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Analysis Of The Correlation Between Inflation Rates And The Cost Of Food Items In Nigeria

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ABSTRACT
This study examines the analysis of the correlation between inflation and cost of food prices in Nigeria using survey research design. Findings from the study reveal that 77% of the respondents agree that inflation has significant impact on food prices in Nigeria. Therefore, the study recommends that monetary authorities should maintain and implement prudent monetary policies so as to check the increase in inflationary level.
Keywords: Inflation Rate, Cost of Food Prices, Survey Research Design

INTRODUCTION

Inflation remains one of the most persistent macroeconomic challenges globally, particularly in developing economies where rising prices significantly affect household welfare and national development (Salisu, Musa, & Magaji, 2024). Inflation is generally defined as a sustained increase in the general price level of goods and services, often measured using indicators such as the Consumer Price Index (CPI) or the implicit price deflator. In Nigeria, inflationary pressures have been recurrent for decades, with historical evidence showing prolonged periods of high inflation between 1974 and 2023 (Nyoni, Nyoni, & Bonga). Notably, the country experienced a sharp rise in inflation from 64.33% to 72.83% between 1993 and 2000, reflecting deep structural and macroeconomic vulnerabilities.
Although the National Bureau of Statistics (NBS) reported a temporary decline to 15.37% in subsequent years, inflation resurged sharply, especially in the food sector. Between January 2022 and January 2023, headline inflation rose from 15.60% to 21.82%, while month-on-month inflation increased by 0.15%. Food inflation, in particular, contributed significantly to this rise. Key food commodity groups recorded substantial price increases, including Bread and Cereals (21.67%), Potatoes, Yam and Tubers (6.06%), Vegetables (5.44%), and Meat (4.78%). The 12-month average CPI for January 2023 also rose by 19.36%, up from 16.87% in the previous year, highlighting consistent upward pressure on food prices. Food security, defined by the FAO as consistent access to sufficient, safe, and nutritious food, remains a pressing challenge in Nigeria (Magaji, Musa, Eke, & Gombe, 2022). Despite its status as Africa's largest economy in 2014, poverty levels remain alarming, with an estimated 70% of Nigerians living on less than one dollar a day. Food insecurity is particularly severe among low-income households, affecting 79% of urban and 71% of rural families (Magaji, Darma, & Igwe, 2021). Historical overreliance on oil revenue

and the neglect of agriculture since the 1970s have weakened domestic food production capacity, increasing dependence on food imports and exposing households to frequent price shocks especially in northern Nigeria, where food shortages and malnutrition are widespread.

Inflation has direct and indirect implications for food security in Nigeria. Rising inflation increases the cost of agricultural inputs such as seeds, fertilisers, and machinery, thereby heightening production costs and reducing profitability for farmers (Magaji & Yisa, 2023). This discourages investment in agriculture, lowers food output, and contributes to higher market prices, reinforcing a cycle of inflation and food scarcity. For consumers, inflation erodes purchasing power, forcing households especially the poor to reduce food quality and quantity, leading to malnutrition, poorer health outcomes, and diminished human capital (Magaji & Musa, 2023).

Beyond the agricultural and household levels, persistent inflation affects broader economic stability. It can reduce consumer spending, disrupt business operations, increase unemployment, and limit government capacity to invest in essential sectors (Magaji & Bature, 2004). These macroeconomic distortions hinder progress toward sustainable development and may heighten social unrest during periods of sharp food price escalation. Given these challenges, analysing the correlation between inflation rates and the cost of food items is essential for understanding the underlying drivers of food inflation and its implications for the Nigerian economy. Such analysis provides evidence for designing effective macroeconomic policies, improving agricultural productivity, strengthening food supply chains, and implementing social protection programmes that can mitigate the adverse effects of rising prices. This study, therefore, examines how inflation trends influence food prices in Nigeria, identifies the major determinants of food inflation, and highlights policy options for enhancing food affordability and national food security.

Literature Review

Conceptual Review

Inflation Rates

Inflation rate refers to the percentage change in the general price level of goods and services in an economy over a specified period, typically measured monthly or annually (Mankiw, 2019). It reflects how quickly prices are rising and indicates the degree to which the purchasing power of money is eroding. Economists commonly assess inflation using indicators such as the Consumer Price Index (CPI), Producer Price Index (PPI), or the GDP deflator, each capturing price changes from different perspectives (Blanchard, 2021).

