



Veritatis Gaudium:

Multidisciplinary Journal of Postgraduate Studies

College of Postgraduate Studies,

Veritas University, Abuja, Nigeria

ISSN: 3043 - 5285

Volume 1, Number 2, June, 2026

DOI:10.13140/RG.2.2.17243.12321

IMPACT OF COVID-19 PANDEMIC ON FOOD SECURITY IN NASARAWA STATE, NIGERIA (2019-2023)

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Abstract

The COVID-19 pandemic exposed critical weaknesses in global and local food systems, with severe implications for food security in developing countries such as Nigeria. This study applies the Food Systems Theory (FST) to examine the pandemic's impact on food security in Nasarawa State between 2019 and 2023. A retrospective survey design was employed, with a sample size of 400 respondents determined using the Yamane formula. Data were collected through structured questionnaires and Key Informant Interviews (KIIs), complemented by secondary sources such as journal articles, policy documents, and academic publications. Results: Findings reveal significant disruptions in food production, distribution, and access, with gender disparities evident in household coping strategies. Government-imposed lockdowns and movement restrictions hindered agricultural activities and food trade, leading to sharp increases in food prices and reduced household incomes. Policy responses were largely ineffective due to weak digital infrastructure, inadequate social welfare systems, poor health facilities, limited telecommunications access, corruption, and poor implementation. Rising crime rates during the lockdown further exacerbated socio-economic vulnerabilities. The study underscores the retrospective bias inherent in post-event data collection and highlights the urgent need for resilient food systems in Nigeria. It recommends measures to stabilize food prices, establish accessible palliative distribution centers in both urban and rural areas, and develop a comprehensive national database with social security identification to enhance policy targeting in future crises.

Keywords: Food Systems Theory, COVID-19, Food Security, Nasarawa State, Nigeria, Policy Response, Resilience

Introduction

The COVID-19 pandemic, caused by the novel coronavirus SARS-CoV-2 first identified in Wuhan, China in December 2019 (Zhou et al., 2020), rapidly evolved into an unprecedented global crisis that disrupted public health, economic, and social systems worldwide. The World Health

Organization (WHO) declared it a Public Health Emergency of International Concern on January 30, 2020, and subsequently categorised it as a pandemic on March 11, 2020. This crisis exposed and intensified inherent deficiencies in global governance, particularly within food security systems. The pandemic's disruptive effects on food systems manifested through multiple avenues: international trade restrictions enacted by over 80 countries (WTO, 2020), substantial labour market disruptions affecting agricultural production, and logistical limitations within food distribution networks (FAO, 2020). These cascading effects were particularly evident in low- and middle-income countries (LMICs), where pre-existing food insecurity, insufficient social protection systems, and limited fiscal capacity impeded effective policy responses (Laborde et al., 2021).

African countries encountered substantial food security challenges due to the economic ramifications of the pandemic. For example, South Africa experienced a decline in agricultural productivity as lockdown restrictions impeded farm labour and export routes (Ncube & Ndlovu, 2021). In 2020, food inflation rose to 6.5%, disproportionately affecting low-income households (Stats SA, 2021). Similarly, Nigeria faced severe disruptions in agricultural production and food distribution, with smallholder farmers particularly vulnerable to movement restrictions and market closures (Nasarawa State Ministry of Agriculture, 2021). In Nasarawa State, where over 70% of the population depends on subsistence agriculture, production constraints were compounded by the breakdown of informal labour networks and seasonal shortages. The state's proximity to the Federal Capital Territory created additional vulnerabilities, as rising demand from Abuja (Olabode & Ajala, 2022) coupled with disrupted supply chains resulted in unprecedented price volatility. Staple food prices increased by more than 25% (NBS, 2021), yet the differential impacts on rural versus urban households, and on commercial versus traditional food systems, remain insufficiently understood.

The pandemic also exacerbated existing inequalities in food access and nutritional security. National data indicate that Nigeria's food insecurity rate rose to 12% (World Bank, 2021), but sub-national evidence remains limited, particularly regarding the experiences of women-headed households, internally displaced persons, and urban poor populations. Gendered vulnerabilities are especially under-researched, despite mounting evidence that female-headed households face disproportionate risks due to limited access to productive resources, weaker ownership rights, and entrenched socio-cultural norms (Egenti & Dinbabo, 2025; Oyeboade, 2025; Olumb, 2023). Against this backdrop, the aim of this paper is to investigate the impact of the COVID-19 pandemic on food security in Nasarawa State between 2019 and 2023, with particular attention to production, distribution, access, and gendered dimensions, in order to generate evidence that can inform more resilient and inclusive food system policies.

Literature Review

Recent scholarship has examined the multidimensional impacts of COVID-19 on food systems in Nigeria and comparable African contexts. Amare et al. (2021) show that while farming activities remained relatively resilient, household food insecurity increased by 6–15 percentage points due to reduced non-farm income and restricted market participation. Similarly, Andam et al. (2020) highlight that lockdowns disrupted agricultural value chains, leading to income losses and reduced dietary diversity.

