LAGOS FOOD BANK HUNGER REPORT 2025 ON :

Socioeconomic and demographic determinants of food Insecurity in low-income households in Lagos state, Nigeria.

Prepared for Lagos Food Bank

LAGOS FOOD BANK INITIATIVE
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TEFAP TEMPORARY FOOD ASSISTANCE PROGRAM

Edufood EDUCATION ENHANCEMENT INTERVENTION FOR FOOD INSECURE STUDENTS

Lagos Food Bank Family Farming

FOOD BANK NETWORK NIGERIA A coalition for Hope

AGRICULTURAL RECOVERY

Numeplan

CLOTH BANKING NIGERIA

NIDS Nutrition Intervention for Diabetes Self-Management

LAGOS FOOD BANK LJP JOB PLACEMENT

LFBI Virtual Foodbanking Connecting Food And Non Food Items To People

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ABSTRACT

This study highlights the high prevalence of food insecurity among low-income urban households in Lagos State, with approximately 72% classified as moderately to severely food insecure. Households are predominantly female-headed, with limited income sources, low breadwinner earnings, and moderate education levels. Most rely heavily on market purchases or external aid from NGOs, reflecting chronic vulnerability and limited self-sufficiency. Common coping strategies; including reducing meal portions, skipping meals, borrowing money, and spending savings, underscore the financial and nutritional stresses faced by these households.

These findings emphasize the urgent need for targeted interventions, including urban food assistance programs, social protection schemes, and initiatives to enhance local food production and household resilience, to improve access to sufficient and nutritious food in vulnerable urban communities.

INTRODUCTION

Food security as defined by the Food and Agriculture Organization of the United Nations (FAO), is a situation that exists when all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences, for an active and healthy life. (Food and Agriculture Organization of the United Nations, 1996). From its definition, food security is a multidimensional concept that is only achieved when the following criteria have been satisfied;

(1) Availability of sufficient, safe and nutritious food either through local production or importation (2) Accessibility to these foods in affordable and socially acceptable means and (3) Utilization of these foods to meet dietary, health and nutritional requirements. A fourth criterion namely, sustainability of access is being included in more recent studies (FMARD, 2017; Omonona and Agoi, 2007).

National food security of a nation cannot therefore be measured by its capacity to produce or import sufficient foods for its population alone, if its citizens lack guaranteed access or have to rely on coping strategies such as emergency aids, stealing, scavenging, etc. to meet their dietary needs (Omonona & Agoi,2007; Alero et al, 2019). Alero et al., (2019) describes a food secure household as one in which its members live without hunger or fear of starvation.

Food, unlike most commodities, is a necessity for survival. Consumption of an adequate quantity and quality is crucial to maintain a healthy and active life. Its importance is evident in every household budget and/or expenditure. It is therefore not surprising that the target to end hunger and malnutrition and achieve a goal like food security is on a global scale (Sustainable Development Goal – SDG 2).

Data reported by the FAO, International Fund for Agricultural Development (IFAD), UNICEF, World Food Programme (WFP), and World Health Organization (WHO) on 'The State of Food Security and Nutrition in the World in 2020 have revealed many challenges making the SDGs 2 an arduous task to achieve. For instance, about two billion people (approximately 25% of the world's population) were estimated to have experienced hunger or had irregular access to sufficient nutritious food in 2019.

The agencies (FAO, IFAD, UNICEF, WFP & WHO, 2020) revealed that, although global food production is sufficient to feed the world's population, conflicts, climate changes, economic recession and most recently the COVID-19 pandemic have been global threats towards achieving food security.

High food prices or the inability of millions of people to -access the least affordable healthy diet has also been identified as a major cause (recurring from previous reports) of food inaccessibility (FAO, IFAD, UNICEF, WFP & WHO, 2020). Over 220 million of nearly 690 million people reported to be undernourished in the world live in Sub-Sahara Africa, making it the region with the highest prevalence of food insecurity globally (Christian, et al., 2016).

PROBLEM STATEMENT

The number of food-insecure people is predicted to increase with the rapidly growing population in the sub-Saharan region. Nigeria leads the number with 5 million people estimated to be acutely food insecure, out of an estimated 10.2 million people in need of immediate food assistance in West Africa (FAO, ECA & AUC, 2021). Also, 72.2% of the 86.4 million people suffering moderate to severe food insecurity in Nigeria cannot afford a nutrient-adequate diet, while 33% struggle to afford an energy-sufficient meal (FAO, WFP, WHO, IFAD and WHO 2020). Rapid population growth places additional pressure on food systems, household resources, and social support structures, thereby increasing the risk of food insecurity, especially in urban low-income communities. With an annual growth rate of 3.2%, Nigeria's population is projected to double within the next 25 years (U.S. Census Bureau, 2013), intensifying competition for limited food, employment, and housing resources.

The rapid population growth in many low- and middle-income countries (LMICs) is unevenly distributed and more concentrated in the towns and cities. Cohen and Garrett, (2010) demonstrated how urbanization is contributing to the steady rise in food insecurity. Low-income urban dwellers have become very vulnerable to factors which influence food insecurity.

"In Nigerian cities such as Lagos (and similar urban slums), low-income households often rely almost entirely on food purchased from markets rather than producing their own. Recent evidence from slum communities in Nigeria shows frequent food purchases from both informal and formal markets, with very few households keeping livestock or growing food as a buffer.

Christofides, N. and Baldwin-Ragaven, L. (2024) In addition, systemic issues in food supply and reliance on imports heighten the vulnerability of urban poor when food prices rise. Christofides, N. and Baldwin-Ragaven, L. (2024). Although urban agriculture can help, its adoption is limited by socioeconomic constraints such as low income and education, reducing its buffer effect for many (Oyebanji .A. T., 2024).

Food mostly has to be purchased from markets in towns and cities, unlike rural areas where many of the residents produce their own food and rear livestock for food which serves as a buffer when there are hikes in food prices. These poor households in urban areas are, however, adversely affected as it becomes extremely difficult to access nutritionally adequate foods without resorting to socially unacceptable means. A study showed results of food insecurity were the same or higher in urban than rural households in two-thirds of 18 LMICs surveyed (Ahmed et al, 2007). Cohen and Garrett (2010) argue that food security is, therefore, more dependent on food availability and household accessibility, irrespective of location. Poor health, low productivity, malnutrition, and poverty are some resultant effects of food insecurity. Most households respond to food crisis with different coping mechanisms such as reducing the budget for food and other expenses, opting for cheaper and sometimes, less nutritious or healthier alternatives, skipping meals, forfeiting other assets in exchange for money to afford food as well as extreme socially unacceptable behaviors such as stealing (Compton et al, 2010).

