Qualitative Study of Undergraduate Students' Perceptions of Food Access Resources. Nutrients, 14(17), 3517. https://doi.org/10.3390/nu14173517

Creswell, J. W. (2018). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (5th ed.). SAGE Publications.

Crush, J., and Caesar, M. (2016). Food remittances: Migration and food security in Africa. International Migration, 54(5), 1-17.

Crush, J., and Frayne, B. (2023). Social safety nets and food access: Insights from South Africa. Urban Food Policy Journal, 12(3), 145–160.

Devereux, S., Béné, C., and Hoddinott, J. (2020). Conceptualising COVID-19's impacts on household food security. Food Security, 12(4), 769–772. https://doi.org/10.1007/s12571-020-01085-0

Drewnowski, A., and Rehm, C. (2020). Employment stability and its impact on nutritional outcomes. Public Health Nutrition, 23(4), 550–560.

Dreze, J., and Sen, A. (1989). Hunger and Public Action. Oxford University Press.

Dubbeling, M., de Zeeuw, H., and van Veenhuizen, R. (2015). Cities, poverty and food: Multi-stakeholder policy and planning in urban agriculture. Routledge.

Dube, T., and Mujuru, F. (2023). Evaluating the impact of social safety nets on urban food security in Zimbabwe. African Food Policy Journal, 15(2), 78–92.

Dube, T., and Mujuru, F. (2023). Social safety nets and urban household consumption patterns in Zimbabwe. Journal of African Development Policy, 14(3), 112–128.

Dube, T., et al. (2021). COVID-19 and Urban Food Insecurity in Bulawayo, Zimbabwe: Household Case Studies. Journal of Urban Health, 98(3), 432-447.

Dzanja, J., Mataya, C., and Mataya, M. (2019). Urban agriculture and household consumption in Malawi. Agricultural Systems, 176, 102654.

Fanzo, J., Hunter, D., and Borelli, T. (2022). The income barrier to dietary diversity: Global insights. Food Security Journal, 14(2), 189–203.

FAO. (2019). State of Food Security and Nutrition in the World 2019. *Food and Agriculture Organization of the United Nations*. https://doi.org/10.4060/ca5162en

FAO. (2021). The State of Food Security and Nutrition in the World 2021. FAO.

Field, A. (2018). Discovering Statistics Using IBM SPSS Statistics (5th ed.). SAGE Publications.

Food and Agriculture Organization of the United Nations (FAO). (2020). The State of Food Security and Nutrition in the World 2020. Retrieved from [FAO](http://www.fao.org/publications/sofi/2020/en/).

Frayne, B., Crush, J., and McLachlan, M. (2014). Urbanization, nutrition, and development in Southern African cities. *Food Security*, *6*(1), 101-112. https://doi.org/10.1007/s12571-013-0320-8

French, S. A., Tangney, C. C., Crane, M. M., Wang, Y., and Appelhans, B. M. (2019). Nutrition quality of food purchases varies by household income: The SHoPPER study. BMC Public Health, 19(1), 231. https://doi.org/10.1186/s12889-019-6546-2

Gaiha, R., Hill, K., and Talukdar, R. (2023). Microfinance and food security: Lessons from Bangladesh. Economic and Social Review, 21(3), 76–89.

Gouverneur, D. (2015). Planning and design for future informal settlements: Shaping the self-constructed city. London: Routledge.

Gundumogula, M. (2020). Importance of Focus Groups in Qualitative Research. International Journal of Humanities and Social Science, 8(11), 299-302.

Haysom, G., and Tawodzera, G. (2018). Urban food security in Africa: Challenges and opportunities. Food Security, 10(4), 783-795.

Haysom, G.,and Tawodzera, G. (2018). "Measurement Drives Diagnosis and Response": Gaps in Transferring Food Security Assessment to the Urban Scale. Food Policy, 74(5), 117-125.

Houghton, C., Casey, D., Shaw, D., and Murphy, K. (2010). Informed consent in qualitative research: An introduction. Nurse Researcher, 18(1), 37-45. https://doi.org/10.7748/nr2010.10.18.1.37.c8048.

Imam, A., Farouk, Z. L., Hassan-Hanga, F., and Ihesiulor, U. G. (2019). A comparative cross-sectional study of prevalence and intensity of soil-transmitted helminthic infection between healthy and severely acutely malnourished pre-school aged children in Kano, Northern Nigeria. BMC Infectious Diseases, 19(1), 121. https://doi.org/10.1186/s12879-019-3755-3

Iversen, T., Adefioye, A., and Usman, M. (2022). Informal employment and food access in Nigerian cities: A socio-economic analysis. African Economic Studies, 30(4), 212–229.

