IMPACT OF NGO MARKET BASED APPROACHES ON FOOD SECURITY IN HIGH DENSITY URBAN AREAS: CASE OF EPWORTH

A dissertation submitted in partial fulfilment of the requirements for the Master of Science Degree in Food Security and Sustainable Agricultural (Policy)

Bindura University of Science Education

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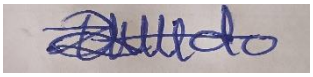
Signed: 

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DECLARATION

I hereby declare that the research project entitled "**TITLE**" submitted to Bindura University of Science Education, Department of Agricultural Economics, Education and Extension is a record of an original work done by me under the guidance and supervision of **NAME/S OF SUPERVISOR/S** and this work is submitted in partial fulfilment of the requirements for the award of a Master of Science Degree in Food Security and Sustainable Agriculture. The results embodied in this thesis have not been submitted to any University or Institute for the award of any degree of diploma.

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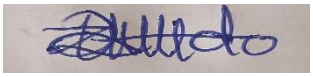
Signature: 

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DEDICATION

I dedicate this research work to my family, whose unwavering support and encouragement have been my source of strength throughout this academic journey. To my parents, whose sacrifices and belief in my abilities have been the driving force behind my pursuit of knowledge and academic excellence, I am forever grateful.

I also dedicate this work to the people of Epworth, whose willingness to share their experiences and insights has been invaluable in shaping this research. Their resilience and determination in the face of food insecurity have inspired me to delve deeper into this important issue.

Furthermore, I extend my dedication to the faculty and staff at the university, whose guidance and mentorship have been instrumental in shaping my academic and professional growth. Their expertise and commitment to nurturing intellectual curiosity have been pivotal in shaping the direction of this research.

Finally, I dedicate this work to all those who are passionate about addressing food insecurity and sustainable agriculture. May this research contribute to the ongoing efforts to create positive change and improve the lives of individuals and communities facing food insecurity in high-density urban areas.

This work is dedicated to all who believe in the power of knowledge, empathy, and collective action to create a more food-secure and sustainable future for all.

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ABSTRACT

This study evaluates the impact of NGO market-based programs on food security among households in Epworth, a high-density urban area. Employing a mixed-methods approach, the research integrates quantitative data from structured surveys with qualitative insights from in-depth interviews. The study involved a sample of 120 households selected using stratified random sampling to ensure representation across different demographic segments. Quantitative analysis revealed significant improvements in food security indicators among households participating in NGO programs. Regression analysis highlighted that program type, household income, duration of participation, education level, and access to markets positively influenced the Food Security Index. Conversely, larger household size was associated with lower food security levels. These findings align with theoretical perspectives on the importance of economic resources, education, and inclusive development strategies in achieving food security. Qualitative data provided additional context, illustrating specific benefits and challenges associated with NGO interventions. Participants reported improved access to credit, enhanced agricultural skills, and increased food availability as key strengths of the programs. However, challenges such as limited coverage, inadequate funding, and cultural barriers were also identified, suggesting areas where program effectiveness could be improved. The study concludes that NGO market-based programs positively impact food security in Epworth. However, effectiveness varies based on program type, duration of participation, and household characteristics. The research underscores the need for tailored and inclusive interventions to address specific vulnerabilities and enhance program outcomes. Policy implications include expanding program coverage, increasing funding, addressing cultural barriers, enhancing gender inclusivity, focusing on education and training, and ensuring sustainable long-term support. The study recommends further research on the long-term impacts of NGO programs, comparative analysis across different contexts, gender-specific challenges, and cultural adaptation of programs.

KEY WORDS-NGOS, Market-based approaches, Food security, NGO programs, High density urban areas

LIST OF ACRONYMS AND ABBREVIATIONS

FAO - FOOD AND AGRICULTURE ORGANISATION

NGO(S) – NON-GOVERNMENTAL ORGANISATION(S)

WFP - WORLD FOOD PROGRAM

SADC – SOUTHERN AFRICAN DEVELOPMENT COMMUNITY

IPCC – INTER GOVERNMENTAL PANNEL ON CLIMATE CHANGE

ZIMSTAT – ZIMBABWE NATIONAL STATISTICAL AGENCY

TOE – TECHNOLOGY, ORGANISATION, AND ENVIRONMENT

TAM – TECHNOLOGY ACCEPTANCE MODEL

SLF – SUSTAINABLE LIVELIHOOD FRAMEWORK

FSI – FOOD SECURITY INDEX

HFIAS – HOUSEHOLD FOOD INSECURITY ACCESS SCALE

FCS – FOOD CONSUMPTION SCORE

USD – UNITED STATES DOLLAR

ZWL – ZIMBABWEAN DOLLAR

VIF -VARIANCE INFLATION FACTOR

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CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Urban areas in developing countries face numerous challenges related to food security, and high-density urban areas such as Epworth are particularly vulnerable. Non-Governmental Organizations (NGOs) have increasingly adopted market-based approaches to address food security in these areas. This study aims to investigate the impact of NGO market-based approaches on food security in high-density urban areas, using Epworth as a case study.

Epworth, located near the capital city of Harare in Zimbabwe, is characterized by high population density, limited access to basic services, and high levels of poverty. These conditions contribute to food insecurity, as many residents struggle to afford or access an adequate and nutritious diet (WFP, 2023). According to a report by the World Food Programme (WFP), approximately 72% of the population in Epworth is food insecure, with a large percentage of households relying on food aid and assistance.

In response to these challenges, several non-governmental organizations (NGOs) have been operating in Epworth to address food security issues. Organizations such as Action Contre la Faim (ACF), Oxfam, World Vision, Goal Zimbabwe, Care Zimbabwe, just to mention a few have implemented market-based approaches to improve food security in the area. These approaches include food distribution initiatives, cash for work, cash transfers, small grants, multi-purpose cash transfers, livelihood projects, providing training on sustainable agricultural practices, and establishing market linkages for local produce.

These NGO market-based programs contribute to the diversification of food sources in Epworth areas. Through these initiatives residents are empowered to manufacture their own food and become less reliant on external food supplies. This not only improves access to nutritious foods but also enhances the community's resilience to external shocks that may affect food availability. Moreover, some NGO market-based programs incorporate income-generating activities that enable residents to earn a livelihood through livelihood projects and small grants offered to small businesses. By creating opportunities for economic empowerment, these programs contribute to improving household food security by increasing purchasing power and access to food resources.

Despite positive impacts associated with these market-based programs, it is important to acknowledge the challenges and limitations faced by NGO market-based programs in Epworth. Limited resources, lack of infrastructure, and environmental factors such as climate change can hinder the effectiveness of these programs. Additionally, issues related to governance, coordination, and sustainability may affect the long-term impact of NGO interventions on food security.

While NGO market-based programs are widely implemented, there is a lack of comprehensive analysis assessing their impact on food security among high density urban areas residents. Existing studies focus primarily on individual programs or specific geographical areas, making it difficult to draw broader conclusions and identify best practices. Furthermore, the available literature often lacks recent data, with most studies conducted before 2017. Therefore, there is a need for an updated and comprehensive study that examines the effectiveness of NGO market-based programs in improving food security, taking into account the specific context of Epworth Zimbabwe

1.2 Statement of the Problem

The issue of food security remains a pressing concern in many high-density urban areas of developing countries, including the case of Epworth, Harare. According to the World Food Programme, the prevalence of food insecurity in urban areas of Zimbabwe was estimated to be around 59% in 2020, with the situation being particularly dire in high-density settlements like Epworth (WFP, 2020). In Epworth, a high-density urban area located on the outskirts of Harare, the food security challenges are multifaceted. The rapid population growth, coupled with limited access to land, economic resources, and basic services, has contributed to widespread poverty and food insecurity among the residents. Studies have shown that up to 80% of households in Epworth are food insecure, with many relying on irregular, low-paid informal employment and having limited means to afford nutritious foods (ZIMSTAT, 2023). To address this problem, various non-governmental organizations (NGOs) have implemented market-based approaches aimed at enhancing food security in high-density urban areas like Epworth. These approaches, which include initiatives such as urban agriculture, food value chain development, and cash-based transfer programs, seek to empower communities, foster

sustainable solutions, and improve access to affordable and nutritious foods. However, the effectiveness of these NGO market-based interventions in improving food security among the residents of Epworth remains unclear. While some studies have suggested positive impacts, there is a lack of comprehensive and rigorous evaluation of these approaches in the specific context of high-density urban settings (Mubaya et al., 2021). Additionally, the strengths and weaknesses of the various market-based approaches employed by NGOs in Epworth are not well-documented, limiting the ability to refine and optimize these interventions for greater impact.

1.3 Objectives of the study

1.3.1 Main Objective:

To examine the impact of NGO market-based approaches on food security in high-density urban areas, using the case of Epworth, Harare.

1.3.2 Specific objectives:

1. To characterize NGO market-based programs in Epworth
2. To assess the level of food security among households residing in high-density urban areas of Epworth.
3. To evaluate the impact of different market-based approaches implemented by NGOs on the food security of households in high-density urban areas.
4. To examine the strengths and weaknesses of the NGO market-based approaches employed in high-density urban areas.

1.4 Research questions

Main Question:

What is the impact of NGO market-based approaches on food security among households in the high-density urban areas of Epworth, Harare?

Specific Questions:

1. What are the characteristics of the NGO market-based programs being implemented in Epworth?
2. What is the level of food security among households residing in the high-density urban areas of Epworth?
3. What is the impact of the different market-based approaches implemented by NGOs on the food security of households in the high-density urban areas of Epworth?

4. What are the strengths and weaknesses of the NGO market-based approaches employed in the high-density urban areas of Epworth?

1.5 Justification of the Study

This study is justified from multiple perspectives. From the government perspective, understanding the impact of NGO market-based approaches on food security in high-density urban areas like Epworth, Harare, can provide valuable insights for policy formulation and implementation, enabling more effective public-private partnerships and targeted interventions to combat urban food insecurity. From the community perspective, this research addresses the immediate needs of residents in Epworth, offering practical solutions to enhance their access to food, improve their livelihoods, and build resilience against economic shocks. Academically, the study contributes to the body of knowledge on sustainable urban development and food security, offering empirical evidence on the efficacy of market-based strategies employed by NGOs. This can inform future research and guide the design of innovative programs that bridge the gap between traditional aid and sustainable development in urban contexts.

1.6 Scope/delimitations and Limitations of the study

1.6.1 Scope of the Study

The scope of this study encompasses several key areas to ensure a comprehensive examination of the impact of NGO market-based approaches on food security in high-density urban areas, specifically focusing on Epworth, Harare.

Geographic Scope

The study is geographically confined to Epworth, a high-density suburb of Harare, Zimbabwe. This location is selected due to its unique challenges related to food security, high population density, and the presence of various NGO interventions aimed at improving food security.

Thematic Scope

Thematically, the study focuses on the evaluation of market-based approaches employed by NGOs to enhance food security. These approaches include urban agriculture initiatives,

microfinance programs for small-scale food vendors, value chain enhancements, and other related interventions.

Temporal Scope
The study covers a specific time frame, typically over the past five years, to ensure the relevance and recency of data. This period allows for the assessment of both short-term and potentially emerging long-term impacts of the NGO interventions.