Children and women are especially vulnerable as they have high micronutrient requirements which may be cut off (FMARD, 2017). Stunting is recorded in 37% of children in Nigeria with severe cases at 21% and 11% of women within reproductive ages are estimated to be underweight while 25% are overweight. They are also, usually recipients of cultural practices such as unequal allocation of resources within households, reduced food portions, and reduced expenses on healthcare and education.

JUSTIFICATION

Food insecurity in urban low-income households is influenced by a complex interplay of socioeconomic, demographic, and household-level factors, making context-specific research essential for designing effective interventions. Previous efforts that focused solely on national-level food availability or rural populations have proven insufficient to address the rising vulnerability of urban dwellers (Cohen and Garrett, 2010). Evidence suggests that urbanhouseholds, particularly in low-income settings, are increasingly at risk of food insecurity and may require targeted support beyond existing measures.

Lagos State exemplifies this urgency, as recent data from Nigeria's Federal Ministry of Agriculture and Rural Development indicate that it has the highest number of food-insecure people among the 21 states surveyed (FMARD, 2023). By assessing both the prevalence of food insecurity (dependent variable) and its key determinants (independent variables) in selected local government areas, this study aims to generate actionable, data-driven insights for policymakers and stakeholders to develop targeted interventions.

AIMS AND OBJECTIVES

This research aims to;
1. To assess the current prevalence of food insecurity in low-income households across selected local government areas in Lagos State.

2. To identify the key determinants contributing to food insecurity in urban low-income settings.

3. To provide data-driven insights for policymakers and stakeholders to design targeted interventions.

RESEARCH QUESTIONS.

1. What is the current prevalence of food insecurity in low-income households across various local governments in Lagos?

2. What are the determinants of food insecurity in low-income households in Lagos?

3. How can the findings inform targeted interventions to eradicate food insecurity?

CHAPTER 2

LITERATURE REVIEW

2.0. Background and Context.

Millions of people around the world struggle with food insecurity. Particularly in emerging nations, households with low incomes frequently experience food insecurity. One of the SubSaharan African cities most impacted by food insecurity is Lagos, Nigeria. The present research on food insecurity in low-income households in Lagos, Nigeria, is reviewed in this chapter. It gives an overview of the present level of knowledge in this field, pinpoints the major causes of food insecurity, and factors responsible for vulnerabilities, and emphasizes any potential impact of food insecurity in the State and emphasizes any potential repercussions.

2.1 The Definition of Food Security versus Food Insecurity

2.1.1 Food Security

Food security is the state achieved when the food system operates such that all people, always, have physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs, (Adeloye et al., 2020) and food preferences for an active and healthy life. (FAO, 2021) Food insecurity exists when people are undernourished because of the physical unavailability of food, lack of social and economic access to adequate food, and/or inadequate food utilization. (Edeoghon et al. 2017) Food security is a function of food availability, accessibility, affordability, and utilization. Food availability does not necessarily connote food accessibility and affordability. For food to be available, households must have the required financial strength to afford it. Hence simply put, the absence of food security is food insecurity. Food security is multidimensional in nature just like poverty. There are four dimensions of food security, and an overview of these dimensions gives an insight into food security.

2.1.1.1 Food Availability

Food availability refers to the condition that exists when an individual, household, region, or Nation has enough food of appropriate quantity. (Nathalie, 2012) It is the physical presence of food in a particular location. This reflects the supply side of the food security concept. It is also a function of the combination of domestic food stocks, commercial food imports, food aid, and domestic food production, as well as the underlying determinants of each of these factors. Indicators of food availability as measured by the FAO include the average dietary energy supply derived from tuber, cereal, and root crops, and the

average protein supply from animal sources.

FAO also noted that the measurement of food availability usually occurs at the national or micro level, where food insecurity data are sourced from food balance sheets, which relate total food output to total national food consumption. (FAO, 2018)

2.1.1.2 Food Access

This is the ability of the household to procure, and always produce or gather adequate and appropriate food through various channels of food transfers for all its households. Food access is ensured when communities, households, and all individuals within them have adequate resources, such as money to obtain appropriate food for a nutritious diet. (Riely, F. et al. 1995) food may be physically present (available) but may not be accessible if prices are unfavorable or very high or if people lack purchasing power. This dimension reflects the demand side of food security and highlights uneven inter and intra-household food distribution and socio-cultural limits on food choices, according to (Bickel and Price, 2017). Food access thus includes household economic,

physical, social, and technological means to effectively utilize available resources to meet their

food security needs. (Sayed, N. 2006)

2.1.1.3 Food Utilization

This refers to either the physical or biological use of available and accessed food. Physical utilization includes good care, feeding practices, food processing, food storage and diversity of diet, and intra-household distribution of food. Biological use refers to the bioavailability of nutrients in the body. If sufficient and nutritious food is both available and accessible, decisions on what food to consume and how this food will be distributed must be made by the household. Essential micronutrients such as vitamin B and highly bioavailable trace elements such as iron and zinc and high-quality protein. (FAO, 2018)

2.1.1.4 Food Stability

This refers to the sustainability of food availability, accessibility, and utilization over time for all people. (Maxwell, D. 1996) It also means the ability of the household to process food to the extension of the shelf life of food for leaner seasons. It is related to people's vulnerability and ability to cope with stresses and shocks. It does not stand alone and is usually incorporated into other dimension indicators like the Household Food Insecurity Access Scale (HFIAS) and Household Dietary Diversity Scale (HDDS) which looks at the frequency of change of fluctuations in food availability, access, and utilization during a given period. Income level is a valid indicator of food stability, when there is a low level of income in the household, assets are forfeited as collateral for credit,

collateral for credit, thus buffering external shocks (e.g., an economic or climatic crisis) or cyclical events (e.g., seasonal food insecurity) to the household such as an injury or illness of productive family members. The concept of stability can therefore refer to both the availability and access dimensions of food security. (FAO, 2006)