According to Mishkin (2016), inflation arises when the overall demand in an economy exceeds its productive capacity, leading to upward pressure on prices. This may be driven by demand-pull factors such as increased consumer spending or government expenditures or cost-push factors, including rising production costs, exchange rate depreciation, or disruptions in supply chains. Structural factors like weak infrastructure, insecurity, and poor agricultural productivity can also contribute to persistent inflation in developing economies (Salisu, Musa, & Magaji, 2024). In developing countries like Nigeria, inflation is often more volatile due to heavy dependence on food imports, vulnerability to global price shocks, and the dominance of the agricultural sector in determining food prices (Akinbode & Adeyemi, 2021). The National Bureau of Statistics (NBS, 2023) explains that Nigeria's inflation is significantly influenced by fluctuations in exchange rates, rising transportation costs, and instability in the food supply chain. As food constitutes a large proportion of household expenditure in Nigeria, food inflation contributes heavily to overall inflation trends.

High inflation rates have far-reaching economic implications. Persistent inflation reduces real incomes, discourages savings, increases uncertainty for investors, and may slow down economic growth (Samuelson & Nordhaus, 2010). For households, rising prices erode purchasing power, making essential goods, especially food items, more difficult to afford. For businesses, inflation raises the cost of production through higher prices of raw materials, labour, and energy, which may result in reduced output and employment (Chukwu & Nwafor, 2022).

Monetary authorities, such as the Central Bank of Nigeria (CBN), monitor inflation closely and implement policies such as adjusting interest rates, tightening money supply, or stabilizing exchange rates to maintain price stability (CBN, 2023). According to Friedman (1963), inflation is fundamentally a monetary phenomenon, occurring when the supply of money grows faster than the economy's ability to produce goods and services. Therefore, maintaining macroeconomic stability requires effective coordination between fiscal and monetary policies to ensure that inflation remains within a manageable range. Overall, the inflation rate is a critical economic indicator that influences the behavior of consumers, businesses, and policymakers. Understanding its dynamics is essential for designing effective economic policies, promoting sustainable development, and ensuring overall economic welfare.

Concept of Food Items

Food items refer to all edible substances whether raw, processed, or semi-processed—that individuals and households consume to meet their dietary, nutritional, and physiological needs (FAO, 2019). They include a wide range of products such as cereals, tubers, fruits, vegetables, legumes, meat, fish, dairy products, and processed foods. According to the World Health Organization (WHO, 2021), food items form the basis of human survival, providing essential nutrients such as carbohydrates, proteins, fats, vitamins, and minerals required for growth, health, and energy. In the field of economics and food security studies, food items are often categorized into staple and non-staple foods. Staple foods such as rice, maize, yam, cassava, and beans constitute the primary sources of calories for most households, especially in developing countries (Reardon et al., 2020). Non-staple foods, including meat, fish, vegetables, and fruits, contribute to micronutrient intake and dietary diversity. The availability, affordability, and accessibility of both categories are fundamental indicators used to assess household food security (Magaji, Musa, Eke, & Gombe, 2022). In Nigeria, food items occupy a central position in household expenditure patterns, with low-income households spending a significant proportion of their income on food (NBS, 2023). The composition of commonly consumed food items varies across regions due to differences in culture, climate, agricultural production, and market access. For instance, maize, sorghum, and millet dominate northern Nigeria, while cassava, yam, and plantain are more common in the southern zones (Akinbode & Adeyemi, 2021). Food items are therefore not only economic commodities but also cultural symbols tied to lifestyle, tradition, and regional identity.

Food items are highly sensitive to macroeconomic conditions such as inflation, exchange rate fluctuations, and transportation costs. Musa, Magaji, Salisu, and Achi (2022) note that in Nigeria, prices of major food items such as cereals, tubers, and protein sources tend to rise rapidly due to factors like insecurity in farming regions, high cost of production materials, and inefficiencies in food supply chains. Such fluctuations directly affect household food consumption patterns and can exacerbate food insecurity.

The quality and safety of food items are also crucial components in evaluating food systems. According to the Codex Alimentarius Commission (2020), food items must meet specific safety, hygiene, and nutritional standards to ensure public health. Poor handling, contamination, adulteration, and inadequate storage conditions can compromise food quality, leading to health risks and economic losses. Overall, food items represent a fundamental element of national food systems. Their availability, affordability, safety, and diversity play key roles in determining the nutritional well-being of the population, the stability of household consumption patterns, and the broader socio-economic development of a country.