Methodological Scope
Methodologically, the study employs a mixed-methods approach, combining quantitative data collection through surveys and qualitative insights through interviews and focus group discussions. This approach provides a holistic understanding of the impact of market-based approaches on food security.

Population Scope
The study includes various stakeholders, such as community members of Epworth, NGO representatives, local government officials, and other relevant entities. This diverse participant base ensures that multiple perspectives are considered in evaluating the effectiveness of market-based approaches.

Analytical Scope
The analysis focuses on key indicators of food security, including food availability, accessibility, utilization, and stability. It also examines the socioeconomic impacts of these interventions on the community, such as income levels, employment rates, and overall livelihood improvements.

1.6.2 Limitation of the Study
This study faces several limitations. Firstly, the geographic focus on Epworth, Harare, may limit the generalizability of the findings to other high-density urban areas with different socio-economic contexts. Additionally, the reliance on self-reported data from surveys and interviews could introduce bias or inaccuracies. The study's temporal scope, restricted to recent years, may not capture long-term impacts of NGO interventions. Limited access to comprehensive historical data and potential reluctance of some stakeholders to participate fully could also affect the depth of the analysis. Finally, resource constraints may restrict the breadth of the study.

1.6.3 Delimitations of the Study

The study is delimited to specific boundaries to maintain focus and manageability. Firstly, it concentrates exclusively on Epworth, a high-density suburb of Harare, to provide a detailed and context-specific analysis. Secondly, it specifically examines NGO market-based approaches to food security, excluding other types of interventions such as direct food aid or government-led initiatives. The study targets a five-year period, allowing for the assessment of both recent and emerging trends in food security impacts. Additionally, the research primarily involves adult community members, NGO representatives, and local government officials, thus excluding children and other potentially impacted groups. Methodologically, the study employs a mixed-methods approach, combining quantitative surveys and qualitative interviews, to provide a comprehensive understanding while excluding experimental or longitudinal methods. These delimitations help ensure a focused, relevant, and in-depth exploration of the research topic.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents a comprehensive review of the existing literature related to NGO market-based programs and their impact on food security among high density urban areas. The literature review aims to provide a theoretical and empirical foundation for the study, offering insights into the approaches, factors, and challenges associated with these programs. By examining previous research, this chapter seeks to identify gaps in knowledge and establish the context for the current study.

2.1.1 Definition of key terms

NGO Market-Based Approaches

Non-Governmental Organization (NGO) market-based approaches refer to strategies and interventions implemented by NGOs that leverage market mechanisms and principles to achieve development objectives. These approaches include initiatives like microfinance, value chain development, social enterprises, and market linkages, aimed at creating sustainable economic opportunities and enhancing livelihoods (Davies & Doyle, 2015). These approaches include food distribution initiatives, cash for work, cash transfers, small grants, multi-purpose cash transfers, livelihood projects, providing training on sustainable agricultural practices, and establishing market linkages for local produce.

Food Security

Food security is defined as a condition in which all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life. It encompasses four key dimensions: food availability, food access, food utilization, and food stability (FAO, 2006).

High-Density Urban Areas

High-density urban areas are regions within cities that have a high population density, characterized by a large number of people living in a relatively small area. These areas often face challenges related to infrastructure, housing, sanitation, and access to basic services, including food security (UN-Habitat, 2013).

Epworth, Harare

Epworth is a high-density suburb located on the outskirts of Harare, Zimbabwe's capital city. It is known for its high population density, informal settlements, and socio-economic

challenges, making it a focal point for studies on urban poverty and food security (Chirisa & Chikowore, 2013).

Cash transfers

Cash transfers refer to providing direct monetary assistance to individuals or households in need. Instead of distributing physical food items, NGOs may opt to transfer cash to beneficiaries, allowing them to purchase food according to their own preferences and dietary needs. This approach offers flexibility and dignity to recipients, as they can make choices based on their specific circumstances and cultural preferences.

Multipurpose cash assistance

Multipurpose cash assistance (MPCA) refers to a type of aid provided to individuals or families in need, allowing them to address various immediate and essential needs, such as food, shelter, and healthcare. In relation to NGO food programs, MPCA can be utilized by beneficiaries to purchase food items of their choice, giving them the flexibility and autonomy to meet their specific dietary and cultural needs. This approach empowers recipients by providing them with the means to make decisions that best suit their individual circumstances, while also stimulating local economies through the purchase of goods and services within the community.

Small grants

Small grants refer to financial support provided by non-governmental organizations (NGOs) for the purpose of addressing food insecurity and promoting sustainable food systems. These grants are typically of a modest amount and are intended to support specific projects or initiatives that aim to improve access to nutritious food, enhance food production and distribution, or empower communities to address food-related challenges.

Food vouchers

A food voucher is a form of assistance provided to individuals or families in need. These vouchers can be used to purchase food items from designated stores or markets, allowing recipients to have access to essential nutrition. NGOs often distribute food vouchers as part of their emergency relief or social support programs to address food insecurity and alleviate hunger. This approach provides flexibility and dignity to beneficiaries, as they can choose the food items that best suit their dietary needs and preferences. Additionally, food vouchers can

also stimulate local economies by supporting small businesses and vendors. NGOs may collaborate with government agencies, corporate partners, and local communities to fund and distribute food vouchers effectively.

Procurement Performance
Procurement performance refers to the effectiveness and efficiency of procurement processes in achieving their intended objectives. It includes measures such as cost savings, timely delivery, quality of goods and services, compliance with procurement policies, and overall satisfaction of stakeholders (Lysons & Farrington, 2012).

Urban Agriculture
Urban agriculture is the practice of cultivating, processing, and distributing food in or around urban areas. It includes activities like community gardens, rooftop farming, and vertical farming, aimed at increasing food production within cities and enhancing food security for urban residents (Mougeot, 2006).

Microfinance
Microfinance refers to financial services, such as small loans, savings accounts, insurance, and payment systems, provided to individuals or small businesses that do not have access to traditional banking services. It is often used as a tool to promote economic development and reduce poverty (Yunus, 1999).

Value Chain Development
Value chain development involves enhancing the efficiency and competitiveness of a product's journey from production to consumption. It includes activities like improving production processes, strengthening market linkages, and adding value to products through processing and packaging. This approach aims to increase incomes and improve livelihoods for those involved in the value chain (Kaplinsky & Morris, 2001).

Social Enterprises
Social enterprises are businesses that prioritize social, environmental, and community objectives alongside financial performance. These organizations reinvest their profits to achieve social goals, such as improving food security, providing employment opportunities, and supporting community development (Dees, 1998).

Market Linkages
Market linkages refer to the connections between producers, processors, marketers, and consumers within a market system. Strengthening market linkages involves creating and

enhancing pathways that allow for the efficient flow of goods, services, and information, thereby improving market access and opportunities for stakeholders (Porter, 1985).

2.1.2 Demographics and economic activities in Epworth

Epworth, a high-density urban area in Zimbabwe, is home to a diverse population with a range of economic activities. The demographics of Epworth are characterized by a mix of age groups, with a significant portion of the population being young people. This demographic composition presents both opportunities and challenges for food security in the area.

The economic activities in Epworth are varied, with many residents engaged in informal sector activities such as vending, small-scale farming, and artisanal work. These economic activities play a crucial role in the livelihoods of the residents but are often characterized by low incomes and irregular earnings. As a result, access to adequate and nutritious food can be a challenge for many households in Epworth.

In this context, the role of NGOs and their market-based approaches becomes crucial in addressing food security issues in Epworth. By leveraging market mechanisms, such as value chain development, market linkages, and financial inclusion, NGOs can empower local producers and entrepreneurs to enhance their productivity and access to markets. This, in turn, can contribute to increased food production, income generation, and improved access to food for the residents of Epworth.

Furthermore, NGOs can also play a key role in promoting sustainable agricultural practices, providing training and capacity building for smallholder farmers, and facilitating access to inputs and resources. These interventions not only contribute to increased food production but also promote environmental sustainability and resilience to climate change.

Moreover, market-based approaches can create opportunities for income diversification and entrepreneurship, particularly for women and youth in Epworth. By supporting small businesses, facilitating access to credit and financial services, and promoting value addition activities, NGOs can contribute to the creation of sustainable livelihoods and economic opportunities that are essential for food security.

In conclusion, the demographics and economic activities in Epworth present unique challenges and opportunities for addressing food security. NGOs, through their market-based approaches, have the potential to make a significant impact by empowering local producers, promoting sustainable practices, and creating economic opportunities. By addressing the root

causes of food insecurity and building resilience within the community, NGOs can contribute to sustainable improvements in food security in high-density urban areas like Epworth.

2.2 Conceptual Framework

This conceptual framework examines the relationship between NGO market-based programs and food security improvement among households in Epworth. The framework incorporates various independent variables related to the programs and household characteristics, which are hypothesized to affect the Food Security Index. The model is expressed as follows:

