EFFECT OF REMITTANCES ON FOOD SECURITY STATUS OF HOUSEHOLDS IN NIGERIA

BY

NSIKAK, NSIBIETMFON ASUQUO

(19PGAA000033)

AUGUST, 2022

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DECLARATION

I, NSIBIETMFON ASUQUO NSIKAK, an MSc. student in the Department of Agricultural Economics and Extension, Landmark University, Omu-Aran, hereby declare that this thesis entitled "***Effect of Remittances on Food Security Status of Households in Nigeria***", submitted by me is based on my original work. Any material(s) obtained from other sources by any other persons or Institutions have been duly acknowledged.

Nsibietmfon Asuquo Nsikak
19PGAA000033

CERTIFICATION

This is to certify that this dissertation has been read and approved as meeting the requirements of the Department of ***Agricultural Economics and Extension*** Landmark University, Omu-Aran, Nigeria, for the Award of Masters of Science (***MSc. Agricultural Economics***).

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Prof. O. M. Bamiro Date
(Supervisor)

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Dr. Akerele Dare Date
(Co-Supervisor)

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Dr. A. O. Adekiya Date
(Head of Department)

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(External Examiner) Date

DEDICATION

I dedicate this project to the Almighty God for his faithfulness and compassion.

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ABSTRACT

The aim of this study was to examine the effect of remittances on food security status of households in Nigeria. Data were analyzed using 2018/2019 Nigeria living standard survey data for analysis. To measure the food security status, Food Consumption Score was used as indicator for food security status. Data were analyzed using mean, percentages, frequency, Ordinary Least Square regression, and the ordered probit regression method. The mean age of remittance receiving household head was 52 years and the mean per capita income of remittance receiving households was ₦20,476 while that of non-remittance receiving household was ₦16,244. Households in the southsouth and southeast geopolitical zones received the highest percentages of cash remittances (44.75%) and in-kind remittances (29.04%), respectively, while the north-eastern residents received the lowest percentages of cash remittances (13.30%) and in-kind remittances (15.97%). Households in the urban region, particularly the South West and South East were found to have increased food budget share irrespective of the fact that they received extra income in form of remittance transfer. The major determinants of food budget share among households was income, educational status, age, sex, marital status, remittances, food transfer, sector and geopolitical zone. The dominant source of remittances was the domestic cash remittances. Recipients of foreign remittances across the country was low. Furthermore, households in the Southwest, Southsouth, Southeast, Northwest, and Northeast region were more exposed to the poor, borderline and less likely to be within the acceptable food security group status compared to the North Central region. The study concluded that even though Nigeria is known as one of the highest remittance-receiving countries in Africa, a small fraction of households received foreign remittance as the domestic cash remittance was dominant. The study recommended that the law makers should seek to improve the challenges of high cost of foreign transactions and poor logistic structure to improve access to foreign remittances. Also, policy makers should take into consideration spatial profiling while implementing measures to reduce food insecurity. Education friendly schools should be targeted as formal and informal education will increase the number of literate people in the country.

Keywords: Food security; remittance; household status; food consumption score

Word Count: 354

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the Problem

Access to food is guaranteed when individuals within a particular household have resources that are sufficient to acquire enough nutritious food. This could be through purchase, production, or as a gift (USAID, 1995). Food security occurs "when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to suit their dietary needs and food preferences for an active and healthy life," (FAO, 1996). This definition is applicable at all levels that is from individual level to global levels (Perez-Escamilla *et al*., 2017).

In 2019, about 690 million people were malnourished globally and in 2020, about 811 million people globally experienced the same threat of malnourishment (FAO *et al.*, 2020). This report covered a total of 55 countries. Among these countries, 73 million people from 36 countries of the 55 countries are in Africa (Otekunrin *et al*., 2019$_{a, b}$). About one third of individuals undernourished in the world are found in Africa (282 million) compared with the 236 million people in 2019 (FAO *et al.*, 2020). Approximately one in three people in sub-Saharan Africa are malnourished, according to forecasts from the African Food Security Briefs (AFSB) (Matemilola, 2017). Over 9 million people in Nigeria face food insecurity (FAO *et al.*, 2020) and 12.6% of the population is undernourished. Nigeria is currently experiencing worrisome levels of food insecurity, necessitating urgent and immediate response. Food and nutrition security in Nigeria is deteriorating. According to WHO (2019), the total number of undernourished Nigerians in the country reached 9.1

million between the years 2004 and 2006. This number increased by 25.6 million persons between 2016 and 2018, a 281.32 percent increase. In Nigeria, the percentage of undernourished people increased from 7.6% in 2012 to 12.6% in 2020.

With a 2019 Human Development Index score of 0.539, Nigeria, the largest economy in Africa, was classified as having low human development. The country dropped three spots from its prior ranking of 158 in 2018 to 161 in the Human Development Index (HDI) for 2020, which included 189 nations. (Baumann, 2021). The country also ranked 150 out of 157 countries in Human Capital Index (World Bank, 2020).

In 2019, Nigeria ranks 98th out of 107 countries with a 29.2 score on the global hunger Index Severity Scale which signifies that Nigeria's level of hunger is critical (von Grebmer *et al.*, 2019). In addition, Nigeria had a relatively low rank and score on the Africa Sustainable Development Goals Index (SDGI). It was ranked 43rd out of 52 countries in Africa and received a score of 47.03 out of 100. This placed it slightly behind Comoros and Sudan in Africa (Otekunrin *et al*., 2019$_c$).

Various programs have been introduced by the different governments of Nigeria to end food insecurity. The programs include:; Green Revolution; Zero Hunger Initiative (ZHI); Directorate of Foods, Special Programme for Food Security (SPFS); FADAMA Development Project; Agricultural Transformation Agenda (ATA); National Policy on Food and Nutrition (NPFN); Operation Feed the Nation (OFN), Others are, National Home Grown School Feeding (NHGSF) program; Government Enterprise and Empowerment Program (GEEP); N-Power Program; Agricultural Development Program (ADP); National

Special Program for Food Security (NSPFS); the National Cash Transfer Program (NCTP), and National Social Investment Programs (N-SIP) among others.

All of these schemes have performed poorly and have separately or collectively contributed to the observed low food production in Nigeria. There have been significant shifts in food and agricultural policies as a result of the frequent changes in government. These changes have caused significant delays and hindered the production and distribution of agricultural products. Every new government has abandoned the agricultural policies of the previous administration. This has led to widespread production instability and impeded efforts to eradicate food insecurity. Therefore, developing policies and interventions to enhance food security requires an understanding of transfers, their interrelationships, and their significance to specific populations (FAO, 2005).

Remittance inflows into Nigeria were the sixth-largest globally in 2017 and the biggest in Africa (World Bank, 2018). Remittance receipts have sustained a significant spot as a source of external financing to Nigeria. Its contribution to the country's GDP has increased progressively in the past decade however it fell to $19.7 billion (4.9 per cent of GDP) in 2016 from $20.62 billion (5.02 per cent of GDP) in 2011, it improved to $22 billion (5.9 percent of GDP) in 2017. In 2018 it increased to $24.3 billion which represented 6.1 per cent of GDP. In the subsequent year (2019), it fell to $24billion (5.3 per cent of GDP) due to minor fluctuations recorded.

For developing economies like Nigeria, domestic and foreign remittances are a vital source of income for many households (Mabrouk and Mekni, 2018). The majority of remittances are aimed at easing the financial situation of the households receiving the money (Odior,

2014). According to the World Bank (2019), around one in nine people around the world rely on money sent home by migrant workers as their primary source of income.

Remittances improved housing, consumer durables, non-land assets, and overall spending (Quisumbing and McNiven, 2020). Remittance recipient households consume more food than non-recipients (Adams and Cuecuecha, 2010b). Remittances affects food security in recipient countries by leading to an increase in capital investment within the agricultural sector (Chiodi *et al*., 2012; Jokisch, 2002). A research by Quinn (2009) also revealed that remittance-receiving households used remittances as insurance against production loss and the risk of agricultural failure. Other literary works show how remittances directly affect the economies of the countries where migrants come from. Remittances are used to boost consumption (Rosenzweig and Stark, 1989) and reduce poverty (Beegle et al., 2011; Adams, 2006; Gupta et al., 2009).

Other research on the impact of remittances on food security concentrated mostly on children's nutritional outcomes. The findings of Davis and Brazil (2016) suggest that the household heads in Guatemala are not able to improve diets of the children due to futile influence of remittances on the children's nutritional state. Babatunde et al., (2011) reported insignificant effects on remittance on dietary quality, the report is about a decade ago and food consumption behavior and the economic circumstances of the households might have changed. Though they claimed that remittance revenue increased the accessibility of calories in Nigerian households. However, there was no effect on diet quality, child nutritional status, or micronutrient availability. Besides, recent information on the rising inflow of remittance to Africa (Nigeria inclusive) is suggestive that the past

findings and conclusion regarding the effects of remittances on food security may have changed.

1.2 Statement of the problem

The presence of chronic and furtive hunger, extreme poverty, corrupt government, violent conflict, and unfavorable climate change are the primary contributors to acute food insecurity that exists in a nation (FAO *et al.*, 2020). Chronic and seasonal food insecurity is caused by frequently high food costs, violence/insurgency, climate change, community farmers /herdsmen crisis, abduction and cattle rustling, (FEWS NET, 2020). For years to come, a nation's capacity for economic progress will be impacted by this slowing of human development. Food insecurity is linked to a number of other general challenges of a country, namely; population growth, escalating energy demand etc. (Behnassi, Pollmann, and Kissinger, 2013).

Although, a lot of efforts have been invested in enhancing world food supply, hunger remains pervasive in Nigeria (Matemilola, 2017). An estimated 9.8 million Nigerians are anticipated to require external food assistance in 2020, a significant rise from the estimated 4 million persons in 2019 (SWAC/OECD, 2020; "Cadre Harmonisé" research).

Before the Covid-19 outbreak, the world was already off pace to realize the goal of ending world food insecurity and malnutrition by 2030 (UN, 2020). The COVID19 pandemic's effects had worsen the food security situation on the supply chain, as the rise of armed and intercommunal conflicts, certain localized cereal production deficits in 2020, difficult macroeconomic conditions, and high food prices have increased the frequency of food insecurity. Herdsmen and farmers frequently clash with one another, which makes the

already precarious food supply situation even worse which has also led to civil disturbance of varied dimensions and magnitudes that resulted in fatalities, as well as destabilized food and meat production contributing to Nigeria's inability to ensure its own food security. The majority of the households who have been impacted are unable to carry out the activities that support their livelihoods, such as petty trade and unskilled work, which limits their ability to make purchases. In addition, the significantly above average prices of staple foods make it grueling to purchase food. Many of the affected households continue to experience substantial levels of food insecurity making it very challenging to provide household's dietary needs (FAO-GIEWS, 2019). Ending food insecurity, enhancing/promoting nutrition and sustainable agriculture are some of the objectives of the second Sustainable Development Goal (SDG) because of the negative effects that food instability and hunger have on society (UN, 2015).