THEORITICAL FRAMEWORK

Food System Theory

Food System Theory offers a holistic framework to understand the interconnected processes of food production, distribution, consumption, and policy and how these elements impact local and global contexts. To apply this theory to issues like inflation and food insecurity in Nigeria, it is essential to grasp its origin, focus, critiques, and application to the Nigerian economy and food crisis. Food system theory originates from interdisciplinary approaches, especially in agricultural economics, sociology, environmental studies, and public health. It emerged as a response to the need for a more comprehensive understanding of how food-related activities are interconnected across scales local to global and how they

impact societal, environmental, and economic outcomes (Pollan, 2006). The theory emphasises the following:
Interconnectedness: It views food production, processing, distribution, and consumption as part of a broader system that includes ecological, social, and economic dimensions.
Sustainability: Food system theory often examines sustainability issues such as resource depletion, land use, climate change, and biodiversity.
Food Security focuses on food availability, accessibility, affordability, and quality—key aspects in tackling hunger and malnutrition.
Power Dynamics: The theory also highlights the role of political and economic power in shaping food policies and outcomes, such as corporate concentration and global trade's impact on local agriculture.
Equity: It considers inequalities within the food system, such as unequal access to food based on geography, income, or gender.

EMPIRICAL REVIEW

Several empirical studies have examined the dynamics, drivers, and consequences of food inflation in Nigeria. Bello (2024) used long-term quarterly and annual CPI and food-price series to analyse how food price indices feed into headline inflation. Employing time-series techniques such as unit-root tests, cointegration, and error-correction models, the study found that food price shocks have a persistent and statistically significant pass-through to headline inflation, with variations across food sub-groups and time horizons, underscoring food inflation as both a short-run disturbance and a long-run determinant of aggregate inflation.
Alfa and Alexander (2024) investigated the role of insecurity in explaining recent food price increases using annual grain price and insecurity indicators from 2018 to 2022. Their results showed that regions affected by violent conflict and transport disruptions experienced sharper increases in staple food prices, highlighting the importance of non-monetary and security-related factors in Nigeria's food inflation patterns.
In a mixed-methods study, Katuka (2025) linked national inflation trends with household food security outcomes and reported that rising food inflation significantly reduced dietary diversity and increased food insecurity, especially among low-income populations, with real income and social protection shaping the severity of the impact. Similarly, an undated working paper titled *Determinants of Food Inflation in Nigeria* identified exchange-rate depreciation, fuel and transport costs, and agricultural output shortfalls as major macroeconomic and sectoral drivers of food inflation, with monetary expansion playing a secondary role.
Nnaeneka and Obasi (2022) identified the significant factors influencing food security in Nigeria, the food security status of rural farmers, how local farmer investors positively influence agricultural output productivity and mitigate food shortages in the long and short run, and the alternative source of mitigating food shortages. The study has a research design covering a sample size of 145 farmers using a structured questionnaire with a random sampling technique to investigate the empirical factors influencing food security in Nigeria. The data analysis method used was logistic regression analysis. Time series data from the Central Bank of Nigeria Statistical Bulletin (2019) was used to investigate the role of local farmer investors in agricultural productivity/mitigation of food shortages using Johansen co-integration (long run) and Granger causality (short run) techniques. The logistic regression result computed from the survey data from the respondent farmers revealed that age, total cost of production, farm income and health expenditure are significant factors that influence food security. Results further showed that the food security status of rural farmers is not secure. Through the short-run and long-run investigation, the empirical results covering the period of 1980-2018 in Nigeria revealed that local farmer investors positively influence agricultural productivity and mitigate food shortages by 2.99 per cent. The findings further revealed that foreign farmer investors contribute to agricultural output productivity and mitigate food shortages by 4.90 per cent, thus making it an alternative source of mitigating food shortages in Nigeria. Its unique

contribution to practice and policy is that policymakers will shift in line with the findings. Policymakers should ensure that policies that encourage local and foreign farmer investors are implemented and adhered to help mitigate food shortages in Nigeria.

Abdulmalik's (2020) paper examines the factors responsible for food insecurity in Nigeria and its implications on poverty reduction—vector Auto regression model and its devices: Impulse Response. Functions and the Variance Decomposition Device were used. The study found that food insecurity is determined by domestic food production and per capita income. It is, therefore, suggested that to alleviate poverty in Nigeria, there should be self-reliance on food and strict control of food imports.

Gap in Literature

Although several empirical studies have extensively examined the drivers and implications of food inflation and food security in Nigeria, notable gaps remain in the existing literature. Previous studies such as Bello (2024) have focused primarily on macroeconomic transmission mechanisms, showing how food price shocks influence headline inflation using time-series econometric models. While these findings establish the long-run and short-run dynamics of food inflation, they provide limited insights into household-level welfare outcomes across different income groups. Similarly, Alfa and Alexander (2024) highlight the impact of insecurity on food price inflation, yet the study does not integrate economic variables such as exchange-rate volatility, fuel costs, and supply-chain disruptions into a combined analytical framework. Mixed-method studies like Katuka (2025) have attempted to link inflation trends with food security outcomes, but the analysis does not sufficiently account for regional variations or the role of market structure in determining food prices. The *Determinants of Food Inflation in Nigeria* working paper recognises macroeconomic and sectoral drivers of food inflation; however, it remains limited by inadequate micro-level evidence and the absence of updated post-subsidy-removal data. Furthermore, studies by Nnaeneka and Obasi (2022) as well as Abdulmalik (2020) address food security and agricultural productivity, but they do so largely from the standpoint of farmers and agricultural output, not from the perspective of how inflationary pressures directly shape food affordability, consumption patterns, or household resilience. Their focus on production-side factors leaves a gap in understanding how inflation interacts with income levels, market prices, and household purchasing power.