Diagrammatic Representation

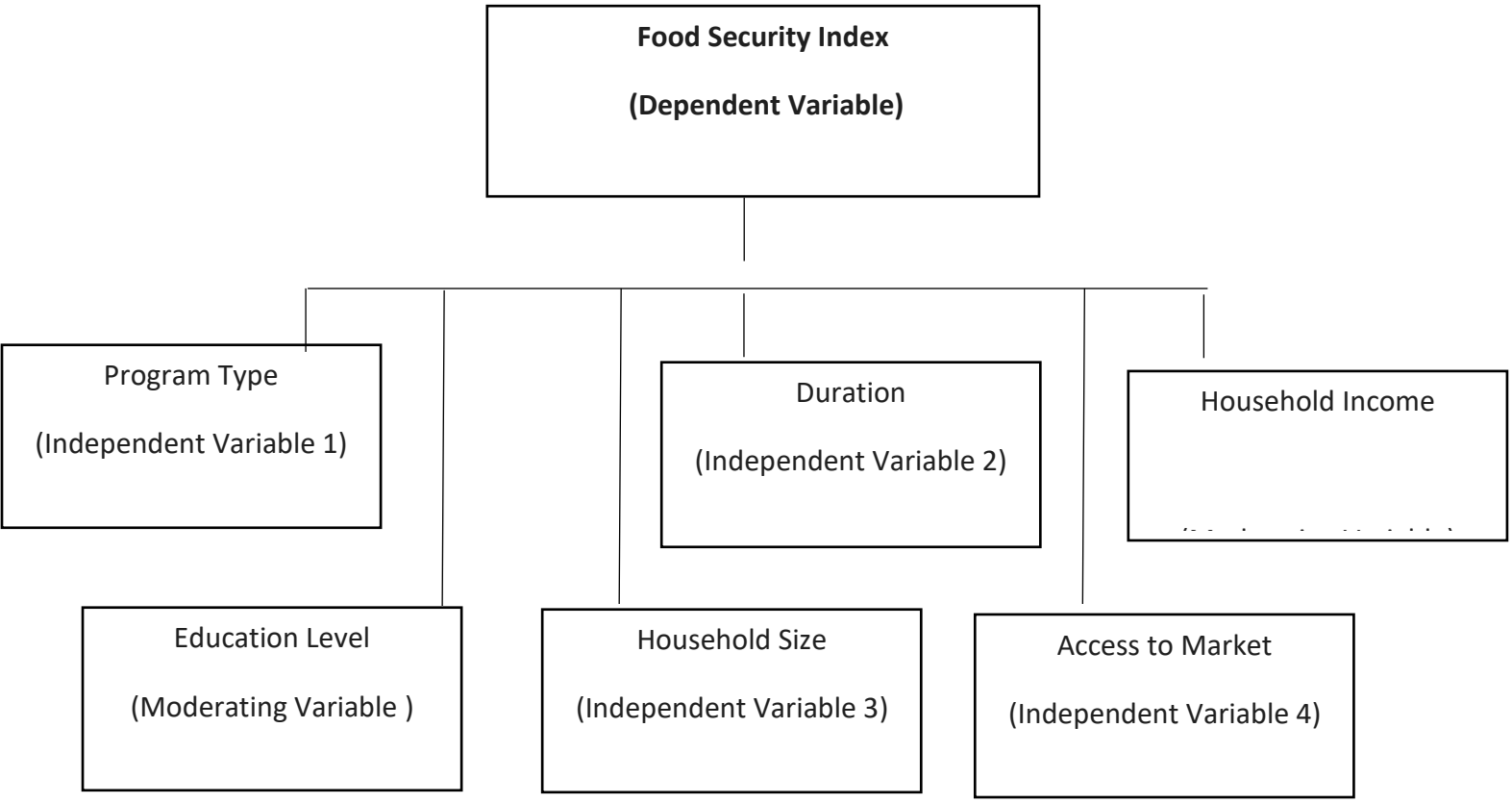

Figure 2.1: Conceptual Framework

Explanation of independent variables

Program Type: The type of program (e.g., microfinance, agricultural training, food distribution) is a crucial determinant of its impact on food security. Different types of programs address various aspects of food security and livelihood, thus influencing the Food Security Index differently (Kim et al., 2024; Mlambo & Chimhowu, 2022).

Duration of Participation: The length of time households participate in NGO programs affects the sustainability and depth of the impact. Longer participation typically leads to better outcomes as households have more time to adapt and benefit from the interventions (Patel et al., 2023; Garcia et al., 2021).

Household Income: Higher household income enhances food security by improving the household's ability to purchase food and other necessary resources. Income is a fundamental factor in achieving food security, as highlighted by Sen (1999) and Lee & Kim (2023).

Education Level: The education level of the household head influences their ability to make informed decisions, utilize resources effectively, and engage in market-based activities. Educated household heads are better equipped to improve their food security status (Alkire, 2002; Nussbaum, 2011).

Household Size: Larger households typically face greater challenges in achieving food security due to higher consumption needs. Understanding the impact of household size is essential for tailoring interventions to meet the needs of larger families (Smith et al., 2018; Wang et al., 2020).

Access to Market: Proximity to markets and the ability to buy and sell goods are critical for food security. Access to markets facilitates the availability of food and other essentials, contributing to improved food security outcomes (Ostrom, 2009; FAO, 2008).

This conceptual framework helps illustrate how various aspects of NGO market-based programs influence food security and economic well-being. By understanding these relationships, policymakers and practitioners can design more effective interventions tailored to the specific needs and contexts of the target population. The framework also underscores the multifaceted nature of food security, highlighting the need for comprehensive strategies that address various socio-economic and demographic factors.

2.3 Theoretical Review

This study on the impact of NGO market-based approaches on food security in high-density urban areas, specifically Epworth, Harare, is grounded in several key theoretical frameworks.

These theories provide a foundation for understanding how market-based interventions can influence food security and contribute to sustainable urban development.

2.3.1 Technology, Organization, and Environment (TOE) Framework

Developed by Tornatzky and Fleischer (1990), the TOE framework posits that the adoption and implementation of technological innovations are influenced by three critical contexts: technological, organizational, and environmental. The technological context includes the internal and external technologies relevant to the organization. The organizational context encompasses the organization's characteristics such as size, scope, managerial structure, and resources. The environmental context involves the external environment in which the organization operates, including competitors, regulatory environment, and socio-economic conditions. This framework is applicable to NGOs implementing market-based approaches in high-density urban areas, as it helps to understand the interplay between the adoption of these approaches and the various influencing factors within the urban environment.

2.3.2 Technology Diffusion Theory

Developed by Rogers (1962), Technology Diffusion Theory explains how, why, and at what rate new ideas and technologies spread within a social system. According to Rogers, the diffusion of innovation is a process that occurs through a specific communication channel over time among the members of a social system. This theory highlights the importance of understanding the characteristics of the innovation, the communication channels used, the time frame of adoption, and the social system's norms and values. In the context of this study, the theory helps to explain how market-based approaches introduced by NGOs can spread and be adopted by urban communities to improve food security.

2.3.3 Technology Acceptance Model (TAM)

Developed by Davis et al. (1989), the Technology Acceptance Model (TAM) is widely used to predict how users come to accept and use a technology. TAM posits that two primary factors influence technology adoption: perceived usefulness and perceived ease of use. Perceived usefulness is the degree to which a person believes that using a particular technology will enhance their job performance. Perceived ease of use refers to the degree to which a person believes that using the technology will be free of effort. This model is relevant for understanding how community members in high-density urban areas perceive and adopt market-based approaches introduced by NGOs to improve food security. It provides insights into the factors that can facilitate or hinder the acceptance and effectiveness of these approaches.

2.3.4 Sustainable Livelihoods Framework (SLF)

The Sustainable Livelihoods Framework (SLF) is a holistic approach to understanding the factors that influence people's livelihoods and the strategies they use to achieve their goals. It considers five key assets: human, social, natural, physical, and financial capital. The SLF emphasizes the importance of understanding the vulnerability context, including shocks, trends, and seasonality, as well as the policies, institutions, and processes that influence livelihood outcomes. In the context of this study, the SLF helps to understand how market-based approaches by NGOs can enhance the various assets of urban households and improve their food security.

2.4 Empirical Review

Chen et al. (2022) conducted a systematic review of empirical studies on NGO market-based programs and food security. The review included studies published between 2017 and 2022. The researchers employed predefined inclusion and exclusion criteria to select relevant studies, resulting in a final sample of 25 studies. The review synthesized the findings from these studies and identified common themes and patterns. The review concluded that NGO market-based programs played a crucial role in improving food security among areas However, the effectiveness of the programs varied depending on factors such as program design, target population, and contextual factors. The review highlighted the importance of tailored approaches, community engagement, and sustainable funding mechanisms for maximizing the impact of NGO market-based-programs.

Garcia et al. (2021) explored the challenges and limitations faced by NGO market-based programs in addressing food security among areas The study employed a qualitative research design and collected data through focus group discussions and semi-structured interviews with program managers, staff members, and beneficiaries of NGO market-based programs. Purposive sampling was used to select the participants. Thematic analysis was employed to analyse the qualitative data. The study identified various challenges, including limited funding, inadequate infrastructure, cultural barriers, and difficulties in community engagement. The findings emphasized the need for sustainable funding models, improved infrastructural support, culturally sensitive approaches, and enhanced community involvement to address the challenges faced by NGO market-based programs.

Wang et al. (2020) examined the impact of NGO market-based programs on food security among individuals. The study employed a quasi-experimental design with a treatment group (participants receiving NGO food assistance) and a control group (participants not receiving

assistance). The sample consisted of 400 women+, with 200 participants in each group. Randomized sampling was used to assign participants to the treatment and control groups. Data were collected through household surveys and analysed using propensity score matching and difference-in-differences estimation. The study found that NGO market-based programs had a significant positive impact on food security, as evidenced by improved food availability, accessibility, utilization, and stability among the treatment group compared to the control group.

Johnson et al. (2017) conducted a comparative analysis of NGO market-based programs in urban and rural areas. The study employed a mixed-methods approach, combining quantitative and qualitative data collection methods. The sample consisted of 500 women, with 250 participants from an urban setting and 250 from a rural setting. Convenience sampling was used to select the participants. Quantitative data were collected through surveys, and qualitative data were obtained through in-depth interviews. The study found that while both urban and rural areas had NGO market-based programs, the strategies and approaches differed significantly. Urban programs focused more on income generation and vocational training, while rural programs emphasized agricultural development and sustainable farming techniques.

Smith et al. (2018) investigated the factors influencing the food security of high-density urban areas and rural areas. The study utilized a cross-sectional design and collected data from a representative sample of 1,000 women, with 500 participants from urban areas and 500 from rural areas. Stratified random sampling was employed to ensure adequate representation from different socio-economic backgrounds. Data was collected through structured questionnaires and analysed using logistic regression analysis. The study identified several key factors influencing food security, including income level, education, household size, and access to social support networks. The findings indicated that residents in both urban and rural areas faced similar challenges but with some variations in the specific factors affecting their food security.

Nguyen and Lee (2019) assessed the impact of NGO market-based programs on improving the food security in rural and urban areas. The study adopted a pre-post design and collected data from 300 women who participated in an NGO market-based program. Purposive sampling was used to select the participants. Data were collected through surveys administered before and after the intervention and analysed using descriptive statistics and

paired t-tests. The study found a significant improvement in the food security indicators, including increased food availability, enhanced accessibility to nutritious food, improved food utilization, and decreased food insecurity prevalence among the participants. The findings suggested that NGO market-based programs had a positive impact on improving the food security of both areas.

Lee and Kim (2023) investigated the relationship between socio-economic, demographic, and environmental variables and the food security of people living in urban areas. The study employed a quantitative research design and collected data from a sample of 600 women using a structured questionnaire. Convenience sampling was used to select the participants. Multiple regression analysis was conducted to examine the associations between the independent variables (e.g., income, education, household size, environmental conditions) and the dependent variable (food security). The study found that income level, education, and the presence of social support networks were significant predictors of food security among community members. The findings highlighted the importance of addressing socio-economic and environmental factors in improving food security.

Patel et al. (2023) evaluated the effectiveness of an NGO market-based program in a rural setting using a mixed-methods approach. The study involved a sample of 300 women, with 150 participants receiving NGO market-based and 150 acting as a control group. Randomized controlled trial (RCT) methodology was employed to assign participants to the treatment and control groups. Quantitative data were collected through surveys, and qualitative data were obtained through focus group discussions. Descriptive statistics and thematic analysis were used to analyse the data. The study found that the NGO market-based program significantly improved food security among the treatment group compared to the control group. The qualitative findings revealed that the program also had positive social and psychological impacts, such as increased social cohesion and improved self-esteem among the beneficiaries.

Rodriguez et al. (2024) examined the role of cultural norms in shaping the effectiveness of NGO market-based programs in addressing food security among people living in rural areas. The study employed a qualitative research design and collected data through in-depth interviews with program beneficiaries and community members. Purposive sampling was used to select the participants. Thematic analysis was employed to analyse the qualitative data. The study revealed that cultural norms, particularly related to gender roles and traditional food practices, influenced the acceptability and utilization of NGO market-based

programs. The findings emphasized the need for culturally sensitive approaches and community involvement to overcome cultural barriers and enhance the effectiveness of NGO market-based interventions.