Reports indicate that food insecure households engage in a variety of coping behaviors that are reflective of their precarious situation (Kyaw, 2009). According to the findings of Akerele *et al*. (2013), the three most common coping strategies for combating short-term food shortages are eating food that is less expensive, eating food that is less preferred, and reducing the size of one's portion. Akerele *et al*. (2013) also found it is important to support policies that would increase the members of a household's ability earn money.

In contrast, according to a report by Iheke (2016), remittance flows are grossly underestimated, with up to fifty percent of remittances entering the country through unofficial channels. There is a reasonably broad network of urban centers dispersed throughout all parts of the country, and the annual rate of urbanization exceeds 4 percent (CIA, 2018). Very little information is known about the entire amount of internal

remittances, despite the fact that the number of African countries to international remittances has grown over a period of time (Mabrouk and Mekni, 2018) and the rate of migration within Nigeria (Mohapatra and Ratha, 2011). The link between domestic, foreign remittances and household food security has not been extensively researched. This work will attempt to estimate the share of remittance from within the country to the total remittance (outside the country) using the descriptive statistics and to examine the effect of remittances on food security status of households in Nigeria across the various zones and sector using the ordered probit regression model.

1.3 Objectives of the Study

The broad objective of the study is to examine the effect of remittance on household's food security in Nigeria. Specifically, the study seeks to:

1. determine the food security status of the households in Nigeria by their spatial profile
2. determine the household food budget share
3. analyze the associated determinants of food budget share of households in Nigeria
4. identify the dominant source of remittances among households in Nigeria by their spatial profile
5. examine the effect of remittances on food security status of households in Nigeria

1.4 Research Questions

The following research questions were addressed in this study to ascertain and develop the objectives of this study:

1. What is the status food security of households in Nigeria based on their spatial profile?

2. What is the household food budget share?
3. What determinants affect households' portion of the food budget in Nigeria?
4. What are the dominant sources of remittances among households in Nigeria by their spatial profile?
5. What is the effect of remittances on food security status of households in Nigeria?

1.5 Research Hypotheses

Null hypothesis (H_o): Remittances do not have significant influence on food security status of households in Nigeria.

1.6 Justification for the Study

The effect of remittances on food security has been studied by several authors across the globe. Most of these studies are studies from either other country, regional or state-based studies in Nigeria. However, studies that have recently looked at the impact of domestic and foreign remittances on Nigerian households' access to food are not so many. By employing the Nigerian 2015/2016 General House Survey data and an instrumental variable method, Obi et al. (2020) made the case for the necessity of integrating the links between migration, remittances, and food problems in Nigeria. With a focus on Africa, Crush and Caesar (2018) reviewed the current state of knowledge about migration and food remittances as well as the connections between the four pillars of family food security. Babatunde (2018) looked into how remittances affected the nutrition and food security of farming households in Kwara State, Nigeria. He discovered that remittance income adds to an increase in household calorie supply, a hitherto unstudied element. Despite the fact that the bulk of foreign remittances to African countries has grown over the years, Mabrouk

and Mekni (2018) affirm that impact of remittances on food have received inadequate attention. A methodical review of the impact of remittances on food was conducted by Thow et al., (2016) and they noted that remittances can make it easier to acquire food purchased and may have a smoothing impact on consumption, both of which may reduce household vulnerability and improve food security.

This study targets to highlight the coverage areas where remittances had an impact on the household's level of food security. This will contribute meaningfully in recognizing the vulnerable food insecured areas of the country. Additionally, it would help in directing decision-makers and pertinent parties in ways that will improve the food security of vulnerable households in Nigeria. Additionally, it's critical to have data on the spatial profiling of Nigerian households' food security status in order to target programs to the most vulnerable populations and increase their efficacy.

The study will be beneficial to the government in providing policies that will help diversify ways of tackling food insecurity of households. Also, it will help the government in advancing policies that will encourage private income transfers (remittances) by those in diaspora. Organizations such as Non-Governmental Organization (NGOs) too will benefit from the findings of this study as information on the dominant sources of remittances among households in Nigeria by their spatial profile will be provided to guide them on the scope of coverage of their intervention mandates.

1.7 Operational Definitions of Terms

Food security: is having consistent access to an adequate supply of a reasonable price and wholesome food.

Food consumption: This is the intake of edible products that are healthy for human body system.

Remittances: These are gifts or payments made by foreign workers to friends and family members in their home country. Remittance can also be made within a country.

CHAPTER TWO

2.0 REVIEW OF LITERATURE

2.1 Conceptual Issues

2.1.1 Remittance and Food Security

There are around 250 definitions of food security and 450 indicators of the level of food security, according to Heady and Ecker (2012). In the middle of the 1970s, the global situation of the world food problem at the time gave rise to the first perception of food security. The first emphasis on food security was mostly on food supply challenges, which included making sure that fundamental food stuffs were available and, to some degree, at a stable price on both the worldwide and national levels (FAO, 2005).

Food security issues first came to the forefront of the public consciousness in the 1970s and have received a significant amount of attention since that time. At each of these levels i.e. the global, national, household and individual have different perspectives on it (Duffour, 2009). At the 1974 World Food Conference, in response to widespread food shortages and significant famines across the globe, the concept of "food security" was first presented. It was decided that food security would be defined as the supply of food, which would guarantee the availability and price stability of fundamental commodities on both the universal and the national level. In addition, there should always be a sufficient amount of basic foodstuff available throughout the world in order to support a continuous growth in the amount of food that is consumed and to compensate for shifts in production and costs. The FAO conducted studies in 1983 with a focus on the accessibility of food. These initiatives led the agency to conceptualize food security as the sustaining of a balance

between the supply and demand sides of the food security equation. This definition ensures that “all people, at all times, have both physical, social and economic access to the fundamental food that they require that fits food preferences for an active and healthy life and also their dietary needs." (FAO, 1996). After the World Food Summit in 1996, the definition of "food security" from the FAO evolved into the one that is currently the accepted definition in the world.

Additionally, "food security" refers to the capacity of the country's food supply to meet the needs of the populace in terms of both energy and nutrients all through the 1970s. Many development professionals now define household food security as the food availability on the global market and in relation to developing countries' food production systems (Bedeke, 2012). Food safety at the international level is not necessarily synonymous with food safety at the national level. In addition, the presence of food security at the national level does not necessarily imply the presence of food security at the household or even the individual level.

The focus of food sufficiency is on the food availability and adequacy (in terms of quantities) at an appropriate quality; economic and physical access focuses on access by individuals to adequate food; security aspect of food security refers to body use, food safety, dangers, and other aspects; food stability refers to time-bound food supply, access, and use; and finally, food stability relates to the availability, access, and utilization of food over a period of time (Ike *et al*. 2015).

According to the Food Security Information for Action handbook, all four components must be met simultaneously to achieve food security goals (Simon, 2012). The four components can be defined as:

Availability: Every person, at all times, and in every circumstance, must have access physically, socially, and economically to adequate and nutritious food. The population's dietary needs and culinary preferences need to be taken into account. It refers to the amount of food that can be obtained through normal means in a certain region or place. The availability of food is heavily reliant production, imports, inventories/trade deficits.

Access: This involves people having economic, social, and physical access to food at all times. The availability of a sufficient quantity of food at all levels i.e. from individual level to global level. It must be also inexpensive locally.

Utilization: This involves the process by which the body uses up nutrients obtained from food. Utilization is dependent on factors such as the quality of the food, its nutritional value, the method of preparation, the conditions of storage, and the feeding schedule.

Stability: This idea alludes to how the availability, accessibility, and utilization of food have remained relatively stable over the course of time. At any given time, there must be examples of all three components currently existing simultaneously.

Remittances on the other hand are alimentations for a vast number of households in underdeveloped nations like Nigeria. It is anticipated that households will enjoy improved food security as a result of remittances. It is projected that the volume of the transfer will closely correlate with how much food security would raise (Waidler and Devereux, 2019).

These remittances are beneficial in alleviating the stress that households in a country are under as a result of their financial situations (Odior, 2014). According to the definition of remittances, they are "household income from external economies that originates predominantly from the temporary or permanent movement of persons to other economies". It also refers to both monetary and non-monetary transfers that can take place through formal channels. (IMF, 2013; Cooper and Esser, 2018). With one of the highest remittance inflows, Nigeria is the sixth-largest nation in the world with remittance inflow (World Bank, 2018). One of the most popular practices of the diaspora in the UK is sending cash with friends or family who are returning home. Others rely on ties with traders or value transfer systems in order to offset the costs of imports with remittances in Nigeria (Hernandez-Coss and Bun, 2007).

According to the findings of the vast majority of studies on remittances, emigrant households have higher standards of living when compared to non-emigrant households since remittances are used to pay for current consumption as well as health and education expenses. In Mexico and Nicaragua, an analysis on the effects of conditional cash transfers on household food security indicated considerable improvements in per capita caloric distribution as well as dietary diversity (Hoddinott and Wiesmann 2010).

Furthermore, Hagen-Zanker and Himmelstine (2016) assumed that the degree to which remittances improve food security outcomes is affected by a variety of factors. These aspects include the regularity and frequency with which the payments are made, the amount of money transferred, and how the transfers are spent. It is anticipated that if the amount of remittances received is substantial, then there will be a boost in the level of food security. On the other hand, in contrast to payments that are made less frequently or less predictably,

and consistent transfers are anticipated to result in better food security outcomes (Daidone *et al*. 2015). However, the regular transfer is subject to change depending on how the economy is performing at the present time (Waidler and Devereux, 2019). Remittances should therefore be viewed as an aid in the fight against food insecurity rather than as a replacement for the government's obligation to find answers to this problem (Mora-Rivera and van Gameren, 2021).

2.1.2 Measurement of Food Security

It is still debatable how to quantify food security because it is quite complicated in that no single indicator can grasp completely all pillars of food security (Fawole and Özkan, 2017). Dietary Diversity Scores, which were created by Wiesmann et al. (2009), have gained popularity as a gauge of food security and have been used in a number of studies on the subject. One definition of dietary diversity is the quantity of various food types or categories consumed throughout a certain time period. This instrument has been deemed appropriate for assessing the nutritional quality and sufficiency of diets in countries with low per capita income (Hatloy et al. 2000).