Jayne, T. S., Mather, D., and Mghenyi, E. (2018). Principal challenges confronting smallholder agriculture in Sub-Saharan Africa. *World Development, 38*(10), 1384-1398. https://doi.org/10.1016/j.worlddev.2018.04.005

Johnson, A., and Garcia, M. (2020). Cultural Competency in Research: Integrating Perspectives and Practices. Sage Publications.

Johnson, J. M., and Rowlands, T. (2016). The interpersonal dynamics of in-depth interviewing. In the SAGE Handbook of Interview Research: The Complexity of the Craft (2nd ed., pp. 99-113). SAGE Publications.

Jones, A. D., Ngure, F. M., Pelto, G., & Young, S. L. (2021). What are we assessing when we measure food security? A compendium and review of current metrics. Advances in Nutrition, 12(4), 1235–1253. https://doi.org/10.1093/advances/nmab017

Kaiser, J. (2020). Ensuring confidentiality in qualitative research: Challenges and strategies. Qualitative Health Research, 30(4), 556-567.

Kanosvamhira, T. P. (2023). Urban agriculture and the sustainability nexus in South Africa: Past, current, and future trends. Urban Forum, 35(1), 83-100.

Ketema Bogale, E., Fentabel, T. A., Tiruneh, M. G., Fenta, E. T., Endeshaw, D., Adal, O., Tareke, A. A., Kebede, N., and Mebrat Delie, A. (2025). Individual and community-level factors associated with household-level food insecurity in Ethiopia: A multilevel mixed-effects analysis of the 2021 Performance Monitoring for Action Ethiopia (PMA-ET). BMC Nutrition, 11, Article number: 16.

Kimani-Murage, E. W., Schofield, L., Wekesah, F., Mohamed, S., Mberu, B., Ezeh, A. C., Madise, N. J., and Beguy, D. (2014). Vulnerability to food insecurity in urban slums: Experiences from Nairobi, Kenya. Journal of Urban Health, 91(6), 1098-1113.

Kinyanjui, M., Mwangi, J., and Otieno, S. (2023). Inflation and its impact on household food security in East Africa. East African Agricultural Economics Review, 19(2), 56–74.

Labadarios, D., Steyn, N. P., and Nel, J. (2020). How diverse is the diet of adult South Africans? Nutrition Journal, 19(1), 91.

Laryeafio, M. N., and Ogbewe, O. C. (2023). Ethical consideration dilemma: Systematic review of ethics in qualitative data collection through interviews. Journal of Ethics in Entrepreneurship and Technology, 3(2), 94-110. https://doi.org/10.1108/JEET-09-2022-0014

Le Roux, T., Schlesinger, J., and Parnell, S. (2019). Social protection and food security in urban South Africa. Food Security, 11(3), 675-690.

Leite, L. P., Chaim, N. A., and Alexandre, T. D. M. (2021). Social protection programs and their impact on food security in Brazil. Public Health Nutrition, 24(5), 1234-1245.

Lukwa, N., Chingarande, S. D., and Kandala, N. B. (2020). Socioeconomic inequalities in food insecurity and malnutrition among children in Zimbabwe. *PLOS ONE, 15*(12), e0243606. https://doi.org/10.1371/journal.pone.0243606

Manikas, I., Ali, B. M., and Sundarakani, B. (2023). A systematic literature review of indicators measuring food security. Agriculture and Food Security, 12, Article number: 10. https://doi.org/10.1186/s40066-023-00415-7

Mashate, H., and Ncube, C. (2023). Impact of social protection on household consumption in urban Zimbabwe. African Journal of Social Work, 13(1), 45-59.

Masiya, T., and Mafusire, A. (2021). Community-driven initiatives and their impact on food security in Harare. African Journal of Food, Agriculture, Nutrition and Development, 21(7), 18103-18120.

Masuku, T., and Marunda, E. (2021). The role of urban agriculture in mitigating food insecurity in Zimbabwean cities. Journal of Urban Food Systems, 19(4), 102–118.

Masuku, T., and Marunda, G. (2024). The impact of informal employment on food security in Zimbabwe's urban centers. Harare Economic Review, 12(3), 34–47.