2.1.2 Food Insecurity

Food insecurity and poverty are still widespread across different parts of Nigeria. The food insecurity situation in the country is worsening with time due to the wide gap between the national supply and demand for food. (Sanusi, et al. 2006) opined that the percentage of food-insecure households is on the rise. However, several studies in the past showed that between 31% and 52% of the population in Nigeria was food secure. (Babatunde, et al. 2007). Food insecurity remains a fundamental problem in Nigeria. (FAO, 2018) enlisted the country among countries faced with food insecurity problems. The vision of Nigeria to have physical and economic access to food continuously has therefore continued to remain a mirage. Lagos State is highly dependent on food supplies from other states in Nigeria and food importation from other countries; this has put the populace in a precarious position. The 2022 Russian invasion of Ukraine affected wheat imports with the resultant hike in food prices such as flour, bread, pasta, pastries, noodles, and other commodities. (Fakayode, 2009) According to the National Bureau of Statistics (NBS), Nigeria imported N898.2 billion worth of wheat in nine months in 2021. (NBS, 2021)

2.2 Global Prevalence of Food Insecurity

Since the 1930s, achieving global food security and nutrition has been a major issue; in fact, it served as the inspiration for the establishment of the Food and Agriculture Organization of the United Nations in 1945. The Millennium Development Goals and other international summit declarations, including the World Food Summits in 1996 and 2002, endorsed this objective, which was stated to cut the number of hungry people in half by the year 2015. (Squires and Gaur, 2020) Two of the United Nations' Sustainable Development Goals for 2030 include achieving food security and eradicating hunger. The number of undernourished individuals increased in 2015 after declining from 2003 to 2014, despite the United Nations' concerted efforts to end global hunger. More than 1.9 billion people worldwide were thought to lack access to adequate nutrition. (Frank S., 2017). According to FAO's 2023 State of Food Insecurity and Nutrition in the World report highlights thestate of global hunger and food instability and the challenges and openings that urbanization presents in the environment of agrifood systems. Global hunger, measured according to the frequency of undernourishment, remained unchanged from 2021 to 2022 but is still significantly more advanced than before the epidemic.

Approximately 9.2 of the world's population faced hunger in 2022, compared with 7.9 in 2019. Moderate or severe food instability affected 29.6 of the global population (2.4 billion people) in 2022, with 11.3 being oppressively food insecure. Food instability disproportionately affects women and people in rural areas. further than 3.1 billion people globally were unfit to go on a healthy diet in 2021(134 million further than in 2019). (FAO, 2023) By 2030, the world should be rid of hunger, according to Sustainable Development Goal 2. Globally, between 720 million and 811 million people experienced hunger in 2020, an increase of almost 161 million over the previous year. Also in 2020, an astounding 2.4 billion individuals, or more than 30% of the world's population, experienced moderate to severe food insecurity and lacked regular access to a sufficient diet. In just one year, the number rose by approximately 320million. Stunting (low height for age) affected 149.2 million children under the age of five worldwide in 2020, down from 24.4 percent in 2015. Between 2014 and the start of the COVID19 epidemic in 2020, the proportion of people who go hungry and are experiencing food insecurity had been steadily increasing. These rising rates have been made much higher by the COVID-19 issue, which has also made all types of malnutrition worse overall, especially in youngsters. The largest global food crisis since the Second World War is caused by the war in Ukraine, further affecting global food supply systems. (SDG report, 2023)

2.2.1 Prevalence of food insecurity in low and middle-income countries (LMIC)

Although most persons impacted by food insecurity live in low-income nations in Sub-Saharan Africa and South Asia, this problem affects people globally. (Roser and Ritchie, 2019). A varied array of nutrient-dense meals must be attainable and maintained by all nations. Malnourished children are more prevalent in Africa and Asia. More than nine out of ten stunted children, more than nine out of ten wasting children, and more than seven out of ten overweight children worldwide are found in these locations. In comparison to practically all subregions of sub-Saharan Africa, apart from Southern Africa (10.1 percent), the proportion of the population in Northern Africa that will experience hunger in 2020 (7.1 percent) is significantly lower. The incidence in the other subregions ranges from 18.7% in Western Africa to 31.8 in Middle Africa. More than 125 million undernourished individuals are found in Eastern Africa. (FAO, 2021)

2.2.2 Prevalence of Food Insecurity in Nigeria

In the 1940's and early 1950's, Nigeria was a net exporter of food. Different regions in Nigeria specialized in different kinds of crop production, whether food or cash crops and there was unity in the diversity. This system strengthens the country's food self-sufficiency. (Ojo and Adebayo 2012). In time past, food security in Nigeria was addressed almost exclusively in terms of aggregate

food availability at the national level. Consequently, insufficient attention has been paid to the issue of household food security, especially in the poorer segments of the population. Poverty, inadequate investment in the social sector, inadequate dietary intake, and disease have been identified as the major causes of malnutrition in Nigeria. (NPC, 2001) Although the country has abundant resources and has experienced significant economic growth, poverty has persisted in Nigeria, where nearly 70% of the population still lives below the poverty line. (Matemilola, S. and Elegbede, I. 2017). According to research conducted in Kosofe local government Area of Lagos State, Nigeria, food insecurity incidence is higher in female-headed households; this may be because of the lower dependency ratio observed in male-headed households where both the head and their spouse are engaged in income-generating activities while in female-headed households, the dependency is mainly on the head who are either widowed or unmarried. There was a noticeable trend to the level of education of the head of households: food insecurity incidence decreases among those with tertiary education and the least are family heads with no formal education. Food insecurity incidence increases with increased dependency. Food insecurity incidence among households, therefore, increases from 0.30 for no dependency to 0.50 for a greater than 1 dependency ratio. This may be because of the increase in household size without a corresponding increase in income. (Omonona et al., 2007) The prevalence rate of food insecurity varies by state and region in Nigeria. For instance, in a study conducted by Omuemu, et al., in Edo State with a survey of 416 households, the prevalence rate of the incidence of food insecurity was 61.8%. (Omuemu, et al.2012) Similarly, the overall incidence of food insecurity was 58.8% in Ekiti state according to a study conducted by Akerele, et al., with a survey of 80 households consisting of 321 members. Akerele, et al.; (2013). However, in a study conducted by Omotayo, et al., in rural South-Western Nigeria with a survey of 480 rural farming households, the Foster-Greer-Thorbecke (FGT) model revealed that 78% of the households surveyed were food insecure. In the socioeconomic characteristics of households, food insecurity incidence increases with an increase in the age of household heads. It is highest when household heads are within the range of 61 – 70 years at 0.58 and least within the range 21 –30years at 0.30. Food insecurity incidence is higher in female-headed households at 0.49 than in male-headed households at 0.38. (Omotayo, et al, 2022)