In Burundi, Fransen and Mazzucato (2014) employed an indicator to access the recurrence of food demands challenges. They used a Likert scale from 1 (daily challenges) to 5 to calculate the difficulty of achieving food requirements. Remittances enhanced the living standards and food security index of lowest asset index households in Burundi. However, no substantial changes in food supply were found in migrant-sending villages in Ghana. Nguyen and Winters (2011) differentiated between short-term migrants and long-term migrants in their empirical model in Vietnam; Chandrasekhar et al. (2015) investigated the

impact of short-term migrants on household food consumption expenditure in India. Both researches used the instrumental variable method, however the results regarding food consumption were very different. In India, households with short-term migrants consume less food per person than non-migrant households, however in Vietnam, households with short-term migrants spend more per person on food. Compared to short-term migrants, Vietnamese long-term migrants tend to live permanently in their new country, which has a negative impact on their relationships and reduces the amount they send home. On the other hand, short-term migrants from rural India are more unlikely to be employed in the undocumented informal sector.

The Food Consumption Score is a measure of food security employed in this study. It is used to identify food needs, keep track of those needs, and target eradication efforts for food insecurity. This measure is calculated by tallying the number of times each food item is consumed over the course of one week. It is particularly helpful for tracking cyclical variations in dietary patterns within families and for making comparisons across households in different geographic locations. The FCS is a composite score that evaluates the diversity of the weighted diet by giving each food group a standard weight that reflects how nutrient-dense that group is. The weighted food groups help give an idea of the food quality and quantity. Here, food groups and frequency of consumption are lessened in order to control biases (World Food Programme, 2007). This makes it easier to compare the variation in Food Consumption Score between locations. It is a thorough assessment of the level of food security in households (World Food Programme, 2007). Wiesmann *et al*., (2009) validated the FCS by using it as an intermediary indicator the calorie consumption comparing the various groups of food security status in Burundi with results from FAO

and HES. The results were close but had disparity in reference years. Despite the fact that there have been many studies on the topic of household food security, the Food Consumption Score has only been used in a small number of those studies.

2.1.3 Determinants of food security

Shariff and Khor (2008) conducted an investigation into the factors that determined the food security level of 200 homes in the rural part of Malaysia. The study discovered that larger households were required to implement a greater number of coping methods as a result of food shortages. It was found that having more children increases the likelihood of experiencing food insecurity. Olayemi (2012) and Farzana et al. (2017) found that large households were more likely to experience food insecurity than those with fewer people in their households in Bangladesh and Nigeria, respectively. Rose and Charlton (2002) found that the likelihood of not being food secure was attributable to an increase in the number of persons living in the family through the use of data that was nationally representative of South Africa and the building of food security indices using data on food expenditures. Similar correlations have been found in other studies that have utilized calorie consumption as a proxy for food security, such as Tefera and Tefera (2014).

2.2 Theoretical Review

Remittance and food security descriptions originate from diverse theoretical concerns and perspectives. However, three facets of theories are taken into account in this research work. These include:

2.2.1 Altruism Theory

The fundamental motive for migrants to relocate, according to the altruistic model, is the migrant's desire to raise the level of living for their family members who remain in the nation from where they originated. The Altruistic motive of remittances, thus, terms the readiness and intent of migrants to give up part of their resources to improve the well-being of their relatives, families and friends back in their home countries. Their intention in doing this is to improve their family's living standard (Lucas and Stark, 1985; Docquier and Rapoport, 2005). According to Becker (1981), pure altruism is giving without hope for any reward in the future.

Thus, the theory concludes that sending remittances gives a certain satisfaction to the migrant that the welfare of their families back home was poor. Hence, since these remittances increase incomes and support consumption; it could similarly help ameliorate the food security situation of the receiving household.

2.2.2 Consumption theory

Keynes' General Theory is not complete without the inclusion of the theory of consumption. Keynes outlined a straightforward linear consumption function, which states that one's spending should be a constructive response to one's disposable income (Keynes, 1936). However, there is a subset of consumption known as autonomous consumption that is not reliant on one's disposable income. Induced consumption is the type of consumption that occurs when one has money available for spending. The marginal propensity to consume demonstrates the degree to which consumption will shift in response to changes in income (Keynes, 2018). It is conceivable to draw the conclusion that the marginal

propensity to consume has a fixed value that is smaller than one. Because of this, consumers increase their food intake, however not to the same level as their household's income rises because to remittances. Second, when levels of income rise, there is a corresponding decline in the average inclination to consume, which can be explained as the proportion of total consumption to total income. The fact that individuals or households, in Keynes' view, regard saving to be a luxury helps to explain why the wealthy save a greater proportion of their income than the less fortunate do. The notion that current consumption is solely dependent on current income was the subject of the third deduction that might be drawn from Keynes' consumption.

2.2.3 Engel's Theory

The connection between a household's income and expenditures is characterized by the Engel curve. Engel (1857) researched on the home food spending survey. The study reported that although the total amount spent on food was a function that increased with income and family size, the proportion of the budg*et al*located to food decreased as income increased. These discoveries resulted in the development of Engel's law, which asserts that "the greater the proportion of a family's budget on food, the greater its level of economic hardship" (Engel, 1857, pp. 28-29). As a result, Engel's law is a useful tool for evaluating the level of food security within homes, particularly within households with substandard living conditions. According to Engel (1857), spending money on food is an important component of the spending patterns of households with low incomes; consequently, a reduction in the income of households tends to result in a reduction in the amount of money households spend on other types of goods that are not considered essential. On the other hand, a rise in household income results in a decrease in the portion of the budget that is

set aside for food, while the majority of the budget is allocated to products that are not related to food. In addition, Engel's research from 1857 demonstrates that the proportion of a household's income that is spent on food is directly proportional to the size of the household; specifically, larger households devote a larger of their budget on food than do smaller households.

2.3 Empirical Review

Wagle and Devkota (2018) investigated how the receipt of remittances from outside affected the level of poverty in Nepal. Using data collected longitudinally from 1996, 2004, and 2011, the study investigated the variation in the level of family poverty and the impact of foreign remittances on economic well-being had occurred over time. The results showed that reducing heterogeneity bias support significant effects of foreign remittances on reducing poverty and, more accurately, enhancing economic well-being. This is especially true when the remittances come from countries other than India.

According to Akobeng (2016), remittances help lessen poverty, but alleviating poverty is contingent on the method used to gauge poverty levels. Additionally, remittances have impacts that help to level off income disparities. The efficiency of remittances in Sub-Saharan Africa is improved when the region's banking industry operates effectively (Akobeng, 2016).

Waidler and Devereux (2019) conducted research to investigate how the effects of public and private transfers differ in their respective manifestations. On the Dietary diversity index, it was determined that remittances and the Older Person's Grant had a positive impact. However, the child support grant did not have this effect. Also, neither the Older

Person's Grant nor remittances were shown to have any impact on the money spent on food or the body mass index (BMI).

Satumba *et al*. (2017) conducted research to investigate the effects of social grants, which are a kind of social protection that are offered by the government of South Africa. Both the income decomposition analysis and the Foster-Thorbecke indices were utilized in the research. They came to the conclusion that antipoverty measures play a significant part in the overall effort to lower the rate of poverty in South Africa. In addition, it demonstrates that places like the provinces of Limpopo and the Eastern Cape of Africa have had a good and large influence from social grants. This is due to the fact that social grants are specifically targeted in these regions.

Biyase (2018) used a cross-sectional survey of families together with a technique called the propensity score to investigate the effect that social subsidies have on the quality of life of low-income rural households. According to the findings of the study, social grants have a good and considerable impact on the welfare of rural households as well. These findings imply that South Africa should continue to focus on rural areas for the purpose of alleviating poverty.

According to Nwalie (2017), agricultural policies on their own, regardless of how well they are planned and put into action, are unable to guarantee food security in Nigeria in the absence of correspondingly competent macroeconomic management, a strategy for reducing poverty, and a social safety net. He argued that an increase in domestic food production will only improve the supply side of security of food, but a high rate of poverty,

if not addressed, will have a negative effect on the demand side, assuring that food insecurity will continue.

2.4 Gap identified in the literature

The study of Duflo (2003), established that women exhibited low poverty level by receiving transfers which led to higher likelihood of spending the transfer received on fundamental necessities such as food. In addition, Bailey (2012) discovered that an improvement in the nutritional condition of transfer beneficiaries could be directly attributed to an improvement in both the size and quality of the food that they consumed. Additionally, a favorable effect on nutrition was seen when incremental income was indirectly allocated to health care. This was due to the fact that healthier persons were better able to absorb and utilize nutrients. Other reviews on public cash transfer programs (also known as CTPs) investigated the effect these programs had on self-reported measures of food security. The appraisal of public cash transfer programs (CTPs) conducted by Manley *et al*. in 2012 investigate the impact these programs have on the participants' self-perceived level of food security. Bastagli *et al*. (2016) investigated the effect that they had on the nutritional status. Nonetheless, this study's objective is to look at the impact of remittances on food availableness in households in Nigeria as well as their level of food security.

CHAPTER THREE

3.0 METHODOLOGY

3.1 Study Area

The research was performed in Nigeria. The most populated country in Africa is expected to have about 205,323,520 persons, and 102,407,327 of them (or 50% of the entire population) live in extreme poverty (World Data Lab, 2020). The Republic of Nigeria, which has a total land area of 924,000 km2, is bordered on all sides by other nations: the Republic of Niger to the north; the Republic of Benin to the west; the Republic of Chad to the north-east; the Republic of Cameroon to the east; and the Atlantic Ocean to the south (Azih, 2008). About 924,000 km2 (or 92.4 million hectares) of the country's total land area is covered by water, making up around 14% of the total land area. Nigeria is split into six regions; northeast, north west, south-south, south-east, and north central. These regions are further subdivided into states.

3.2 Source of Data Collection

In this study, the data from the 2018 Nigerian Living Standards Survey (NLSS) were used. The National Bureau of Statistics (NBS) and the World Bank are working together to conduct this household-based National Longitudinal Study Survey. The information was gathered digitally with the assistance of Computer-Assisted Personal Interviewing (CAPI) devices, which made the process far more efficient, accurate, and devoid of mistakes.