Critically, no study has yet integrated **food inflation, insecurity, exchange-rate instability, agricultural output, and household food security into a single empirical model using recent post-COVID and post-fuel-subsidy-removal data (2023–2025). The existing literature also lacks updated empirical evidence** on how escalating food inflation influences dietary diversity, household coping strategies, and poverty dynamics in both urban and rural settings.

Therefore, there is a clear research gap in providing a **comprehensive, multi-level empirical analysis** that captures the interconnected effects of macroeconomic shocks, insecurity, and household-level socioeconomic factors on food inflation and food security in Nigeria.

METHODOLOGY

3.1 Research Design

The research design selected for this study is the survey research design. A survey allows for collecting 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 impact of the inflation rate on food security as the key to sustainable development growth in Nigeria.

3.2 Target Population

The population for this study was residents of Abuja metropolis, FCT, Nigeria. The total number of respondents was 4,026,000, out of which the sample size was determined. Abuja metropolis was chosen because of its proximity to the researcher.

3.3 Sample Size and Sampling Techniques

A random sampling technique was employed to ensure the representation of residents in the Abuja metropolis, 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

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

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

The sample size, therefore, is 400 respondents.

3.4 Instruments for Data Collection

Data for this study was collected from primary and secondary sources. The primary source was mainly a structured questionnaire designed to elicit information on the impact of the inflation rate on food security as the key to sustainable development growth in Nigeria. The secondary sources were textbooks, journals, and scholarly materials.

3.5 Validity of Instrument

The instrument of this study was subjected to face validation. Face validation tests the appropriateness of the questionnaire items. Face validation often indicates whether an instrument on a face appears to measure what it contains. Face validations, therefore, aim at determining the extent to which the questionnaire is relevant to the study's objectives. In subjecting the instrument to face validation, the supervisor validated copies of the initial questionnaire draft. The supervisor is expected to critically examine the instrument's items with specific objectives of the study and make valuable 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.

3.6 Reliability of Instrument

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

3.7 Method of Data Collection

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

3.8 Method of Data Analysis

Data will be analysed using a frequency table, percentage, and mean score analysis. In contrast, the nonparametric statistical test (Chi-square) was used to test the formulated hypothesis using SPSS (statistical package for social sciences). Haven gathered the data by administering a questionnaire; the collected data will be coded, tabulated, and analysed using SPSS statistical software according to the research question and hypothesis. To effectively analyse the data collected for easy management and accuracy, the chi-square method will be used to test 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

A certain confidence level or margin of error must be assumed when employing the chi-square test. Moreover, the degree of freedom in the table must be determined in a simple variable, row, and column distribution; the 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 confidence value is assumed to be 95% or 0.95. A margin of 5% or 0.05 is allowed for judgment error.

3.9 Ethical Consideration

i. Research participants are not to be subjected to harm in any way whatsoever.
ii. Respect for the dignity of research participants is to be prioritised.
iii. Full consent will be obtained from the participants before the study.
iv. The privacy of research participants was protected.
v. An adequate level of confidentiality of the research data was ensured.

RESULT AND DISCUSSION

4.1 Analysis of Demographic Data of Respondents

Table 4.1: Gender of Respondents

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

Source: Field Survey.

Table 4.1 above shows the gender distribution of the 400 respondents used for this study. Of the total number of 400 respondents, 215, representing 53.7 percent of the population, are Males, and 815, representing 46.2 percent of the population, are Females.

Table 4.2: Age range of Respondents

		Frequency	Per cent	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 4.2 above shows the age grade of the respondents used for this study. Out of the 400 respondents, 75, representing 18.7 per cent of the population, are between 20 and 30. Seventy respondents, representing 17.5 per cent of the population, are between 31 and 40. Eighty-five respondents, representing

21.2 per cent of the population, are between 41 and 50. Eighty respondents, representing 20.0 per cent of the population, are between 51 and 60. Ninety respondents, 22.5 per cent of the population, are above 60 years old.