2.3 Determinants of Food Insecurity
Most causes of food insecurity, whether directly or indirectly, include some aspect of economic access to food. Inadequate access to nutritious food and poor quality of health services with the resultant poor health outcome of family heads and/or members leads to food insecurity. (Omonona, et al.2007)

The Global Food Security Index evaluates 113 nations' affordability, availability, and quality using this criterion, which was modified from the 1996 World Food Summit. The index measures key factors that influence food security in both emerging and wealthy nations. It is a dynamic quantitative and qualitative scoring model built from 28 distinctive indicators. The study's main objective is to determine which nations are most and least susceptible to food insecurity based on affordability, availability, quality, and safety. Even though numerous organizations around the world focus on food security research, this initiative is unique for several reasons. The three internationally recognized dimensions of food security are all examined thoroughly for the first time in this index. (UNCCD, 2023) The measurement process is typically indirect and dependent on consumer spending, national income distribution, and food balance sheets. The capacity to quantify food insecurity in terms of the availability and apparent consumption of staple foods or energy intake allows for the connection between hunger and sub-nutrition with inadequate food intake. This score is consistent with prior, more restrictive definitions of chronic food insecurity. (FAO, 2002) National estimates are based on average per capita availability of staple foods, or apparent consumption, where international cross-sectional and national time series comparisons are made, as in State of Food Insecurity SOFI, (FAO, 2001). For nations without consumer expenditure surveys, the estimates may also be weighed by data on food spending by income levels.

Considering that poverty lines, like those determined by the World Bank, also reflect. There is unavoidably a strong link between these estimates of poverty and extreme poverty and assumptions regarding dietary energy intake. (FAO, 2002) Therefore, cross-sectional patterns and changes in food production are reflected in country estimates of chronic food insecurity, along with information from national food balance sheets about trade in essential commodities (basically, grains). These analyses highlight significant variation within categories as well as significant differences in food security within the development categories of low-, middle-, and high-income countries. There hasn't been much success in attempts to explain these variations within categories and in shifts in the prevalence of undernutrition over time. However, SOFI 2001 draws the following conclusion: attempts to discover one simple cause for either excellent or bad performance are not very beneficial. Groups of factors that reflect shocks and agricultural productivity increases are key influencers in explaining periodic changes in country performance. It is constrained when only a few factors are used to explain changes in extremely diverse and even singular national circumstances. (FAO, 2002) Unavoidable yet potentially dangerous for many of the most food-impoverished nations in subSaharan Africa is the problem of incorrect statistics on production and undocumented economic activity. This problem is brought to light by the current Southern African situation. Since the beginning of the 1990s, Malawi seems to have consistently been one of the top 12 performing nations in terms of increasing food security.

(FAO, 2002) However, there is currently substantial discussion over the validity of data on food production, notably for roots and tubers in this nation. The trends for the nations where there are significant staples, especially for subsistence, and comparisons between these and other nations are ambiguous. Current assessments of food insecurity that concentrate on the national level or the individual level have a significant intra-country gap, which is reflected either in averages obtained as ratios of national aggregates or a national survey estimate. For larger nations like Brazil, India, Nigeria, or the Russian Federation, this discrepancy is particularly noticeable. Significant intra-country regional or zonal changes in the structure and dynamics of food security are also likely, for instance, because of more swiftly developing agriculture in India's Punjab and Haryana States or momentarily due to drought in Northern Nigeria. At the national level, developments in food security and poverty might not be completely obvious. Consequently, a study of a procedure like trade liberalization that involves cross-country comparisons must consider larger economies' potentially significant variety. This suggests that regional assessments are necessary to support country-level inquiries. (FAO, 2002) Inadequate nutrient use by the body, determined by low metabolic use and/or absorption, is a component of nutritional deficiency; ignoring these components would be the most practical presumption for an agricultural economic analysis. The current situation in Southern Africa serves as a reminder once more that there might be considerable variations in these characteristics and how they are changing between different countries. Nutritional status may be decreasing in Southern Africa as a result of the rapid spread of HIV/AIDS, which now affects 25% or more of the adult population who have become economically solvent in addition to the resurgence of tuberculosis and malaria. The economy may grow more brittle and susceptible to ever-smaller shocks as people become more vulnerable.

2.4 Impact of Food Insecurity According to (FAO, 2021), Child wasting is an occurrence in which affected children are dangerously thin, have weakened immunity, and face an increased acute risk of death. Similarly, Childhood overweight has immediate impacts on children's health and well-being and increases the risk of diet-related non-communicable diseases later in life. The major consequences of food insecurity are protein-energy malnutrition and micronutrient deficiencies. In addition, diet-related, non-communicable diseases (e.g., diabetes, hypertension) are becoming prevalent. One in seven live births, or 20.5 million (14.6 percent) babies globally, suffered from low birth weight in 2015. This survey also found the proportion of underweight children to be 35 percent, attributable to transitory food insecurity. Stunting (defined as being too short for one's age) undermines children's physical growth and cognitive development and increases their risk of dying from common infections. Globally, 29.9 percent of women aged 15 to 49 years are affected by anaemia due to food insecurity. Nearly one in three (29.9 percent) women of reproductive age globally were still affected by anaemia and no progress has been made since 2012. (FAO, 2021)

The International Food Policy Research Institute (IFPRI) developed a scale to assess food insecurity called the Global Hunger Index (GHI), which considers three indicators: stunting, malnutrition, and infant mortality. On a scale from 0 (no hunger) to 100 (the worst case), this is measured with the following criteria. Child wasting: the number of children under five who are too thin for their height; this is a sign of severe malnutrition. Child stunting: the number of children under five who are stunted, which means they are short for their age because they do not get enough nutritious food. Anaemia: the percentage of the population with anaemia, which shows how many people are not getting enough calories (partially reflecting the serious interaction of inadequate nutrition and unhealthy environments) which can lead to infant mortality. (Frank, S.2017) Maternal undernutrition results in low birth weight which, in turn, contributes to high infant mortality and is also a significant factor in the high incidence of maternal mortality in Nigeria. Poor maternal nutrition, sub-optimal infant and young child feeding practices, limited access to diverse nutritious food, and inadequate health services are major underlying causes of child undernutrition. Over 40 percent of children aged 0–59 months are chronically malnourished (stunted). (NBS, 2017).