3.3 Sampling Technique

The sample of enumeration areas used for the National Longitudinal Survey of Households (NLSS) 2018/2019 was taken from the National Integrated Household Surveys (NISH2), which includes domains at the state level. The NISH2 master sample was used to choose a total of 60 enumeration regions from each state and the FCT. Each enumeration area had a new household listing compiled, and 10 households were chosen from the list at random to be interviewed. These interviews were done in each enumerated area. The listing was carried out on a quarterly basis (about once every three months), and the sixty enumeration areas that were found in each state were systematically assigned to one of the four quarters. This was done so that each quarter would have a comprehensive coverage of the state. The number of households lost due to relocation was decreased by using a quarterly listing rather than an initial listing that was completed only once at the start of the survey.

The original Nigerian Living Standard Survey sample of 22,200 household from 36 states and the FCT was scheduled to be interviewed over a 12-month period, with around 50 households to be interviewed each month. The household response rate was high, exceeding 93 percent in every state and 98 percent overall. The sample consisted of 22,110 households, with a variance from the initial sample attributable to security issues in the state of Borno and the resultant under coverage of the sample in that state. Consequently, Borno state was omitted during the data cleaning. Therefore, 21,699 households made up the final sample size for this study.

3.4 Data Analytical Techniques

To analyze the objectives of the study, descriptive statistics, Food Consumption Score (FCS), Ordinary Least Square and the ordered probit regression methods of analysis were adopted. The analyses were conducted using the STATA software.

3.4.1 Descriptive Statistics

To have a comprehensive understanding about remittances and food security status of households across zones and regions descriptive analysis (mean, percentages and frequency distribution) was conducted. The study was analyzed according to; recipients and non-recipients of remittances across the zones and sectors

3.4.2 The food security status of the households in Nigeria by their spatial profile

To classify the food security status of households by their spatial profile, the Food consumption score and the descriptive statistics (arithmetic mean, percentages and frequencies) was used.
The Food Consumption Score (FCS) reveals a household's level of food security. The FCS was used to determine which households were the most food insecure. The proportion of households with poor and borderline food consumption gives vital information on people's existing diets and aids in determining the most effective type and scale of food security intervention, as well as the best target group for support. FCS is particularly valuable for comparing households in different geographic locations and monitoring cyclical changes in nutrition. The food security level of the household is consequently categorized depending on its spatial profile as follows:

1. Using the data provided, eight different food groups' frequency of consumption by the household over the course of the past seven days was calculated.
2. The standardized food category weights indicated in the table below were multiplied by the sum of the consumption frequencies. For this reason, the food consumption score was created by adding the scores for each of the weighted food groups.

Table I. Food groups and corresponding weights

Food groups	Weight(kg)
Oil	0.5
Sugar	0.5
Fruit	1
Vegetables	1
Main staples	2
Pulses	3
Milk	4
Meat/fish	4

Source: INDDEX Project (2018)

3. Applying the World Food Programme's suggested cut-offs to the food consumption score, the level/category of food consumption in households was classified as "poor," "borderline," or "acceptable.
4. As a result, the following thresholds were used to determine the household's level of food security:
    - Poor consumption level/category: 0-21
    - Borderline consumption level/category: 21.5-35
    - Acceptable consumption level/category: >35

Therefore, poor, borderline, and acceptable food security status are represented, respectively, by categories 1, 2, and 3.

3.4.3 The household food budget share

Income is one of the factors used in determining the pattern of consumption of food by households (Kostakis, 2014). It provides each food group's budget share. According to their respective share of expenses, each food group consumed by a household was categorized in this case. To determine the household food budget share the annual food budget share was estimated through descriptive statistics (arithmetic mean and percentages). The average food expenditure was grouped based on the region and sector according to the data. The percentages for each group were computed to determine how much of a household's food budget comes from remittances and how much comes from those who do not receive it.

3.4.4 The associated determinants of food budget share of households in Nigeria

The determinants of the household's food budget share were estimated using the ordinary least square analysis. The annual food expenditure was divided by 12months to get the monthly per capita expenditure. The OLS method was used in this analysis because it helps in showing the relationship that exists between the food budget share and the explanatory variables. The model is given as;

$Y = Xi\beta + \varepsilon i$ …….. (1)

Where:

Y = food budget share of households (naira)

Xi= explanatory variables

Where:

X_1 = sector (Urban=1, 0 Rural)

X_2 = North-East (1 if household is in the north-east, 0 otherwise)

X_3 = North-West (1 if household is in the north-west, 0 otherwise)

X_4= South-East (1 if household is in the south-east, 0 otherwise)

X_5= South-South (1 if household is in the south-south, 0 otherwise)

X_6= South-West (1 if household is in the south-west, 0 otherwise)

(*) the North central was used as the baseline

X_7 = Cash transfer received (yes =1, 0 No)

X_8 = Food transfer received (yes =1, 0 No)

X_9= household income (in Naira)

X_{10}= foreign remittances (in Naira)

X_{11}= Domestic remittances (in Naira)

X_{12}=Householdsize(number)

X_{13}= Sex of the household head (Male =1, 0 Female)

X_{14}= Age of household head (in years)

X_{15}= Marital Status (1= married, 0= otherwise)

X_{16}= Educational status (1=formal education, 0= otherwise)

3.4.5 The Dominant source of remittances among households in Nigeria

The dominant source of remittances in Nigeria was estimated through descriptive statistics (arithmetic mean and percentages). The different sources of remittances were grouped according to the data and percentages for each of the groups were calculated. The source with the highest percentages was considered the dominant source based on the region and sector.

3.4.6 Effect of remittances on food security status of households in Nigeria

To examine how remittances affects Nigerian households' food security, ordered probit regression was used. The marginal effect of each regressor on each of the separated food consumption categories were captured by this model. A generalization of the probit analysis using three categorical outcomes of an ordinal dependent variable is referred to as the ordered probit. Here, the study used Food Consumption Score Categories (FCC) as an indicator of a household's food security status. The Food Security Status are therefore categorized into; "1 =Poor, 2 =Borderline, 3= Acceptable".

The maximum probability of the ordered probit regression model can then be specified as;

$$Y_i = X_i\beta + \varepsilon_i \qquad (\mathbf{2})$$

In this case, categories of response (Y_i) are observed in "FSS_i", where Y_i is the exact but unobserved outcome variable, X_i is the vector of response variables, β is the vector of regression coefficients and ε_i is the error term.

The ordered probit method used the observations on FSS_i which are a form of censored data on; FSS_i, to fit the parameter vector β

$$Y_i = \beta_\circ + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \beta_7X_7 + \beta_8X_8 + \beta_9X_9 + \beta_{10}X_{10} + \beta_{11}X_{11} + \beta_{12}X_{12} + \beta_{13}X_{13} + \beta_{14}X_{14} + \beta_{15}X_{15} + \beta_{16}X_{16} + \beta_{17} + \varepsilon_i \quad (3)$$

Where:

X_1 = sector (Urban=1, 0 Rural)

X_2= North-East (1 if household is in the north-east, 0 otherwise)

X_3 = North-West dummy (1 if household is in the north-west, 0 otherwise)

X_4= South-East (1 if household is in the south-east, 0 otherwise)

X_5= South-South (1 if household is in the south-south, 0 otherwise)

X_6= South-West (1 if household is in the south-west, 0 otherwise)

* the North central was used as the baseline

X_7 = Cash transfer received (yes =1, 0 No)

X_8 = Food transfer received (yes =1, 0 No)

X_9= household income (in Naira)

X_{10}= foreign remittance (in Naira)

X_{11}= Domestic remittance (in Naira)

X_{12}=Householdsize(number)

X_{13}= Sex of the household head (Male =1, 0 Female)

X_{14}= Age of household head (in years)

X_{15}= Marital Status (1= married, 0= otherwise)

X_{16}= Educational Status (1=formal education, 0= otherwise)

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION

4.1 Socio-Economic Characteristics of Household Head

The socioeconomic characteristics of Nigerian household heads who receive remittances and those who do not are shown in Table 4.1. According to the analysis, recipients' households have a mean age of 51 years, whereas non-recipient households have a mean age of roughly 45 years. This result reveals that older household heads are the mostly the recipients of remittance.

About 75% of male headed households and 25% of female headed household received remittances while on the other hand, close to 90% of the male headed households and 10% of the female headed household did not receive remittances. The findings show that the difference in recipients of remittances and non-recipients among households in Nigeria is slim. The educational status of recipients of remittances and non-recipients of remittances were similar.

The average household size is 3 people. More than 50% of remittance receiving and non-remittance receiving household had less than 3 people in their household. Household size between 6 people were about 10% for recipients of remittances and 11% non-recipient households.

A greater number of married people did not receive remittance while more of either the single, widowed or divorced received remittances. This could be because migrants may

assume that the married ones support each other from their different streams of income and may not need external support.

The mean monthly pa capita income of remittance receiving households is ₦20,476 while that of the non-remittance receiving households is ₦16,244. Majority of households in both group (about 95%) have their income below ₦50,000. According to this finding, households that receive remittances generally earn more than households that do not.

Table 4.1 Socio economic characteristics of remittance receiving and Non-receiving Household heads

	Receiving Household		**Non-receiving household**	
Variable	Frequency	(%)	Frequency	(%)
Age				
< 30	1,273	11.39	1,601	15.21
31-40	2,287	20.47	3,013	28.62
41-50	2,217	19.84	2,673	25.39
>50	5,396	48.29	3,239	30.78
Total	11,173	100.00	10,526	100.00
Mean Age		51.60		45.07
SD		16.98		13.52
Sex				
Male	8,339	74.64	9,434	89.63
Female	2,834	25.36	1,092	10.37
Total	11,173	100.00	10,526	100.00
Educational level				
None	4,161	37.24	4,013	38.12
Primary Education	2,131	19.07	1,782	16.93
Secondary education	3,147	28.17	3,143	29.86
Tertiary education	1,567	14.02	1,417	13.46
Vocational training	167	1.49	171	1.62
Total	11,173	100.00	10,526	100.00
Marital status				
Married	7,593	32.04	8,630	81.99
Otherwise	3,580	67.96	1,896	18.01
Total	11,173	100.00	10,526	100.00

	Receiving Household		**Non-receiving household**	
Variable	Frequency	(%)	Frequency	(%)
Household Size				
< 3	6,590	58.98	5,923	56.27
3-6	3,456	30.93	3,430	32.59
>6	1,127	10.09	1,173	11.14
Total	11,173	100.00	10,526	100
Mean		4.00		3.00
SD		2.35		2.31
Income (₦)				
< 50,000	10,639	95.22	10,166	96.58
51,000-100,000	487	4.36	328	3.12
>100,000	47	0.42	32	0.30
Total	11,173	100	10,526	100
Mean		20476.87		16244.3
SD		20094.08		14667.56

Source: Computed from 2018/2019 NLSS Data, 2022

4.2 Foreign and Domestic Remittances in Urban and Rural Areas

The analysis in Table 4.2a shows that recipients of remittances are dominant in the urban sector as compared with the rural sector. From the statistics, 5.74 percent of urban households indicated to have received money from abroad while only 1.68% of rural households indicated receipt. About 2 percent of sampled urban dwellers received foreign remittances while 0.63 percent in the rural sector received remittances in kind from abroad. Local remittances in cash, that is remittances within the country was higher than remittances in cash from other nations of the world. Residents in metropolitan areas received more domestic remittances than residents of rural areas. According to the figure in Table 4.2a, respondents in urban and rural areas, respectively, reported receiving 38% and 30% of domestic cash remittances. In the same vein, local remittances received in kind by urban dwellers (21.49 percent) is greater than receipts by rural dwellers (21.20 percent).