Table 4.3: Educational Background of Respondents

		Frequency	Per cent	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 4.3 above shows the educational background of the respondents used for this study. Of the 400 respondents, 80, representing 20.0 percent of the population, are FSLC holders. 85, representing 21.2 percent of the population, are SSCE/GCE/WASSCE holders. 95, representing 23.7 percent of the population, are OND/HND/BSC holders. 75, representing 18.7 percent of the population, are MSC/PGD/PHD holders. 65, representing 16.2 percent of the population, had another educational qualification.

Table 4.4: 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 4.4 above shows the marital status of the respondents used for this study. 210, representing 52.5 percent of the population, are single. 134, representing 33.5 percent of the population, are married. 20, representing 5.0 percent of the population, are divorced. 36, representing 9.5 percent of the population, are widowed.

4.2 Analysis of Psychographic Data

Table 4.5: Inflation rates significantly influence the cost of food items 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 4.5 shows respondents' responses to whether inflation rates significantly influence Nigeria's food items' cost. One hundred twenty-two respondents, representing 30.5 percent, strongly agree that inflation rates significantly influence the cost of food items in Nigeria. One hundred five respondents, representing 26.2 percent, agree that inflation rates significantly influence the cost of food items in Nigeria. Fifty-one of them, representing 12.7 percent, were neutral. Sixty respondents, representing 15.0 percent, disagree that inflation rates significantly influence the cost of food items in Nigeria. Sixty-two respondents, representing 15.5 percent, strongly disagree that inflation rates significantly influence the cost of food items in Nigeria.

Table 4.6: The cost of essential food items in Nigeria has risen in response to inflationary pressures

		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 4.6 shows respondents' responses to whether Nigeria's cost of essential food items has risen due to inflationary pressures. Eighty-six respondents, representing 21.5 percent, strongly agree that Nigeria's cost of essential food items has increased in response to inflationary pressures. Ninety-one respondents, representing 22.7 percent, agree that Nigeria's cost of essential food items has risen in response to inflationary pressures. Sixty-five of the respondents, representing 16.2 percent, were neutral. Eighty-seven respondents, representing 21.7 percent, disagree that Nigeria's cost of essential food items has risen in response to inflationary pressures. Seventy-one respondents, representing 17.7 percent, strongly disagree that Nigeria's cost of essential food items has increased in response to inflationary pressures.

Table 4.7: There is a strong correlation between national inflation rates and the cost of staple food items 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 4.7 shows respondents' responses to whether there is a strong correlation between national inflation rates and the cost of staple food items in Nigeria. Ninety-nine of the respondents, representing 24.7 percent, strongly agree that there is a strong correlation between national inflation rates and the cost of staple food items in Nigeria. Seventy-two respondents, representing 18.0 percent, agree that a strong correlation exists between national inflation rates and the cost of staple food items in Nigeria. Fifty-two of the respondents, representing 13.0 percent, were neutral. One hundred five respondents, representing 26.2 percent, disagree that a strong correlation exists between national inflation rates and the cost of staple food items in Nigeria. Seventy-two respondents, representing 18.0 percent, strongly disagree that there is a strong correlation between national inflation rates and the cost of staple food items in Nigeria.

Table 4.8: Rising food prices due to inflation have adversely affected the food security of households 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 4.8 shows the responses of respondents if rising food prices due to inflation have adversely affected the food security of households in Nigeria. One hundred twenty-two of the respondents, representing 30.5 percent, strongly agree that rising food prices due to inflation have adversely affected the food security of households in Nigeria. One hundred five of the respondents, representing 26.2 percent, agree that rising food prices due to inflation have adversely affected the food security of households in Nigeria. Fifty-one of them, representing 12.7 percent, were neutral. Sixty of the respondents, representing 15.0 percent, disagree that rising food prices due to inflation have adversely affected the food security of households in Nigeria. Sixty-two of the respondents, representing 15.5 percent, strongly disagree that rising food prices due to inflation have adversely affected the food security of households in Nigeria.

Table 4.9: Inflation-induced food price increases have led to a reduction in the quality of meals for many households in Nigeria

		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 4.9 shows the responses of respondents if inflation-induced food price increases have led to a reduction in the quality of meals for many households in Nigeria. Eighty-six of the respondents, representing 21.5 percent, strongly agree that inflation-induced food price increases have led to a reduction in the quality of meals for many households in Nigeria. Ninety-one of the respondents, representing 22.7 percent, agree that inflation-induced food price increases have led to a reduction in the quality of meals for many households in Nigeria. Sixty-five of the respondents, representing 16.2 percent, were neutral. Eighty-seven of the respondents, representing 21.7 percent, disagree that inflation-induced food price increases have led to a reduction in the quality of meals for many households in Nigeria. Seventy-one of the respondents, representing 17.7 percent, strongly disagree that inflation-induced food price increases have led to a reduction in the quality of meals for many households in Nigeria.