Matamanda, A. (2020). Living in an Emerging Settlement: The Story of Hopley Farm Settlement, Harare, Zimbabwe. Urban Forum Retrieved from [https://www.academia.edu/93878110/Living_in_an_Emerging_Settlement_the_Story_of_Hopley_Farm_Settlement_Harare_Zimbabwe]

Matamanda, A. R. (2020). Battling the informal settlement challenge through sustainable city framework: Experiences and lessons from Harare, Zimbabwe. Development Southern Africa, 37(2), 217-231. https://doi.org/10.1080/0376835X.2019.157249

Matamanda, A. R., and Potts, D. (2020). Community initiatives and food security in Harare: An assessment. Journal of Urban Affairs, 42(7), 925-940. https://doi.org/10.1080/07352166.2020.1727297

Matamanda, A., and Mphambukeli, T. N. (2022). Urban (in) security in an emerging human settlement: Perspectives from Hopley Farm Settlement, Harare, Zimbabwe. Frontiers in Sustainable Cities Retrieved from [https://www.researchgate.net/profile/Abraham-Matamanda/publication/365454010_Urban_in_security_in_an_emerging_human_settlement_Perspectives_from_Hopley_Farm_Settlement_Harare_Zimbabwe/links/637639a42f4bca7fd06ae801/Urban-in-security-in-an-emerging-human-settlement-Perspectives-from-Hopley-Farm-Settlement-Harare-.pdf?origin=publication_detail]

Mathebula, F. M., Nkomo, M. S., and Sibanda, M. (2017). Socio-economic determinants of food security among urban households in South Africa. Food Security, 9(4), 867-875.

Matus, K., and Tilly, C. (2016). Environmental Regulation and Public Policy. International Public Policy Review, 12(2), 24-40

Mawere, M. (2015). An Assessment of the Impact of Urban Agriculture on Food Security and Income Generation in Harare, Zimbabwe. *Mediterranean Journal of Social Sciences, 6*(4), 1-8. https://doi.org/10.5901/mjss.2015.v6n4p1

Mawere, M., Mubaya, T. R., and Muchemwa, C. (2020). Urban poverty and household consumption in Zimbabwe: The role of social capital. Development Southern Africa, 37(5), 742-755.

Maxwell, D. (2013). Political instability, food security, and humanitarian action: A critical review. *World Development, 52*, 4-14. https://doi.org/10.1016/j.worlddev.2013.06.011

Maxwell, D., Ahiadeke, C., Levin, C., Armar-Klemesu, M., Zakariah, S., & Lamptey, G. (2018). Urban Livelihoods and Food and Nutrition Security in Greater Accra, Ghana. IFPRI Research Report 112. Washington, DC: International Food Policy Research Institute.

Maxwell, D., Coates, J., and Vaitla, B. (2018). How Do Different Indicators of Household Food Security Compare? Empirical Evidence from Tigray. Food Policy, 79, 1-20. https://doi.org/10.1016/j.foodpol.2018.05.008

Mouster, T. (2018). Advanced Statistical Methods. Cambridge University Press.

Moyo, S., Sibanda, M., and Chikanda, A. (2022). Community-driven initiatives and their impact on household consumption in Harare. African Journal of Food, Agriculture, Nutrition and Development, 22(7), 18103-18120.

Mujuru, L. (2018). Zimbabwe Officials Are Trying to Fix This Settlement, but the Problems Run Deep. Global Press Journal. Retrieved from [Global Press Journal] (https://globalpressjournal.com/africa/zimbabwe/officials-trying-fix-settlement-problems-run-deep/)

Mukherjee, P. (2021). Statistics and Data Analysis: An Introduction. Cambridge University Press.

Muntean Jemna, D. (2023). The role of qualitative research in understanding food security issues. Journal of Socio-Economic Studies, 12(3), 45-61.

Musingafi, M. (2016). Conceptual Frameworks of Comparative Studies, Systems Theory, Common Pool Resources and Governance. North-West University. Retrieved from https://repository.nwu.ac.za/bitstream/handle/10394/10157/Musingafi_M_Chapter_2.pdf

Mutinda, G. B. (2015). Determinants of Household Food Expenditure and Food Security in Rural Kenya. University of Nairobi.

Mutisya, M., Kandala, N.-B., Ngware, M. W., and Kabiru, C. W. (2015). Household food (in) security and nutritional status of urban poor children aged 6 to 23 months in Kenya. *BMC Public Health, 15*(1), 1052. https://doi.org/10.1186/s12889-015-2403-0

Mutisya, M., Mwabu, G., and Mwangi, P. (2016). Food security and income levels in urban Zimbabwe: A comparative study. Journal of African Economies, 25(4), 456-473.

Mutisya, M., Ngware, M. W., Kabiru, C. W., and Kandala, N.-B. (2016). the effect of education on household food security in two informal urban settlements in Kenya: a longitudinal analysis. *Food Security, 8*(5), 743-756. https://doi.org/10.1007/s12571-016-0589-3

Mutua, M., Wambugu, F., and Njoroge, L. (2022). Income dynamics and dietary diversity in Nairobi's informal settlements. Kenyan Journal of Nutrition Studies, 15(1), 89–105.