The analysis above indicates that both domestic and foreign (cash and in kind) is positively skewed toward the urban area dwellers.

Table 1.2a Distribution of households who received Remittances across sectors

Variable	Urban		Rural	
Foreign cash remittances	Frequency	Percent	Frequency	Percent
Yes	386	5.74	252	1.68
No	6,333	94.26	14,715	98.32
Total	6,719	100.00	14,967	100.00
Foreign Inkind remittances				
Yes	150	2.23	94	0.63
No	6,566	97.77	14,855	99.37
Total	6,716	100.00	14,949	100.00
Domestic cash remittances				
Yes	2,531	37.71	4,461	29.82
No	4,181	62.29	10,500	70.18
Total	6,712	100.00	14,961	100.00
Domestic inkind remittances				
Yes	1,439	21.49	3,168	21.20
No	5,257	78.51	11,773	78.80
Total	6,696	100.00	14,941	100.00

Source: Computed from 2018/2019 NLSS Data, 2022

4.2.1 Foreign and Domestic Remittances across geopolitical zones

Table 4.2b shows the distribution of remittance recipients across the various zones in Nigeria. The southwest zone has the highest recipients of both cash and inkind foreign remittances representing 2.39 percent and 6.03 percent respectively while the north east recorded the lowest with 0.23 percent and 0.20 percent respectively. The distribution of domestic remittances (cash and in kind) throughout Nigeria's six geopolitical zones.

According to the results, the residents of the south-south and south-east geopolitical zones received the highest percentages of cash remittances (44.75%) and in-kind remittances (29.04%), respectively, while the north-eastern residents received the lowest percentages of cash remittances (13.30%) and in-kind remittances (15.97%). The result is a pointer that remittances are more distributed toward the southern parts, having received more than 65 percent of total remittance as compared to the north with barely 34 percent of total remittances. The indigenes and non-indigenes that resides in the north east zone are the recipient of the lowest domestic and foreign remittances. This outcome may be due to low educational status of the Northerners compared with the southerners. To this end, the majority of northerners, in contrast to the southerners, are gainfully employed within their locality, with a tiny proportion of them living outside the borders of Nigeria, whereas a sizable number of southerners are employed not only in other regions of the nation and abroad, but they are also “well-positioned” in their respective organizations. Moreover, the cultural background of the southerners unlike that of the northerners, encourages family ties, which makes it obligatory for the indigenes of southern zones residing within and outside the country to remit monthly allowances to their parents and siblings.

Table 4.2b Distribution of households according to remittances recipients across geopolitical zones

Variables	**North Central**		**Northeast**		**Northwest**		**Southeast**		**Southsouth**		**Southwest**	
Foreign Inkind Remittances	Frequency	(%)	Frequency	(%)	Frequency	(%)	Frequency	(%)	Frequency	(%)	Frequency	(%)
Yes	11	0.26	7	0.23	16	0.38	46	1.53	78	2.15	86	2.39
No	4,187	99.74	2,996	99.77	4,223	99.62	2,956	98.47	3,547	97.85	3,512	97.61
Total	4,198	100.00	2,997	100.00	4,239	100.00	3,002	100.00	3,625	100.00	3,598	100.00
Foreign Cash Remittances												
Yes	48	1.14	6	0.20	35	0.82	137	4.56	195	5.37	217	6.03
No	4,152	98.86	2,999	99.80	4,210	99.18	2,869	95.44	3,436	94.63	3,382	93.97
Total	4,200	100.00	3,005	100.00	4,245	100.00	3,006	100.00	3,631	100.00	3,599	100.00
Domestic cashRemittances												
Yes	1,314	31.32	399	13.30	916	21.58	1,267	42.19	1,625	44.75	1,471	40.88
No	2,881	68.68	2,602	86.70	3,329	78.42	1,736	57.81	2,006	55.25	2,127	59.12
Total	4,195	100.00	3,001	100.00	4,245	100.00	3,003	100.00	3,631	100.00	3,598	100.00
Domestic inkindRemittances												
Yes	686	16.35	479	15.97	750	17.68	871	29.04	972	26.89	849	23.68
No	3,509	83.65	2,521	84.03	3,492	82.32	2,128	70.96	2,643	73.11	2,737	76.32
Total	4,195	100.00	3,000	100.00	4,242	100.00	2,999	100.00	3,615	100.00	3,586	100.00

Source: Computed from NLSS Data, 2018/2019, 2022

4.3 Food security status of the households in Nigeria by their spatial profile

Tables 4.3a and 4.3b, presents the study's findings on household food security across sectors and zones.

The outcome displays the level of food security across zones, which is categorized as poor, borderline, and acceptable. All measurements indicate that more than 80% of households throughout all six geopolitical zones consume food in an acceptable way, with the North Central and Southeast having the highest and lowest scores, respectively, of 94.24 percent and 80.77 percent. This shows that the households are in the acceptable level of the utilization/consumption component, a foundational element of food security. This corroborates the conclusion of Yusuf et al. (2015) that a large number of households in Ibadan capital of Oyo state, were food secure.

According to the sector-specific study of food security status shown in Table 4.3b, both the urban and rural sectors have acceptable food security status scores of 92.53 and 87.02 percent, respectively; however, the urban sector's score is higher than the rural sector's by 5.51 percent. Contrary to what Akerele et al. (2013) found, low income urban and rural households in Nigeria experience food insecurity at rates of 79 percent and 71 percent, respectively. Nonetheless, it is consistent with the findings of "Sahn and Stifel (2003), Ebadi, N et al. (2018), and Thu and Booth (2014)," who revealed that urban people were more food secure than the rural residents due to urban-rural disparities across countries.

Table 4.3a Food Security Status by zones

FSS	North Central		North east		North west		South east		South south		South west	South east
	Freq	(%)	Freq	(%)	Freq	(%)	Freq	(%)	Freq	(%)	Freq	(%)
Poor	68	1.62	52	1.73	213	5.01	110	3.66	39	1.07	50	1.39
borderline	174	4.14	320	10.65	486	11.44	468	15.57	256	7.04	210	5.84
acceptable	3,963	94.24	2,634	87.62	3,549	83.55	2,4238	80.77	3,339	91.88	3,338	92.77
Total	4,205	100.00	3,006	100.00	4,248	100.00	3,006	100.00	3,634	100.00	3,598	100.00

Source: Computed from 2018/2019 NLSS Data, 2022

Table 4.3b Food Security Status across sectors

FSS	Urban		Rural	
	Frequency	Percent	Frequency	Percent
Poor	118	1.76	414	2.76
borderline	384	5.71	1,530	10.22
acceptable	6,221	92.53	13,030	87.02
Total	6,723	100.00	14,974	100.00

Source: Computed from 2018/2019 NLSS Data, 2022

4.4 Household food budget share

The descriptive data in Table 4.4 show the difference between families who receive and do not receive remittances. When compared to non-remittance receiving households in these regions, remittance receiving households in the North Central, North East, Northwest, and South-South regions had a lower food budget share (about 45-49 percent). Remittance receiving household in the South East and South West had a larger food budget share than non-remittance receiving households in this region. In contrast to the findings of a study conducted in India by Mahapatro et al (2017), which discovered that the overall expenditure of remittance receiving households was higher despite living in three different areas of the country, remittance and non-remittance receiving households still spent a similar proportion of their household budget on food.

In relation to remittance receiving families, non-remittance receiving households in the North East and over half (51-54 percent) of North West area income is being spent on food. It is also worth noting that non-remittance receiving rural households spend 2% more of their income on food consumption than remittance receiving households.

Although the urban sector's food budget share is low (38-39 percent) compared to the rural sector, remittance-receiving urban families spend more on food than non-remittance-receiving urban households. In the rural sector, non-remittance receiving households spend more on food than remittance receiving households this could be because they are poor and they tend to spend a higher percentage of their income on food. Households spend almost half of the income on food and this is high in comparison to developed countries like the

United Kingdom and United States of America which stands at about 17.3% and 8.6% respectively.

Table 4.4 Average food budget share by zone and sector (yearly)

	Remittance receiving			**Non-Remittance receiving**		
Zones	**Yearly food budget (₦)**	**Average yearly Income (₦)**	**%**	**Yearly food budget (₦)**	**Average yearly Income (₦)**	**%**
NorthCentral	105,201.00	227,852.2	46.17	90,963.44	191,485.5	47.50
North East	66,925.73	137,158.9	48.79	66,586.15	122,163.5	54.51
North West	77,494.21	155,816.3	49.73	67,278.84	127,550.6	52.72
South East	106,186.70	222,969.7	47.62	93,202.41	210,253.3	44.33
South South	154,180.20	346,327.4	44.52	137,914.50	296,460.9	46.52
South West	126,505.70	312,466.9	40.49	112,870.10	295,914.9	38.14
Total	110,849.4	245,997.9	45.06	90,748.89	194,931.7	46.55
Sector						
Urban	123,225.9	314,877.2	39.13	106,748.90	276,374	38.62
Rural	104,312.8	209,625.2	49.76	84,766.67	164481.3	51.54
Total	110849.4	245997.9	45.06	90748.89	194931.7	46.55

Source: Computed from 2018/2019 NLSS Data, 2022

4.5 Determinants of food budget share

The regression result showing the determinants of household food budget share is presented in Table 4.5. The result shows that, in the nation as a whole irrespective of the sector, educational status, marital status, Gender, income, North-east, North-west, South - east and South-west have significant effect on food budget share of households in Nigeria at 1 percent probability level while food transfer receipt and age are significant at 10 percent probability level. On the other hand, household size, domestic remittances, international remittances, cash transfer receipt and south-south sector are not significant predictors of the household's food budget share.