2.5 Factors Affecting Vulnerability to Food Insecurity.
2.5.1 Population Increase
One of the most important elements contributing to the amount of food insecurity is the population. (Molotoks, et al., 2021). It has always been difficult to produce enough food for a growing population because of the demands placed on the agriculture industry by the emerging population. (Hall, C. et al.2017) The rate of urbanization is also rising, and people are beginning to use the land for sustainability practices. (McNeill, k.2017). The level of food insecurity rises because of urban growth rather than agricultural productivity. Another significant element that contributes to food insecurity is urbanization. (Tacoli, C.2019)

2.5.2 Rapid Urbanization
Rapid urbanization decreases agricultural production by reducing the amount of arable land and displacing labour. (Chen, A.2013) It also causes the loss of potential crop yield because productive land is converted to non-productive use. Food insecurity is brought on by the non-productive use of arable land, which lowers the quality of the soil. (Hovhannisyan, V., and Devadoss, S.2020) Food insecurity is significantly influenced by water deficit. (Mahlknecht, J.; et al, 2020). Rapid urbanization attracts people from rural areas to cities leading to a loss of manpower for agricultural production. People living in sprawling slums around the cities are most affected by food insecurity.

2.5.3 Availability of Water

Water is an essential element in the creation of agricultural goods. For instance, farmers are unable to provide irrigation for their farmland without an adequate water supply, which has a negative impact on their crop production and agriculture production. (Wolde, Z.; et al., 2020). Water, according to Pahl-Wostl is important for cooking and food processing, not just for agriculture production, hence a lack of it worsens the food insecurity problem. (Pahl-Wostl, C.2019) According to Kirby, Bartram's research, the irregular supply of water for processing home food is the cause of 15% of the world's population being undernourished. Therefore, achieving food security is seen to be hampered by the lack of or insufficient supply of water. (Kirby, R. M., 2003)

2.5.4 Lack of Research & Development

Lack of research and development is another factor that causes food insecurity. It is believed that the unavailability of appropriate agriculture machinery and the dependency of farmers on conventional methods is the main barrier to agriculture production growth. Undoubtedly, the demand for food continues to grow with the rapid increase in population and urbanization. This increased demand for food necessitates increased agricultural production which is possible by utilizing modern methods of production. (Heisey, P. W. 2001) Conceição, Levine recognized a food gap of around 70% between the crop calories available in 2010 and expected calories to be in demand in 2050. (Conceição, P., et al 2016) The study suggested that the only possible way to fill this gap is the adoption and adaptation of advanced technology by the farmers. Hence, the adoption of advanced technology (i.e., tractors, plant breeding machines, hybrid rice technology, etc.) by the farmers is essential for agriculture production to overcome the problem of food insecurity. (Qaim, M. 2020) The adaptation of advanced technology is not possible without sufficient governmental funding for research and development (R&D). (Mok, W. K., et al 2020) This present study, therefore, considers that a stable government plays an important role to eliminate food insecurity. Moreover, a stable government not only provides funding for research and development but also ensures the eradication of food insecurity through the provision of basic needs and the implementation of efficient policies.

RESEARCH DESIGN

3.1 Introduction

This chapter explains the research methods and data collection procedures employed in the study. It focuses on the methods used to investigate the prevalence and determinants of food insecurity in Lagos State, Nigeria. Utilizing both quantitative and qualitative approaches, this chapter details the study area, research design, sampling methods, data collection procedures, instrumentation, variable measurement, and data analysis techniques. It also discusses study limitations regarding credibility, validity, reliability, and transferability. By combining statistical data with participants' lived experiences, the chapter provides a comprehensive understanding of the diverse factors contributing to food insecurity in low-income households.

3.2 Research Design

A mixed-methods research design was adopted for this study. According to Maxwell (2016), mixed methods combine quantitative and qualitative data to answer research questions effectively. This design is appropriate because food insecurity is multi-faceted, influenced by social, economic, and cultural factors. Quantitative data allow measurement of prevalence and determinants, while qualitative data provide insights into lived experiences, coping mechanisms, and community perspectives. The combination enables cross-verification of findings, enhancing the validity and eliability of results.

3.2.1 Quantitative Design

The quantitative component employed a descriptive and cross-sectional design. Descriptive research provides an accurate view of the current situation without manipulating variables (Qualtrics, 2024). Structured questionnaires allowed researchers to ask predetermined questions to all participants in a uniform manner. The cross-sectional design enabled the collection of data at a single point in time, providing a snapshot of household food insecurity and associated factors (Maninder, 2016). This approach is suitable for estimating prevalence and examining associations between variables.

3.2.2 Qualitative Design

Qualitative data were collected through in-depth interviews to capture the emotional and experiential aspects of food insecurity. Open-ended questions encouraged participants to describe their experiences, coping strategies, and the impact of food insecurity on daily life. This approach

complements quantitative findings by providing context and deeper under-standing of underlying factors.

3.3 Study Area
The study was conducted in selected Local Government Areas (LGAs) in Lagos State. Lagos State, located in southwestern Nigeria, is highly urbanized and densely populated, with significant disparities in income and living conditions. The selected LGAs represent urban and peri-urban communities with high concentrations of low-income households, which are particularly vulnerable to food insecurity due to limited income and restricted access to nutritious food.

3.4 Population and Sampling
3.4.1 Target Population
The target population consisted of low-income households in Lagos State, de-fined as households earning below the World Bank extreme poverty threshold of US$2.15 per day (September 2022). The unit of analysis was the adult female within each household, as females are typically responsible for household food provision.

3.4.2 Inclusion Criteria
● Females aged 25 years and above, responsible for household food decisions
● Households with low-income status.
● Any marital status, educational attainment, or occupation.