Muzah, O. (2015). Household Food Security in Urban and Peri-Urban Areas: A Case Study of Bindura Municipal Area, Zimbabwe. African Journal of Agricultural Research, 10(9), 934-944

Muzenda, A., Bene, C. (2020). Resilience of local food systems and links to food security: A review of some important concepts in the context of COVID-19 and other shocks. Food Security, 12(4), 805–822. https://doi.org/10.1007/s12571-020-01076-1

Muzenda, A., Masiya, T., and Mafusire, A. (2021). Community-driven initiatives and their impact on food security in Harare. African Journal of Food, Agriculture, Nutrition and Development, 21(7), 18103-18120.

Muzenda, T., and Ncube, H. (2018). Financial inclusion programs and household consumption in urban Zimbabwe. Journal of African Economies, 27(3), 285-302.

Ncube, M., Sibanda, L., and Zulu, S. (2023). The role of integrated policies in improving food security in urban Zimbabwe. Food Security, 15(3), 645-658. https://doi.org/10.1007/s12571-023-01234-8

Ndhlovu, D., and Sibanda, R. (2021). Cash transfer programs and household consumption in urban areas. Journal of Development Studies, 57(9), 1456-1470.

Nduku, P., Muriithi, M. K., and Muriuki, N. (2021). The impact of urban agriculture on food security in informal settlements in Nairobi, Kenya. Urban Forum, 32(2), 265-282.

Nowell, L. S., Norris, J. M., White, D. E., and Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. International Journal of Qualitative Methods, 16(1), 1-13. https://doi.org/10.1177/1609406917733847

Ntuli, H., and Muchapondwa, E. (2018). The role of institutions in reducing poverty and inequality in rural communities in South Africa. Development Southern Africa, 35(1), 73-90.

Nyathi, D., and Ndlovu, J. (2022). Livelihood diversification and household food security in selected agrarian settings of Western Zimbabwe. SpringerLink. Retrieved from https://link.springer.com/chapter/10.1007/978-3-030-98617-9_20.

Nyumba, T. O., Wilson, K., Derrick, C. J., and Mukherjee, N. (2018). The use of focus group discussion methodology: Insights from two decades of application in conservation. Methods in Ecology and Evolution, 9(1), 20-32. https://doi.org/10.1111/2041-210X.12860

Olabiyi, O. M.,and Adedokun, A. S. (2024). Impact of community-level infrastructure on household food insecurity in Africa. Journal of Tropical Futures. Retrieved from https://journals.sagepub.com/doi/pdf/10.1177/27538931231203062

Organization for Economic Co-operation and Development (OECD). (2023). Socio-economic and demographic determinants of household food purchases and consumption. *OECD Food, Agriculture and Fisheries Papers*, No. 164, OECD Publishing, Paris. https://doi.org/10.1787/5js4zcgz0bbx-en

Orsini, F., Kahane, R., Nono-Womdim, R., and Gianquinto, G. (2016). Urban agriculture in the developing world: A review. Agronomical Sustainable Development, 36(1), 1-24.

Osborne, J. W. (2017). Regression and Linear Modeling: Best Practices and Modern Methods. SAGE Publications.

Osei-Asare, Y. B., and Agbenyegah, A. (2019). Social networks and household consumption in urban Ghana. Social Networks, 56, 61-70.

Osei-Assibey, E. (2021). Income diversification strategies and food security among urban households in Accra, Ghana. International Journal of Social Economics, 48(7), 1001-1017.

Pallant, J. (2020). SPSS Survival Manual: A Step by Step Guide to Data Analysis using IBM SPSS (7th ed.). Open University Press.

Placzek, A. (2021). Gender disparities and household food insecurity: A critical review. Journal of Gender and Development, 8(4), 412–426.

Porak, C., and Reinke, L. (2024). The importance of qualitative methods in socio-economic - Abdu, M., and Matchaya, G. (2021). Income disparities and consumption inequality in urban settlements. Development Southern Africa, 38(1), 82-99.

Poulsen, M. N., McNab, P. R., Clayton, M. L., and Neff, R. A. (2017). A systematic review of urban agriculture and food security impacts in low-income countries. Food Policy, 68(1), 43-56.

Rabiee, F. (2017). Focus-group interview and data analysis. Proceedings of the Nutrition Society, 63(4), 655-660. https://doi.org/10.1079/PNS2004399

Ravitch, S. M., and Carl, N. M. (2020). Qualitative Research: Bridging the Conceptual, Theoretical, and Methodological (2nd ed.). SAGE Publications.

Resnik, D. B. (2021). Data integrity and transparency in scientific research. Accountability in Research: Policies and Quality Assurance, 28(3), 136-152. https://doi.org/10.1080/08989621.2021.1874684

Riley, L., Miller, R., and Lamson, A. (2017). Socio-economic factors influencing food security: A qualitative approach. Journal of Community Nutrition, 12(4), 321-335.