At the global level, Béné et al. (2021) argue that the pandemic exposed systemic fragilities in food systems, amplifying pre-existing inequalities. Laborde et al. (2021) demonstrate that trade disruptions and mobility restrictions led to food price volatility, disproportionately affecting poor households in Sub-Saharan Africa. These findings resonate with Nigeria's experience, where food inflation and declining household incomes worsened food insecurity.

Other studies reinforce these insights. Balana et al. (2022) documented that restrictive measures reduced dietary diversity and increased household vulnerability in Nigeria. Agyei-Holmes et al. (2026) synthesized evidence across Sub-Saharan Africa, showing that policy responses often failed to reach the most vulnerable due to weak targeting and governance challenges. Gendered dimensions are also critical: Nnaji, Ratna & Renwick (2021) and Egenti & Dinbabo (2025) demonstrate that female-headed households are disproportionately affected due to limited access to resources and weaker bargaining power. This literature underscores that while production remained relatively stable, systemic weaknesses in distribution, affordability, and governance exacerbated household vulnerability. These insights provide the foundation for applying Food Systems Theory (FST) and Sustainable Livelihoods Theory (SLT) to analyze Nasarawa's experience.

Theoretical Framework

The Food System Theory (FST) is adopted as the framework of analysis for this study. FST originated in the 1980s, with early contributions from scholars such as Kate Clancy, who first introduced the term "food system" to describe the interconnected processes of food production, distribution, and consumption. Subsequent work by Louise Fresco and Joachim von Braun expanded the framework to emphasize socio-ecological linkages, governance, and sustainability. More recent scholarship, including Clapp and Moseley (2020), has consolidated and articulated FST as a comprehensive analytical lens for examining global and local food systems.

FST rests on several core assumptions:

1. **Interconnectedness:** Food systems are complex and interrelated, featuring feedback loops among production, trade, distribution, and consumption.
2. **Systemic Vulnerability:** External shocks, such as pandemics, simultaneously disrupt multiple components of the system.
3. **Governance and Power Dynamics:** Corporate dominance, trade regulations, and policy interventions profoundly shape food security outcomes.
4. **Equity and Sustainability:** Long-term resilience depends on addressing inequalities and ensuring sustainable practices.

Applied to Nasarawa State, FST provides a framework for understanding how COVID-19 disrupted food security through systemic failures. Global trade restrictions, including export bans imposed by 23 countries, contributed to a 6.5% increase in the FAO Food Price Index (FAO, 2020). Locally, movement restrictions and market closures disrupted supply chains, driving staple food prices up by more than 25% (NBS, 2021). These disruptions illustrate how shocks at both global and local levels converged to undermine food availability and affordability.

FST also highlights the role of governance in shaping outcomes. For instance, ECOWAS-led food distribution initiatives proved inadequate in alleviating trade disruptions (Adesina, 2022), while Nasarawa's proximity to Abuja intensified demand pressures, exacerbating shortages (Olabode & Ajala, 2022). By situating household experiences within broader systemic dynamics, FST enables a holistic analysis of how production constraints, supply chain failures, and market access limitations combined to worsen food insecurity during the pandemic. Thus, Food Systems Theory provides the conceptual foundation for this study, allowing for an integrated examination of the pandemic's impact on Nasarawa's food system and offering insights into the structural vulnerabilities that must be addressed to build resilience.

Methodology

This study adopted a descriptive survey research design, combining both qualitative and quantitative approaches to gain a holistic understanding of how the COVID-19 pandemic affected food security in Nasarawa State. The target population was 1,445,600, based on the National Population Commission (NPC) projection for 2022. The population was drawn from selected Local

Government Areas (LGAs): Keffi and Karu (Nasarawa West Senatorial District), Akwanga and Wamba (Nasarawa North), and Awe and Lafia (Nasarawa South). This ensured representation across the three senatorial districts. The target population included rural farming households (both male- and female-headed), urban and peri-urban dwellers, local traders and market women, agricultural workers and extension officers, as well as government officials and NGOs involved in COVID-19 relief and food distribution. To determine the appropriate sample size, the study applied the Rekish formula, yielding a representative sample of 400 respondents. A stratified random sampling technique was used for the quantitative component to ensure proportional representation across senatorial districts and stakeholder categories. For the qualitative component, purposive sampling was employed to select key informants with specialized knowledge or experience related to food security and COVID-19 interventions. In total, 15 Key Informant Interviews (KIIs) were conducted, involving agricultural extension officers, market leaders, NGO representatives, and government officials.