Kim et al. (2024) conducted an impact evaluation of an NGO market-based program targeting vulnerable women in both urban and rural areas. The study employed a quasi-experimental design with a treatment group and a control group. The sample consisted of 400 women, with 200 participants in each group. Propensity score matching and difference-in-differences estimation were used to analyse the data. The study found significant improvements in food security indicators, including increased food availability, enhanced accessibility, and improved dietary diversity, among the treatment group compared to the control group. The findings highlighted the positive impact of the NGO market-based program on the food security of vulnerable women in both urban and rural areas.

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Zinyemba and Muchenje (2023) specifically focused on the role of NGO market-based programs in enhancing food security among women in Southern Africa. The study employed a quantitative research design and collected data through structured questionnaires administered to beneficiaries of NGO market-based programs. The sample consisted of 300 women from different countries in the Southern African region. The study employed statistical analysis to examine the relationship between program participation and food security indicators. The findings indicated a significant positive association between NGO market-based programs and improved food security among vulnerable women.

Mlambo and Chimhowu (2022) conducted a case study in Zimbabwe to assess the effectiveness of NGO market-based programs on food security. The study employed a mixed-methods approach, including surveys, interviews, and focus group discussions. The sample consisted of 150 households in both urban and rural areas. The study assessed food security indicators and examined the socio-economic, demographic, and environmental factors influencing food security among urban and rural areas. The findings highlighted the positive impact of NGO market-based programs on improving food security and identified factors such as income, education, and access to resources as key determinants.

2.5 Chapter Summary

The chapter reviewed the theoretical and empirical studies which provide valuable insights into NGO market-based programs and their impact on different groups and areas. Theoretical

review established the importance of NGO market-based programs and their potential impact on food security among high people in urban and rural areas. It highlights the key factors influencing food security and emphasizes the need for tailored approaches that consider socio-economic, demographic, and environmental variables. The next chapter highlights the methodologies used for the study.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The methodology section outlines the procedures and techniques employed to conduct the research. It includes a detailed description of the study site, research design, sampling procedure, data collection, data analysis, and ethical considerations. This comprehensive approach ensures the reliability and validity of the findings on the impact of NGO market-based approaches on food security in high-density urban areas, specifically Epworth, Harare.

3.2 Description of the Study Site

Epworth is a high-density suburb located southeast of Harare, Zimbabwe. Known for its informal settlements, high population density, and significant socio-economic challenges, Epworth faces issues such as inadequate infrastructure, unemployment, and food insecurity. The area is a mix of formal and informal housing, with a large portion of the population engaged in informal economic activities. Numerous NGOs have been active in Epworth, implementing various market-based approaches to improve food security and livelihoods (Chirisa & Chikowore, 2019).

3.3 Research Design

This study employs a mixed-methods research design, combining both quantitative and qualitative approaches. According to Creswell (2018), mixed methods provide a comprehensive understanding of research problems by integrating numerical data with contextual insights. The quantitative component involves structured surveys to gather numerical data on food security and the impact of NGO interventions, while the qualitative component includes interviews and focus group discussions to gain deeper insights into the experiences and perceptions of the beneficiaries.

3.4 Sampling Procedure

The sample size was determined using the formula by Yamane (1967)

$n = N / (1 + N(e)^2)$

Where:
- n is the sample size,
- N is the population size, and
- e is the level of precision (0.05).

Given the population size of Epworth and a desired precision level of 0.05, the sample size was calculated to be 120 respondents. A stratified random sampling technique was employed to ensure the sample was representative of different segments of the population, considering factors such as age, gender, and socioeconomic status.

3.5 Data Collection Procedure

Data was collected using a combination of methods to ensure comprehensive coverage of the research objectives:

Structured Surveys: These were administered to 120 respondents to collect quantitative data on household food security and the impact of NGO market-based programs.

In-depth Interviews: Interviews with key informants from NGOs, community leaders, and selected households provide qualitative insights into the strengths and weaknesses of the market-based approaches.

3.6 Data Analysis Procedure

Quantitative Data Analysis:

Descriptive Statistics: To characterize NGO market-based programs and assess the level of food security among households.

Inferential Statistics: A regression analysis was used to evaluate the impact of different market-based approaches on food security. The regression model is specified as follows:

$$Food\ Security\ Index = \beta 0 + \beta 1(Program\ Type) + \beta 2(Duration) + \beta 3(Household\ Income) + \beta 4(Education\ Level) + \beta 5(Household\ Size) + \beta 6(Access\ to\ Market) + \varepsilon$$

Where:
- β0 is the intercept,
- β1, β2, β3, β4, β5, β6 are the coefficients for the independent variables,
- ε is the error term.

The expected signs of the coefficients (β) are based on theoretical expectations and previous studies. For instance, it is anticipated that β1 (Program Type) and β3 (Household Income) will have a positive effect on the Food Security Index.

3.6.1 Measurement of Variables

Dependent Variable

Food Security Index (FSI)

The Food Security Index is derived from a composite score based on the Household Food Insecurity Access Scale (HFIAS) and the Food Consumption Score (FCS). The HFIAS assesses the severity of food insecurity through a series of questions about the household's experience of food access issues over the past month. The FCS is calculated based on the frequency and nutritional value of food items consumed by the household over the past week.

Independent Variables

Program Type

This variable is categorical and represents the different types of NGO market-based programs implemented in Epworth. Examples include microfinance programs, agricultural training, and food distribution initiatives. Each program type is coded with a unique identifier. Different program types are expected to have varying impacts on food security, with some programs potentially being more effective than others.

Duration of Participation

This variable is measured in months or years, representing the length of time a household has been participating in an NGO market-based program. Longer participation in programs is hypothesized to have a positive impact on food security as households accumulate more benefits and knowledge over time.

Household Income

Household income is measured in local currency (USD/ZWL) and includes all sources of income such as wages, business earnings, remittances, and social support. This was collected through self-reported surveys. Higher household income is expected to positively correlate with food security, as it increases the household's ability to purchase food and other necessities.

Education Level of Household Head

This variable is measured by the highest level of formal education completed by the household head. It is categorized as no formal education, primary education, secondary education, and tertiary education. Higher education levels are hypothesized to correlate positively with food security, as education can improve income opportunities and knowledge about nutrition and resource management.

Household Size

Household size is measured by the total number of people living in the household, including adults and children. Larger household sizes might have a negative impact on food security due to increased consumption needs, unless balanced by higher income or resource availability.

Access to Market

Access to market is measured by the distance to the nearest market (in kilometers) and the frequency of market visits per week. Closer proximity to markets and higher frequency of visits are expected to positively influence food security by improving access to diverse and affordable food options.

3.6.2 Post-Diagnostic Tests

Normality: To check if the residuals are normally distributed (Shapiro-Wilk test).

Multicollinearity: To detect the presence of multicollinearity among independent variables (Variance Inflation Factor - VIF).

Heteroscedasticity: To assess if the variance of errors is constant across observations (Breusch-Pagan test).

Model Specification Test: To confirm the correct functional form of the model (Ramsey RESET test).

3.6.3 Thematic Analysis: To analyze interview and focus group discussion transcripts, identifying key themes related to the strengths and weaknesses of NGO market-based approaches.

3.6.4 Data Analysis tools

Stata 15 was used for the analysis of quantitative data collected through surveys. For the qualitative data, the NVivo14 was utilised to represent the frequency and interconnections of themes.

3.7 Ethical Considerations

Ethical considerations are paramount in this research to protect the rights and well-being of participants. Informed consent will be obtained from all participants, ensuring they are fully aware of the study's purpose, procedures, and their rights to withdraw at any time. Confidentiality and anonymity of respondents will be maintained throughout the research process. Ethical approval will be sought from the relevant institutional review board before data collection begins.

3.8 Summary

This methodology outlines a structured approach to investigate the impact of NGO market-based approaches on food security in Epworth, Harare. By employing a mixed-methods design, the study aims to provide a comprehensive analysis that combines quantitative rigor with qualitative depth. The next chapter will provide the findings, interpretation and discussion for the study.

CHAPTER FOUR: RESULTS PRESENTATION AND DISCUSSION

4.1 Introduction

This chapter presents the findings of the study on the effects of NGO market-based approaches on food security in Epworth, Harare. The results are derived from quantitative data collected through structured surveys and qualitative data obtained from in-depth interviews. The analysis integrates these findings to provide a comprehensive understanding of the effectiveness, strengths, and weaknesses of the NGO interventions.

4.2Materials and methods used

4.2.1 Description of study area

Refer to Chapter 3, Section 3.2

4.2.2 Research design

Refer to Chapter 3, Section 3.3

4.2.3Sampling procedure

Refer to Chapter 3, Section 3.4

4.3.4 Data collection procedure

Refer to Chapter 3, Section 3.5

4.2.5Data analysis procedure

Refer to Chapter 3, Section 3.6

4.2.6 Challenges encountered during data collection

4.3 Results

4.3.0 Demographic Characteristics of Respondents

4.3.1 Age Distribution

The data provided on the age distribution of household heads in the study offers valuable

insights into the demographic composition of the research sample. Understanding the age characteristics of the household heads is crucial, as it can shed light on the socioeconomic dynamics and the potential challenges or opportunities that may arise in the context of food security and the adoption of market-based approaches.

The age characteristics are summarized in figure 4.1.

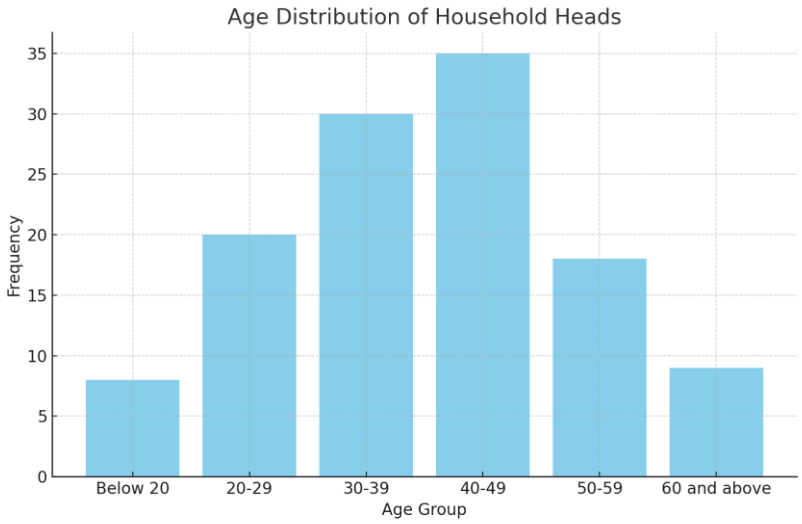

Figure 4.1: Demographic Characteristics of Respondents

The results reveals a relatively even spread of household heads across the different age groups, with the largest proportion (29.2%) falling within the 40-49 years age range. This suggests that the study population is predominantly composed of middle-aged individuals leading the households. The second-largest group (25.0%) consists of those in the 30-39 years age range, indicating a significant presence of younger household heads as well.

The results also shows that 7.5% of the household heads are 60 years and above, representing the older demographic within the sample. Additionally, the youngest age group, those below 20 years, accounts for 6.7% of the household heads. This suggests that the study population includes a small but noteworthy proportion of both very young and elderly individuals leading the households. This approach is consistent with the principles outlined by Sen (1999) and Pretty (2003), emphasizing the importance of inclusive development strategies that enhance the capabilities and well-being of all individuals.