Russell, J., Lechner, A., Hanich, Q., Delisle, A., Campbell, B., and Charlton, K. (2018). Assessing food security using household consumption expenditure surveys (HCES): A scoping literature review. Public Health Nutrition, 21(12), 2200-2210. https://doi.org/10.1017/S136898001800068X

Russell, J., Lechner, A., Hanich, Q., Delisle, A., Campbell, B., and Charlton, K. (2018). Assessing food security using household consumption expenditure surveys (HCES): A scoping literature review. Public Health Nutrition. Retrieved from https://link.springer.com/chapter/10.1007/978-3-030-98617-9_20.

Saha, S., Adhikari, A., and Nguyen, H. (2021). Social protection programs and food security in South Asia: Evidence from India and Bangladesh. World Development, 140, 105371.

Salgado Baptista, F. D., Silva, D. A. L., and Oliveira, G. H. (2022). Enhancing agricultural productivity through sustainable practices: A case study of CAADP initiatives. *African Journal of Agricultural Research, 17*(3), 456-467. https://doi.org/10.5897/AJAR2022.15678

Satterthwaite, D. (2014). Urban poverty in low- and middle-income nations. International Journal of Urban Health, 91(3), 497-508.

Sen, A. (1981). Poverty and Famines: An Essay on Entitlement and Deprivation. Oxford University Press.

Shang, Y., Lv Y., Chen, Z., Bassey, R., Aderemi, T. A., and Enilolobo, O. (2024). Globalization and food security in Sub-Saharan Africa. *Frontiers in Sustainable Food Systems, 8*, 1325172. https://doi.org/10.3389/fsufs.2024.1325172

Sibanda, M. (2019). Urban agriculture in Africa: A systematic review of the literature. Agricultural Systems, 175, 1-15.

Sibanda, T., and Tawodzera, G. (2017). Social protection and household consumption in urban Zimbabwe. Development Policy Review, 35(2), 189-208.

Silvestri, S., Bryan, E., Ringler, C., Herrero, M., and Okoba, B. (2015). Climate change perception and adaptation of agro-pastoral communities in Kenya. *Regional Environmental Change, 12*(4), 791-804. https://doi.org/10.1007/s10113-011-0210-1

Simkus, J., and Guy-Evans, O. (2023). Cross-Sectional Study: Definition, Designs & Examples. Simply Psychology. Retrieved from https://www.simplypsychology.org/what-is-a-cross-sectional-study.html

Smith Ouma, J., Muthini, D., and Njuguna, E. (2024). The role of agricultural programs in promoting food security: Insights from CAADP in Sub-Saharan Africa. *Food Security*, *16*(1), 215-227. https://doi.org/10.1007/s12571-024-01234-x

Smith, L. C., and Subramanian, S. (2020). Household Food Security in Urban Areas: A Review of the Literature. Food Security Journal, 12(3), 225-239.

Smith, L. T. (2019). Decolonizing Methodologies: Research and Indigenous Peoples (3rd ed.). Zed Books.

Statology. (2023). What is Slovin's Formula? (Definition and Example). Retrieved from https://www.statology.org/slovins-formula/

Taherdoost, H. (2018). Sampling Methods in Research Methodology: How to Choose a Sampling Technique for Research. International Journal of Academic Research in Management, 5(2), 18-27. https://doi.org/10.2139/ssrn.3205035

Tawodzera, G. (2020). Impact of COVID-19 on Food Security in Small Urban Settlements: A Case Study of Epworth, Harare, Zimbabwe. African Centre for Cities (ACC), University of Cape Town.

Tawodzera, G. (2023). Vulnerability in crisis: urban household food insecurity in Epworth, Harare, Zimbabwe. Food Security Journal, 15(2), 245-259. https://doi.org/10.1007/s12571-023-01057-4

Tawodzera, G. (2024). Informal markets and household coping strategies in Epworth, Harare. Zimbabwe Development Review, 22(1), 33–49.

Tawodzera, G., Crush, J., and Chikanda, A. (2018). The Return of Food: Poverty and Urban Food Security in Zimbabwe after the Crisis. Food Security Journal, 10(2), 405-416. https://doi.org/10.1007/s12571-018-0780-1

Tawodzera, G., Mbeba, R., and Munjoma, M. (2020). Income diversification and household consumption in urban Zimbabwe. Journal of Urban Health, 97(5), 663-674.research. International Journal of Qualitative Methods, 19(2), 102-118.

Tefera, A. G., Tadesse, F., and Alemayehu, M. (2020). The impact of urban safety net programs on household food security in Ethiopia. Journal of Urban Health, 97(3), 423-435.

