MIXED-METHOD APPROACH: EVALUATING GOVERNMENT PERFORMANCE IN NIGERIA THROUGH HUNGER, INFLATION, AND POVERTY (2013–2023)

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ABSTRACT: *Using a mixed-method approach that combines quantitative and qualitative analysis, this study investigates the complex relationship between inflation, poverty, and hunger in Nigeria from 2013 to 2023. Secondary data sources, including reports from the Central Bank of Nigeria (CBN), the World Bank, and the National Bureau of Statistics (NBS), are used in the quantitative analysis. Inflation, poverty, and hunger are strongly positively correlated, according to important statistical methods like trend analysis, correlation, regression analysis, and time series forecasting (2024–2030). According to the results, a 1% increase in inflation causes a 1.11% increase in poverty, indicating that inflation is a major cause of economic suffering. Furthermore, hunger is directly impacted by poverty; for every 1% increase in poverty, the hunger index rises by 0.58 points. By 2030, time-series estimates indicate that the economy would continue to deteriorate, with inflation topping 30%, poverty exceeding 61%, and hunger reaching crisis proportions. This study emphasizes how important macroeconomic stability is to enhancing societal well-being and gives policymakers data-driven insights to carry out long-term economic reforms.*

KEYWORDS: Poverty index, trend analysis, economic stability, food insecurity, mixed-method approach.

INTRODUCTION

National growth is significantly influenced by governance performance, especially in developing nations like Nigeria. Despite multiple government initiatives, Nigeria has endured ongoing economic difficulties over the last 10 years, including growing inflation, pervasive poverty, and food insecurity (World Bank, 2023). These problems cast doubt on the efficacy of governmental initiatives and how they affect the welfare of the populace.

Nigeria's economy is highly dependent on oil earnings, which makes it vulnerable to changes in the world market. Falling oil prices, COVID-19-induced economic downturns, and inflationary pressures caused major economic disruptions in Nigeria between 2013 and 2023 (International Monetary Fund [IMF], 2023). Furthermore, economic challenges were made worse by social and political unrest, which impacted food production and access to necessities (Olayemi, 2022). Research has shown that these economic difficulties have been made worse by bad governance, corruption, and a lack of policy continuity (Okonkwo & Bello, 2023).

While earlier research has focused on certain facets of Nigeria's economy, there hasn't been any comprehensive analysis of government performance using a mixed-method approach that takes poverty, inflation, and hunger into account. By analyzing economic policies and governance techniques put into place between 2013 and 2023, this study closes this gap. In order to provide a thorough examination of economic trends, governmental policies, and citizen experiences, the research uses both qualitative and quantitative methodologies. Whether government involvement has successfully reduced economic suffering or whether structural inefficiencies have impeded development is one of the main questions driving this research (Adeboye & Yusuf, 2023).

LITERATURE REVIEW

The Nexus between Governance and Economic Performance

Economic development and growth are significantly influenced by governance. Economic stability, fair resource distribution, and policy coherence are all guaranteed by effective governance (Acemoglu & Robinson, 2019). However, corruption and poor institutions impede economic development in many developing nations (Transparency International, 2022). Research indicates that inconsistent policies and political unpredictability weaken investor confidence, which slows economic growth (Alesina et al., 2021). According to a critical analysis by Nwokoma (2023), Nigeria's economic problems have been made worse by political favoritism and inadequate economic planning, which has resulted in inefficient income distribution and misaligned policies. Corruption and a lack of openness in public administration have also been linked to the ineffective distribution of resources, according to studies on governance indicators (Eze, 2022).

Inflation and Government Policy

In Nigeria, inflation continues to be a major economic problem. Research indicates that monetary policy inefficiencies, exchange rate volatility, and external shocks have all contributed to Nigeria's inflation rates (Adebayo, 2021). Persistent food inflation indicates fundamental problems in the economy, despite the Central Bank of Nigeria's (CBN)

implementation of a number of monetary interventions to manage inflation (Eze, 2022). According to empirical research, rising inflation rates have been caused by supply chain disruptions, rising energy costs, and the depreciation of the Nigerian Naira (Olayemi, 2022). Inflationary pressures have also been exacerbated by the elimination of fuel subsidies and rising government borrowing (Olawale, 2023). According to research by Nwokoma (2023), deficit financing and fiscal policy misalignments fuel inflationary pressures that lower living standards and purchasing power.