Household income significantly and negatively influences the share of the feeding budget allocated to each household at the 1% probability level. This conclusion suggests that as income level increased, households' food budget allocation dropped. This conclusion is consistent with Engel's Law, which states that when a person's income increases, a less proportion of their income must be spent on food (Sekhampu, 2012). Because food has a relatively low demand elasticity, Engel observed that households that consumption had peaked would use the increase in income to take care of non-food or financial needs. These families would put the additional money to good use. The negative coefficient of years of schooling implies that food budget share decreases with increase in educational level. A family will be more inclined to choose foodstuffs that are nutritious in depending on the types, quantity, and nutritional value of the foods they take if the household leader has a high degree of education. High level of education come with promotion at a work place and increases income. Furthermore, these people may spend more money on non-food items. The findings of this study are congruent with those of Akpan et al. (2013) and Adewale (2005). In contrast, Umar et al. (2018) and Betty (2015) discovered that education had a positive and statistically significant influence on the proportion of a household's food budget that was allocated to groceries.

When compared to rural households, urban households are more likely to have a low monthly budget share for food. According to Engel's law, this conclusion indicates that the rural region has poorer households than the urban sector.

The age of the household head has a significantly positive association with the proportion of the household food budget. This conclusion shows that older household heads have a larger proportion of the food budget than their younger counterparts. This is plausible

considering that the older the household heads especially those that are in active working age, the higher the dependents to be fed, however, it is expected to decline later in line with the Life Cycle Hypothesis (Shefrin and Thaler, 1988). This finding corroborates Foster's (2016) empirical findings, which found that the percentage of food dollars spent on food prepared and consumed at home increased with the age of the reference person, rising from around 55 percent for the under-25 age group to around 68 percent for the 75-and-up age group. However, the percentage of dollars spent on meals prepared and consumed away from home fell, falling from around 44 percent for the under-25 age group to approximately 31 percent for the 75-and-older age group.

Also, Table 4.5 shows that domestic remittance in the rural sector is negatively significant at 5%, implying that a unit increase in domestic remittances decreases the food budget share of rural households, whereas international remittances have a negative and significant effect on food budget share in the urban sector. This finding is in accordance with the report of Sekhampu, 2012 and Badan Pusat Statistik, (2018) that increase in remittances irrespective of the source will reduce the food budget share of the households. This can be attributed to the increase in the financial status if the recipients of remittances. This is further strengthened by (FAO, 2013; Banga and Sahu, 2010; Williams *et al*., 2013; Kiawu and Jones, 2013). They reported significant influence of domestic remittances and international remittances on food budget share in rural and urban sectors respectively.

Rural households in the South West, South East, North West, and North East regions were found to have significant and negative relationship with food budget share. This signifies that rural dwellers in these regions will spend less on food than rural households in the North Central region. When compared to the north central area, the south east and south

west regions of the urban sector, they showed a strong, negative correlation with the food budget share. This outcome suggests that urban households in these regions will reduce their food budget share compared to urban households in North central region. The urban sectors in south eastern region are known for trading and commerce, hence the household heads would have channeled the remittances into business transaction instead of increasing food budget share. The south western region is known as the commercial nerve of the country mainly the cities of Lagos and Ibadan. Household heads in this region are likely to have invested remittances received.

Cash transfer and food transfer has negative and significant impact on food budget share of rural households in the country. This result shows that safety nets will reduce the food budget share in rural households and it agrees with the finding of Devereux, (2016). Rural households a more likely to benefit more from these safety nets.

Gender is negative and significantly related with food budget share in both the rural and urban sectors. Male household heads are more likely to lower their food budget share in both sectors. Male-headed households are more concerned with investments than their female counterparts, who are more domesticated and concerned with feeding the household. This result is consonance with (Azzarri and Zezza, 2011 & Thow et al., 2016). Marital status has a positive and significant relationship with food budget share in both sectors. This indicates that married people in rural and urban sector are more likely to increase their food budget share compared to the unmarried ones. This is in line with *apriori* expectations, as married household heads have many dependents, which would have contributed to the increase in food budget share. The findings also show a negative

association between educational level and food budget share in both the urban and rural sectors, signifying that food budget share declines with household head education level.

Table 4.5 Determinants of Household Budget Share in Nigeria

Food budget share	National	Rural	Urban
cons	0.629541	0.658548	0.53321
	(47.45)	(97.69)	(26.08)
Sector	-0.06382	-	-
	(-17.45)***		
North East	-0.01479	-0.02452	0.010385
	(-3.52)***	(5.97)***	(1.25)
North West	-0.01267	-0.0209	0.004516
	(-3.9)***	(-5.7)***	(0.79)
South East	-0.04535	-0.04877	-0.03779
	(-11.39) ***	(-11.89) ***	(-5.97) ***
South South	-0.00527	-8.7E-05	-0.0068
	(-1.4)	(-0.02)	(-1.22)
South West	-0.03438	-0.01995	-0.03757
	(-7.89) ***	(-3.45) ***	(-7.53) ***
Received Cash transfer	-0.01279	-0.0208	0.008584
	(-1.63)	(-2.17) **	(0.71)
Received food transfer	-0.00874	-0.01334	0.004568
	(-2.77) ***	(-3.89) ***	(0.69)
Income	-0.00021	-0.0003	-0.00016
	(-4.36) ***	(-26.14) ***	(-3.22) ***
Foreign Remittance	-7.05E-06	-2.93E-06	-4.7E-05
	(-1.47)	(-0.97)	(-2.46) **
Domestic Remittance	1.95E-05	-3.8E-05	6.61E-05
	(0.57)	(-1.92) **	(1.29)
hhsize	0.001127	0.000219	0.000783
	(1.38)	(0.51)	(0.58)
sex	-0.05065	-0.03851	-0.06229
	(-8.82) ***	(-7.36) ***	(-7.73) ***
age	0.000166	1.42E-06	0.00064
	(2.11) **	(0.02)	(4.89) ***
Maritalstatus	0.028261	0.01904	0.03487
	(4.15) ***	(3.91) ***	(3.66) ***
Edustatus	-0.04087	-0.03625	-0.04482
	(-11.27) ***	(-13.28) ***	(-6.9) ***

***= Significant at 1% level; **= Significant at 5% level; *=Significant at 10% level; values in parenthesis represents z-value. Source: Computed from 2018/2019 NLSS Data, 2022

4.6 Identification of the dominant source of remittances

Tables 4.6a and 4.6b show the results of the major sources of remittances.

Table 4.6a Average remittances according to their sources by sector

	Rural		Urban		National	
Variable	Amount (₦)	%	Amount (₦)	%	Amount (₦)	%
Domestic Cash remittances	10810.39	58.2	20256.35	58.2	13738.8	58.2
Domestic In-kind remittances	3702.437	19.9	5602.563	16.1	4291.51	18.2
Foreign Cash remittances	1580.124	8.5	7443.175	21.4	3397.772	14.3
Foreign In-kind remittances	2494.202	13.4	1499.321	4.3	2185.771	9.3
Total	18,587.153	100.00	34,801.409	100.00	23,613.853	100.00

Source: Computed from NLSS Data, 2018/2019, 2022

Evidence from Table 4.6a indicates that domestic cash remittance both in the urban and rural sectors has the highest percentages which is 58.2 percent respectively. This suggests that domestic cash transfers from rural to urban household and urban to rural households are the same. This finding challenges the claims of Ekong (2003), Dustmann, and Mesters (2010), who stated that regular financial contributions are given back to the homes left behind by migrants. On the other hand, Ofuoku (2015) discovered the converse, which is that more remittances were sent from rural families to the members of their households who had moved elsewhere.

The domestic in-kind remittance is higher in rural sector (19.9 percent) than the receipt by urban dwellers (16.1 percent). In the same vein, in kind foreign remittances domiciled in rural areas (13.4 percent) were higher than what is obtained in the urban sector (4.3 percent). On the other hand, foreign cash remittances were higher in urban (21.4 percent)

sector than the rural sector (8.5 percent). On the premise of the findings above, the dominant source of both cash and in-kind remittances is domestic remittances when compared to the foreign remittance source.

Table 4.6b showing the average remittances according to sources and geopolitical zone indicates that domestic cash remittance is the dominant source of remittance across all six zones. According to Mora-Rivera and van Gameren (2021), domestic remittances are more likely to be used for food consumption and purchase than any other source of income, whereas international remittances are viewed as transitory (unexpected) income and are more likely to be used for specific expenses that reduce food insecurity. Other research demonstrates that domestic remittances have less of an impact on food security than transfers from abroad (Lim and Basnet, 2017; Friedman, 1957). Nearly half of the population of Nigeria lives in poverty ($2 per day) (World Bank, 2018), implying that the majority of the households are impoverished and that the majority of international migrant households have a good acceptable standard of living. Therefore, this could be the reason why domestic remittance is more dominant than the foreign remittance. Also, high remittance cost, lack of knowledge on how to remit money through formal financial institutions, related difficulties in moving in kind stuff across international boundaries and customs duties could also be a factor.

Table 4.6b Average remittances according to their sources by zone

	Northcentral		**North East**		**Northwest**	
Variables	Amount (₦)	%	Amount (₦)	%	Amount (₦)	%
Domestic Cash remittances	12567.19	73.52	3059.621	60.2	7429.907	47.2
Domestic Inkind remittances	2931.937	17.15	1962.379	38.6	3955.968	25.1
Foreign Cash remittances	1447.321	8.47	36.64382	0.72	747.6011	4.8
Foreign Inkind remittances	147.8923	0.86	24.17204	0.48	3598.089	22.9
Total	17,094.3403	100.00	5,082.81586	100.00	15,731.5651	100.00
	Southeast		**South-south**		**Southwest**	
Domestic Cash remittances	12608.45	54.1	22052.22	53.2	24015.43	62.7
Domestic Inkind remittances	4164.921	17.9	6752.392	16.30	5841.423	15.3
Foreign Cash remittances	4523.729	19.4	7244.458	17.5	6785.223	17.7
Foreign Inkind remittances	2003.176	8.6	5375.675	13.0	1637.835	4.3
Total	23,300.276	100.00	41,424.745	100.00	38,279.911	100.00

Source: Computed from 2018/2019 NLSS Data, 2022

4.7 Food security status of households in Nigeria

At the national level, the impact of remittances on household food security in Nigeria is presented, disaggregated into urban and rural sectors in Tables 4.7. The intercepts show the cut off between the three categories and are significantly different from each other which implies that the three categories should not be combined into one. The results of the analysis show that income, domestic remittances, household size and educational status were positively and significantly related to the food security status naturally and across the sectors.