Data collection relied on both primary and secondary sources. Primary data were generated using structured questionnaires and semi-structured interviews. Secondary sources included journal articles, policy documents, and official reports, which enriched the analysis and provided triangulation. Questionnaire data were analyzed using the Statistical Package for Social Sciences (SPSS), with descriptive statistics (frequencies, tables, percentages) used to present results. Interview data were analyzed thematically, with recurring themes categorized and interpreted to complement quantitative findings. Triangulation was achieved by comparing questionnaire results with insights from KIIs and secondary sources, thereby enhancing validity. It is important to note that while the study employed robust sampling and analytical techniques, no pilot testing of the questionnaire was conducted, and Cronbach's Alpha reliability coefficients were not reported. This represents a limitation in terms of instrument reliability, though triangulation across multiple data sources helped mitigate this gap.

Data Presentation and Analysis

Four hundred (400) copies of questionnaire were distributed to the respondents. However, three hundred and eighty – nine (389) copies of questionnaire were filled and retrieved as a result of some officials were not on sit. Thus 389 out of the 400 copies of questionnaire was used to analyse the data. The responses from questionnaire were presented according to the objectives using frequency tables (frequency, count and percentage). Interviews were equally held with officials of the above mentioned organization and the interview results were supplemented with information from the extant literature, including newspapers, reports, and official documents.

Table 1: Responses on the effects of COVID-19 lockdowns on food security in Nasarawa State

Items	Frequency	%
Lockdown policy affects prices of goods and services.	104	27
Lockdown policy affects supply and sales	68	17
Closing non-essential wholesale/retail trade.	61	16
Change in Customer patronage due to COVID-19 lockdown policy.	74	19
Business indebtedness due to perishable goods in the lockdown period.	82	21
Total	389	100

Source: Field Work (January, 2026).

Presented in table 1 above is the analysis of the effects of COVID-19 lockdowns on food security in Nasarawa State. Findings reveal that total respondents of 104 representing 27% attest that COVID-19 lockdowns affect food security in Nasarawa State because of bound on interstate travel prices of

goods and services. 68 respondents representing 17% indicated that lockdown policy affects supply and sales. 61 respondents representing 16% indicated closing of non-essential wholesale/retail trade leading to fall in GDP, 71 respondents representing 19% said the pandemic affected food security in Nasarawa by change in customer patronage due to COVID-19 lockdown policy while 82 respondents representing 21% said business indebtedness due to perishable goods in the lockdown period causes fall in the GDP. This implies that the outbreak of COVID-19 pandemic affects food security in Nasarawa due to restriction of movements caused by the pandemic. The findings of this study is in agreement with the findings of Ozili, and Arun, (2020) who posit that travel restrictions has cost the tourism industry alone a loss of over \$200 billion globally, excluding other loss of revenue for tourism travel, and also agrees with the forecast cost of the aviation industry totalling a loss of \$113 billion according to IATA. US airlines sought a \$50bn bailout fund for the US Airline industry alone. The GTBA reported that the business travel sector would lose \$820 billion in revenue due to the COVID-19 pandemic.

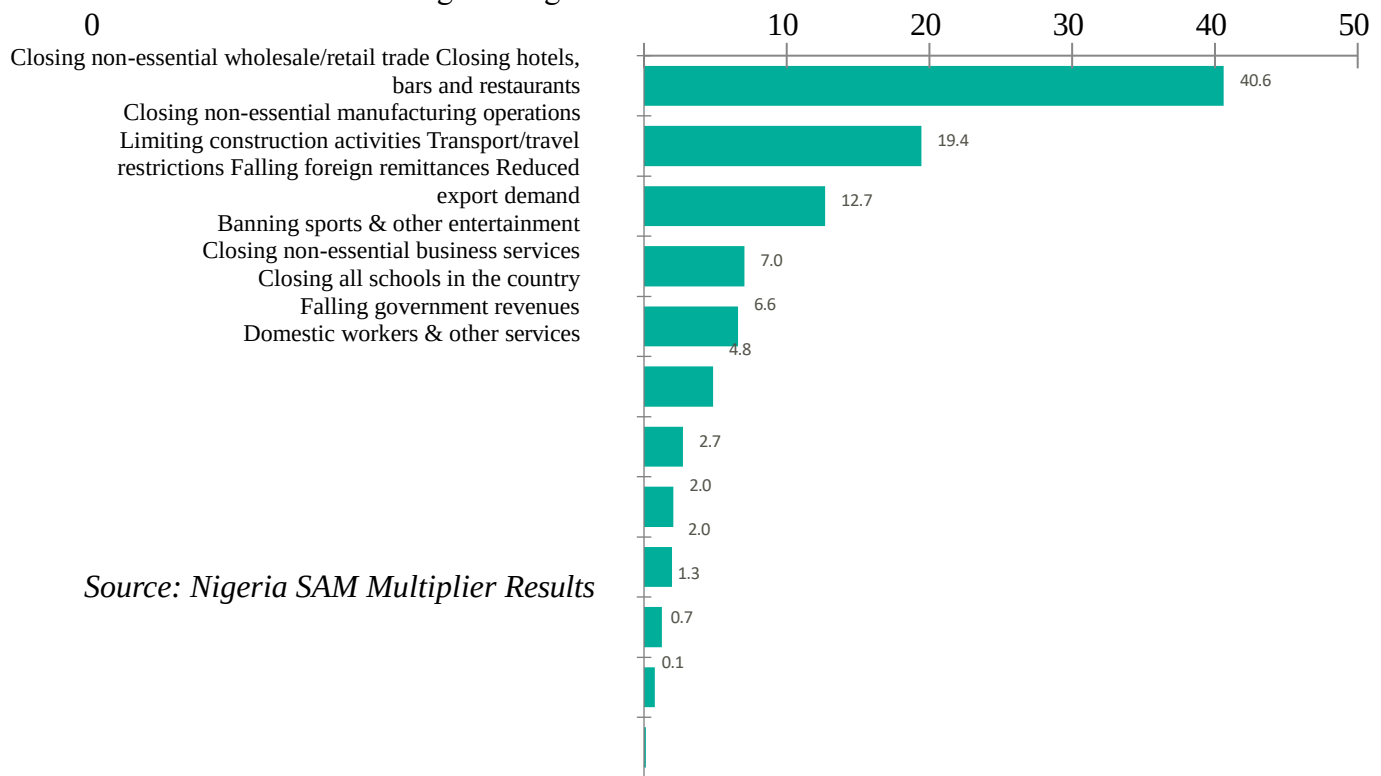
With the total lockdown of communities, producers of agricultural food (farmers) and sellers (traders) find it very difficult to supply and trade in food. Consequently, this sends the price of food very high for householders, who at the same time have been locked out of their daily economic activities. The food chain in general was in total disarray. It equally affected the producers as their products, especially perishable foods such as vegetables, were rotten in farm, with financial implications on inputs incurred during planting, harvesting and packaging. This had made many households resort to stringent coping strategies, such as skipping of food, reducing food consumption, engaging in low-nutrient food and excessive borrowing (debt) to buy food (KII/Male/41/Lafia/January/ 2026).