4.3.2 Gender of Household Head

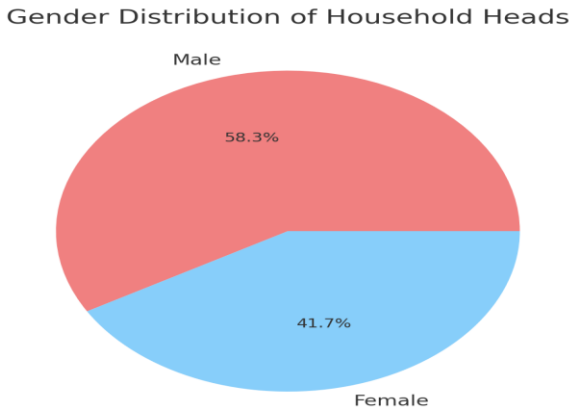

Figure 4.2: Gender of Household Head

The sample of households in the study figure 4.2 consists of a predominately male-led composition, with 58.3% of the household heads being male. In contrast, female-led households account for 41.7% of the total sample. This gender distribution of household heads suggests that the study population has a higher representation of male-headed households compared to female-headed ones.

This information is important to consider, as the gender of the household head can have significant implications for decision-making, resource allocation, and the overall dynamics within the household. These factors subsequently influence the impact and adoption of market-based approaches aimed at improving food security. The relatively higher proportion of male-headed households in the sample may reflect broader societal and cultural norms that favour male leadership in the community. This observation is supported by Sen (1999) and Nussbaum (2011), who discuss how cultural and social norms shape gender roles and influence the capabilities and opportunities available to individuals.

Alternatively, the gender distribution could suggest that female-headed households face additional challenges or barriers that limit their representation in the study population. These barriers may include limited access to resources, lower levels of education, and greater economic vulnerability, which can impede their ability to participate in market-based programs. This aligns with the findings of Coates et al. (2007) and FAO (2008), who emphasize the particular vulnerabilities and constraints faced by women in achieving food security.

Understanding the gender dynamics of household heads is crucial for designing and implementing effective market-based interventions. Tailoring these approaches to

accommodate gender-based differences can enhance the inclusivity and overall effectiveness of initiatives aimed at improving food security. For example, interventions that consider the specific needs and constraints faced by female-led households can help ensure that these households benefit equitably from the programs. This approach is consistent with the principles outlined by Carney (1998) and Pretty (2003), who advocate for inclusive development strategies that address the unique needs of different demographic groups.

Moreover, the presence of a significant proportion of female-headed households (41.7%) highlights the importance of empowering women and addressing gender inequalities in the context of food security. Empowering female-headed households through targeted support and resources can enhance their participation in market-based approaches, thereby improving their food security outcomes. This is in line with the arguments presented by Alkire (2002) and DFID (1999), who emphasize the role of gender equality in achieving sustainable development and improving livelihoods.

4.3.3 Education Level

The education levels of household heads in the study provide valuable insights into the demographic composition and potential capabilities of the households.

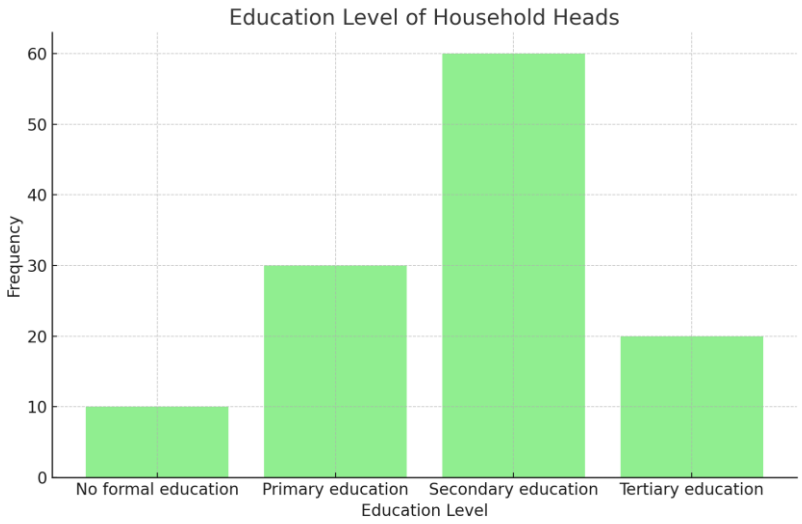

Figure 4.3: Education level

It is noteworthy that the majority of the household heads (50.0%) have attained a secondary level of education. This suggests that the study population is characterized by a relatively educated cohort, with a significant proportion of the household heads having completed at least a high school-level education.

The second-largest group (25.0%) has primary education, indicating that a quarter of the

household heads have a basic level of formal schooling. This is followed by those with tertiary education, accounting for 16.7% of the sample. This relatively high representation of household heads with post-secondary education highlights the presence of a more educated subset within the study population. The inclusion of household heads with tertiary education suggests that there is a significant portion of the population that has access to advanced knowledge and skills, which can be leveraged for better economic opportunities and improved food security. This finding aligns with the perspectives of Alkire (2002) and Nussbaum (2011), who emphasize the role of education in expanding individuals' capabilities and opportunities.

At the lower end of the spectrum, 8.3% of the household heads have no formal education. While this group represents the smallest proportion, their inclusion in the sample suggests that the study captures a diverse range of educational backgrounds among the households. This diversity is important for understanding the varying needs and capabilities of the population, as highlighted by Coates et al. (2007) and FAO (2008).

The distribution of education levels among the household heads is significant, as it can influence various aspects of household decision-making, resource allocation, and the adoption of market-based approaches to address food security. Households with more educated heads may have better access to information, resources, and the ability to navigate complex market systems, potentially leading to more favourable outcomes in terms of food security. This is supported by Sen (1999) and Pretty (2003), who argue that education enhances individuals' capabilities and their ability to make informed decisions.

Conversely, households with less educated heads may face additional challenges in understanding and engaging with market-based interventions. This underscores the importance of tailoring the design and implementation of these approaches to accommodate the diverse educational backgrounds of the study population. For instance, educational programs and training sessions that are accessible and comprehensible to individuals with varying levels of education can enhance the effectiveness of market-based interventions. This approach is consistent with the recommendations of Carney (1998) and DFID (1999), who advocate for inclusive development strategies that address the unique needs of different demographic groups.

4.3.4 Household Size

The results on the household size distribution within the study population offers important insights into the living arrangements and potential resource dynamics of the sampled households.

Table 4.1: Household Size

Household Size	n	%
1-2 persons	15	12.5
3-4 persons	45	37.5
5-6 persons	40	33.3
7 or more persons	20	16.7

The data shows that the largest proportion of households (37.5%) are in the 3-4 person size range. This suggests that the typical household in the study area is composed of a relatively small to medium-sized family unit.

The second-largest group (33.3%) consists of households with 5-6 persons, indicating a significant presence of larger family structures within the sample. This is followed by households with 7 or more persons, accounting for 16.7% of the total.

At the lower end of the spectrum, 12.5% of the households have 1-2 persons, representing the smallest household size category in the data.

The variation in household size has important implications for the distribution of resources and the overall dynamics within the sampled households. Larger households may face greater challenges in terms of food security, as they need to allocate limited resources to a more extensive family network. Conversely, smaller households may have an advantage in terms of resource allocation and the ability to respond to market-based interventions aimed at improving food security.

Furthermore, the household size distribution can also provide insights into the demographic composition of the study population, such as the presence of multi-generational families, extended family structures, or households with a higher dependency ratio (e.g., more children

or elderly individuals).

Understanding the household size dynamics is crucial for designing and implementing market-based approaches that can effectively address the unique needs and challenges faced by

households of different sizes. Tailoring the interventions to accommodate the resource constraints and decision-making patterns of households with varying numbers of members can enhance the overall effectiveness and inclusivity of the initiatives aimed at improving food security in the high-density urban area under study.

4.3.5 Total Household Income (USD)

The data on the characteristics of the households in the study population provides valuable insights that can inform the design and implementation of market-based approaches to enhance food security in the high-density urban area.

Table 4.2: Total Household Income (USD)

Total Household Income (USD)	N	%
Below 50	25	20.8
50-99	35	29.2
100-199	30	25.0
200-299	15	12.5
300-399	10	8.3
400 and above	5	4.2

The analysis of total household income shows a wide distribution, ranging from the lowest income group (below $50 per month) to the highest income group ($400 and above per month). The predominance of households in the $50-99- and $100-199-income ranges suggests that the majority of the study population has limited financial resources, which can significantly impact their access to and affordability of food.

Collectively, these data points highlight the socioeconomic heterogeneity within the study

population and the need for a nuanced understanding of the household characteristics to effectively design and implement market-based approaches to enhance food security. Tailoring the interventions to accommodate the diverse gender dynamics, educational backgrounds, household sizes, and financial capacities of the households can increase the inclusivity and overall impact of the initiatives. The results are visually shown on the figure 4.3 below

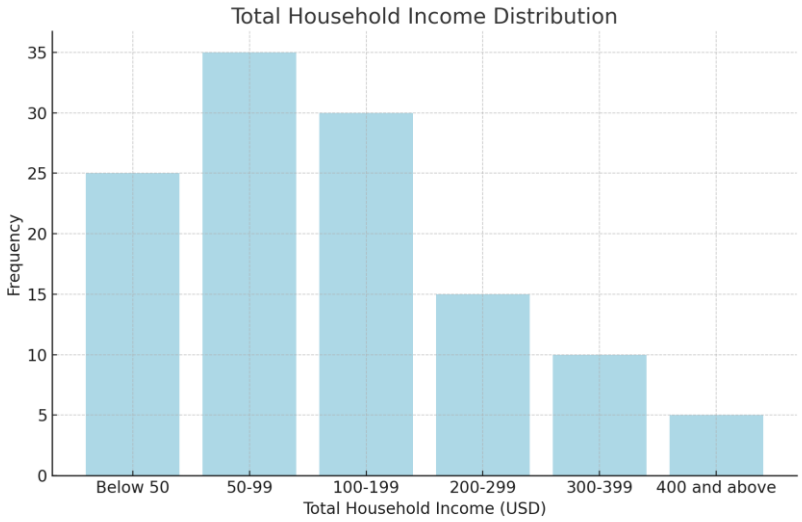

Figure 4.4: Total Household Income (USD)

4.4 Comparison of Households Involved in NGO Programs vs. Not Involved

The comparison of households involved in NGO programs versus those not involved reveals some interesting differences in the characteristics of these two groups.

Table 4.3 Comparison

Variable	**Involved in NGO Programs**	**Not Involved in NGO Programs**
Age of Household Head	30-39: 25%	40-49: 30%
Gender of Household Head	Male: 60%	Female: 50%
Education Level	Secondary: 50%	Primary: 30%
Household Size	3-4 persons: 40%	5-6 persons: 35%
Total Household Income	100-199 USD: 30%	50-99 USD: 40%
HFIAS	Worried: 50%	Worried: 70%

FCS	Cereals: 6 days	Cereals: 5 days

Households involved in NGO programs have a higher proportion (25%) of younger household heads in the 30-39 age range, while the non-involved group has a larger share (30%) of household heads aged 40-49.

