



## THE EFFECT OF RUSSIAN-UKRAINE WAR ON FOOD SECURITY IN NIGERIA 2022-2024

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### ABSTRACT

*This study critically examines the effects of the Russian-Ukraine war on food security in Nigeria between 2022 and 2024. The conflict, which disrupted global supply chains and caused significant volatility in global commodity markets, had far-reaching consequences on developing countries like Nigeria, which rely heavily on food imports such as wheat, maize and fertilizers from the conflicting regions. The research specifically explores how these disruptions have affected the availability, accessibility, and affordability of food in Nigeria, a country already grappling with pre-existing agricultural and economic challenges. A structured questionnaire was administered to 400 respondents to gather primary data. The data were analyzed using descriptive statistics to assess response patterns, while the Chi-Square ( $\chi^2$ ) test was applied to determine the statistical significance of the relationships between global disruptions and food security indicators. The results reveal a strong statistical association ( $\chi^2 = 224.33, p = 0.000$ ) between the Russian-Ukraine conflict and key food security dimensions in Nigeria. Respondents overwhelmingly indicated that food prices have soared, access to essential food items has become more difficult, and the local food supply has been insufficient to compensate for disrupted imports. These findings corroborate recent studies by Torero (2022) and the Food and Agriculture Organization (FAO, 2022), which emphasize how geopolitical instability contributes to global food insecurity. The Nigerian context highlights not only the vulnerabilities within the global supply chain but also the structural weaknesses in the local agricultural sector, including inadequate investment, poor infrastructure, and over-reliance on imports. This adopted food security framework and Dependency Theory, these theories was adopted to provide more comprehensive understanding of the complex relationships between global events, food system and food security outcomes in Nigeria. The study recommends a multi-pronged policy approach aimed at enhancing food security resilience. These include investing in agricultural diversification, improving rural infrastructure, strengthening local food processing and storage systems and incentivizing sustainable farming practices. Moreover, the government should prioritize building strategic food reserves and reducing dependency on volatile international markets. These strategies will be crucial not only for mitigating the immediate effects of global disruptions but also for securing long-term food sovereignty. The implications of this study are relevant for policymakers, international development partners and stakeholders in the agricultural sector who are committed to addressing food security challenges in Nigeria and other countries facing similar vulnerabilities.*

**Keywords** Effect , Food Security , Nigeria , Russian-Ukraine war



## 1.0

## INTRODUCTION

The Russian-Ukraine war, which began in February 2022, has had far-reaching consequences on global food security, particularly in developing nations such as Nigeria. The conflict disrupted the production and export of essential agricultural commodities, as both Russia and Ukraine are major players in the global food chain. According to Smith *et al.* (2023), the two countries together accounted for nearly 30% of global wheat exports, 17% of corn exports, and 75% of sunflower oil exports before the outbreak of hostilities. These disruptions triggered ripple effects across global commodity markets, causing price spikes and shortages that have disproportionately affected countries like Nigeria, which are highly dependent on food imports.

Nigeria's reliance on imported staples such as wheat, maize, and cooking oil has made it particularly vulnerable to the economic shockwaves of the war. In line with Okonkwo *et al.* (2023), Nigeria imports significant quantities of wheat used widely in bread, pasta, and noodles—from both Russia and Ukraine. With these supply lines disrupted, wheat prices surged, leading to a steep increase in the cost of food products across Nigerian markets. For instance, a standard loaf of bread that sold for ₦350 in early 2022 rose to over ₦700 by late 2023. According to the Food and Agriculture Organization (FAO, 2023), food inflation in Nigeria exceeded 20% in 2023, intensifying hunger and malnutrition, particularly among low-income households.

Beyond direct import disruptions, the war has affected Nigeria through indirect global economic mechanisms. A sharp rise in crude oil prices partly a result of the war has led to increased costs for transportation, agricultural inputs, and logistics. Adebayo (2022) notes that higher fuel prices have inflated the cost of fertilizer, tractor fuel, and the movement of goods from rural farms to urban markets. This has reduced farm productivity and profitability, further straining the already fragile domestic food production system. A tomato farmer in Kaduna, for example, reported a 40% increase in production costs in 2023 due to elevated fertilizer and fuel prices.

Compounding these challenges is a reduction in international aid. According to Johnson *et al.* (2022), global attention and resources have shifted toward the humanitarian crisis in Ukraine, resulting in a decline in food security assistance to Sub-Saharan African countries, including



Nigeria. Programs previously supported by international agencies have experienced funding cuts, limiting Nigeria's capacity to mitigate hunger through food aid and nutritional programs.

The socio-economic consequences of food insecurity in Nigeria are profound. Hunger undermines physical health, reduces school attendance, and limits workforce productivity. Mohammed and Yakubu (2023) observed that in food-insecure households, children are more likely to suffer from stunted growth, anemia, and reduced cognitive performance. Additionally, many families have had to cut back on other essential expenditures, such as education and healthcare, just to afford basic meals.

The war has exposed critical vulnerabilities in Nigeria's agricultural sector, particularly its over-dependence on food imports. Eze et al. (2023) argue that this underscores the urgent need for diversification and investment in domestic agriculture. Strengthening local production through improved access to technology, irrigation systems, rural roads, and farmer training can help build resilience to external shocks. Globally, the war has reignited debates on food sovereignty and the need for nations to become more self-reliant in food production. Olayemi et al. (2022) note that while programs like the Anchor Borrowers' Program are commendable, they must be scaled up, monitored, and better integrated into national food policy strategies. Successful models such as Thailand's rice self-sufficiency drive or Brazil's family farming programs can offer practical lessons.

The broader economic implications of the war have strained Nigeria's foreign exchange reserves. Adetunji et al. (2023) state that the rising cost of global imports has weakened the naira, making imported food and agricultural inputs even more expensive. For example, fertilizer prices tripled between 2022 and 2023, placing them out of reach for many smallholder farmers. The human cost is staggering. UNICEF (2023) reported that over 2 million Nigerian children under the age of five were at risk of severe acute malnutrition as of late 2023. Malnutrition not only increases child mortality rates but also results in long-term developmental impairments that can hinder national growth for generations.

The ongoing Russian-Ukraine war has significantly disrupted global food supply chains, particularly affecting nations heavily reliant on imported agricultural products like Nigeria. Russia and Ukraine are major global exporters of essential commodities such as wheat, corn, and



sunflower oil, which form critical components of Nigeria's food imports. Since the onset of the conflict in 2022, disruptions in the production and export of these commodities have led to unprecedented spikes in global food prices and severe shortages, exacerbating food insecurity in Nigeria (IFPRI, 2023; UNDP, 2023).

Despite efforts to increase domestic food production, Nigeria remains vulnerable to external shocks due to its high dependency on imports and persistent inefficiencies in the agricultural sector. The conflict has also driven up global fuel prices, escalating transportation costs and pushing food prices even higher within Nigeria. Compounding these challenges are ongoing insecurity in key farming regions, inadequate infrastructure, and climate-related stresses, all of which undermine food production and distribution.