United Capital Research (2020) succinctly put it that COVID-19 has a negative economic impact and the earlier a cure is found the better for the world economy and Nigeria inclusive. Economic growth (domestic output) in the first and second quarter for Nigeria in the year 2020 may come weaker than expected to impair the 2.3% growth rate originally forecasted for the year. The ability of the domestic productive capacity of the economy to produce and supply goods and services has continued to be undermined by the multiplicity of factors, ranging from the epileptic power supply, transport infrastructural decay, corruption, lack of adequate capital goods, lack of access to modern technology and others have remained endemic. An inappropriate mix of fiscal and monetary policies to galvanise maximum production has remained problematic with very few successes recorded so far.

The country's growing population has inevitably been on the upward trend and local capacity to produce and meet the growing demand has been a mirage. Constant production shortfall is a recurring decimal while efforts to breach the supply gap as reasoned by authorities can only come from importation. Importation has huge influences on the external account sector of the country. With the presence of the Covi-19 pandemic threat, the sector is impacted negatively in an unprecedented way.

Figure 1: Estimated contribution to total losses to Nasarawa's agri-food GDP during COVID-19 lockdown due to specific restrictions and shocks

Percent of total losses to Nigeria's agri-food GDP



Source: Nigeria SAM Multiplier Results

A breakdown of Agri-Food Sector (AFS) GDP losses by impact channel reveals that the suspension of nonessential wholesale and retail trade and the closure of hotels, bars, and restaurants jointly account for 60 percent of losses (Figure 1). The large impact of the latter policy actions – the closure of hotels, bars, and restaurants – is particularly noteworthy. Despite the small size of the food services sector itself, it has significant linkages to other subsectors within the AFS, thus explaining the large overall impact within AFS. As expected, with the exception of the closure of non-essential manufacturing firms, most other policy measures have a limited impact on AFS GDP. The largest losses, in absolute and relative terms, are recorded in the industrial (-38.8 percent) and services (-39.2 percent) sectors, with GDP losses in the services sector (USD 10.8 billion) accounting for over two-thirds of the recorded 34.1 percent loss in national GDP (USD 16.4 billion). Losses in the agricultural sector are small in absolute terms (USD 1.2 billion), but relatively large in relative terms (-13.1 percent) considering that the sector is exempt from any direct restrictive measures. Nigeria's GDP suffered a 34.1 percent loss, amounting to USD 16.4 billion, with two-thirds of the losses occurring in the services sector. Agriculture, which serves as the primary means of livelihood for most Nigerians, suffered a 13.1 percent loss in output (USD 1.2 billion). Although primary agricultural activities were excluded from direct restrictions imposed in the lockdown zones, the agricultural sector was affected indirectly due to its linkages with the rest of the economy.

Table 2: Respondents' Views on COVID-19 Impact on Food Production Volume in Nasarawa State

Items	Frequency	%
Strongly Agree.	218	56
Agree.	129	33
Disagree.	19	5
Strongly Disagree.	16	4
Undecided.	7	2
Total	389	100

Source: Field Work (January, 2026).