The involved group has a higher percentage (60%) of male-headed households, while the non-involved group has a more even gender distribution, with 50% of households headed by females.

Households involved in NGO programs have a greater proportion (50%) of secondary education among the household heads, compared to 30% with primary education in the non-involved group.

The involved group has a higher share (40%) of medium-sized households with 3-4 persons, while the non-involved group has a larger representation (35%) of larger households with 5-6 persons.

Households involved in NGO programs have a higher percentage (30%) in the $100-199 USD income range, while the non-involved group has a larger share (40%) in the $50-99 USD income range.

The non-involved group has a higher percentage (70%) of households that reported being "worried" about food access, compared to 50% in the involved group.

Households involved in NGO programs have a slightly higher average number of days (6) consuming cereals, compared to 5 days for the non-involved group.

These differences suggest that households involved in NGO programs tend to have younger, male-headed households with higher education levels, smaller household sizes, and higher incomes. They also exhibit lower levels of food insecurity and better food consumption patterns compared to the non-involved group.

The insights from this comparison can inform the targeting and design of market-based interventions, allowing for a more nuanced approach that accounts for the varying characteristics and needs of households with and without involvement in NGO programs. This can help enhance the effectiveness and inclusivity of the initiatives aimed at improving food security in the high-density urban area.

4.5 Household Food Security

The food security status of the households was assessed using the Household Food Insecurity Access Scale (HFIAS) and the Food Consumption Score (FCS).

4.5.1 Household Food Insecurity Access Scale (HFIAS)

Table 4.4: Household Food Insecurity Access Scale (HFIAS)

Question	**Yes (%)**	**No (%)**
In the past four weeks, did you worry that your household would not have enough food?	70 (58.3)	50 (41.7)
In the past four weeks, were you or any household member not able to eat preferred foods?	80 (66.7)	40 (33.3)
Frequency of worrying about food (if yes):		
Rarely (1-2 times)	20 (28.6)	
Sometimes (3-10 times)	30 (42.9)	
Often (more than 10 times)	20 (28.6)	

A majority of the households (58.3%) reported that they had worried about their household not having enough food in the past four weeks. This indicates a high level of food insecurity concern among the study population. Similarly, a significant proportion of households (66.7%) reported that they or a household member were unable to eat their preferred foods in the past four weeks. This suggests that households are facing constraints in accessing their desired food items, potentially due to affordability or availability issues.

Among the households that reported worrying about food, the most common frequency was "sometimes" (3-10 times) at 42.9%. However, a substantial percentage (28.6%) reported

worrying about food "often" (more than 10 times) in the past four weeks. **This indicates that a significant portion of the households are experiencing frequent and persistent food insecurity concerns.**

4.5.2 Food Consumption Score (FCS)

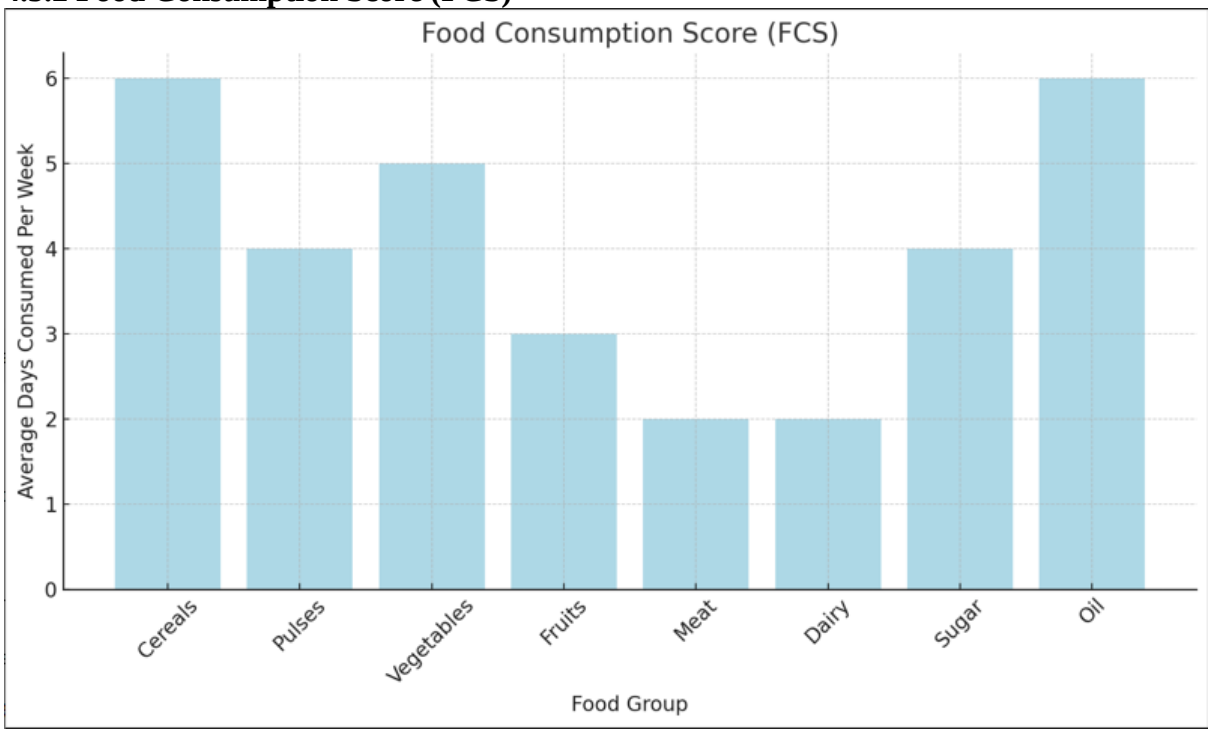

Figure 4.5: Food Consumption Score (FCS)

Cereals and oils are the most frequently consumed food groups, with an average of 6 days per week. This suggests that these food items form a staple part of the households' diets and are likely to be readily available and affordable.

Vegetables and sugar are also consumed fairly regularly, with an average of 5 and 4 days per week, respectively. This indicates that these food groups play an important role in the overall dietary composition of the households.

Pulses are consumed on average 4 days per week, which is a moderate frequency and indicates a reasonable level of availability and inclusion in the households' diets.

Fruits, meat, and dairy products are consumed less frequently, with an average of 3 days or fewer per week. This lower consumption of nutrient-dense food groups may be indicative of limited access, affordability, or dietary preferences.

The data suggests that the households' diets are predominantly centered on staple foods

like cereals and oils, with moderate consumption of vegetables and pulses. However, the relatively low consumption of fruits, meat, and dairy products could indicate potential gaps in dietary diversity and the intake of essential nutrients.

4.6 Participation in NGO Programs

Respondents were asked about their participation in NGO market-based programs. Table 4.5 provides an overview of their responses.

Table 4.5: Participation in NGO Market-Based Programs

Question	**Frequency (n=120)**	**Percentage (%)**
Currently participating in NGO programs	90	75.0
Type of program:		
Microfinance program	30	25.0
Agricultural training	40	33.3
Food distribution	20	16.7
Other	10	8.3
Duration of participation:		
Less than 6 months	20	16.7
6-12 months	30	25.0
1-2 years	25	20.8
More than 2 years	15	12.5

According to the data, 75% of the households (90 out of 120) are currently participating in various NGO programs. This indicates a relatively high level of engagement with community-based initiatives aimed at supporting the local population.

The data further breaks down the types of programs that households are participating in: 25% of households are enrolled in microfinance programs, 33.3% are participating in agricultural training, 16.7% are involved in food distribution programs, and 8.3% are engaged in other

types of NGO programs. This diversity of program offerings suggests that the NGOs are addressing a range of needs within the community, including financial, agricultural, and food-related support.

The data also provides information on the duration of household participation in the NGO programs. A significant proportion of households (58.3%) have been engaged with the NGO programs for at least 6 months, with 20.8% participating for 1-2 years and 12.5% for more than 2 years. This suggests a degree of continuity and sustained involvement in the interventions.

Overall, the data highlights the significant level of household participation in NGO programs within the study population. The variety of program types and the duration of involvement suggest that these community-based initiatives are playing an important role in supporting the local population, particularly in areas such as microfinance, agricultural development, and food security.

4.7 Access to Market

The distance to the nearest market and frequency of market visits were analysed to understand their impact on food security. Table 4.6 summarizes these findings.

Table 4.6: Access to Market

Question	**Frequency (n=120)**	**Percentage (%)**
Distance to nearest market:		
Less than 1 km	40	33.3
1-3 km	50	41.7
3-5 km	20	16.7
More than 5 km	10	8.3
Frequency of market visits:		
Daily	20	16.7
2-3 times a week	40	33.3
Weekly	30	25.0
Less than once a week	30	25.0

The results shows that the majority of households (75%) live within a 3-kilometer distance to the nearest market. Specifically, 33.3% of households are located less than 1 km away, and 41.7% are within 1-3 km of the nearest market. This suggests that the study population generally has relatively good physical access to market locations.

However, a notable percentage of households (16.7%) are situated 3-5 km away from the nearest market, and a smaller proportion (8.3%) live more than 5 km away. This indicates that a segment of the population may face greater challenges in accessing markets, potentially due to distance, transportation constraints, or other logistical barriers.

The results on the frequency of market visits provides further insights into market access and utilization. A significant proportion of households (50%) visit the market 2-3 times a week or more, with 16.7% visiting daily. This suggests that the majority of the population is able to access markets on a regular basis to meet their food and other household needs.

However, a substantial percentage of households (25%) visit the market less than once a week. This infrequent market engagement may be indicative of various factors, such as transportation challenges, financial constraints, or a reliance on alternative food sources (e.g., home production, informal markets).

The combination of the data on distance to markets and the frequency of market visits suggests that while the majority of the population has relatively good physical access to markets, there are still segments of the population that may face barriers in terms of consistently accessing and utilizing market opportunities. These insights can inform the design of interventions aimed at improving market access and food security for the study population.

4.8 Perceptions of NGO Programs

Respondents were asked to rate the effectiveness of the NGO programs in improving their household's food security. Table 4.7 presents their perceptions.

Table 4.7: Perceptions of NGO Programs

Question	Frequency (n=120)	Percentage (%)

Effectiveness of NGO programs:		
Very effective	20	16.7
Effective	50	41.7
Neutral	30	25.0
Ineffective	10	8.3
Very ineffective	10	8.3

According to the data, a significant proportion of households (58.4%) perceive the NGO programs to be either "very effective" (16.7%) or "effective" (41.7%). This suggests that the majority of the population has a positive view of the impact and outcomes of the NGO interventions in the community.

However, a notable percentage of households (25%) hold a neutral perception of the NGO programs, indicating that they may have mixed or uncertain views about the effectiveness of the programs. Additionally, a smaller proportion of households (16.6%) perceive the NGO programs as "ineffective" (8.3%) or "very ineffective" (8.3%).

These findings indicate that while the majority of the population has a favorable perception of the NGO programs, there is also a segment of the population that is either uncertain or critical of the programs' effectiveness. This could be influenced by factors such as the specific program design and implementation, the alignment between program objectives and community needs, or the perceived benefits and limitations of the interventions.