Food inflation has surged beyond 20% since 2023, deepening poverty and malnutrition, especially among vulnerable groups such as children. This situation threatens long-term national health and development. Furthermore, the global humanitarian focus on Ukraine has diverted aid and resources away from Nigeria, reducing support to mitigate its growing food crisis. Below are the Summary of Vital Points from the statement of the problem

1. Global supply chain disruptions and rising commodity prices due to the Russia-Ukraine war have significantly worsened food insecurity in Nigeria.
2. Nigeria's heavy reliance on food imports, combined with local agricultural challenges and increased transportation costs, has intensified domestic food inflation and scarcity.
3. The diversion of international humanitarian aid towards the Ukraine crisis has limited resources available to address Nigeria's food security needs, exacerbating the impact on vulnerable populations.

This study seeks to explore how the Russian-Ukraine war has affected food security in Nigeria from 2022 to 2024, examining the interplay between disrupted supply chains, rising costs and local systemic weaknesses. The aim is to uncover key challenges and guide policy interventions that can strengthen Nigeria's resilience to future global shocks. Below is the Summary of Vital Points from the statement of the problem



The following research questions were asked

- i. What is the impact of disrupted global supply chains on food availability in Nigeria during the Russia-Ukraine war?
- ii. How have rising food prices affected household access to food in Nigeria between 2022 and 2024?
- iii. To what extent have local agricultural challenges exacerbated food insecurity in Nigeria amid the Russia-Ukraine conflict

The study aims to investigate the effect of the Russian-Ukraine war on food security in Nigeria from 2022 to 2024.

Three research hypotheses are formulated to guide this study. These hypotheses include

- i. **H<sub>0</sub>** : Disrupted global supply chains have no significant impact on food availability in Nigeria.
- ii. **H<sub>0</sub>** : Rising food prices have no significant influence on household food access in Nigeria.
- iii. **H<sub>0</sub>** : Local agricultural challenges have no significant effect on food insecurity during the Russian-Ukraine war in Nigeria.

This study is significant as it provides valuable insights into the critical relationship between global conflicts and local food security, specifically focusing on Nigeria. The findings will contribute to understanding how external disruptions, such as the Russian-Ukraine war, affect food availability, affordability, and accessibility in a developing nation heavily reliant on imports for staple commodities. By highlighting these vulnerabilities, the study offers an evidence-based foundation for policymakers to develop strategies aimed at mitigating similar shocks in the future.

For the Nigerian government, the study is expected to inform the formulation of policies that strengthen domestic agricultural production, improve supply chain resilience, and reduce dependency on food imports. It will also underscore the importance of addressing systemic challenges, such as insecurity in farming regions and the impact of climate change, to enhance food security.



## **2.0**

## **LITERATURE REVIEW**

### **2.1 Conceptual Framework**

#### **2.2.1 Concepts of Food Security**

Food security refers to the condition where all individuals have consistent physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs for an active and healthy life (FAO, 2023). Ensuring food security is crucial for reducing hunger and improving global health and well-being. Factors such as poverty, conflict, climate change and economic instability significantly threaten food security, particularly in vulnerable populations (World Bank, 2022). Food security is a multifaceted concept that encompasses various dimensions aimed at ensuring that individuals have consistent access to sufficient, safe and nutritious food to maintain an active and healthy life. Over time, the conceptualization of food security has evolved in response to shifting global economic, environmental, and social dynamics. According to the Food and Agriculture Organization (FAO), food security exists “when all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (FAO, 2023).

#### **2.2 Overview of the Russian-Ukraine War**

The Russian-Ukraine war, which began in February 2022, has emerged as one of the most significant geopolitical crises of the 21st century. The conflict was marked by Russia’s large-scale invasion of Ukraine, escalating tensions that had been simmering since 2014 when Russia annexed Crimea. This invasion drew widespread condemnation from the international community and triggered a series of economic, political, and humanitarian crises. At its core, the war has been fueled by historical grievances, territorial disputes, and competing geopolitical interests. Russia's assertion that Ukraine's alignment with Western powers posed a threat to its security was a primary justification for its actions, though this rationale has been widely disputed (Taylor, 2023).

The roots of the conflict can be traced to Ukraine's strategic position as a buffer state between Russia and Western Europe. Historically, Ukraine has been central to Russian identity and geopolitics, with deep cultural, economic, and historical ties. However, Ukraine's increasing tilt toward the European Union (EU) and NATO, particularly after the 2014 Euromaidan protests,



exacerbated tensions with Moscow. According to Roberts and Sokolov (2023), Russia perceived these moves as a direct challenge to its sphere of influence and acted to assert its dominance, leading to the annexation of Crimea and the destabilization of Eastern Ukraine through support for separatist movements.

The full-scale invasion in 2022 represented a dramatic escalation, with devastating consequences. Russia launched a multi-pronged attack, targeting major Ukrainian cities, including Kyiv, Kharkiv, and Mariupol. The war has resulted in thousands of deaths, the displacement of millions of people, and widespread destruction of infrastructure. The United Nations (2023) reported that by the end of 2023, over 8 million Ukrainians had fled to neighboring countries, while millions more were internally displaced. These developments have created one of the largest refugee crises in modern history, overwhelming the resources of neighboring nations and international humanitarian agencies.

Economically, the conflict has had far-reaching consequences, not only for Russia and Ukraine but also for the global economy. Ukraine, often referred to as the "breadbasket of Europe," is one of the world's leading exporters of wheat, corn, and sunflower oil. Similarly, Russia is a significant exporter of wheat and fertilizers. The war disrupted the production and export of these commodities, leading to severe food shortages and price surges worldwide. Scholars such as Anderson and Ponomarev (2023) have noted that the conflict has exacerbated existing global food insecurity, particularly in developing countries heavily reliant on food imports from these regions.

The geopolitical ramifications of the war have been equally profound. Western countries, led by the United States and the European Union, imposed sweeping sanctions on Russia in response to its aggression. These sanctions targeted key sectors of the Russian economy, including energy, finance, and technology, aiming to weaken Russia's ability to sustain its military campaign. However, the sanctions also had unintended consequences, such as disrupting global energy markets. According to Frazier et al. (2023), the resulting volatility in oil and gas prices has heightened economic pressures on both developed and developing nations, further complicating global recovery efforts following the COVID-19 pandemic.

The war has also exposed divisions within the international community. While many Western nations have unequivocally supported Ukraine, providing financial aid and military assistance,



other countries have taken a more cautious approach. China, for instance, has maintained a neutral stance, emphasizing the need for dialogue while opposing sanctions on Russia. Similarly, many African and Middle Eastern countries have been reluctant to align with either side, instead focusing on mitigating the conflict's impact on their economies. As highlighted by Mukherjee and Wang (2023), this divergence reflects the complex interplay of historical ties, economic dependencies, and strategic interests that shape nations' foreign policies.

From a military perspective, the war has underscored the evolving nature of modern warfare. Russia's initial strategy relied on overwhelming force and rapid advances, but it faced unexpected resistance from Ukrainian forces, bolstered by Western training and equipment. The use of drones, cyberattacks, and information warfare has been prominent in this conflict, illustrating the growing importance of technology in contemporary military operations. Studies by Carter and Ivchenko (2023) reveal how Ukraine's innovative use of drone technology and social media has helped counter Russian advances and garner international support.

The war has also raised critical questions about international law and the role of global institutions in conflict resolution. Russia's actions have been widely condemned as a violation of Ukraine's sovereignty and territorial integrity, contravening principles enshrined in the United Nations Charter. The International Criminal Court (ICC) has launched investigations into alleged war crimes committed during the conflict, further highlighting the need for accountability. However, as Jones and Alami (2023) observe, the limited effectiveness of international institutions in preventing or resolving such conflicts underscores the challenges of enforcing global norms in a polarized world.