Table 2 shows statistically significant difference in the volume of food production in Nasarawa State before, during and after the covid-19 pandemic. 56% strongly agreed that there is no statistically significant difference in the volume of food production in Nasarawa State before, during and after the covid-19 pandemic, 33% agreed that there is no statistically significant difference in the volume of food production in Nasarawa State before, during and after the covid-19 pandemic while 2% were undecided, 5% of them actually disagreed that there is no statistically significant difference in the volume of food production in Nasarawa State before, during and after the covid-19 pandemic while 4% also strongly disagreed. It is very clear here that there is no statistically significant difference in the volume of food production in Nasarawa State before, during and after the covid-19 pandemic.

There is no doubt that COVID-19 has exposed critical gaps in the social protection programs in Nigeria, as there was no effective structure that the government could leverage to mitigate the socioeconomic impact of COVID-19. Prior to the outbreak of the disease in Nigeria, the country was struggling to achieve one of the sustainable development goals, which is social inclusion through poverty alleviation. The government introduced various social programs to achieve poverty alleviation but with no impressive results (KII/Female/48/Keffi/January/2026).

The World Bank reported, 2019, that the coverage rate of various social assistance programs in Nigeria was alarmingly low, as only 4% of households out of 40% of poor households had access to social safety net programs. The International Monetary Fund (IMF, 2021) reported in December 2020 that the Nigerian social safety net suffered from limited coverage, poor targeting, and inadequate monitoring. Lack of government willingness to invest adequately in social protection programs has resulted in poor coverage and low impact of social protection programs in Nigeria. Human Rights Watch (2021) argued that Nigeria's budgetary allocation for social protection programs is far less than what other low middle income countries and its regional peers spend on social protection programs.

Human Rights Watch explained further that Nigeria spent 0.3% of its gross domestic product on social safety programs in 2016. South Africa, Africa's second largest economy behind Nigeria, spent 3.4% of GDP on social protection in 2016. Countries in Sub-Saharan Africa on average spend 1.5% of GDP on social safety nets. As a result of these existing gaps, there was low coverage of households in the various forms of economic relief provided by the government during the lockdown. For instance, between March 2020 and March 2021, only 4% of Nigeria's poor households received support in form of cash from federal, state, and local governments (Lain &

Vishwanath, 2021) despite the upscaling of the National Social Register. This coverage was insignificant when compared to the widening effects of poverty that COVID-19 caused.

The outbreak of the disease exposed the gap in the data strength of the country as no intervention can be successful without reliable data. The approach to eradicating poverty starts from having data of all citizens in both rural and urban areas and analyzing such data to know the poorest of the poor and their location for necessary intervention. If such data existed, identifying the most vulnerable individuals and their location would not have been a challenge for the government during the lockdown. It would have also helped the government to identify other families whose earning power might have dropped during the lockdown. The non-digitalization of the process of the National Conditional Cash Transfer Program also presented a challenge during the lockdown (KII/Male/44/Awe/January/ 2026).

For instance, Dixit, Ogundeji & Onwujekwe (2020) opined that the National Conditional Cash Transfer Program during the lockdown did not achieve the set objective due to the lack of transparency in the system. Dixit et al. noted that the country lacks an adequate information management system that makes electronic payment possible for poor households, which would have made the cash transfer transparent. The whole process was marred by corruption and politics as most of the intended individuals did not get the funds.

The outbreak of the disease also revealed a lack of formal protective systems for informal businesses in Nigeria. The informal sector of the economy, no doubt, employs a substantial number of Nigerians and contributes so much to the national economy with a 65% contribution to Nigeria's GDP (IMF, 2020). Over the years, the sector has been neglected with no considerable attention except in the year 2016 when the trader money program was initiated to help market women (Bank of Industry, 2018), but it was not strategically planned and had no significant impact. Having an existing structure and mechanism for helping the informal sector would have actually made distribution of socioeconomic relief for the people within the sector easier, thereby mitigating the socioeconomic strain of COVID-19 on families.

Table 3: Responses on the extent to which COVID-19 pandemic-induced trade disruptions worsened food security in Nasarawa State

Category	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Food prices increased	180 (45%)	120 (30%)	40 (10%)	40 (10%)	20 (5%)
Household income declined	150 (37.5%)	130 (32.5%)	50 (12.5%)	50 (12.5%)	20 (5%)
Access to markets reduced	160 (40%)	110 (27.5%)	60 (15%)	50 (12.5%)	20 (5%)
Dietary diversity reduced	140 (35%)	120 (30%)	70 (17.5%)	50 (12.5%)	20 (5%)

Source: Field Work (January, 2026).

Results show that 180 respondents representing 45% strongly agree that the extent to which COVID-19 pandemic-induced trade disruptions worsened food security in Nasarawa State is

through increased food prices. Another 120 respondents (30%) agree, while 40 respondents (10%) disagree, 40 respondents (10%) strongly disagree, and 20 respondents (5%) remain neutral.