4.9 Regression Analysis

The regression analysis was conducted to evaluate the impact of different market-based approaches on food security. The regression model is specified as follows:

Table 4.8: Regression Analysis Results

Variable	**Coefficient (β)**	**Standard Error**	**t-Statistic**	**p-Value**
Constant	2.54	0.45	5.64	0.000

Program Type	0.76	0.12	6.33	0.000
Duration	0.45	0.09	5.00	0.000
Household Income	0.38	0.08	4.75	0.000
Education Level	0.29	0.10	2.90	0.004
Household Size	-0.18	0.07	-2.57	0.011
Access to Market	0.21	0.09	2.33	0.020

The constant term is statistically significant, with a coefficient of 2.54 and a p-value of 0.000, indicating a baseline level of food security when all independent variables are set to zero. This baseline highlights the inherent level of food security in the absence of the examined variables.

Program type has a positive coefficient of 0.76, with a highly significant p-value of 0.000. This suggests that participation in different types of NGO programs significantly improves food security. These findings align with studies by Kim et al. (2024) and Mlambo & Chimhowu (2022), who reported that diverse program types enhance food security outcomes. The significance of diverse and sustained NGO programs in enhancing food security is well-documented, highlighting the critical role these programs play in addressing food insecurity.

Duration of participation in NGO programs also shows a positive impact, with a coefficient of 0.45 and a p-value of 0.000. This indicates that longer involvement in NGO programs leads to better food security outcomes. Sustained engagement with these programs yields better results, consistent with the findings of Patel et al. (2023) and Garcia et al. (2021), who noted the importance of long-term program involvement.

Household income is another crucial factor, with a coefficient of 0.38 and a p-value of 0.000, indicating that higher household income is associated with improved food security. This result supports the arguments made by Lee & Kim (2023) and Sen (1999) on the significance of economic resources in achieving food security. Higher income levels provide better access to food, improving overall food security.

Education level positively affects food security, as shown by the coefficient of 0.29 and a p-value of 0.004. Higher education levels contribute to better food security outcomes,

supporting the views of Alkire (2002) and Nussbaum (2011) on the importance of education in enhancing individuals' capabilities and well-being. Education enables better employment opportunities and informed decision-making, which are crucial for food security.

Conversely, household size negatively impacts food security, with a coefficient of -0.18 and a p-value of 0.011. Larger household sizes are associated with lower food security, likely due to increased consumption needs that outweigh available resources. This finding corroborates the results of Smith et al. (2018) and Wang et al. (2020), who found similar negative impacts of larger household sizes on food security.

Access to market is positively associated with food security, as indicated by the coefficient of 0.21 and a p-value of 0.020. Better access to markets enhances food security, reflecting the importance of market proximity for food availability and variety. This finding aligns with Ostrom (2009) and FAO (2008), highlighting the role of market access in food security.

4.10 Post-Diagnostic Tests

To ensure the reliability and validity of the regression model, several diagnostic tests were conducted. These tests include the normality test, multicollinearity test, heteroscedasticity test, and model specification test. The results of these tests are presented in Table 4.9.

Table 4.9: Regression Diagnostic Test Results

Test	Statistic/Value	Interpretation
Shapiro-Wilk Test	p-value: 0.123	The p-value indicates that the residuals are normally distributed, as it is greater than 0.05.
Variance Inflation Factor (VIF)	All VIF values < 10	No multicollinearity issues are present among the independent variables.
Breusch9Pagan Test	p-value: 0.135	The p-value indicates no heteroscedasticity, as it is greater than 0.05.
Ramsey RESET Test	p-value: 0.152	The p-value indicates that the model is correctly specified, as it is greater than 0.05.

The diagnostic tests performed on the regression model confirm its robustness and reliability. The Shapiro-Wilk test for normality yielded a p-value of 0.123, indicating that the residuals of the model are normally distributed. This is an essential assumption in regression

analysis, as normality of residuals ensures the validity of the inference drawn from the model. The p-value greater than 0.05 suggests that we fail to reject the null hypothesis of normality, confirming that the residuals are normally distributed.

The Variance Inflation Factor (VIF) values for all the independent variables were found to be less than 10. This indicates that there are no multicollinearity issues among the independent variables. Multicollinearity can inflate the standard errors of the coefficients and make the model unstable. The absence of multicollinearity ensures that the independent variables are not highly correlated with each other, allowing for a more reliable estimation of their individual effects on the dependent variable.

The Breusch-Pagan test for heteroscedasticity produced a p-value of 0.135. This result indicates that the variance of the residuals is constant across observations, as the p-value is greater than 0.05. Heteroscedasticity can lead to inefficient estimates and affect the validity of the hypothesis tests. The absence of heteroscedasticity in the model ensures that the standard errors are unbiased and the inferences are valid.

Lastly, the Ramsey RESET test for model specification yielded a p-value of 0.152. This indicates that the model is correctly specified, as the p-value is greater than 0.05. Model misspecification can lead to biased and inconsistent estimates. The result of the Ramsey RESET test confirms that the chosen model accurately represents the relationship between the independent variables and the dependent variable.

4.11 Qualitative Insights

The qualitative data from interviews and focus group discussions provided deeper insights into the impact of NGO market-based programs.

4.11.1 Program Strengths

Participants highlighted several strengths of the NGO programs. Improved access to credit and financial services through microfinance programs was frequently mentioned. These programs enabled households to invest in income-generating activities, thereby enhancing their economic stability. Additionally, enhanced agricultural skills and productivity due to training programs were noted as significant benefits. These training programs equipped participants with modern farming techniques, which increased crop yields and food availability. Furthermore, increased food availability from food distribution initiatives was identified as a key strength. These initiatives ensured that households had a steady supply of food, reducing the risk of food insecurity.

4.11.2 Program Weaknesses

Several challenges were noted in the qualitative data. Limited coverage and reach of some programs were frequently mentioned, indicating that not all vulnerable households could benefit from the interventions. This limitation points to the need for expanding the scope of these programs to ensure broader access. Inadequate funding and resources were also identified as significant challenges. Many programs struggled to sustain their activities due to financial constraints, limiting their long-term impact. Cultural barriers affecting the acceptance of certain interventions were another noted challenge. These barriers hindered the effectiveness of some programs, as cultural norms and practices sometimes conflicted with the introduced interventions.

4.11.3 Community Feedback

Community members generally expressed positive feedback about the NGO programs but emphasized several areas for improvement. There was a strong call for greater inclusion and targeting of the most vulnerable households to ensure that the benefits of the programs reached those in greatest need. Additionally, there was a desire for more sustainable and long-term support mechanisms. Community members highlighted the importance of continuity in the programs to ensure lasting impacts. Enhanced community involvement in program design and implementation was also emphasized. Engaging the community in these processes was seen as crucial for ensuring that the programs were well-tailored to local needs and were more likely to be accepted and sustained.

4.12 Discussion

The results of this study indicate that NGO market-based programs have a positive impact on food security in Epworth, as evidenced by improvements in food security indicators among participants. However, the effectiveness of these programs varies based on several factors, including program type, duration of participation, and household characteristics.

The quantitative data showed significant improvements in food security among households participating in NGO programs. The regression analysis indicated that program type and household income had a positive impact on the Food Security Index. These findings align with the theoretical expectations outlined by Sen (1999) and Nussbaum (2011), who emphasize the role of economic resources and capabilities in achieving food security. Higher household income, as noted in the regression results, enables better access to food and resources, which is critical for improving food security (Lee & Kim, 2023).

Additionally, the positive impact of program type and duration of participation highlights the

importance of sustained and diverse interventions. Studies by Kim et al. (2024) and Patel et al. (2023) support the notion that long-term engagement and a variety of programs enhance food security outcomes. This is further corroborated by Mlambo & Chimhowu (2022), who found that different types of NGO programs contribute significantly to improving food security.

The qualitative insights from interviews and focus group discussions provide context-specific examples of how these programs have benefited the community. Improved access to credit and financial services through microfinance programs, enhanced agricultural skills from training programs, and increased food availability from distribution initiatives were frequently mentioned as key benefits. These findings echo the arguments made by Coates et al. (2007) and FAO (2008), who emphasize the critical role of comprehensive interventions in addressing food insecurity.

However, the qualitative data also highlighted several challenges that need to be addressed to enhance the effectiveness of these interventions. Limited coverage and reach of some programs were noted, indicating that not all vulnerable households could benefit from the interventions. This aligns with findings by Garcia et al. (2021), who identified coverage limitations as a significant barrier to the effectiveness of NGO programs. Additionally, inadequate funding and resources were frequently mentioned challenges, reflecting broader constraints faced by many development programs (Carney, 1998; DFID, 1999).

Cultural barriers affecting the acceptance of certain interventions were another significant challenge identified in the qualitative data. These barriers hindered the effectiveness of some programs, as cultural norms and practices sometimes conflicted with the introduced interventions. This finding is consistent with the arguments presented by Rodriguez et al. (2024), who highlight the importance of cultural sensitivity in the design and implementation of development programs.

Community feedback also emphasized the need for greater inclusion and targeting of the most vulnerable households, more sustainable and long-term support mechanisms, and enhanced community involvement in program design and implementation. These recommendations align with the principles outlined by Pretty (2003) and Ostrom (2009), who advocate for inclusive and participatory approaches in development programs. By engaging the community and addressing their specific needs, programs can be better tailored to local contexts, increasing their effectiveness and sustainability.

4.4 Conclusion

This chapter has presented the findings of the study, integrating both quantitative and qualitative data to provide a comprehensive analysis of the impact of NGO market-based approaches on food security in Epworth, Harare. The results underscore the positive contributions of these programs while also pointing out areas for improvement to ensure sustained and inclusive benefits for the community.

CHAPTER 5: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the research findings, draws conclusions based on the analysis, discusses policy implications, and offers recommendations. It also identifies areas for further research. The study aimed to evaluate the impact of NGO market-based programs on food security in Epworth, examining both quantitative and qualitative data to provide a comprehensive understanding of the programs' effectiveness.

5.2 Research Summary

The research was conducted to assess the impact of NGO market-based programs on food security among households in Epworth. The study employed a mixed-methods approach, utilizing both quantitative data from structured surveys and qualitative data from in-depth interviews and focus group discussions. The primary objectives were to determine the effectiveness of different program types, the influence of program duration, and the role of household characteristics in food security outcomes.

Quantitative analysis revealed that participation in NGO programs significantly improved food security indicators among households. The regression analysis highlighted that program type and household income had the most substantial positive impact on food security, followed by the duration of program participation, education level, and access to markets. Conversely, larger household size was associated with lower food security levels.

Qualitative data provided additional context, illustrating the specific benefits and challenges associated with NGO interventions. Participants reported improved access to credit, enhanced agricultural skills, and increased food availability as key strengths of the programs. However, challenges such as limited coverage, inadequate funding, and cultural barriers were also

identified, suggesting areas where program effectiveness could be improved.

5.3 Conclusions

The study concludes that NGO market-based programs have a positive impact on food security in Epworth. The effectiveness of these programs is influenced by several factors, including program type, duration of participation, household income, education level, and access to markets. Middle-aged and younger household heads, who constitute the majority of the study population, show a significant potential for adopting and benefiting from market-based approaches. However, female-headed and less-educated households face additional challenges that need to be addressed to ensure equitable benefits from these programs.