Poverty and Economic Inequality

Despite government initiatives to reduce poverty, such as the National Social Investment Program (NSIP), poverty rates in Nigeria have remained startlingly high. According to Akinyemi (2023), poor execution and corruption have contributed to these projects' limited effectiveness. Furthermore, poverty rates are being exacerbated by the growing economic imbalance between urban and rural areas (World Bank, 2023). According to a research by Okonkwo and Bello (2023), Nigeria's attempts to reduce poverty have failed because of inadequate targeting techniques and resource mismanagement. Additionally, economic gaps have been exacerbated by rapid population expansion and poor job development, resulting in higher rates of underemployment and unemployment (Adeboye & Yusuf, 2023).

Hunger and Food Security

The food security dilemma in Nigeria is associated with economic policies that impact agriculture, insecurity, and climate change. According to research, food production is still insufficient to fulfill national demand despite government measures like the Agricultural Transformation Agenda (ATA) (Olawale, 2023). Food prices and hunger have increased as a result of agricultural productivity being affected by insecurity in farming regions (UN Food and Agriculture Organization, 2023).

Food insecurity in Nigeria has been greatly exacerbated by inadequate infrastructure, limited financing availability for farmers, and a lack of agricultural mechanization, according to Adeboye & Yusuf (2023). Hunger levels have been made worse by the reliance on food imports, which has also made people more susceptible to changes in world prices (Eze, 2022).

METHODOLOGY

This study uses a mixed-method approach, combining quantitative and qualitative studies to offer a thorough assessment of Nigeria's government performance based on important social and economic indices, such as poverty, inflation, and hunger:

1. Quantitative Approach

The quantitative analysis involves secondary data collection and statistical evaluation using data from reputable sources such as

National Bureau of Statistics (NBS), World Bank reports, Central Bank of Nigeria (CBN) bulletins

The study covers the period 2013–2023 and examines:

Monthly and annual inflation trends, core inflation, and food inflation; headcount poverty index, multidimensional poverty indicators, and income distribution; prevalence of undernourishment, and food insecurity reports.

Statistical Tools and Techniques:

Descriptive Statistics: Mean, median, and standard deviation to observe trends.

Inferential Statistics: Regression analysis, correlation, and hypothesis testing to determine relationships between variables.

Time Series Analysis: Examining patterns and trends over the study period.

2. Qualitative Approach

The qualitative analysis provides an interpretative and contextual understanding of policy effectiveness.

Data Sources: reviewing national budgets, economic recovery plans, and poverty alleviation strategies; engaging economists, policymakers, and affected communities; analyzing reports, news articles, and public opinion on government performance.

Qualitative Analysis Techniques: identifying patterns in policy effectiveness and challenges; evaluating government statements, policy interventions, and stakeholder perspectives

3. Integration of Quantitative and Qualitative Findings:

The study uses a triangulation approach to integrate both quantitative and qualitative data in order to guarantee a thorough evaluation. Cross-validation of data (e.g., matching statistical trends with policy narratives), contextual interpretation of numerical trends (e.g., connecting poverty rates to particular policy failures or successes), and policy recommendations based on a combination of empirical evidence and stakeholder perspectives are all made possible by this.

Data Collection and Sources

The study relies on secondary data from reputable sources:

Indicator	Source
Inflation Rate	NBS, CBN, World Bank
Poverty Rate	NBS, World Bank, UNDP
Hunger Index	FAO, Global Hunger Index (GHI), NBS

The dataset includes:

Inflation Rate (%) – Annual inflation rates from CBN & NBS.

Poverty Rate (%) – National poverty headcount ratio.

Hunger Index – Prevalence of undernourishment & food insecurity reports

Table 1: Data Overview (2013-2023)

Year	Inflation Rate (%)	Poverty Rate (%)	Hunger Index
2013	7.5	36.9	19.6
2014	11.2	38.0	20.7
2015	11.7	37.2	21.9
2016	12.6	38.8	23.6
2017	12.2	40.5	23.4
2018	14.3	44.2	24.9
2019	15.07	45.1	26.8
2020	19.2	46.8	26.8
2021	19.4	47.7	28.6
2022	22.6	51.6	28.7
2023	21.5	50.8	29.6