Thompson, C. (2021). Dietary health in the context of poverty and uncertainty around the social determinants of health. Proceedings of the Nutrition Society, 81(2), 134-140. https://doi.org/10.1017/S0029665121003657

Tibesigwa, B., Visser, M., and Turrell, G. (2019). Assessing gender inequality in food security among smallholder farm households in urban and rural South Africa. World Development, 88, 33–49. https://doi.org/10.1016/j.worlddev.2016.07.008

Tracy, B. E. (2019). Power dynamics in parent-child relationships: A child labour dilemma. Social Work and Education, 8(3), 373-384.

Tschirley, D., Reardon, T., Dolislager, M., & Snyder, J. (2015). The rise of a middle class in East and Southern Africa: Implications for food system transformation. Journal of International Development, 27(5), 628-646.

United Nations. (2020). Transforming our world: The 2030 agenda for sustainable development. *United Nations*. https://doi.org/10.18356/6dd6c9de-en

Valliant, R., and Dever, J. A, (2018). Survey errors and survey costs. Wiley.

Wooldridge, J. M. (2019). Introductory Econometrics: A Modern Approach (7th ed.). Cengage Learning.

World Bank Group. (2023). *What is Food Security?* Retrieved from World Bank Group

World Bank. (2018). Poverty and Shared Prosperity 2018: Piecing Together the Poverty Puzzle. World Bank.

Zimbabwe National Statistics Agency (ZIMSTAT). (2022). 2022 Population and Housing Census Preliminary Report. Retrieved from [Zimbabwe Data Portal](https://zimbabwe.opendataforafrica.org/arfkbif/zimbabwe-population-census-2022?districts=1000970-harare)

Zimbabwe National Statistics Agency (ZIMSTAT). (2022). Zimbabwe Demographic and Health Survey 2022. ZIMSTA

Zimbabwe Vulnerability Assessment Committee (ZimVac). (2019). Zimbabwe Vulnerability Assessment Committee Report. Harare: ZimVac.

Zimbabwe Vulnerability Assessment Committee (ZimVAC). (2020). Rural Livelihoods Assessment Report. *Zimbabwe Vulnerability Assessment Committee*.

ZimStat. (2022). Zimbabwe consumption and inflation report. Zimbabwe National Statistics Agency, 1–45.

Zivhave, M., and Dzvairo, C. (2022). Smartness in developing liveable informal settlements: The case of Hopley in Harare. *Sustainable and Smart Spatial Planning in Africa Retrieved from https://scholar.google.com/citations?user=FPLjiEkAAAAJ&hl=en.

# APPENDIX

## APPENDIX 1 Household Questionnaire

STUDY TITLE: the relationship between household income levels and food security in poor urban settlements: lessons from household consumption patterns in hopley, Harare, Zimbabwe

LOCATION: Hopley, Harare

OBJECTIVE: to collect data related to household demographics, income, food security, consumption patterns, and socio-economic factors.

**SECTION A:** Household Demographics

**INSTRUCTIONS:** please answer the questions below about the household head and household composition.

1. GENDER OF HOUSEHOLD HEAD:

Male ____ Female ____ (Male or Female)

2. Age of household head: _____ years

3. EDUCATION LEVEL OF HOUSEHOLD HEAD:

No Formal Education_____

Primary Education_____

Secondary Education_____

Higher Education_____

4. Household Size (Number of Members) _____

5. OCCUPATION OF HOUSEHOLD HEAD:

Formal Employment_____

Informal Employment_____

Self-Employed_____

Unemployed_____

**SECTION B**: HOUSEHOLD INCOME

**INSTRUCTIONS:** PLEASE PROVIDE DETAILS ABOUT YOUR HOUSEHOLD'S INCOME.

1. What is the Total Monthly Household Income? _____ USD

2. WHAT ARE THE PRIMARY SOURCES OF INCOME?

Salaries/Wages _____

Agriculture _____

Business Activities _____

Remittances_____

[Other (Specify): _____

**SECTION C: FOOD SECURITY**

**INSTRUCTIONS:** PLEASE ANSWER THE QUESTIONS ABOUT FOOD SECURITY IN YOUR HOUSEHOLD.

1. How Many days in the Past Month has your Household Experienced Food Shortages? _____ Days

2. Has your Household ever received Food Aid?

Yes _____

No _____

3. If yes, what was the source of Food Aid?

Government Programs _____

Non-Governmental Organizations (NGOs) _____

Other (Specify): _____

**SECTION D: HOUSEHOLD CONSUMPTION PATTERNS**

**INSTRUCTIONS:** PLEASE PROVIDE INFORMATION ABOUT FOOD CONSUMPTION IN YOUR HOUSEHOLD.

1. How many meals does your Household consume per Day? _____ Meals

3. What is the total monthly expenditure on food? _____ USD

**SECTION E: SOCIO-ECONOMIC FACTORS**

**INSTRUCTIONS:** PLEASE PROVIDE INFORMATION ON ACCESS TO SERVICES.

1. Does your household have access to the following services?

Healthcare: Poor _____Good_____

Education: Yes, _____ No_____

Social Services: Yes, _____ No_____

**CONSENT STATEMENT**

I hereby consent to participate in this study and provide information about my household. I understand that the information will be used solely for research purposes and will remain confidential.