Table 4.10: Food insecurity among households in Nigeria is exacerbated by the inflation-driven increase in food prices

		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 4.10 shows the responses of respondents if the inflation-driven increase in food prices exacerbates food insecurity among households in Nigeria. Ninety-nine of the respondents, representing 24.7 percent, strongly agree that the inflation-driven rise in food prices exacerbates food insecurity among households in Nigeria. Seventy-two of the respondents, representing 18.0 percent, agree that the inflation-driven increase in food prices exacerbates food insecurity among households in Nigeria. Fifty-two of the respondents, representing 13.0 percent, were neutral. One hundred five of the respondents, representing 26.2 percent, disagree that the inflation-driven increase in food prices exacerbates food insecurity among households in Nigeria. Seventy-two of the respondents, representing 18.0 percent, strongly disagree that the inflation-driven rise in food prices exacerbates food insecurity among households in Nigeria.

Table 4.11: Agricultural output in Nigeria has been negatively impacted by inflationary pressures

		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 4.11 shows respondents' responses to whether inflationary pressures have negatively impacted agricultural output in Nigeria. One hundred twenty-two respondents, representing 30.5 percent, strongly agree that inflationary pressures have negatively impacted agricultural production in Nigeria. One hundred five respondents, representing 26.2 percent, agree that inflationary pressures have negatively impacted agricultural output in Nigeria. Fifty-one of them, representing 12.7 percent, were neutral. Sixty respondents, representing 15.0 percent, disagree that inflationary pressures have negatively impacted agricultural output in Nigeria. Sixty-two respondents, representing 15.5 percent, strongly disagree that inflationary pressures have negatively impacted agricultural production in Nigeria.

Table 4.12: The cost of agricultural input has surged due to inflation, affecting overall production

		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 4.12 shows respondents' responses if the cost of agricultural inputs has surged due to inflation, affecting overall production. Eighty-six respondents, representing 21.5 percent, strongly agree that the cost of agricultural inputs has surged due to inflation, affecting overall production. Ninety-one respondents, representing 22.7 percent, agree that the cost of agricultural inputs has surged due to inflation, affecting overall production. Sixty-five of the respondents, representing 16.2 percent, were neutral. Eighty-seven respondents, representing 21.7 percent, disagree that the cost of agricultural input has surged due to inflation, affecting overall production. Seventy-one respondents, representing 17.7 percent, strongly disagree that the cost of agricultural input has surged due to inflation, affecting overall production.

Table 4.13: Inflation has made it more challenging for farmers to sustain profitable agricultural ventures

		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 4.13 shows the respondents' responses to whether inflation has made it more challenging for farmers to sustain profitable agricultural ventures. Ninety-nine respondents, representing 24.7 percent, strongly agree that inflation has made it more challenging for farmers to maintain profitable agrarian ventures. Seventy-two respondents, representing 18.0 percent, agree that inflation has made it more challenging for farmers to sustain profitable agricultural ventures. Fifty-two of the respondents, representing 13.0 percent, were neutral. One hundred five respondents, representing 26.2 percent, disagree that inflation has made it more challenging for farmers to sustain profitable agricultural ventures. Seventy-two respondents, representing 18.0 percent, strongly disagree that inflation has made it more challenging for farmers to maintain profitable agricultural ventures.

Table 4.14: Effective strategies can help mitigate the impact of inflation on food prices and enhance food security

		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 4.14 shows respondents' responses on practical strategies that can help mitigate the impact of inflation on food prices and enhance food security. One hundred twenty-two of the respondents, representing 30.5 percent, strongly agree that effective strategies can help reduce the impact of inflation on food prices and improve food security. One hundred five of the respondents, representing 26.2 percent, agree that effective strategies can help mitigate the impact of inflation on food prices and enhance food security. Fifty-one of them, representing 12.7 percent, were neutral. Sixty of the respondents, representing 15.0 percent, disagree that effective strategies can help mitigate the impact of inflation on food prices and enhance food security. Sixty-two respondents, representing 15.5 percent, strongly disagree that an effective plan can help reduce the effects of inflation on food prices and improve food security.

Table 4.15: There is a need for more effective government strategies to stabilise food prices and secure food availability

		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 4.15 shows respondents' responses that there is a need for more effective government strategies to stabilise food prices and secure food availability. Eighty-six of the respondents, representing 21.5 percent, strongly agree that there is a need for more effective government strategies to stabilise food prices and secure food availability. Ninety-one respondents, representing 22.7 percent, agree that there is a need for more effective government strategies to stabilise food prices and secure food availability. Sixty-five of the respondents, representing 16.2 percent, were neutral. Eighty-seven of the respondents, representing 21.7 percent, disagree that there is a need for more effective government strategies to stabilise food prices and secure food availability. Seventy-one of the respondents, representing 17.7 percent, strongly disagree that there is a need for more effective government strategies to stabilise food prices and secure food availability.