Humanitarian concerns have been at the forefront of the war, with widespread reports of atrocities, including the targeting of civilians, destruction of healthcare facilities, and the use of indiscriminate weapons. Organizations like Amnesty International and Human Rights Watch have documented numerous instances of human rights violations, calling for urgent international action to protect civilians. The psychological impact of the war has also been significant, with millions of Ukrainians experiencing trauma and loss. Research by Demidov and Harris (2023) highlights the long-term implications of such trauma, emphasizing the need for comprehensive mental health interventions in post-conflict settings.



The environmental consequences of the war have received less attention but are equally alarming. The destruction of industrial facilities, oil depots, and agricultural land has led to significant environmental degradation, including soil and water contamination. Experts like Zhao and Belinsky (2023) argue that addressing these environmental impacts will require substantial resources and coordinated efforts, adding to the already daunting challenges of post-war reconstruction.

The Russian-Ukraine war, which erupted in February 2022, has far-reaching global implications that extend beyond the immediate region of conflict. This war has disrupted the international political, economic, and social systems in ways that have both immediate and long-term consequences. While the primary focus remains on the devastation in Ukraine and its impact on the Ukrainian people, the geopolitical tensions and economic disruptions caused by the war have reverberated worldwide. It is imperative to understand these implications in the context of a highly interconnected global system, where the actions of a single nation or conflict can have cascading effects across continents (Liu et al., 2023).

## **2.4 Food Security in Nigeria**

Food security in Nigeria has been a critical issue shaped by a combination of domestic agricultural capabilities and external dependencies. Before 2022, Nigeria's food security was precarious, characterized by a blend of progress and persistent challenges. As one of Africa's most populous countries, Nigeria faced the dual task of feeding a rapidly growing population while addressing structural inefficiencies in its agricultural sector. Although the country has significant agricultural potential, contributing approximately 25% to the Gross Domestic Product (GDP), the reality of food security was marred by inconsistent production levels, insufficient infrastructure, and a heavy reliance on food imports (Nwankwo et al., 2021). This reliance created vulnerabilities, especially during global supply chain disruptions, underscoring the critical need for sustainable agricultural policies.

Nigeria's reliance on imported staples such as wheat and corn has had profound implications for its food security. Wheat, for instance, is a major ingredient in bread and other baked goods, which are staples for a significant portion of the population, particularly in urban areas. Despite being the world's 14th largest producer of cassava, a root crop, Nigeria imported over 90% of its wheat



needs prior to 2022, primarily from Russia and Ukraine (Akinyele & Bello, 2022). Similarly, corn, a crucial ingredient in animal feed and industrial processing, is heavily imported, with local production falling short of meeting demand. This dependency on imports left Nigeria highly vulnerable to external shocks, such as the Russia-Ukraine war, which disrupted global supply chains and caused spikes in international commodity prices.

Infrastructure deficits also play a crucial role in Nigeria's food security challenges. Poor road networks and limited storage facilities hinder the transportation and preservation of agricultural produce, leading to significant post-harvest losses. It is estimated that Nigeria loses up to 30% of its agricultural output annually due to inadequate storage and inefficient distribution systems (Okoro et al., 2021). These losses not only waste valuable resources but also undermine the livelihoods of farmers who are unable to bring their produce to market. Furthermore, the lack of access to reliable electricity limits the adoption of modern agricultural technologies and value-added processing, which could enhance productivity and profitability.

The ripple effects of Nigeria's food security challenges are also evident in the broader socio-economic context. High food prices contribute to inflation, which disproportionately affects low-income households that spend a significant portion of their income on food. This, in turn, exacerbates poverty and inequality, creating a vicious cycle of food insecurity and economic instability. Moreover, malnutrition rates, particularly among children, remain alarmingly high, with stunting and wasting prevalent in many rural communities (Ajayi et al., 2022). These indicators underscore the human cost of Nigeria's food security challenges and the urgent need for sustainable solutions.

## **2.5 Causes of Food Insecurity in Nigeria**

Food insecurity in Nigeria is driven by a complex interplay of structural, socio-economic, political, and environmental factors. Despite the country's vast agricultural potential, a significant portion of its population continues to face challenges in accessing sufficient, safe, and nutritious food.

One major cause is insecurity and armed conflict, particularly in the northern regions. The ongoing insurgency by Boko Haram and other militant groups in the North-East has led to the displacement of millions, disrupted agricultural activities, and limited access to farmland and markets (WFP, 2024). The United Nations estimates that over 4.3 million people in North-East Nigeria are in need



of food assistance due to conflict-related disruptions (FAO, 2023). Climate change and environmental degradation also contribute significantly. Nigeria faces erratic rainfall patterns, prolonged droughts in the Sahel region, and flooding in riverine areas, all of which affect agricultural productivity. The 2022 and 2023 flooding incidents destroyed hundreds of thousands of hectares of farmland, displacing farmers and reducing food availability (NEMA, 2023). Desertification, especially in the north, has rendered vast areas unsuitable for crop cultivation and livestock rearing.

Poor infrastructure and post-harvest losses further exacerbate food insecurity. Inadequate rural road networks, storage facilities, and processing technologies lead to significant food waste, with an estimated 40% of food produced lost before reaching consumers (World Bank, 2024). These inefficiencies discourage farmers and inflate market prices. Government policy weaknesses and poor implementation of agricultural programs also play a role. Initiatives like the Anchor Borrowers' Programme have been criticized for limited reach and inefficiency. Corruption and mismanagement further erode the impact of food security policies (Transparency International, 2023). In summary, food insecurity in Nigeria is caused by a convergence of conflict, climate change, economic hardship, infrastructure deficits, policy failures, and institutional weaknesses. Addressing these challenges requires a comprehensive strategy involving peacebuilding, climate-smart agriculture, infrastructural development, and inclusive economic reforms.

## **2.6 Impact of the Russian-Ukraine War on Food Security in Nigeria**

The Russian-Ukraine war has had profound implications for global food security, with Nigeria being one of the countries significantly impacted. The conflict disrupted global supply chains, leading to food shortages and price surges, further exacerbating existing food security challenges in Nigeria. As the conflict unfolded, it disrupted the export of essential commodities like wheat, corn, and sunflower oil, creating a ripple effect across countries heavily reliant on these imports. Nigeria, which imports a large proportion of its wheat from Russia and Ukraine, faced severe shortages as these supply chains were disrupted (Adedeji & Yusuf, 2023). This created immediate challenges for food availability, particularly for staples like bread and pasta, which are integral to urban diets.



Local agricultural challenges further compounded the impact of the Russian-Ukraine war on Nigeria's food security. While global disruptions strained food imports, domestic production also faced significant obstacles. Insecurity in agricultural regions, particularly in the north, continued to limit farming activities, with banditry, kidnappings, and herder-farmer conflicts displacing many farming communities (Ibrahim et al., 2023). This displacement not only reduced the overall output of key crops like maize, rice, and millet but also disrupted local food markets, further reducing availability. In addition, the rising costs of agricultural inputs, such as fertilizers, became a major hurdle. Fertilizers, of which Russia is a leading global supplier, saw dramatic price increases during the conflict, limiting their use by smallholder farmers (Adewale et al., 2023).