3.4.3 Sampling Technique
A multistage cluster sampling design was used:
1. **Stratification**: Lagos State was divided into LGAs to ensure geographic rep-resentation.
2. **Stage 1** – Cluster Selection: Communities or wards were selected as clus-ters using probability proportional to size (PPS).
3. **Stage 2** – Household Selection: Within each cluster, households were sys-tematically selected after a complete household listing.
4. **Stage 3** – Respondent Selection: The adult female responsible for house-hold food provision was selected from each household. Sample Size Determi-nation: A simple random sample size of 385 households was calculated based on 95% confidence and 5% margin of error. Adjusting for a design effect of 2 and 10% nonresponse, the final sample was ~850 households. A 30 × 30 cluster design (30 clusters × 30 households) was used for practical field implementa-tion.

3.5 Data Collection Instrument
3.5.1 Quantitative Instrument
The primary data collection instrument was a structured questionnaire with four sections aligned to the study objectives:

● **Section A** – Demographics: Age, sex, marital status, educational attainment, occupation.
● **Section B** – Residential, Household, and Socioeconomic Information: Household size, income, and residential conditions.
● **Section C** – Food Insecurity and Malnutrition: Standardized food insecurity indicators and household nutrition assessments.
● **Section D** – Food Sources and Coping Strategies: Food acquisition patterns and coping mechanisms during food shortages.

The questionnaire included 19 items measured using a 2-point dichotomous scale (Yes/No) and Likert-scale items for assessing intensity or frequency. The instrument was designed to capture numerical, ordinal, and nominal data relevant to food insecurity prevalence and determinants.

3.5.2 Qualitative Instrument
In-depth interviews with open-ended questions captured personal experiences, coping strategies, and emotional impacts of food insecurity. This approach ensured a comprehensive understanding of food insecurity beyond statistical measures

3.6 Measurement of Variables

VARIABLE	QUESTION FORMAT	RESPONSE OPTIONS	LEVEL OF MEASUREMENT
Age	"What is your age in completed years?"	Open numeric	Ratio
Sex	"What is your sex?"	Male, Female, Prefer not to say	Nominal
Marital Status	"Current marital status?"	Single, Married, Separated, Divorced, Widowed	Nominal
Educational Status	"Highest level of education completed?"	No formal, Primary, Secondary, Vocational /Technical, Tertiary	Ordinal

Occupation	"Primary occupation?"	Unemployed, Self-employed, Paid employment, Farmer, Student, Other	Ratio
Household Size	"Number of people in the household?"	Open numeric	Ratio
Income	"Average household income?"	pen numeric or categories: <US$2.15/day, US$2.15–3.50/day, US$3.51–5.00/day, >US$5.01/day	Ratio/Ordinal

3.7 Data Analysis Techniques

3.7.1 Hypotheses

1. **H$_1$**: Household income level is significantly associated with food insecurity prevalence.

2. **H$_2$**: Household size is significantly associated with food insecurity severity.

3. **H$_3$**: Educational status of household head affects food insecurity.

4. **H$_4$**: Marital status, occupation, and age of household head are associated with food

security status.

5. **H$_5$**: Sources of food supply and coping strategies are related to household food insecurity.

3.7.2 Descriptive Analysis

● Categorical variables: Frequencies and percentages.
● Continuous variables: Mean, median, standard deviation, range.

3.7.3 Inferential Analysis

● Chi-square tests (χ^2): Associations between categorical variables and food insecurity (H$_1$, H$_3$, H$_4$, H$_5$).
● t-tests / One-Way ANOVA: Differences in mean food insecurity across groups (H$_2$, H$_4$).
● Correlation analysis (Pearson/Spearman): Relationships between interval/ratio variables and food insecurity (H$_2$, H$_5$).
● Post-Hoc Tests: Tukey's HSD for significant ANOVA results.
● Logistic Regression: Identified factors independently associated with food insecurity while controlling for confounders.

All analyses were conducted using [SPSS v25], with p < 0.05 considered statistically significant.Sampling weights and clustering were incorporated in variance estimation. Missing data were addressed using appropriate imputation and data-cleaning strategies to ensure completeness and accuracy.

3.8 Summary

This chapter outlined the mixed-methods research design, study area, population, sampling, data collection instruments, variable measurement, and data analysis procedures. By integrating quantitative and qualitative approaches, the study ensures a comprehensive understanding of food insecurity prevalence, determinants, and coping strategies in low-income households in Lagos State. The structured methodology enables both statistical analysis and contextual insights, supporting evidence-based policy recommendations.

CHAPTER 4:

RESULT

4.0 Household Food Insecurity and Access Among the 2358 respondents, 97.21% were female, 42.86% had a secondary level of education, and 63.57% were married. The average age of the participants was 48 ± 18 years, with 71.94% between 18 and 59 years. Less than half (33.47%) of the responders were single, and 23% lived in a household where the breadwinner earned less than or equal to # 30000 (Thirty Thousand Naira, Nigeria) per month. On average, the household family size was 5±2 persons, with the number of persons ranging from one to fifteen per household. More than half (55.76%) of the responders live in Lagos Mainland, while insignificant (4.18%) of responders live in Lagos Island, with Other (40.06%) responders that we didn't interview for the survey, as depicted in Table 1.

Table 1

SOCIODEMOGRAPHIC CHARACTERISTICS OF PARTICIPANTS

4.0.1 Household socio-economic determinants of food security in Lagos State, Nigeria: across Selected Local Government areas survey

SOCIO-DEMOGRAPHIC PARAMETERS OF RESPONDENTS	PERCENTAGE (%)
Gender (n =2358)	
Male	2.79
Female	97.21
Age (years) (n = 2358a Mean ± SD = 48 ± 18)	
< 18	0.85
18−24	4.40
25−59	67.54
60 plus	27.22
Educational level	
Never attended school	19.86
Primary education	30.01
Secondary education	42.86
Tertiary education	7.01
Masters	0.08

SOCIO-DEMOGRAPHIC PARAMETERS OF RESPONDENTS	PERCENTAGE (%)
Marital status	
Married	63.57
Single	5.83
Divorced	3.55
Widowed	24.09
Salary scale of the breadwinner in Naira (#)	
5000	42
5001–20000	32
20001–30000	23
30001-50000	3
70000	2
Number of family members in the household (n = 2358 Mean ± SD = 5 ± 2)	
1–2	4
3-6	70.41
7-15	24.57
Selected Local Government of Residence of Participants (LG Residence = Lagos Mainland + Lagos Island)	
Lagos Mainland	55.76
Lagos Island	4.18
Others	40.06