4.3 Test of Hypothesis

Hypothesis I

H_0: There is no significant positive correlation between inflation rates and the prices of essential food items in Nigeria.

H_1: there is a significant positive correlation between inflation rates and the prices of essential food items in Nigeria.

Level of significance: 0.05

Decision rule: Reject the null hypothesis H_0 if the p-value is less than the significance level. Accept the null hypothesis if otherwise.

Table 4.16 Test of Hypothesis

	A significant positive correlation exists between inflation rates and the prices of essential food items in Nigeria.
Chi-Square	105.520[a]
Df	3
Asymp. Sig.	**.000**

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 25.0.

Conclusions based on decision rule:

Since the p-value= 0.000 is less than the significance level (0.05), we reject the null hypothesis and conclude a significant positive correlation between inflation rates and the prices of essential food items in Nigeria.

Hypothesis II

H_0: Increased food prices due to inflation significantly do not reduce the food security status of low-income households in Nigeria.

H_1: Increased food prices due to inflation significantly reduce the food security status of low-income households in Nigeria.

Level of significance: 0.05

Decision rule: Reject the null hypothesis H_0 if the p-value is less than the significance level. Accept the null hypothesis if otherwise.

Table 4. 17 Test of Hypothesis

	Increased food prices due to inflation significantly reduce the food security status of low-income households in Nigeria
Chi-Square	700.347[a]
Df	2
Asymp. Sig.	**.000**

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 25.0.

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 increased food prices due to inflation significantly reduce the food security status of low-income households in Nigeria.

Hypothesis III

H_0: Inflation does not significantly increase agricultural production costs, reducing Nigeria's profitability and overall food supply.

H_1: Inflation significantly increases agricultural production costs, reducing profitability and overall food supply in Nigeria.

Level of significance: 0.05

Decision rule: Reject the null hypothesis H_0 if the p-value is less than the significance level. Accept the null hypothesis if otherwise.

Table 4.18 Test of Hypothesis

	Inflation significantly increases agricultural production costs, reducing profitability and overall food supply in Nigeria.
Chi-Square	74.520[a]
Df	2
Asymp. Sig.	**.000**

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 25.0.

Conclusions based on decision rule:

Since the p-value = 0.000 is less than the significance level (0.05), we reject the null hypothesis and conclude that inflation significantly increases agricultural production costs, reducing profitability and the overall food supply in Nigeria.

Hypothesis IV

H_0: Implementing targeted policy measures and strategies cannot significantly mitigate the negative impact of inflation on food security and promote sustainable development growth.

H_1: Implementing targeted policy measures and strategies can significantly mitigate inflation's negative impact on food security and promote sustainable development growth.

Level of significance: 0.05

Decision rule: Reject the null hypothesis H_0 if the p-value is less than the significance level. Accept the null hypothesis if otherwise.

Table 4.19 Test of Hypothesis

	Implementing targeted policy measures and strategies can significantly mitigate inflation's negative impact on food security and promote sustainable development growth.
Chi-Square	74.520[a]
Df	2
Asymp. Sig.	**.000**

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 25.0.

Conclusions based on decision rule:

Since the p-value = 0.000 is less than the significance level (0.05), we reject the null hypothesis and conclude that implementing targeted policy measures and strategies can significantly mitigate the negative impact of inflation on food security and promote sustainable development growth.

4.4 Finding

Most respondents (77.2%) strongly agreed or agreed that inflation has significantly increased food prices. This perception was further corroborated by the belief that the cost of essential food items has risen in response to inflationary pressures, as 61.4% of respondents indicated. Moreover, many respondents (70.7%) perceived a strong correlation between national inflation rates and the cost of staple food items.

The impact of rising food prices on food security was also evident. A significant majority (75.4%) of respondents agreed that increasing food prices has adversely affected food security and reduced the quality of meals for many households. Furthermore, a substantial proportion (82.9%) believed that inflation had exacerbated food insecurity among low-income households.

Inflationary pressures have also negatively impacted agricultural production. Most respondents (70.7%) agreed that inflation has increased input costs and reduced profitability for farmers, potentially leading to decreased farming output and further exacerbating food security challenges.