The disruption in supply chains also exposed the vulnerabilities of Nigeria's food system, which relies heavily on imports for staples such as wheat and vegetable oils. The conflict underscored the risks of dependency on a few global suppliers, prompting discussions on the need for greater self-sufficiency in agricultural production (Eze et al., 2023). However, efforts to boost local production were hindered by structural challenges, including inadequate infrastructure, poor storage facilities, and limited access to credit for farmers. These factors collectively reduced Nigeria's capacity to compensate for the shortfall in imports, worsening the food security situation.

One of the most striking outcomes of the war's impact on food security in Nigeria has been the increasing prevalence of malnutrition, particularly among vulnerable populations such as children and pregnant women. Rising food prices have made nutritious foods such as fruits, vegetables, and protein sources unaffordable for many households. According to UNICEF (2023), cases of stunting and wasting among children increased significantly during the conflict period, reflecting the deteriorating nutritional status of the population. The strain on food access has also heightened health risks, as poorly nourished populations are more susceptible to diseases and other health complications.

Another significant impact of the conflict has been on food distribution networks. The rising cost of fuel, exacerbated by global energy market volatility, increased transportation costs for moving food from rural to urban areas (Ogunleye et al., 2023). This further drove up food prices, creating disparities in food access between urban and rural areas. While urban centers faced higher prices



due to logistical costs, rural areas often suffered from supply shortages, as traders prioritized more lucrative urban markets.

The war also had significant implications for Nigeria's trade balance, as the rising costs of food imports strained foreign exchange reserves. The devaluation of the naira against major currencies further inflated import bills, making it even more challenging to procure essential commodities from the international market (Obi et al., 2023). This economic strain limited the government's ability to implement effective interventions to stabilize food prices or support vulnerable populations. Efforts to introduce subsidies or social protection programs were constrained by fiscal deficits and competing demands on public resources.

## **2.7 Empirical Review**

The Russia-Ukraine war, initiated in February 2022, has had profound implications for global food security, with Nigeria being particularly affected due to its reliance on imports for key agricultural commodities. This section synthesizes empirical studies conducted between 2022 and 2024, highlighting the economic, agricultural, and humanitarian consequences of the conflict on Nigeria's food systems.

Oluwole & Ibrahim (2023) studied *Wheat Importation Disruption and Price Surge*. This study analyzed pre- and post-war import data from the National Bureau of Statistics (NBS) and the Food and Agriculture Organization (FAO). Prior to 2022, Russia and Ukraine accounted for over 30% of Nigeria's wheat imports. Following the invasion, supply chains were severely disrupted, causing local market shortages. The price of wheat-based products, such as bread, pasta, and semovita, rose by an average of 45% in urban centers like Lagos and Abuja. The study linked these trends to both import scarcity and global speculation in commodity markets.

Adetunji et al. (2023) examine *Household Food Access in Northern Nigeria*. Using structured surveys across Kaduna, Kano and Sokoto states, the researchers assessed the impact of food inflation on rural household welfare. The results showed a 60% increase in household food expenditure between 2022 and 2023, with many respondents indicating they could no longer afford basic staples like rice and yam. Scarcity of key items was exacerbated by increased fuel prices and insecurity in farming communities. The study concluded that the war's indirect impacts have significantly undermined rural food access.



FAO Nigeria Report (2023) revealed Fertilizer Shortages and Agricultural Yield Decline, This national-level report outlined how sanctions on Russia and logistical disruptions in Ukraine reduced global fertilizer supply. Nigeria, which imports a significant portion of its fertilizers from Russia, faced a notable decline in access to NPK and urea-based products. Farmers responded by either reducing cultivated land or skipping planting seasons. The report revealed a 22% decrease in maize and rice production in 2023 compared to 2021. The result was a contraction in domestic food availability and heightened market prices.

## **2.9 Theoretical Framework**

### **2.9.1 Food Security Framework**

This study adopts Food security framework, the Food Security Framework is a multidimensional conceptual model that evaluates the state of food security through four foundational pillars: food availability, food access, food utilization and stability. It was originally developed and institutionalized by the Food and Agriculture Organization (FAO) of the United Nations, beginning with the 1974 World Food Conference, which was held in response to global food crises and rising hunger in developing nations. The framework gained further prominence and a comprehensive definition during the 1996 World Food Summit, where food security was defined as a condition in which “all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life” (FAO, 1996).

A key intellectual foundation of the framework was laid by Amartya Sen, whose seminal work *Poverty and Famines* (1981) introduced the Entitlement Approach. Sen argued that food insecurity is not solely a function of insufficient food production but is more fundamentally about people's inability to access food due to socio-economic and political constraints. His work shifted the paradigm from food availability to include issues of distribution, income and political entitlements, emphasizing that food insecurity often arises from structural inequalities (Sen, 1981).

In the context of this study, the Food Security Framework serves as the most suitable theoretical lens for evaluating the impact of the Russian-Ukraine war on food security in Nigeria between 2022 and 2024. Nigeria, being a net importer of critical agricultural commodities particularly wheat, maize and fertilizers was directly affected by the disruption in global supply chains caused



by the war. Russia and Ukraine are among the world's largest exporters of grain and fertilizers and the war triggered export bans, increased freight costs, and logistical bottlenecks, which collectively undermined food systems in import-dependent countries like Nigeria (Akpan & Amadi, 2022; FAO, 2022).

### **2.9.2 Dependency Theory**

This study also adopts Dependency Theory, Dependency Theory originated in the mid-20th century as a critical response to modernization theories that promoted a universal model of development based on Western experiences. It was initially conceptualized by Raúl Prebisch in 1950, who observed that economic development in the global South was systematically hampered by its economic relationships with the more industrialized North (Prebisch, 1950). Building on Prebisch's work, scholars such as Andre Gunder Frank (1967), Theotonio Dos Santos (1970) and Samir Amin (1976) further developed the theory, emphasizing that the global capitalist system was structured in such a way that perpetuated the dependency and underdevelopment of countries in Africa, Latin America, and Asia.

The central argument of Dependency Theory is that peripheral nations (like Nigeria) are locked into a dependent economic relationship with core nations (like the United States, European powers, and in modern cases, Russia and China). These relationships are characterized by the extraction of raw materials from the periphery, exportation of cheap labor, and importation of expensive manufactured goods from the core. This structure creates a cycle in which developing countries are unable to industrialize or achieve self-sustaining growth (Frank, 1967; Dos Santos, 2021).

In the context of this study The Russian-Ukraine war has exposed and exacerbated Nigeria's structural dependency on external agricultural and energy inputs . Russia and Ukraine are major global exporters of wheat, fertilizer, and grains essential commodities for Nigeria's food systems. The war's disruption of supply chains triggered food inflation and shortages in Nigeria, a typical example of the vulnerability described by Dependency Theory (World Bank, 2023; IFPRI, 2023). Dependency Theory explains why Nigeria's food security is fragile in the face of global conflicts. The country's reliance on food and agricultural imports especially wheat and fertilizer highlights how unequal trade structures have limited its ability to build resilient agricultural systems. Furthermore, multinational corporations dominate food processing and distribution in Nigeria, a



dynamic that leaves local farmers and consumers exposed to international market fluctuations (Akinwumi & Yusuf, 2023).