SIGNATURE: _____

DATE: _____

**APPENDIX 2 Focus Group Discussion (FGD) Guide**

TITLE: The Relationship between Household Income, Food Security, and Socio-Economic Influences in Hopley, Harare

**OBJECTIVE:** To collect detailed insights on how income levels influence food security, consumption patterns, coping mechanisms, and socio-economic factors, and to identify challenges and potential solutions for improving food security.

**SESSION OVERVIEW**

Facilitator: _____

Date: _____

Location: Hopley, Harare

Participants: 6–10 household heads or caregivers from Hopley, Harare

Duration: 60–90 minutes

Materials Needed:

Recording device (optional, with consent)

Notebooks and pens

Flip chart/markers for summarizing responses

**STRUCTURE OF THE FOCUS GROUP DISCUSSION (FGD)**

**SECTION A**

Opening Session (5–10 minutes)

Welcome and Introductions

Introduce facilitator and note-takers.

Briefly explain the purpose of the discussion: to understand the relationship between income levels and food security within households.

**GROUND RULES**

- Encourage respect for different opinions and equal participation.
- Assure confidentiality—responses will not be attributed to individuals.
- Explain how the data will be used for research purposes.

**CONSENT**

- Obtain verbal or written consent for participation and recording (if applicable).

**SECTION B**

**DISCUSSION TOPICS AND QUESTIONS**

**TOPIC 1:** Income and Food Security (10 minutes)

- How does your household's income level impact your ability to ensure food security?
- Can you provide specific examples where changes in income affected access to food?

Follow up Questions:

- Are there certain months or seasons when income impacts food access more significantly?
- How do income sources (e.g., formal employment, informal work) affect food security?

**TOPIC 2**: Consumption Patterns (10 minutes)

- How do different income levels influence the types of food your household consumes?
- What changes do you observe in your diet during periods of higher or lower income?

Follow up Questions:

- What foods do you prioritize when income is low?
- Have changes in your diet impacted your household’s nutrition?

**TOPIC 3:** Coping Mechanisms (10 minutes)

- What strategies do you use to manage food shortages when your household income is insufficient?

- How effective are these strategies in alleviating food insecurity?

Follow up Questions:

- Do you borrow money, reduce meal sizes, or skip meals?
- Are there community or government programs that assist you in coping with food shortages?

**TOPIC 4:** Socio-Economic Influences (10 minutes)

- What socio-economic factors most significantly affect your household's food security? (Examples: education, employment, community support systems).
- Can you elaborate on how these factors impact your household's ability to access food?

Follow up Questions:

- How does employment status or education level influence food access?
- Does support from community organizations or family networks help reduce food insecurity?

**TOPIC 5:** Challenges and Solutions (15 minutes)

- What are the main challenges your household faces in achieving food security?
- What measures do you think could be implemented to improve food security in your community?

Follow up Questions:

- Are systemic issues, like high food prices or lack of jobs, affecting food security?
- How can government or non-government organizations better support your household or community?

**SECTION C**

3. Closing Session (5–10 minutes)

Summary of Key Points

- Facilitator summarizes the main themes discussed during the FGD.

Participant Feedback

- Asking of participants have additional thoughts or feedback before concluding.

Acknowledgment

- Thanking of participants for the time and contributions.