4.2 Household Food Experience
4.2.1 Source of Food Supply and Hunger Coping Strategy
The average household size is five (5) members and with a standard deviation of 2.5, with the highest of 37.18% in a household size of 2 members, with significantly (0.09%) smaller numbers of household sizes that are income earners. The primary source of food supply for most households 36.43% is purchasing, followed by food aid 25.57%, followed by donations from NGOs 18%. This reliance on small, frequent purchases and external aid reflects the precarious nature of food security in the community. Common strategies to cope with hunger in 30 days include reducing the quantity of food and consuming lesser portions than usual, 27.37% and skipping meals at 9.04%. In the past 30 days, 29.68% of respondents reported spending their savings to cope with food shortages, while 43.28% reported borrowing money to handle food shortages, making it the most common strategy. Other coping mechanisms include begging (12.92%) and selling personal items to survive. These strategies indicate that many households are employing drastic measures to manage their food needs, often at the expense of their financial stability and health. as depicted in Table 2.

Table 2:
SOCIO-ECONOMIC PARAMETERS OF RESPONDENTS
4.2.2 Socio-economic survey respondents

Number of Income Earners (Household size)	Percentage (%)
Number of households (n =2358 Mean ± SD =5 ±2.5)	
0	6.05
1	36.64
2	37.18
3	8.75
4	4.60
5	2.44
>5	0.09

Sources: Main Source of Food Supply for Households	
Purchase	36.43
Food Aid	25.57
Donation from NGOs	18
Social Events	1
Others	0.75
Coping Strategies for Hunger in 30 Days	
All Skip meals	9.04
Borrowing	16.27
Adults only Skip meals	8.69
Reducing portions	27.37
Begging	12.92
Spent Savings	29.68

4.3 Discussion and Conclusion

The community surveyed is predominantly female (97.21%) and largely within the active working-age bracket (71.94% between 18–59 years). Most households are relatively large, with an average of five members, but often have only one or two income earners. Breadwinner income is low, with 23% earning ₦30,000 or less per month, reflecting constrained purchasing power. Education levels are moderate, with nearly half of respondents having at least secondary education. These socio-demographic characteristics contribute to the vulnerability of households, particularly in urban low-income settings where access to nutritious and sufficient food is dependent on market purchases or external aid. Using standard Household Food Insecurity Access Scale (HFIAS) criteria, households can be classified as food secure, mildly food insecure, moderately food insecure, or severely food insecure. In this study, approximately 72% of low-income households in Lagos State were

eclassified as moderately to severely food insecure, based on observed coping strategies and reliance on external food sources. Specifically, households frequently reduced meal portions (27.37%), skipped meals (9.04%), borrowed money (43.28%), spent savings (29.68%), or resorted to begging (12.92%) to manage food shortages. Additionally, the primary sources of food are: market purchases (36.43%) and external aid (25.57% + 18% NGO donations), indicating chronic vulnerability and a limited capacity for self-sufficiency.

These findings underscore that food insecurity is a widespread and persistent issue, with significant implications for health and well-being. Coping strategies often come at the expense of financial stability and nutritional adequacy, further exacerbating vulnerability. The study highlights the urgent need for targeted interventions, including social support programs, income-generating initiatives, and policies to stabilise food access. Enhancing household resilience and addressing the socioeconomic determinants of food insecurity in urban low-income communities are critical steps toward improving the overall welfare of vulnerable populations in Lagos State.

Food Insecurity Status: Comparison With Previous Studies in Nigeria

In this study, approximately 72% of low-income households in Lagos State were classified as moderately to severely food insecure, based on coping strategies and reliance on external food sources. Households frequently reduced meal portions (27.37%), skipped meals (9.04%), borrowed money (43.28%), or spent savings (29.68%) to cope with insufficient food.
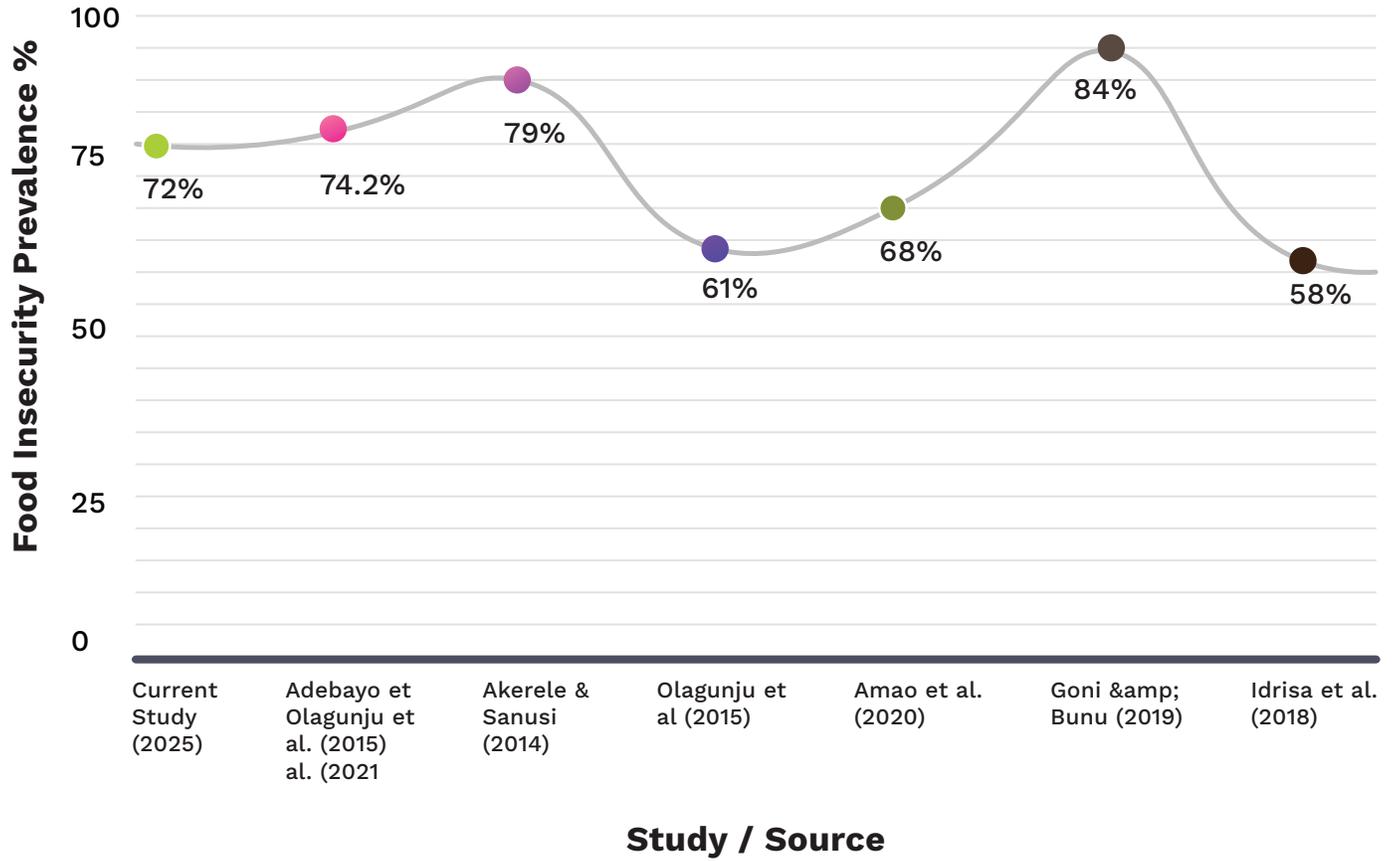
Additionally, most households rely heavily on market purchases (36.43%) or external aid (25.57% + 18% NGO donations), reflecting chronic vulnerability and limited self-sufficiency. These findings indicate that the majority of urban low-income households in Lagos struggle to access sufficient and nutritious food, highlighting widespread food insecurity.