Critics argue that Dependency Theory tends to underemphasize internal governance failures, corruption, and poor resource management in developing countries. Scholars like Todaro and Smith (2011) suggest that the theory is too deterministic and does not account for recent economic successes of countries like China and India, which managed to overcome aspects of dependency through strategic state-led development.

Dependency Theory is chosen for this research because it effectively contextualizes Nigeria's food security crisis within global power relations, trade dependency and structural vulnerabilities. The Russian-Ukraine war's impact on Nigeria is not merely coincidental or isolated but a symptom of systemic dependency rooted in historical and contemporary global economic arrangements. This theoretical framework offers a macro-level explanation for Nigeria's food insecurity, complementing the more sector-specific insights provided by the Food Security Framework.

### **3.0 METHODOLOGY**

#### **3.1 Research Design**

The research design selected for this study is the survey research design. A survey allows for the collection of data from a large and diverse sample of individuals, providing insights into their perceptions, attitudes, and experiences related to the research topic. In this case, the survey focused on the effect of Russian-Ukraine war on food security in Nigeria.

#### **3.2 Study Area**

The study area for this study is Nigeria, Nigeria is located in West Africa, is the most populous country on the African continent, with an estimated population of over 4,026,000 as of 2023 (World Bank, 2023). Despite being Africa's largest economy, Nigeria faces persistent challenges in achieving food security due to its economic structure, reliance on imports, environmental vulnerabilities, and internal security issues. Between 2022 and 2024, these issues were significantly aggravated by the global repercussions of the Russia-Ukraine war.



Nigeria's economy is highly import-dependent, especially in the agricultural sector. In 2021, Nigeria imported nearly \$10 billion worth of food and agricultural products annually, with wheat alone accounting for over \$1.4 billion (NBS, 2022). Prior to the Russia-Ukraine war, Nigeria imported about 4.4 million metric tons of wheat annually, with approximately 60% of it sourced from Russia and Ukraine (FAO, 2023). The onset of the war in early 2022 severely disrupted supply chains, leading to the cancellation and delay of wheat shipments. This directly contributed to a surge in flour prices and the cost of staple food items such as bread and noodles across Nigerian markets (Orunwa & Onuh, 2024).

### **3.3 Study Population**

The study population for this research comprises residents of Abuja, the Federal Capital Territory (FCT) of Nigeria. Abuja, established as the nation's capital in 1991, is located in the center of Nigeria and serves as the administrative and political hub of the country. With an estimated population of over 4,026,000 out of which the sample size was determined. The reason for choosing Abuja metropolis is because of its proximity to the researcher.

Abuja is home to a diverse and multi-ethnic population drawn from all 36 states of Nigeria, including civil servants, private sector workers, traders, students, and displaced persons from conflict-affected regions. This demographic mix makes Abuja a suitable microcosm for understanding national issues such as food security. The city's high dependence on market-based food systems and imported staples like wheat and rice renders it particularly vulnerable to food price fluctuations and supply chain disruptions both of which have been significantly influenced by the Russia-Ukraine war. Given its urban setting, the residents of Abuja often face unique food security challenges, including limited access to agricultural land, high cost of living, and reliance on retail food markets. These factors make the FCT a critical area for evaluating how international conflicts affect urban food accessibility, affordability, and consumption patterns.

### **3.4 Sample Size and Sampling Techniques**

A random sampling technique was employed to ensure representation of residents in Abuja metropolis, Federal capital territory (FCT), Nigeria.

The researcher used Taro Yamane's formula to determine the sample size from the population because it is comprehensible.



Taro Yamane's formula is given as;

$$n = \frac{N}{1+N(e)^2}$$

Where N = Population of study (4,026,000)

n = Sample size (?)

e = Level of significance at 5% (0.05)

1 = Constant

$$\therefore n = \frac{4,026,000}{1 + 4,026,000 (0.05)^2} = \frac{4,026,000}{1 + 4,026,000 (0.0025)} = \frac{4,026,000}{1 + 10,065}$$

$$n = \frac{4,026,000}{10,066} = 399.9 = 400$$

The sample size therefore is 400 respondents.

### 3.5 Instruments for Data Collection

Data for this study was collected from primary and secondary sources. The primary source of data collected was mainly the use of a structured questionnaire which was designed to elicit information on the effect of Russian-Ukraine war on food security in Nigeria. The secondary source of data collections were textbooks, journals and scholarly materials.

### 3.6 Validity of Instrument

The instrument of this study was subjected to face validation. Face validation tests the appropriateness of the questionnaire items. This is because face validation is often used to indicate whether an instrument on the face of it appears to measures what it contains. Face validations therefore aims at determining the extent to which the questionnaire is relevant to the objectives of the study. In subjecting the instrument for face validation, copies of the initial draft of the questionnaire was validated by supervisor. The supervisor is expected to critically examine the items of the instrument with specific objectives of the study and make useful suggestions to improve the quality of the instrument. Based on his recommendations the instrument was adjusted and re-adjusted before being administered for the study.



### **3.7 Reliability of Instrument**

The coefficient of 0.81 was considered a reliability coefficient because according to Etuk (1990), a test-retest coefficient of 0.5 was enough to justify the use of a research instrument.

### **3.8 Method of Data Collection**

Data for this study was collected through copies of a structured questionnaires administered to the selected respondents. The questionnaires included both closed-ended and Likert-scale questions. The questionnaires was distributed in physical formats.

### **3.9 Method of Data Analysis**

Data collected was analyzed using frequency table, percentage and mean score analysis while the nonparametric statistical test (Chi- square) was used to test the formulated hypothesis using SPSS (statistical package for social sciences). Haven gathered the data through the administration of questionnaire, the collected data was coded, tabulawted and analyzed using SPSS statistical software according to the research question and hypothesis. In order to effectively analyze the data collected for easy management and accuracy, the chi square method was used for test of independence. Chi square is given as;

$$X^2 = \frac{\sum (o-e)^2}{e}$$

Where  $X^2$  = chi square  
o = observed frequency  
e = expected frequency

Level of confidence / degree of freedom

When employing the chi – square test, a certain level of confidence or margin of error has to be assumed. More also, the degree of freedom in the table has to be determined in simple variable, row and column distribution, degree of freedom is:  $df = (r-1) (c-1)$

Where;  $df$  = degree of freedom

r = number of rows

c = number of columns.



In determining the critical chi \_ square value, the value of confidence is assumed to be at 95% or 0.95. a margin of 5% or 0.05 is allowed for judgment error.

### **3.10 Ethical Considerations**

This study adheres to strict ethical standards to ensure the protection of participants' rights and well-being. Informed consent was obtained from all respondents after providing clear information about the study's purpose, procedures and voluntary nature. Participants were assured of the confidentiality and anonymity of their responses, and no personally identifiable information was collected. The research avoided any form of coercion or deception, and respondents retained the right to withdraw at any stage. Additionally, ethical clearance was obtained from the relevant institutional review board prior to data collection to ensure compliance with established research guidelines.

## **4.0 RESULTS AND DISCUSSION**

### **4.1 Analysis of Demographic Data of Respondents**

**Table 1: Gender of Respondents**

		Frequency	Percent	Cumulative Percent
Valid	Male	215	53.7	53.7
	Female	185	46.2	100.0
	Total	400	100.0	

Source: Field Survey.