This study confirms that the greater the household's income, food transfer, domestic remittances, age, and degree of education, the more likely the household will be in the acceptable food security category. According to Devereux (2016), who conducted a research in Sub-Saharan Africa, found that the most effective strategy to tackle food insecurity is to provide individuals who are food insecure with food aid or the means to obtain food (cash transfers). The results showed a positive and insignificant relationship on cash transfer which is not in line with Devereux statement.

On a sectoral basis, this result shows that urban households are more likely to be in the acceptable category of food security status than rural ones. This might be due to the extensive economic activity in the urban area. In contrast, Atuoye et al. (2017) discovered that beneficiaries of remittances in urban regions were much more prone to experiencing acute food shortages than the rural families and urban non-recipients, regardless of whether they received remittances in Ghana. Also, increase in household size is more likely to put the household in a higher food category. This could be because more members of the households will be involved in productive ventures that could earn the household more income.

Food security status is negatively and significantly associated to the north east, northwest, southeast, south-south, south west, and sex. This means that households in the North East, Northwest, Southeast, South-south, Southwest, and Sex are more prone to experience food insecurity than those in the North Central region. This might be because farmers are more predominant and farming is known to be a major occupation in the North Central area.

A male household head is more likely to be in the low food security category. This could be because women are known to be more concerned about household nutrition. Also, the result suggests that being married is more likely to put the household in the acceptable category of food security status.

Also, Table 4.7 revealed that urban households in the Northwest, Southeast and southwest are negatively and statistically associated with the level of food security. This outcome proves that urban households in these regions are less likely to be food secured compared to the urban households in North Central region.

The analysis also show that sex is significant with negative influence on food security status in Nigeria and across the sectors. This implies that a male headed household is less likely to be food secure compared to his female counterparts in rural sector, urban sector and the country as a whole. This could be due to higher family responsibilities the male household head has to bear even outside his nuclear family in line with African culture. On the other hand, their female counterparts are more concerned about the nutrition and the availability of food for members of her nuclear family. This result also suggests that the percentage of income allocated to the consumption of food is higher in female headed households in line with (Azzarri and Zezza, 2011; Thow *et al*., 2016).

In rural sector the premise of the marital status, households headed by bachelors or spinsters have tendency of being more food secure than their married counterparts. This could be due to less financial responsibility that the unmarried household head bears.

Table 4.7 Effect of Remittances on Food Security Status of Households in Nigeria

FSS	National	Rural	Urban
Sector	0.103297	-	-
	(3.53) ***		
North East	-0.31029	-0.30577	-0.1879
	(-7.09) ***	(-6.29) ***	(-1.42)
North West	-0.59808	-0.60083	-0.54926
	(-14.99) ***	(-13.11) ***	(-6.33) ***
South East	-0.56468	-0.60076	-0.38834
	(-13.26) ***	(-12.04) ***	(-4.49) ***
South South	-0.09808	-0.20306	0.151307
	(-2.11) **	(-3.68) ***	(1.58)
South West	-0.13954	0.075341	-0.16243
	(-2.88) ***	(0.97)	(-2.23) **
Income	0.000926	0.001773	0.000342
	(5.72) ***	(8.03) ***	(2.03) **
Foreign Remittance	-2.7E-05	-2.8E-05	5.98E-05
	(-0.42)	(-0.41)	(0.11)
Received cash transfer	0.071417	-0.07126	0.477662
	(0.76)	(-0.67)	(2.1) **
Received food transfer	0.109059	0.151554	-0.08676
	(2.87) ***	(3.66) ***	(-0.89)
Domestic	0.002116	0.00162	0.002411
Remittance	(3.92) ***	(2.27) **	(31) ***
Household size	0.072072	0.076027	0.09173
	(12.95) ***	(12.5) ***	(5.94) ***
sex	-0.33446	-0.34077	-0.33873
	(-7.06) ***	(-6.04) ***	(-4.09) ***
age	0.001434	-5.9E-05	0.005029
	(1.73)	(-0.06)	(2.89) ***
Marital status	0.462552	0.437479	0.516981
	(10.6) ***	(8.48) ***	(6.58) ***
Educational status	0.2264	0.200362	0.237628
	(8.4) ***	(6.68) ***	(3.77) ***
Cut 1	-1.466234	.	
Cut 2	-.6458424		

***= Significant at 1% level; **= Significant at 5% level; *=Significant at 10% level; values in parenthesis represents z-value. Source: Computed from 2018/2019 NLSS Data, 2022

4.8 Marginal Effect of Remittance on Food Security Status of Households in Nigeria by Categories

To elucidate the influence of remittances on the three categories of food security status of families in Nigeria and by their spatial characteristics, the impact of remittances on household food security is broken down. (rural and urban sectors).

The marginal effects of the three categories of the food security status in Table 4.8 show that nationally, sector has a negative and significant impact on the poor and borderline categories respectively and a positive and significant impact on the acceptable category. This explains that urban households are 0.4 percent less likely to be poor, 1.2 percent less inclined to be marginal, and 1.6 percent likely to fit in the permissible category of economic status in comparison with the rural households.

Based on the national data, the north east shows a significant and positive influence on the poor and borderline category and a negative and significant influence on the acceptable of food security status. This signifies that households in the north east are 1.5 percent more likely to be poor, and 4 percent likely to be on the borderline of food insecurity than households in the north central region. This result is similar to that of the rural sector. There is no significant relationship between the urban sectors of this region and food security status.

The Northwest and the south east region have positive and significant influence on the poor and borderline category respectively. While a negatively and significant influence was seen in the acceptable category. This means that households are more likely to be in the low or borderline food security group and less likely to be in the acceptable category. This finding

is comparable to what is obtained in these areas' rural and urban sectors, the south-south region, and the rural sectors of the south-south region compared to the Northern region. The urban sectors in the south west area have a positive and significant impact on the poor and borderline population. In the acceptable category, there was a negative and significant impact. This result is the same for the south west region nationally. The result reveals that households in this region are more inclined to be in poor and marginal group and also less inclined to fit in the permissible group when compared with the north central region. These results could be due to the fact that the northern region have majorities who have farming as their occupation and also the food basket of the nation is in this region.

Sex has a significantly positive impact on the poor and borderline categories, respectively, and a negative and significant impact on the acceptable category across sectors and the nation. This indicates that a male household head is 1% more likely to be in the poor group, 3.7 percent more inclined to fit in the marginal group, and 4% less inclined to fit in the permissible group of food security status as compared to a female headed household. This could be due to higher family responsibilities the male household head has to bear even outside his nuclear family in line with African culture. On the other hand, their female counterparts are more concerned about the nutrition and the availability of food for members of her nuclear family. This data also suggests that, in line with other findings, the proportion of money dedicated to food consumption is more in families led by women. (Azzarri and Zezza, 2011; Thow et al., 2016)

Income, household size, domestic remittances, and educational attainment all have a negative and severe impact on the poor and borderline population. This finding suggests that a unit rise in these factors will make them less likely to be classified in the poor or

borderline group. These variables also have positive and significant impact on the acceptable category across the nation and sectors. This reveals that a unit increase in these variables will put the households in the acceptable category of food security status. Specifically, a unit increase in domestic remittance is associated with being 0.00085% less probable in the poor group, 0.027% less probable in the marginal category and 0.035% more inclined to fit in a permissible category of food security status. According to Quartey and Blankson (2004), Quartey (2006), Regmi and Paudel (2016 and 2017), and Atuoye et al. (2017), remittances boost the welfare and degree of food security in households who receive them. Remittances are also found to help households in low income economies [Obi et al. (2020); FAO (2013); Banga and Sahu (2010); and Williams et al. (2013)].

An increase in domestic remittances are attributed with being 0.00007 percent less probable to be in the poor group, 0.000021 percent less probable to fit in the marginal category, and 0.000028 percent certain to fall in the permissible category of food security status in the urban sector. When compared to the rural sector, the rural sector has a greater number of people in the poor, borderline, and acceptable food security categories. According to related studies, remittances disproportionately affect rural and resource-poor people in developing nations (Adams and Page 2005; Thieme and Wyss 2005; Frost et al. 2007; Yang 2011; Carletto et al. 2011).

A unit increase in a household head's educational status is related with being 0.9 percent less probable to fall in the poor group, 2% less probable to fall in the marginal group, and 3% certain to fit in the permissible group of food security status. Rural families' educational level has a negative and strong association with the poor and borderline category. This implies that a unit increase in the education level of the household head is associated with

a 0.9 percent and 2.8 percent decreased likelihood of dropping into the poor and borderline categories, respectively. The level of education result in the acceptable category is consistent with this relationship because it is discovered to have a favorable and significant impact. This shows that the likelihood of the household falling into the acceptable category increases by 3.7 percent for every unit increase in education status.

Being married leads to being 2.4 percent less likely to be poor, 6.51 percent less likely to be borderline, and 8.94 percent more likely to be acceptable. This finding suggests that married households benefit from pooled income more than unmarried households, increasing the likelihood of the household being food secure.