Similarly, 150 respondents (37.5%) strongly agree that household income declined during the pandemic, 130 respondents (32.5%) agree, 50 respondents (12.5%) disagree, 50 respondents (12.5%) strongly disagree, and 20 respondents (5%) are neutral.

On the issue of access to markets, 160 respondents (40%) strongly agree that restrictions reduced market accessibility, 110 respondents (27.5%) agree, 60 respondents (15%) are neutral, while 50 respondents (12.5%) disagree and 20 respondents (5%) strongly disagree.

Regarding dietary diversity, 140 respondents (35%) strongly agree that the pandemic reduced the variety of foods consumed, 120 respondents (30%) agree, 70 respondents (17.5%) are neutral, while 50 respondents (12.5%) disagree and 20 respondents (5%) strongly disagree.

This result implies that the lockdown and trade disruptions significantly affected economic activities, leading to higher food prices, reduced household income, limited market access, and declining dietary diversity. The implication is that COVID-19 pandemic-induced disruptions largely contributed to worsening food insecurity in Nasarawa State, thereby lowering living standards and increasing vulnerability among households. This finding aligns with interview evidence that highlighted the pandemic's role in deepening poverty and reducing food system resilience.

The employment structure in Nigeria is dominated by informality. Hence, the livelihood of those involved in the informal sector of the economy was seriously affected during the lockdown. Also, economic activities were totally disrupted during the total lockdown and even when it was lifted, the implementation of social distancing made it difficult for the economy to return to status quo before advent of the pandemic. Facing the new normal in the ways of life and social interaction has its economic implication on economic activities. The sector that was mostly affected is the education sector which consists of both private and public stakeholders. Since schools are not opened, most private institutions are not paying; hence they are laying off their staff and by extension, throwing the workers into the job market again. The ripple effect of this explains the projections on job loss figures in Nigeria (KII/Female/45/Karu/January/ 2026).

The above is in consistent with the report of the unemployment statistics released by the Nigeria Bureau of Statistics (NBS) as at August, 2020 indicated an increase from 23.1% in the third quarter of 2018 to 27.1% in the second quarter of 2020 (NBS, 2020). Jobs had become very scarce as the COVID-19 outbreak had deepened the economic crisis, thereby causing a further rise in the unemployment rate in the country. Different sectors had retrenched their employees to try to mitigate the negative effects of the virus. About 42% had lost their jobs due to the COVID-19 pandemic and more were still losing their jobs (NBS, 2020). With more youths thrown into the labour market, we cannot but expect an increase in the crime rate in the country. Also, with the surge of the pandemic, the Government had been experiencing reduced tax revenue leading to a hike in the production of substandard goods, inflation, etc. (Victoria, 2020).

Low purchasing power or lack of money to buy food is another problem caused by COVID-19 lockdown. Lockdowns restrict movement of people to workplaces; this scuttled income generation and pushed many to debt peonage in developing states with emphasis on Nigeria. Many people resort to borrowing to buy food, while others buy on credit to feed household members (KII/Male/41/Akwanga/January/2026).

Similarly, in a survey research conducted by Obi et al (2020) on the effects of the COVID-19 lockdown policy on businesses in Nigeria, it was found that the cumulative majority of businessmen and women comprising traders, retail shops, and wholesale of goods, prices of goods and services, and customer patronage generally affect the economic activities of the national economy. The statistical evidence shows that business indebtedness is due to perishable goods in the lockdown period (86.6%), change in customer patronage due to the COVID-19 lockdown policy (83.3%), effect on supply and sales (100%), and inflation of prices of goods (96.7%). These findings show that the outbreak of the COVID-19 pandemic and the consequential lockdown policy significantly affect economic activities, which constitute a means of livelihood for millions of unemployed youths and self-employed Nigerians. However, a cursory look at the results reveals the moving effects of the pandemic on businesses, from pricey products to customer patronage, supply-supply, and sales and prices of goods.

Before the pandemic, Nigeria was already officially recognized as the poverty capital of the world. With the lockdown, stay at home and restrictions, the poverty situation in the country became worsened. Majority of Nigerians are engaged in the informal sector of the economy, and entirely depends on daily income. The pandemic has disrupted this daily flow of incomes, and the impact of this is high rate of poverty in the country. The coronavirus pandemic also has severe and several impacts on global economy and trades. There is also disruption of several economic activities in the country. These disruptions result in drastic drop in government revenues since companies were closed down, there were not able to make much profit to pay their taxes. So, both direct and indirect taxes due to government were available to government. With the global oil price situation, the Nigerian government experienced more drops in revenue. This also hampers the government ability to pay salaries and embark on the development of social infrastructures such as road constructions, funding of education, provision of water etc. This can be seen in the hasty and unwise decision of the Buhari Presidency to obtain huge loans that the administration was not able to pay within its tenure, and this create multifaceted problem for the country with fatal economic consequences in the future (KII/Male/41/Akwanga/January/ 2026).