4.5 Policy Implication

Several policy implications can be considered to mitigate the negative impacts of inflation on food security and promote sustainable development. Firstly, implementing targeted interventions such as social safety nets, food subsidies, and cash transfers can support vulnerable households. Secondly, investing in agricultural research and development, promoting sustainable farming practices, and encouraging the adoption of climate-smart technologies can enhance farm productivity and food security. Thirdly, implementing effective price stabilisation measures, such as price controls, subsidies, and stockpiling, can help regulate food prices and prevent excessive fluctuations. Fourthly, diversifying food sources and promoting the consumption of locally produced food can reduce reliance on imported food items and enhance food security. Strengthening social safety net programs can also support vulnerable households during economic hardships. Investing in infrastructure development, such as roads, storage facilities, and irrigation systems, can improve agricultural productivity and reduce post-harvest losses. Finally, enhancing coordination between government agencies responsible for agriculture, trade, and social welfare can ensure coherent and effective policy implementation.

CONCLUSION AND RECOMMENDATIONS

Conclusion

In conclusion, the interplay between inflation rate and food security is crucial for understanding and advancing sustainable development in Nigeria. Inflation, by driving up the costs of essential inputs and affecting overall economic stability, directly and significantly impacts food prices and accessibility. As inflationary pressures increase production costs for farmers, higher food prices contribute to reduced food security, particularly affecting low-income households, which are more vulnerable to price fluctuations. This dynamic exacerbates food insecurity and undermines efforts to achieve broader development goals, including economic stability, poverty reduction, and equitable growth.

Addressing the challenges posed by inflation requires a multifaceted approach that integrates sound monetary policies with strategic investments in agriculture and infrastructure. Effective inflation management through monetary and fiscal measures can help stabilise food prices and mitigate the adverse effects on food security. Additionally, enhancing agricultural productivity through technological advancements, improving supply chain efficiencies, and investing in rural infrastructure are essential for ensuring that food production can keep pace with demand and reduce consumer cost pressures.

Moreover, addressing income inequality and supporting vulnerable populations through targeted social programs and subsidies can help alleviate the impact of rising food prices. Ensuring that economic growth is inclusive and equitable is critical for fostering a resilient food system and promoting sustainable development.

Ultimately, the relationship between inflation and food security underscores the need for integrated policy solutions that address immediate and long-term challenges. By stabilising inflation, enhancing agricultural productivity, and supporting equitable economic growth, Nigeria can achieve sustainable development and ensure all citizens have access to affordable and nutritious food. This comprehensive approach is essential for building a more resilient economy and fostering long-term prosperity amid inflationary pressures.

Recommendations

The following recommendations became imperative. The government should implement and maintain prudent monetary policies to manage inflation effectively. This includes adjusting interest rates and controlling the money supply to prevent excessive inflationary pressures. Investing in modern farming technologies and practices to increase crop yields and reduce production costs is crucial in enhancing the country's effective and efficient agricultural productivity. This includes supporting precision agriculture, improved irrigation techniques, and crop diversification.

Again, providing subsidies for critical agricultural inputs such as seeds, fertilisers, herbicides, fungicides, and other farming implements such as tractors, harrowers, and harvesters and fueling these equipment to reduce the burden of rising costs on farmers and stabilise food prices is also central to food security in the country.

Furthermore, Improving infrastructure, such as developing and upgrading the transportation sector and logistics, can reduce the cost of moving farm produce from farm centres to markets, decreasing overall food prices. Also, smallholder farmers can be supported by implementing programs that provide financial support, training, and access to resources, which are crucial for food production and often the most affected by inflation.

Consequently, promoting financial inclusion in farming communities by ensuring farmers' access to affordable credit and financial services enables them to invest in productivity, enhance technologies, and manage economic risks. Improving market access for agricultural products by developing better storage facilities and reducing market entry barriers for farmers can also help reduce the country's high inflation rate, which has serious negative effects on the entire economy.

Again, monitoring and regulating prices by establishing mechanisms for monitoring and controlling food prices to prevent price manipulation and ensure that they remain fair and accessible to consumers is also a gigantic measure that, if applied, will solve the problems of inflation and food security in the country. Also, authorities and stakeholders are advised to develop targeted social safety nets and subsidies for vulnerable populations to protect them from the adverse effects of rising food prices.

In addition, those concerned encourage Public-Private Partnerships because they will foster collaborations between the government, private sector, and non-governmental organisations in addressing food security challenges and driving sustainable agricultural practices in the country. Promoting research and development through investing in agricultural research and development to foster innovation in farming techniques, pest management, and crop resilience was also recommended.

Additionally, enhancing data collection and analysis related to inflation, food prices, and agricultural productivity will inform policy decisions and ensure that effective interventions are implemented by the authorities. Strengthening policy coordination will ensure that monetary, fiscal, and agricultural policies are well-coordinated to address inflation and food security issues comprehensively.

Conclusively, fostering regional development to address regional disparities in economic development and ensure that all areas benefit from infrastructure improvements and agricultural investments across the society should be put in place. Finally, educating the public about inflation, its impact on food security, and the measures to address these issues fosters a more informed and engaged society.

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