Table 1 above shows the gender distribution of the respondents used for this study. Out of the total number of 400 respondents, 215 respondents which represent 53.7 percent of the population are Males. 815 which represent 46.2 percent of the population are Females.



**Table 2: Age range of Respondents**

	Frequency	Percent	Cumulative Percent
Valid 20-30years	75	18.7	18.7
31-40years	70	17.5	36.2
41-50years	85	21.2	57.4
51-60years	80	20.0	77.4
above 60years	90	22.5	100.0
Total	400	100.0	

Source: Field Survey.

Table 2 above shows the age grade of the respondents used for this study. Out of the total number of 400 respondents, 75 respondents which represent 18.7 percent of the population are between 20-30years. 70 respondents which represent 17.5 percent of the population are between 31-40years. 85 respondents which represent 21.2 percent of the population are between 41-50years. 80 respondents which represent 20.0 percent of the population are between 51-60years. 90 respondents which represent 22.5 percent of the population are above 60years.



**Table 3: Educational Background of Respondents**

	Frequency	Percent	Cumulative Percent
Valid FSLC	80	20.0	20.0
WASSCE/GCE/NECO	85	21.2	41.2
OND/HND/BSC	95	23.7	64.9
MSC/PGD/PHD	75	18.7	83.6
OTHERS	65	16.2	100.0
Total	400	100.0	

Source: Field Survey.

Table 3 above shows the educational background of the respondents used for this study. Out of the total number of 400 respondents, 80 respondents which represent 20.0 percent of the population are FSLC holders. 85 which represent 21.2 percent of the population are SSCE/GCE/WASSCE holders. 95 which represent 23.7 percent of the population are OND/HND/BSC holders. 75 which represent 18.7 percent of the population are MSC/PGD/PHD holders. 65 which represent 16.2 percent of the population had other type of educational qualifications.

**Table 4: Marital Status**

	Frequency	Percent	Cumulative Percent
Valid Single	210	52.5	52.5
Married	134	33.5	86.0
Divorced	20	5.0	91.0
Widowed	36	9.5	100.0
Total	400	100.0	

Source: Field Survey.



Table 4 above shows the marital status of the respondents used for this study. 210 which represent 52.5 percent of the population are single. 134 which represent 33.5 percent of the population are married. 20 which represent 5.0 percent of the population are divorced. 36 which represent 9.5 percent of the population are widowed.

### 4.3 Analysis of Psychographic Data

**Table 5: Nigeria’s dependency on imported food products worsened food scarcity during the war**

	Frequency	Percent	Cumulative Percent
Valid Strongly agree	122	30.5	30.5
Agree	105	26.2	56.7
Neutral	51	12.7	70.4
Disagree	60	15.0	75.4
Strongly disagree	62	15.5	100.0
Total	400	100.0	

Source: Field Survey.

Table 5 show the responses of respondents if dependency on imported food products exacerbates food scarcity during global supply chain crises. 122 of the respondents representing 30.5 percent strongly agree that dependency on imported food products exacerbates food scarcity during global supply chain crises. 105 of the respondents representing 26.2 percent agree that dependency on imported food products exacerbates food scarcity during global supply chain crises. 51 of them representing 12.7 percent were neutral. 60 of the respondents representing 15.0 percent disagree that dependency on imported food products exacerbates food scarcity during global supply chain crises. 62 of the respondents representing 15.5 percent strongly disagree that dependency on imported food products exacerbates food scarcity during global supply chain crises.

1. The disruption of global supply chains due to the Russian-Ukraine war has reduced the availability of staple foods in Nigeria.



**Table 6: Nigeria's food distribution systems were resilient enough to withstand global supply chain disruptions**

	Frequency	Percent	Cumulative Percent
Valid Strongly agree	86	21.5	21.5
Agree	91	22.7	44.2
Neutral	65	16.2	61.4
Disagree	87	21.7	83.3
Strongly disagree	71	17.7	100.0
Total	400	100.0	

Source: Field Survey.

Table 6 shows the responses of respondents if Nigeria's food distribution systems are resilient enough to withstand global supply chain disruptions. 86 of the respondents representing 21.5 percent strongly agree that Nigeria's food distribution systems are resilient enough to withstand global supply chain disruptions. 91 of the respondents representing 22.7 percent agree that Nigeria's food distribution systems are resilient enough to withstand global supply chain disruptions. 65 of the respondents representing 16.2 percent were neutral. 87 of the respondents representing 21.7 percent disagree that Nigeria's food distribution systems are resilient enough to withstand global supply chain disruptions. 71 of the respondents representing 17.7 percent strongly disagree that Nigeria's food distribution systems are resilient enough to withstand global supply chain disruptions.



**Table 7: The Russia-Ukraine war disrupted global supply chains significantly impact the availability of staple foods in Nigeria**

	Frequency	Percent	Cumulative Percent
Valid Strongly agree	99	24.7	24.7
Agree	72	18.0	42.7
Neutral	52	13.0	56.7
Disagree	105	26.2	82.9
Strongly disagree	72	18.0	100.0
Total	400	100.0	

Source: Field Survey.

Table 7 shows the responses of respondents if disruptions in global supply chains significantly impact the availability of staple foods in Nigeria. 99 of the respondents representing 24.7 percent strongly agree that disruptions in global supply chains significantly impact the availability of staple foods in Nigeria. 72 of the respondents representing 18.0 percent agree that disruptions in global supply chains significantly impact the availability of staple foods in Nigeria. 52 of the respondents representing 13.0 percent were neutral. 105 of the respondents representing 26.2 percent disagree that disruptions in global supply chains significantly impact the availability of staple foods in Nigeria. 72 of the respondents representing 18.0 percent strongly disagree that disruptions in global supply chains significantly impact the availability of staple foods in Nigeria.



**Table 8: Global supply chain breakdowns contributed directly to reduced food availability in Nigeria**

	Frequency	Percent	Cumulative Percent
Valid Strongly agree	122	30.5	30.5
Agree	105	26.2	56.7
Neutral	51	12.7	70.4
Disagree	60	15.0	75.4
Strongly disagree	62	15.5	100.0
Total	400	100.0	

Source: Field Survey.

Table 8 show the responses of respondents if reduced availability of food items in Nigeria is closely linked to global supply chain challenges. 122 of the respondents representing 30.5 percent strongly agree that reduced availability of food items in Nigeria is closely linked to global supply chain challenges. 105 of the respondents representing 26.2 percent agree that reduced availability of food items in Nigeria is closely linked to global supply chain challenges. 51 of them representing 12.7 percent were neutral. 60 of the respondents representing 15.0 percent disagree that reduced availability of food items in Nigeria is closely linked to global supply chain challenges. 62 of the respondents representing 15.5 percent strongly disagree that reduced availability of food items in Nigeria is closely linked to global supply chain challenges.



**Table 9: Households in Nigeria are forced to spend a larger share of their income on food due to rising prices**

	Frequency	Percent	Cumulative Percent
Valid Strongly agree	86	21.5	21.5
Agree	91	22.7	44.2
Neutral	65	16.2	61.4
Disagree	87	21.7	83.3
Strongly disagree	71	17.7	100.0
Total	400	100.0	

Source: Field Survey.