Comparatively, these results align with high prevalence rates documented in previous Nigerian studies. For example, Adebayo et al. (2021) reported 74.2% among urban poor households in Lagos, while Akerele and Sanusi (2014) reported 79% among urban households in Lagos. Studies from other regions include 61% in Oyo State (Olagunju et al., 2015), 68% in Southwest Nigeria (Amao et al., 2020), and 84% in Borno State (Goni & Bunu, 2019), particularly in conflict-affected areas. Idrisa et al. (2018) found 58% among farming households in Northeast Nigeria, likely due to partial reliance on own-production buffering against shortages. Overall, urban low-income households, dependent on market-purchased foods, experience higher food insecurity than rural or mixed-livelihood households.

Table 1:
Comparison of Food Insecurity Prevalence Across Studies in Nigeria

Study / Source	Location	Population Studied	Food Insecurity Prevalence (%)	Notes
Current Study (2025)	Lagos State (Selected LGAs)	Low-income households	72%	Based on HFIAS and coping strategies.
Adebayo et Olagunju et al. (2015) al. (2021)	Lagos State	Urban poor households	74.2%	High reliance on purchased foods; urban poverty constraints.
Akerele & Sanusi (2014)	Lagos State	Urban households	79%	High cost of living; unstable income sources.
Olagunju et al (2015)	Oyo state	Low-income households	61%	Linked to income levels and household size.
Amao et al. (2020)	Southwest Nigeria	Urban households	68%	Urban exposure increases vulnerability.
Goni & Bunu (2019)	Borno State	Urban households	84%	Conflict-related disruptions in food supply chains.
Idrisa et al. (2018)	Northeast Nigeria	Farming households	58%	Food production buffers against shortages.

FOOD INSECURITY PREVALENCE % VS. STUDY / SOURCE

Food Insecurity Prevalence %

Current Study (2025)	72%
Adebayo et Olagunju et al. (2015) al. (2021	74.2%
Akerele & Sanusi (2014)	79%
Olagunju et al (2015)	61%
Amao et al. (2020)	68%
Goni & Bunu (2019)	84%
Idrisa et al. (2018)	58%

Study / Source

CHAPTER 5:

LIMITATIONS, CONCLUSION, AND RECOMMENDATIONS

5.1 Limitations
This study had several limitations that should be considered when interpreting the findings:
1. Self-reported data: Household information relied on verbal responses, which may introduce recall bias or interviewer bias.

2. Cross-sectional design: Data were collected at a single point in time, limiting the ability to account for seasonal or temporal variations in food security.

3. Data collection inconsistencies: Some data collectors lacked full training, potentially affecting data quality and consistency.

4. Geographical coverage: The survey included only selected local government areas in Lagos State, limiting generalizability to the entire state population.

5. Protocol adherence: Some aspects of standard survey protocols were not fully implemented, which could affect the reliability and validity of the findings. Despite these limitations, the study provides a valuable snapshot of household food insecurity and coping strategies among low-income urban households in Lagos.

5.2 Conclusion
The study reveals a high prevalence of food insecurity among low-income households in Lagos State, with approximately 72% classified as moderately to severely food insecure. Households are predominantly female-headed, with limited income sources, low breadwinner earnings, and moderate education levels. Most households rely heavily on purchased foods or external aid from NGOs, reflecting chronic vulnerability and limited self-sufficiency.

Coping strategies: including reducing meal portions, skipping meals, borrowing money, or spending savings, highlight the financial and nutritional stresses faced by these households. Comparison with previous studies shows that urban low-income households in Lagos experience similar or higher rates of food insecurity relative to other regions in Nigeria. Overall, the findings under-score that food insecurity is a persistent urban challenge in Lagos, with significant implications for health, well-being, and socio-economic stability.

5.3 Recommendations

To address the identified challenges, the following measures are recommended:

1. **Strengthen urban food assistance programs** targeting the most vulnerable local government areas in Lagos.

2. **Promote urban agriculture and community gardens** to improve local food availability and reduce dependency on market-purchased foods.

3. **Implement nutrition education campaigns** to enhance food utilization and promote healthier dietary choices.

4. **Develop social protection schemes** to buffer low-income households against food price shocks and economic instability.

5. **Encourage multi-sectoral collaboration** between government, NGOs, and private sector actors to address systemic causes of food insecurity.

6. **Conduct further research** to quantify resource requirements and evaluate the effectiveness of interventions in mitigating urban food insecurity.

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