Table 4.8 Marginal Effect of Remittance on Food Security Status of Households in Nigeria by Categories

	National			Rural			Urban		
Variables	**Poor**	**Borderline**	**Acceptable**	**Poor**	**Borderline**	**Acceptable**	**Poor**	**Borderline**	**Acceptable**
Sector	-0.004 (-3.63)***	-0.01279 (-3.59)***	0.016781 (3.61)***	-	-	-	-	-	-
North East	0.015989 (5.63)***	0.04373 (6.41)***	-0.05972 (-6.24)***	0.016705 (5.15)***	0.047026 (5.79)***	-0.06373 (-5.66)***	0.006628 (1.17)	0.018453 (1.28)	-0.02508 (-1.25)
North West	0.036454 (10.09)***	0.088783 (13.19)***	-0.12524 (12.51)***	0.038503 (9.12)***	0.096454 (11.8)***	-0.13496 (-11.27)***	0.025896 (4.12)***	0.061661 (5.27)***	-0.08756 (-4.99)***
South East	0.035741 (9.09)***	0.085363 (11.41)***	-0.1211 (10.88)***	0.04172 (8.31)***	0.099322 (10.59)***	-0.14104 (-10.07)***	0.016157 (3.33)***	0.041333 (3.77)***	-0.05749 (-3.68)***
South South	0.00424 (1.99)**	0.012825 (2.04)**	-0.01706 (-2.03)**	0.010324 (3.3)***	0.030413 (3.48)***	-0.04074 (-3.44)***	-0.00389 (-1.74)*	-0.01241 (-1.7)*	0.016303 (1.71)*
South West	0.006222 (2.64)***	0.018504 (2.75)***	-0.02473 (-2.73)***	-0.00311 (-1.04)	-0.01029 (-1.01)	0.013406 (1.01)	0.004964 (2.12)**	0.014725 (2.16)**	-0.01969 (-2.16)**
Income	-3.7E-05 (-6.04)***	-0.00012 (-5.77)***	0.000154 (5.88)***	-7.8E-05 (-8.93)***	-0.00025 (-8.12)***	0.000328 (8.48)***	-9.91E-06 (-2.08)**	-3E-05 (-2.04)**	0.00004 (2.06)**
Foreign remittance	1.08E-06 (0.41)	3.39E-06 (0.42)	-4.47E-06 (-0.42)	1.23E-06 (0.41)	3.94E-06 (0.41)	-5.17E-06 (-0.41)	-1.73E-06 (-0.11)	-5.27E-06 (-0.11)	7.00E-06 (0.11)
Received cash transfer	-0.00267 (-0.82)	-0.0087 (-0.79)	0.011371 (0.79)	0.003383 (0.62)	0.010385 (0.64)	-0.01377 (0.64)	-0.00838 (-3.79)***	-0.03045 (-3.15)***	0.038831 (3.31)***

	National			Rural			Urban		
Variables	**Poor**	**Borderline**	**Acceptable**	**Poor**	**Borderline**	**Acceptable**	**Poor**	**Borderline**	**Acceptable**
Received food transfer	-0.00402 (-3.11)***	-0.01317 (-3.01)***	0.017186 (3.04)***	-0.00596 (-4.02)***	-0.02021 (-3.89)***	0.026173 (3.94)***	0.002741 (0.82)	0.008028 (0.85)	-0.01077 (-0.84)
Domestic remittance	-8.5E-05 (-3.98)***	-0.00027 (-3.93)***	0.000353 (3.96)***	-7.2E-05 (-2.28)**	-0.00023 (-2.28)**	0.0003 (2.28)**	-7E-05 (-3.21)***	-0.00021 (-3.13)***	0.000282 (3.19)***
hhsize	-0.0029 (-12.33)***	-0.00911 (13.15)***	0.012014 (13.48)***	-0.00336 (-11.66)***	-0.01072 (-12.7)***	0.014082 (13.07)***	-0.00266 (-6.07)***	-0.00808 (-6.12)***	0.010744 (6.37)***
sex	0.010861 (8.31)***	0.03752 (8.09)***	-0.04838 (-8.27)***	0.011983 (7.22)***	0.042663 (6.9)***	-0.05465 (-7.08)***	0.008027 (4.5)***	0.026249 (4.69)***	-0.03428 (-4.76)***
age	-5.8E-05 (-1.72)*	-0.00018 (-1.73)*	0.000239 (1.73)*	2.61E-06 (0.06)	8.32E-06 (0.06)	-1.1E-05 (-0.06)	-0.00015 (-2.8)***	-0.00044 (-2.88)***	0.000589 (2.88)***
maritalstatus	-0.02431 (-8.04)***	-0.06516 (-9.72)***	0.089474 (9.38)***	-0.02505 (-6.53)***	-0.06807 (-7.8)***	0.093122 (7.53)***	-0.01987 (-4.57)***	-0.05226 (-5.82)***	0.07213 (5.58)***
Edustatus	-0.00975 (-7.37)***	-0.02945 (-8.13)***	0.039201 (8.04)***	-0.00908 (-6.08)***	-0.0285 (-6.61)***	0.03758 (6.56)***	-0.00814 (-3.16)***	-0.02292 (-3.46)***	0.03105 (3.42)***

***= Significant at 1% level; **= Significant at 5% level; *=Significant at 10% level; values in parenthesis represents z-value.

Source: Computed from 2018/2019 NLSS Data, 2022

CHAPTER FIVE

5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

This chapter gives the summary and conclusion drawn from the investigation of the effect of remittances on the food security status of Nigerian households. It also makes suggestions that can be implemented by the country's policymakers.

The study employed secondary data from the National Living Survey (2018/2019) to accomplish these objectives. This data contains the individual demographic characteristics, household composition, socio economic variables, remittances, safety nets and geopolitical zones.

The respondents were household heads in Nigeria. They were selected using STATA. It employed ordinary least square and ordered probit regression method. The statistical tools used were mean, frequencies and percentages.

5.1.1 Food Security Status (Food Consumption Score measure)

Using the food consumption score as the food security status indicator, more than 80% of households in all six zones had an acceptable food consumption score, with the North central and South east having the highest and lowest scores, respectively, of 94.24 percent and 80.77 percent. As a result, the households are food secure on the basis of one of the three pillars of food security, the utilization/consumption component.

5.1.2 Food budget share and its determinants in Nigeria

The descriptive statistics showed non-remittance receiving households spends an average of about 46.55% of their household budget on food compared to remittance receiving households who spent about 1.5% less.

The Ordinary Least Square regression model of the determinants of food budget share revealed that households that received cash transfer and food transfer reduced their food budget share in rural households. Rural households benefited more from these safety nets than urban sector of the households. Remittance was a determinant depending on the sector.

The rural household dwellers received higher domestic remittance while the foreign remittance was received mostly by the urban households. The rural households in the North East, North West, South East and South West regions reduced their food budget share more than the rural households in the North central region. The urban households in the south eastern and south western region reduce their food budget share more than urban households in North central region.

5.1.3 Dominant source of remittances

Domestic cash remittances are the most major source of remittances in the country's rural and urban sectors. In the rural sector, in kind remittances (both domestic and foreign) are received more in the urban sector. The north central region has the highest domestic cash remittances and the northwest region has the lowest. Domestic in-kind remittances are highest in the north east and lowest in the south west. Foreign cash remittances are highest in the country's south east and lowest in the north east. Foreign in-kind inflows are more in

the south-south area and in the north-east zone. It is revealed that the North east region of the country received mostly domestic remittances and not up to 1% of foreign remittance was received compared to other regions of the country. Nationally, domestic cash remittance is the dominant source of remittance.

5.1.4 Effect of remittances on food security status of households

Domestic remittance has a positive significant impact on the food security status of households in the rural area, according to the ordered probit regression analysis. As a result, it is implied that households in the region that get remittances from within the nation are more certain to have enough food available to them. Increase in household size, educational status, income, age, receiving food and cash transfer are more likely to lower the likelihood of food insecurity.

When subdivided into the various categories, an increase in domestic remittance is linked to a decreased likelihood of being in the poor group and the borderline category as well as an increased likelihood of being in the category of food security status that is acceptable.

Additionally, the outcome shows that households in urbanized areas are more likely to fall under the acceptable category of food security status. Remittance has a significant impact on the level of food security that is considered acceptable. This finding suggests that a rise in domestic and foreign remittances is more likely to place the household in an acceptable food security status group. As a result, the study's alternate hypothesis is rejected.

5.2 Conclusion

The results of this study were used to illustrate the spatial distribution of household food security in Nigeria, the primary source of remittances, the variables affecting the share of the household food budget, and the effect of remittances on household food security. In light of the disclosed findings, the following conclusions were drawn. The majority of households in the six geopolitical zones, regardless of whether they lived in rural or urban regions, were in the acceptable category, according to the study's analysis of the level of food security.

The findings revealed that the major determinants of food budget share in Nigeria are income, educational status, sex of household head (male/female), age, marital status, received food transfer, sector and geopolitical zone. Income, educational status, sex of household head (male/female), received food transfer, sector and geopolitical zone have negative influence the household food budget share while age and marital status influence food budget share positively.

The findings showed that the most dominant source of remittance is the domestic cash remittance of which the inflows to both the rural and urban sector was at the same 58.2% percentage. Remittance recipients' households have better food security status than non-recipient households.

The research results indicate that domestic remittances had a positive influence on food security status. Finding the effect by sector showed that domestic remittance had a positive influence on the food security status of households both in the rural and urban sectors.

Foreign remittance has no significant effect in the security of food status of households in rural, urban and in general the national level.

It is likely that even though Nigeria is one of the highest remittance receiving countries in Africa, a small fraction of households in the country received foreign remittances, Which probably led to an insignificant impact on food budget share and the food security status of households nationally and at micro level when the data was disaggregated into rural and urban sectors households. The dominant source of remittance was the domestic remittance flows. This had more impact on the food budget share and food security status. It also increased the income level of the household which in turn increased their food security status.

5.3 Recommendations

This study uncovered the primary source of remittances, the factors affecting the food budget share, and how remittances affects household's food security in Nigeria. Therefore, it is advised that the following policy measures be made to ensure that household food insecurity is decreased.

i) Households were found to be food secured on the basis of one of the three pillars of food security which is the utilization/ consumption component using the food consumption score as an indicator of food security status. It is therefore imperative that government policies continue to focus on production of food with high nutritional components in order to sustain and increase food utilization. Other food security measures could be used to ascertain the food security status and provide more insight aside from the food consumption score which relies on food utilization

and consumption in its measurement neglecting other pillars of food security such as access, availability and stability.

ii) Remittance receiving household have high total yearly income than non-remittance receiving households. Therefore, factors that influences remittance should be the front and center of policymaking and food security interventions.

iii) Remittances in general helps to ameliorate the food security status of households in general, foreign remittance was found to be the source of remittance in both sectors. This might be due to high cost of foreign transactions and poor logistic structure. Therefore, the government should seek to improve the challenges of remitting to improve access to foreign remittances. Also, programs that can ensure that those households receiving remittances move beyond just meeting food consumption need but food security in its entirety should be introduced.

iv) Increase in educational status is more likely to put a household in an acceptable category of food security status. Education is important in the reduction of food insecurity because it create a platform that gives people access to entitlement. The government and policy makers should target education friendly schools as formal and informal education will increase the number of educated people in the country.

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APPENDICES

APPENDIX I

RESEARCH TIMELINE

Activity	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May
Literature Review	—	—										
Chapter 1- write up	—	—										
Chapter 2- write up	—	—	—									
Methodology		—	—									
Data collection /cleaning				—	—	—						
Statistical Analysis							—	—	—			
Chapter 4/5										—	—	—