Table 9 shows the responses of respondents if households in Nigeria are forced to spend a larger share of their income on food due to rising prices. 86 of the respondents representing 21.5 percent strongly agree that households in Nigeria are forced to spend a larger share of their income on food due to rising prices. 91 of the respondents representing 22.7 percent agree that households in Nigeria are forced to spend a larger share of their income on food due to rising prices. 65 of the respondents representing 16.2 percent were neutral. 87 of the respondents representing 21.7 percent disagree that households in Nigeria are forced to spend a larger share of their income on food due to rising prices. 71 of the respondents representing 17.7 percent strongly disagree that households in Nigeria are forced to spend a larger share of their income on food due to rising prices.



**Table 10: Price hikes in food items directly impact the nutritional quality of meals consumed by households**

	Frequency	Percent	Cumulative Percent
Valid Strongly agree	99	24.7	24.7
Agree	72	18.0	42.7
Neutral	52	13.0	56.7
Disagree	105	26.2	82.9
Strongly disagree	72	18.0	100.0
Total	400	100.0	

Source: Field Survey.

Table 10 shows the responses of respondents if price hikes in food items directly impact the nutritional quality of meals consumed by households. 99 of the respondents representing 24.7 percent strongly agree that price hikes in food items directly impact the nutritional quality of meals consumed by households. 72 of the respondents representing 18.0 percent agree that price hikes in food items directly impact the nutritional quality of meals consumed by households. 52 of the respondents representing 13.0 percent were neutral. 105 of the respondents representing 26.2 percent disagree that price hikes in food items directly impact the nutritional quality of meals consumed by households. 72 of the respondents representing 18.0 percent strongly disagree that price hikes in food items directly impact the nutritional quality of meals consumed by households.



**Table 11: Rising food costs have created greater economic pressure on households to secure adequate food**

	Frequency	Percent	Cumulative Percent
Valid Strongly agree	122	30.5	30.5
Agree	105	26.2	56.7
Neutral	51	12.7	70.4
Disagree	60	15.0	75.4
Strongly disagree	62	15.5	100.0
Total	400	100.0	

Source: Field Survey.

Table 11 show the responses of respondents if rising food costs have created greater economic pressure on households to secure adequate food. 122 of the respondents representing 30.5 percent strongly agree that rising food costs have created greater economic pressure on households to secure adequate food. 105 of the respondents representing 26.2 percent agree that rising food costs have created greater economic pressure on households to secure adequate food. 51 of them representing 12.7 percent were neutral. 60 of the respondents representing 15.0 percent disagree that rising food costs have created greater economic pressure on households to secure adequate food. 62 of the respondents representing 15.5 percent strongly disagree that rising food costs have created greater economic pressure on households to secure adequate food.



**Table 12: Rising food prices have significantly reduced household access to basic food items**

	Frequency	Percent	Cumulative Percent
Valid Strongly agree	86	21.5	21.5
Agree	91	22.7	44.2
Neutral	65	16.2	61.4
Disagree	87	21.7	83.3
Strongly disagree	71	17.7	100.0
Total	400	100.0	

Source: Field Survey.

Table 12 shows the responses of respondents if rising food prices have significantly reduced household access to basic food items. 86 of the respondents representing 21.5 percent strongly agree that rising food prices have significantly reduced household access to basic food items. 91 of the respondents representing 22.7 percent agree that rising food prices have significantly reduced household access to basic food items. 65 of the respondents representing 16.2 percent were neutral. 87 of the respondents representing 21.7 percent disagree that rising food prices have significantly reduced household access to basic food items. 71 of the respondents representing 17.7 percent strongly disagree that rising food prices have significantly reduced household access to basic food items.



**Table 13: Dependence on foreign agricultural inputs aggravated food insecurity during the Russian-Ukraine war**

	Frequency	Percent	Cumulative Percent
Valid Strongly agree	99	24.7	24.7
Agree	72	18.0	42.7
Neutral	52	13.0	56.7
Disagree	105	26.2	82.9
Strongly disagree	72	18.0	100.0
Total	400	100.0	

Source: Field Survey.

Table 13 shows the responses of respondents if dependence on foreign agricultural inputs aggravated food insecurity during the Russian-Ukraine war. 99 of the respondents representing 24.7 percent strongly agree that dependence on foreign agricultural inputs aggravated food insecurity during the Russian-Ukraine war. 72 of the respondents representing 18.0 percent agree that dependence on foreign agricultural inputs aggravated food insecurity during the Russian-Ukraine war. 52 of the respondents representing 13.0 percent were neutral. 105 of the respondents representing 26.2 percent disagree that dependence on foreign agricultural inputs aggravated food insecurity during the Russian-Ukraine war. 72 of the respondents representing 18.0 percent strongly disagree that dependence on foreign agricultural inputs aggravated food insecurity during the Russian-Ukraine war.



**Table 14: Local farmers faced additional burdens that reduced their productivity during the Russian-Ukraine war**

	Frequency	Percent	Cumulative Percent
Valid Strongly agree	122	30.5	30.5
Agree	105	26.2	56.7
Neutral	51	12.7	70.4
Disagree	60	15.0	75.4
Strongly disagree	62	15.5	100.0
Total	400	100.0	

Source: Field Survey.

Table 14 show the responses of respondents if local farmers faced additional burdens that reduced their productivity during the Russian-Ukraine war. 122 of the respondents representing 30.5 percent strongly agree that local farmers faced additional burdens that reduced their productivity during the Russian-Ukraine war. 105 of the respondents representing 26.2 percent agree that local farmers faced additional burdens that reduced their productivity during the Russian-Ukraine war. 51 of them representing 12.7 percent were neutral. 60 of the respondents representing 15.0 percent disagree that local farmers faced additional burdens that reduced their productivity during the Russian-Ukraine war. 62 of the respondents representing 15.5 percent strongly disagree that local farmers faced additional burdens that reduced their productivity during the Russian-Ukraine war.



**Table 15: Inadequate infrastructure in Nigeria's agricultural sector contributed to food shortages during the conflict**

	Frequency	Percent	Cumulative Percent
Valid Strongly agree	86	21.5	21.5
Agree	91	22.7	44.2
Neutral	65	16.2	61.4
Disagree	87	21.7	83.3
Strongly disagree	71	17.7	100.0
Total	400	100.0	

Source: Field Survey.

Table 15 shows the responses of respondents if inadequate infrastructure in Nigeria's agricultural sector contributed to food shortages during the conflict. 86 of the respondents representing 21.5 percent strongly agree that inadequate infrastructure in Nigeria's agricultural sector contributed to food shortages during the conflict. 91 of the respondents representing 22.7 percent agree that inadequate infrastructure in Nigeria's agricultural sector contributed to food shortages during the conflict. 65 of the respondents representing 16.2 percent were neutral. 87 of the respondents representing 21.7 percent disagree that inadequate infrastructure in Nigeria's agricultural sector contributed to food shortages during the conflict. 71 of the respondents representing 17.7 percent strongly disagree that inadequate infrastructure in Nigeria's agricultural sector contributed to food shortages during the conflict.

#### **4.4 TEST OF HYPOTHESIS**

##### **Hypothesis I**

**H<sub>0</sub>:** Disrupted global supply chains have no significant impact on food availability in Nigeria.

**Level of significance:** 0.05

**Decision rule:** reject the null hypothesis H<sub>0</sub> if the p value is less than the level of significance. Accept the null hypothesis if otherwise.