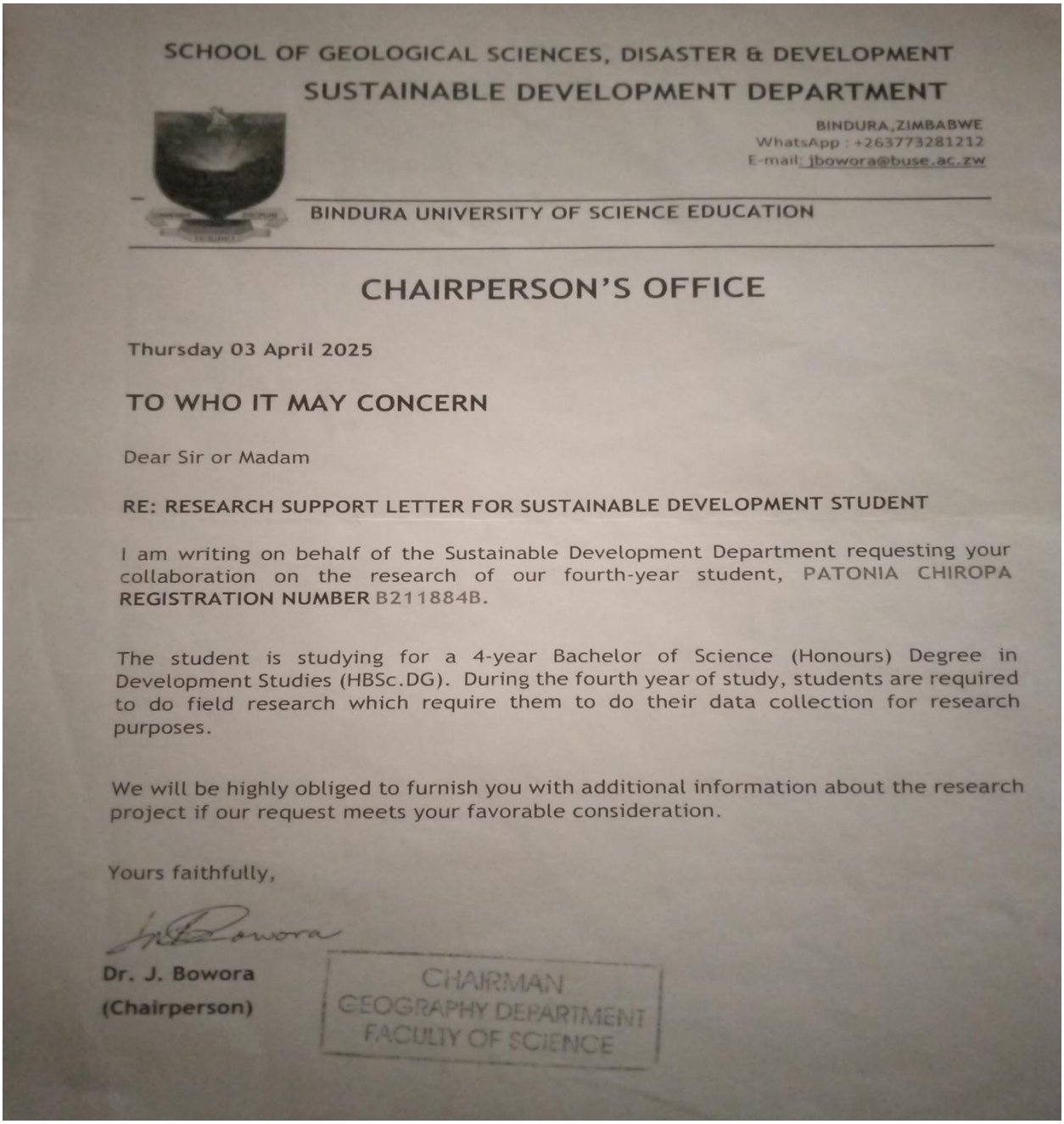
Next Steps

Briefing explaining how the collected data will be used and how participants will be updated on the research outcomes.

Facilitator Notes:

- Ensuring every participant has an opportunity to speak.
- Maintaining a neutral stance and avoiding influencing participants' responses.
- Use of prompts to encourage deeper discussion, particularly if the conversation stalls.

# RESEACH LETTER



SCHOOL OF GEOLOGICAL SCIENCES, DISASTER & DEVELOPMENT

SUSTAINABLE DEVELOPMENT DEPARTMENT

BINDURA,ZIMBABWE
WhatsApp : +263773281212
E-mail: jbowora@buse.ac.zw

BINDURA UNIVERSITY OF SCIENCE EDUCATION

## CHAIRPERSON'S OFFICE

Thursday 03 April 2025

**TO WHO IT MAY CONCERN**

Dear Sir or Madam

**RE: RESEARCH SUPPORT LETTER FOR SUSTAINABLE DEVELOPMENT STUDENT**

I am writing on behalf of the Sustainable Development Department requesting your collaboration on the research of our fourth-year student, PATONIA CHIROPA **REGISTRATION NUMBER** B211884B.

The student is studying for a 4-year Bachelor of Science (Honours) Degree in Development Studies (HBSc.DG). During the fourth year of study, students are required to do field research which require them to do their data collection for research purposes.

We will be highly obliged to furnish you with additional information about the research project if our request meets your favorable consideration.

Yours faithfully,

**Dr. J. Bowora**
**(Chairperson)**

CHAIRMAN
GEOGRAPHY DEPARTMENT
FACULTY OF SCIENCE

## TURNITIN REPORT

B211884B PATONIA CHIROPA DISSERTATION .docx

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