He further states that, clearly with increase in unemployment and incidence of poverty, there was increased insecurity in the country. These new waves of criminality and general insecurity were hunger-induced, and frustration, pushed many youths into crimes. The high incidence of poverty, unemployment and sexual abuses result in frustration, depression, loneliness, etc and these lead to suicide, mental disorder and violent aggressions. Also, the inflation rate became higher because of the forces of demand and supply. Most companies were not producing and farmers are not planting so, the demand outweighed the supply, and this caused inflation. The Nigerian citizens certainly bear the brunt as no one was exempted. A situation where there is no increase in salaries and businesses are collapsing while the citizens are made to pay more for services and commodities than the usual price it could impoverish the citizens more and this will in turn lead to frustrations and more health hazards (KII/Male/40/January/ 2026).

Table 4: Responses on the Impact of the Pandemic on Households in Nasarawa State

Responses	Frequency	%
Decreased income.	157	40
Increased income.	18	5
Earning remained constant.	11	3
The private sector was affected most.	112	29
Civil servants affected most.	13	3
Housewives and farmers are affected most.	78	20
Total	389	100

Source: Field Work (January, 2026).

Table 4 above shows responses to the impact of the pandemic on Nigerian households. 40% representing 157 respondents indicated that their income decreased, 18 respondents representing 5% said income increased, 11% with 3 respondents indicated that the earnings remained constant. 112 respondents representing 29% indicated that the private sector was affected most, 13 respondents representing 3% said civil servants were affected most, and 78 respondents representing 20% indicated that housewives and farmers were affected most. This is similar to the result of Malambo et al. (2020), which showed that it is difficult for people in the informal sector to comply with stay-at-home partial lockdowns in Zambia, especially farmers and marketers who depend on daily sales to sustain their livelihoods.

The foregoing scientific observation is consistent with the prediction of Onyekwena and Ekeruche (2020) that COVID-19 will lead to low household consumption caused by low-income earnings of households on contract or short-term jobs. Available evidence shows that with the absence of government palliatives, the majority of households find it very difficult to purchase food within the first 2 weeks of lockdown.

According to the National Bureau of Statistics (NBS), the inflation rate increased by 13.22 percent in August, up from 12.82 percent recorded in July 2020, being the highest in two years. The CPI report showed that the composite food index rose by 16 percent in August compared to 15 percent in July 2020. This rise in the food index was caused by increases in prices of bread, cereals, potatoes, yams and other tubers, meat, fish, fruits, oils and fats and vegetables. Bishagazi (2021) opined that due to the economic impact of the pandemic, adolescent women and girls' exposure to gender-related issues was heightened. These include early and forced marriage, violence, early and unplanned pregnancy, and sex trafficking, as well as limited or no access to education when schools are closed and a heightened risk of never returning. Economic challenges during the outbreak pose a serious threat to young women's work and business activity and expose them to an increased risk of exploitation and abuse. Girls and young women facing severe economic shocks take on high-risk work for their economic survival.

Discussion of Findings

The study's finding that food production volumes in Nasarawa State did not significantly change before, during, and after COVID-19 reflects broader evidence that agricultural output in many African contexts remained relatively stable, but food insecurity worsened due to disruptions in distribution and access. Amare et al. (2021), analyzing Nigerian households, found that farming activities were less affected, yet lockdowns caused a 6–15 percentage point increase in food insecurity due to reduced non-farm income and market participation. This supports the paradox observed in Nasarawa: production resilience coexisted with household vulnerability.

The sharp rise in food prices and decline in household incomes align with findings by Balana et al. (2022), who documented that restrictive measures led to income losses, dietary diversity decline, and price volatility. Similarly, Orjiakor et al. (2023) reported that moderate food insecurity rose from 32% pre-pandemic to over 70% during lockdown, despite continued agricultural activity. These studies reinforce the Food Systems Theory (FST) perspective that food security depends not only on production but also on affordability and accessibility.

Gender disparities in coping strategies observed in Nasarawa are consistent with sub-national evidence. Nnaji, Ratna & Renwick (2021) showed that female-headed households were significantly more food insecure due to limited land access, though a 1-acre increase in land reduced their risk by 16%. Egenti & Dinbabo (2025) further demonstrated that female-headed households consistently scored higher on vulnerability indices, with regional disparities across Nigeria. Ashagidigbi et al. (2022) confirmed that women's restricted access to productive resources and low empowerment levels directly worsened household food insecurity. These findings highlight the need for gender-sensitive resilience strategies.

The ineffectiveness of policy responses in Nasarawa mirrors broader African experiences. The African Development Bank (2020) noted that most COVID-19 interventions lacked effective targeting due to weak data systems and infrastructure. Agyei-Holmes et al. (2026) synthesized evidence across Sub-Saharan Africa, showing that lockdown policies disrupted food value chains and informal markets, while social protection measures failed to reach the most vulnerable. Shilomboleni (2020) argued that the pandemic exposed the fragility of African food systems, calling for transformational resilience strategies beyond short-term relief. These scholarly arguments confirm that Nasarawa's experience is part of a national and continental pattern: production resilience was undermined by systemic weaknesses in distribution, affordability, and governance. The findings underscore the urgent need for resilient, inclusive, and gender-sensitive food systems that can withstand shocks and ensure equitable access to food.