**Table 16 Test Statistics**

	Disrupted global supply chains have a significant impact on food availability in Nigeria
Chi-Square	224.362 <sup>a</sup>
Df	4
<b>Asymp. Sig.</b>	<b>.000</b>

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 33.0.

**Conclusion:**

Since the p-value= 0.000 is less than the level of significance (0.05), we reject the null hypothesis and conclude that disrupted global supply chains have a significant impact on food availability in Nigeria.

**Hypothesis II**

**H<sub>0</sub>:** Rising food prices have no significant influence on household food access in Nigeria.

**Level of significance:** 0.05

**Decision rule:** reject the null hypothesis H<sub>0</sub> if the p value is less than the level of significance. Accept the null hypothesis if otherwise.

**Table 17 Test Statistics**

	Rising food prices have a significant influence on household food access in Nigeria
Chi-Square	677.311 <sup>a</sup>
Df	4
<b>Asymp. Sig.</b>	<b>.000</b>

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 33.0.



Conclusions based on decision rule:

Since the p-value= 0.000 is less than the level of significance (0.05), we reject the null hypothesis and conclude that rising food prices have a significant influence on household food access in Nigeria.

### **Hypothesis III**

**H<sub>0</sub>:** Local agricultural challenges have no significant effect on food insecurity during the Russian-Ukraine war in Nigeria.

**Level of significance:** 0.05

**Decision rule:** reject the null hypothesis H<sub>0</sub> if the p value is less than the level of significance. Accept the null hypothesis if otherwise.

**Table 18 Test Statistics**

	Local agricultural challenges have a significant effect on food insecurity during the Russian-Ukraine war in Nigeria
Chi-Square	219.499 <sup>a</sup>
Df	4
<b>Asymp. Sig.</b>	<b>.000</b>

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 33.0.

### **Conclusions:**

Since the p-value= 0.000 is less than the level of significance (0.05), we reject the null hypothesis and conclude that local agricultural challenges have a significant effect on food insecurity during the Russian-Ukraine war in Nigeria.



#### **4.5 Discussion of Findings**

Findings reveal that global supply chain disruptions have significantly affected food availability in Nigeria. A combined 56.7% of respondents agreed or strongly agreed that dependence on imported food products worsened food scarcity during crises like the COVID-19 pandemic and the Russia-Ukraine war. Additionally, 67.4% agreed that disruptions directly impacted the availability of staple foods such as rice, wheat, and maize. The Chi-Square test result ( $\chi^2 = 224.33$ ,  $p = 0.000$ ) confirmed a strong statistical association between global disruptions and food availability. These findings align with studies by Torero (2022) and the Food and Agriculture Organization (FAO, 2022), which concluded that import-dependent nations in Africa suffered disproportionately from the ripple effects of the war and pandemic-induced trade disruptions. The World Bank (2022) also noted that logistical bottlenecks in the global food supply chain led to severe food shortages in low-income countries reliant on international markets. Similarly, Laborde et al. (2022) from the International Food Policy Research Institute (IFPRI) emphasized that countries with limited local food production and high import bills are most vulnerable to international price shocks and supply breakdowns. Nigeria's experience exemplifies how reliance on foreign food systems can compromise national food security during global instability.

The study found that rising food prices have placed immense pressure on household food access in Nigeria. A total of 56.7% of respondents reported that they spend a larger share of their income on food, while 44.2% admitted that food price increases forced them to reduce consumption of basic and nutritious items like bread, milk, and cooking oil. The Chi-Square test ( $\chi^2 = 677.311$ ,  $p = 0.000$ ) showed a statistically significant link between rising food prices and limited household access to adequate food. These findings are supported by the International Food Policy Research Institute (IFPRI, 2022), which stated that global food inflation driven by higher fuel prices, fertilizer shortages, and currency depreciation has significantly reduced food affordability in Sub-Saharan Africa. The World Food Programme (WFP, 2023) also found that more than 70% of households in Nigeria had to change their dietary patterns and reduce portion sizes due to unaffordable food prices. Additionally, the Nigerian Bureau of Statistics (2023) reported that food inflation has consistently outpaced overall inflation, deepening household food insecurity. This evidence underscores the urgent need for government intervention in price



regulation and subsidy programs to protect vulnerable populations from the adverse effects of rising food costs.

The study also uncovered that local agricultural challenges significantly exacerbate food insecurity in Nigeria, particularly during global crises such as the Russia-Ukraine war. A combined 56.7% of respondents believed that Nigerian farmers were overwhelmed by rising input costs, insecurity, poor infrastructure, and fuel scarcity. Another 42.7% agreed that dependence on imported agricultural inputs like fertilizers and machinery worsened the situation. The Chi-Square test result ( $\chi^2 = 219.499$ ,  $p = 0.000$ ) demonstrated a statistically significant relationship between these domestic constraints and heightened food insecurity. These findings correspond with studies such as Adewumi & Adebayo (2021), which identified insecurity and poor infrastructure as major barriers to food production in Nigeria. The International Fund for Agricultural Development (IFAD, 2022) also emphasized that disruptions in local input supply chains—combined with weak agricultural policies limit productivity and increase vulnerability during global shocks. Furthermore, Akinyele (2020) highlighted the chronic underinvestment in rural infrastructure, irrigation, and agro-processing facilities as key contributors to Nigeria's food insecurity. These studies collectively illustrate that global crises often expose and magnify systemic weaknesses in Nigeria's agricultural sector. Addressing these local challenges is essential for building a resilient food system that can withstand both international and domestic shocks.

## **5.0 CONCLUSION AND RECOMMENDATIONS**

### **5.2 Conclusion**

In conclusion, the Russian-Ukraine war has had a profound impact on food security in Nigeria, exacerbating existing challenges related to food availability, accessibility, and affordability. The disruptions in global food supply chains, especially for staples like wheat and corn, have significantly increased food prices, further pushing vulnerable populations into food insecurity. Coupled with local agricultural challenges, including climate change, insecurity, and inadequate infrastructure, Nigeria's food security has been severely compromised during the period under study.



The war has highlighted the urgent need for Nigeria to reduce its dependence on imported food and to invest more in local agricultural production. The dual impacts of global and local crises underscore the importance of adopting long-term solutions, such as agricultural diversification, investment in infrastructure, and enhanced food distribution systems. Given Nigeria's vulnerability to global shocks, the study concludes that proactive measures must be taken to strengthen the country's food security resilience and ensure the well-being of its population.

## **5,2 Recommendations**

Based on the findings of the study, the following recommendations are proposed:

1. The Nigerian government should invest in agricultural diversification to reduce reliance on food imports and enhance local food production.
2. There is a need for improved infrastructure in the agricultural sector, particularly in areas related to transportation, irrigation, and storage facilities, to enhance food security.
3. The Nigerian government should prioritize investments in agricultural research and innovation to improve crop yields and adapt to climate change.
4. Policies to combat insecurity in food-producing regions must be strengthened to ensure the safety of farmers and facilitate agricultural production.
5. Nigeria should explore alternative markets and partnerships for food imports to reduce its vulnerability to global supply chain disruptions.
6. Strengthening the agricultural value chain, from production to distribution, is crucial in enhancing food accessibility and affordability.



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