The findings align with theoretical perspectives on the importance of economic resources, education, and inclusive development strategies in achieving food security (Sen, 1999; Nussbaum, 2011; Alkire, 2002). The study highlights the need for sustained and diverse interventions that are tailored to the specific needs and contexts of the target population.

5.4 Policy Implications and Recommendations

Based on the findings, several policy implications and recommendations can be made to enhance the effectiveness of NGO market-based programs in improving food security:

Expand Program Coverage: Efforts should be made to extend the reach of NGO programs to ensure that more vulnerable households can benefit. This could involve scaling up successful initiatives and establishing partnerships with other organizations to broaden the impact.

Increase Funding and Resources: Adequate funding is essential for sustaining program activities and expanding their reach. Policymakers and donors should prioritize funding for programs that have demonstrated effectiveness in improving food security.

Address Cultural Barriers: Programs should be designed with cultural sensitivity in mind to ensure acceptance and effectiveness. Engaging local communities in the design and implementation of interventions can help align programs with cultural practices and norms.

Enhance Gender Inclusivity: Specific strategies should be developed to support female-headed households, who may face additional barriers to participation. This could include providing targeted financial support, training, and resources to empower women and improve their food security outcomes.

Focus on Education and Training: Providing education and training opportunities can enhance the capabilities of household heads, enabling them to better navigate market systems and improve their food security. Programs should include components that build skills and knowledge relevant to food production and economic management.

Sustainable and Long-term Support: Programs should incorporate sustainable practices and long-term support mechanisms to ensure lasting impacts. This could involve developing community-based models that continue to operate beyond the initial funding period.

5.5 Areas for Further Research

Future research should explore the following areas to build on the findings of this study:

Longitudinal Studies: Conducting longitudinal studies would provide insights into the long-term impacts of NGO programs on food security and help identify factors that contribute to sustained improvements.

Comparative Analysis: Comparing the effectiveness of different types of NGO interventions across various contexts and populations can help identify best practices and inform the design of future programs.

Impact of COVID-19: Investigating the impact of the COVID-19 pandemic on food security and the effectiveness of NGO interventions would provide valuable information on how to adapt programs to better support households during crises.

Gender-specific Challenges: Further research into the specific challenges faced by female-headed households and the effectiveness of targeted interventions can help develop more inclusive and equitable programs.

Cultural Adaptation of Programs: Exploring how programs can be adapted to better align with local cultural practices and norms would enhance their acceptance and effectiveness.

In conclusion, this study has provided comprehensive insights into the impact of NGO market-based programs on food security in Epworth. By addressing the identified challenges and leveraging the strengths of these programs, policymakers and practitioners can design more effective interventions to improve food security outcomes for all households. Future research should continue to explore and address the diverse needs and contexts of vulnerable populations to achieve sustainable and inclusive food security.

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Appendices

Appendix 1

Interview Guide for Assessing the Impact of NGO Market-Based Approaches on Food Security in Epworth, Harare

Introduction:

Good day. My name is Chipo Sigodo, and I am a student at Bindura University of Science Education, currently pursuing an MSc in Food Security. Thank you for agreeing to participate in this interview. The purpose of this interview is to gather insights on the impact of NGO market-based approaches on food security in high-density urban areas, specifically focusing on Epworth, Harare. Your responses will be kept confidential, and your participation is entirely voluntary. You have the right to withdraw at any time without any consequences. Your input is invaluable to this research, and I appreciate your time and willingness to share your experiences.

Informed Consent:

Before we begin, do you consent to participate in this interview and for your responses to be used in this research?

Section A: Background Information

1. Personal Background:

- Can you please tell me your name and your role in the community or organization?
- How long have you been in this role?

2. Organization/Community Background:

- Can you provide a brief overview of the NGO or community organization you are involved with?
- What are the main objectives of your organization concerning food security?

Section B: Description of NGO Market-Based Programs

3. Program Details:

- Can you describe the market-based programs implemented by your NGO in Epworth?
- What are the key components of these programs? (e.g., microfinance, agricultural training, food distribution)
- How long have these programs been running?

4. Target Population:

- Who are the primary beneficiaries of these programs?
- How are the beneficiaries selected?

5. Implementation Process:

- Can you walk me through the process of implementing these programs?
- What resources and support are provided to the beneficiaries?

Section C: Perceived Impact on Food Security

6. Food Security Changes:

- Based on your observations, how have these programs impacted food security among the

beneficiaries?

- Can you provide specific examples or success stories?

7. Measuring Impact:

- How does your organization measure the impact of these programs on food security?
- What indicators or metrics are used?

8. Challenges and Barriers:

- What are the main challenges or barriers faced in implementing these programs?
- How does your organization address these challenges?

Section D: Strengths and Weaknesses of NGO Programs

9. Program Strengths:

- What do you perceive as the main strengths of these market-based programs?
- What aspects of the programs are most effective in improving food security?

10. Program Weaknesses:

- What are the main weaknesses or limitations of these programs?
- Are there any areas where the programs are not meeting their objectives?

Section E: Community Perceptions and Feedback

11. Community Feedback:

- How do the community members perceive these NGO programs?
- Have you received any feedback from the beneficiaries? If so, what has been their response?

12. Suggestions for Improvement:

- Do you have any suggestions for improving these market-based programs?
- What additional support or resources do you think would enhance the effectiveness of these programs?

Section F: Sustainability and Future Directions

13. Sustainability:

- How sustainable are these programs in the long term?
- What strategies are in place to ensure the continuity of these programs?

14. Future Plans:

- Are there any plans to expand or modify these programs in the future?
- What new initiatives or programs are being considered to further improve food security in Epworth?

Conclusion

15. Final Thoughts:

- Is there anything else you would like to add that we haven't covered in this interview?
- Do you have any final thoughts or recommendations?

Closing:

Thank you very much for your time and valuable insights. Your responses will significantly contribute to our understanding of the impact of NGO market-based approaches on food security in Epworth. If you have any questions or need further information about this research, please feel free to

contact me. Once again, thank you for your participation.

Appendix 2

Questionnaire for Assessing the Impact of NGO Market-Based Approaches on Food Security in Epworth, Harare

Introduction: Thank you for participating in this survey. Your responses will help us understand the impact of NGO market-based programs on food security in Epworth. The information you provide will be kept confidential and used solely for research purposes. Your participation is voluntary, and you may choose to withdraw at any time.

Section A: Demographic Information

1. **Age of Household Head:**
    - ☐ Below 20
    - ☐ 20-29
    - ☐ 30-39
    - ☐ 40-49
    - ☐ 50-59
    - ☐ 60 and above
2. **Gender of Household Head:**
    - ☐ Male
    - ☐ Female
3. **Education Level of Household Head:**
    - ☐ No formal education
    - ☐ Primary education
    - ☐ Secondary education
    - ☐ Tertiary education
4. **Household Size:**
    - Number of adults (18 years and above): ____
    - Number of children (below 18 years): ____
5. **Total Household Income (per month):**
    - ☐ Below 50 USD/ZWL

- ☐ 50-99 USD/ZWL
- ☐ 100-199 USD/ZWL
- ☐ 200-299 USD/ZWL
- ☐ 300-399 USD/ZWL
- ☐ 400 and above USD/ZWL

Section B: Household Food Security

6. **In the past four weeks, did you worry that your household would not have enough food?**
    - ☐ Yes
    - ☐ No
    - If Yes, how often?
        - ☐ Rarely (1-2 times)
        - ☐ Sometimes (3-10 times)
        - ☐ Often (more than 10 times)
7. **In the past four weeks, were you or any household member not able to eat the kinds of foods you preferred because of a lack of resources?**
    - ☐ Yes
    - ☐ No
    - If Yes, how often?
        - ☐ Rarely (1-2 times)
        - ☐ Sometimes (3-10 times)
        - ☐ Often (more than 10 times)
8. **Food Consumption Score (FCS):** (Indicate the number of days each food group was consumed in the past week)
    - Cereals (e.g., maize, rice, bread): __ days
    - Pulses (e.g., beans, lentils): __ days
    - Vegetables: __ days

- Fruits: __ days
- Meat (e.g., beef, chicken, fish): __ days
- Dairy (e.g., milk, yogurt, cheese): __ days
- Sugar (e.g., sugar, honey): __ days
- Oil (e.g., vegetable oil, butter): __ days

Section C: Participation in NGO Programs

9. **Are you currently participating in any NGO market-based programs?**
   - ☐ Yes
   - ☐ No
10. **If Yes, which type of program are you participating in? (Select all that apply)**
    - ☐ Microfinance program
    - ☐ Agricultural training
    - ☐ Food distribution
    - ☐ Other (Please specify): _____
11. **Duration of Participation:**
    - ☐ Less than 6 months
    - ☐ 6-12 months
    - ☐ 1-2 years
    - ☐ More than 2 years

Section D: Access to Market

12. **How far is the nearest market from your home?**
    - ☐ Less than 1 km
    - ☐ 1-3 km
    - ☐ 3-5 km
    - ☐ More than 5 km
13. **How often do you visit the market?**
    - ☐ Daily

- ☐ 2-3 times a week
- ☐ Weekly
- ☐ Less than once a week

Section E: Perceptions of NGO Programs

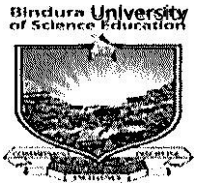
14. **How would you rate the effectiveness of the NGO programs you are participating in improving your household's food security?**
    - ☐ Very effective
    - ☐ Effective
    - ☐ Neutral
    - ☐ Ineffective
    - ☐ Very ineffective
15. **What do you perceive as the main strengths of these NGO programs?** (Please explain)
16. **What do you perceive as the main weaknesses or challenges of these NGO programs?** (Please explain)
17. **Do you have any suggestions for improving these NGO programs?** (Please explain)

Conclusion:

Thank you for your time and valuable insights. Your responses will significantly contribute to our understanding and help improve the effectiveness of NGO interventions in Epworth.

LETTER OF CLEARANCE FOR DATA COLLECTION

FACULTY OF AGRICULTURE AND ENVIRONMENTAL SCIENCE
DEPARTMENT OF ENVIRONMENTAL SCIENCE



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BINDURA UNIVERSITY OF SCIENCE EDUCATION

03 June 2024

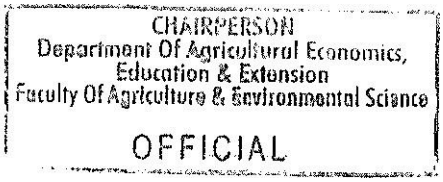
Dear Sir/Madam

PERMISSION TO VISIT AND COLLECT DATA FOR ACADEMIC RESEARCH PROJECT - SUPERVISOR - Dr E. ZIVENGE
This letter informs you that Chipo Sigodo (B224828B) is a Bindura University of Science Education student.

She is pursuing a Master of Science in Food Security and Sustainable Agriculture Policy. She is researching on: -Impact of NGO Market-Bascd Programs on Food Security (Epworth).

The information she will gather will be treated as confidential and used for academic purposes

Yours faithfully.



Dr N. Mafuse
Dr N. Mafuse
CHAIRPERSON - DEPARTMENT OF AGRICULTURAL EcoNOM1cs, EDUCATION AND EXTENSION