Conclusion

This study examined the impact of the COVID-19 pandemic on food security in Nasarawa State between 2019 and 2023, situating local experiences within broader national and global contexts. The study established the pandemic as a systemic shock that disrupted public health, economic activity, and food systems worldwide, with Nigeria and Nasarawa State particularly vulnerable due to their reliance on subsistence agriculture and weak social protection structures. The literature review highlighted findings from Amare et al. (2021), Andam et al. (2020), Béné et al. (2021), and Laborde et al. (2021), among others, which collectively demonstrate that while agricultural production remained relatively stable, household food insecurity worsened due to income shocks, price volatility, and governance failures. These insights provided the foundation for applying Food Systems Theory (FST) as the analytical lens.

The theoretical framework explained FST's core assumptions, interconnectedness, systemic vulnerability, governance and power dynamics, and sustainability, and applied them to Nasarawa's experience. This perspective clarified how global trade restrictions, local lockdowns, and inadequate policy responses converged to undermine food availability, affordability, and access. The methodology combined quantitative surveys and qualitative interviews, ensuring representation across Nasarawa's senatorial districts and stakeholder categories. While robust sampling and triangulation strengthened validity, limitations included the absence of pilot testing and reliability reporting, as well as the retrospective nature of the survey.

The data presentation and analysis revealed several key findings. Table 1 showed that lockdowns disrupted supply chains, raised prices, and caused business indebtedness. Figure 1 demonstrated

significant GDP losses in Nigeria's agri-food sector due to closures of wholesale trade and food services. Table 2 indicated that most respondents perceived no statistically significant difference in food production volumes before, during, and after the pandemic, highlighting a paradox between stable production and worsening food insecurity. Table 3 confirmed that trade disruptions led to higher food prices, declining household incomes, reduced market access, and diminished dietary diversity.

Findings of the study underscore that food insecurity in Nasarawa was not primarily a matter of production shortfall but rather systemic weaknesses in distribution, affordability, and governance. The pandemic exposed structural vulnerabilities in Nigeria's food system, intensified gendered inequalities, and revealed the inadequacy of policy responses. The study demonstrates that building resilience in Nasarawa's food system requires more than boosting production. It demands inclusive governance, effective social protection, improved market infrastructure, and gender-sensitive interventions. By applying Food Systems Theory, the research provides a holistic understanding of how global shocks and local dynamics interact, offering evidence to guide future strategies for sustainable and equitable food security.

Recommendation

To following recommendations are made:

1. **Enhancement of Food Distribution Systems:** To address the challenge of *unequal and centralized relief distribution during lockdowns*, the Nasarawa State Ministry of Agriculture & Rural Development, working with Local sGovernment Councils, should enhance food distribution by establishing decentralized food hubs in each senatorial district. They should do this by setting up community-managed centers and using verified beneficiary lists prepared with the help of traditional leaders to ensure transparency and inclusion.
2. **Development of Citizen Data Systems:** To address the challenge of *poor targeting and corruption in cash transfers due to lack of reliable citizen data*, the Nasarawa State Bureau of Statistics, in partnership with the National Identity Management Commission (NIMC), should develop a comprehensive digital database of households. They should do this by conducting biometric registration, integrating records into the National Social Register, and ensuring regular updates at ward level to improve targeting of vulnerable households.
3. **Strengthening Support for Smallholder Farmers:** To address the challenge of *labour shortages, input scarcity, and market closures faced by farmers*, the **Nasarawa State Agricultural Development Programme (NADP)** should strengthen farmer support by providing subsidized inputs such as fertilizer and seeds, expanding extension services, and creating emergency credit lines. They should do this by partnering with state-backed microfinance institutions and farmer cooperatives to deliver timely support directly to farming communities.
4. **Improvement of Market Infrastructure:** To address the challenge of *poor rural roads and lack of storage facilities that worsened post-harvest losses and price volatility*, the Nasarawa State Ministry of Works & Infrastructure, in collaboration with the Ministry of Commerce, should improve market infrastructure by upgrading feeder roads linking farms to markets and building community storage warehouses. They should do this by allocating budgetary resources to rural infrastructure projects and incentivizing private investment in cold chain logistics.
5. **Promotion of Gender-Sensitive Food Policies:** To address the challenge of *female-headed households lacking access to land, credit, and decision-making power*, the Nasarawa State Ministry of Women Affairs, working with the Ministry of Agriculture, should promote gender-sensitive policies by launching women-focused agricultural credit schemes and enforcing land rights reforms. They should do this by integrating women into local food policy councils and ensuring that relief and empowerment programs explicitly prioritize female-headed households.

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