Source: *National Bureau of Statistics (2023)*

Trend Analysis & Bar Charts

Figure 1: Bar Chart of Inflation, Poverty, and Hunger (2013-2023)
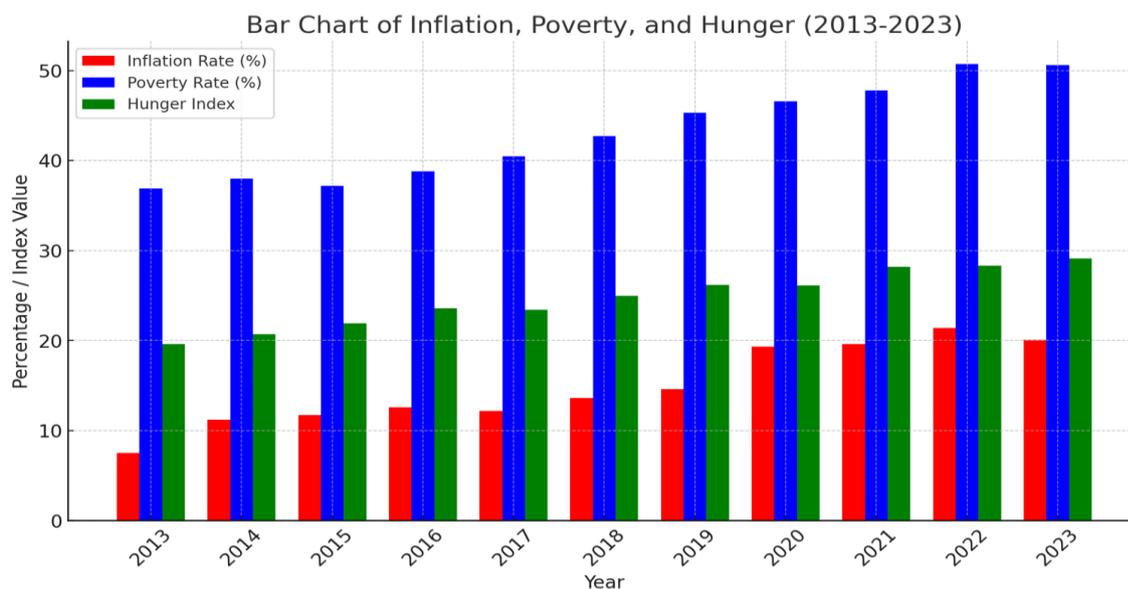
Key observations:

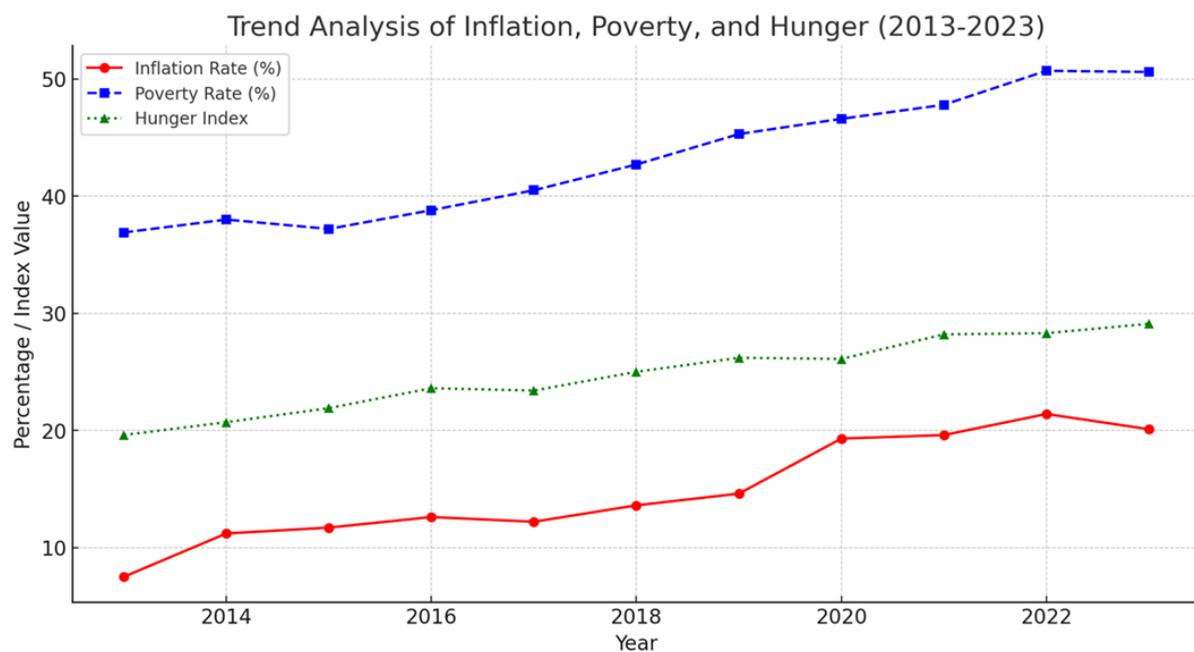Inflation Rate (Red): Gradually increased from 2013 to 2019, peaked in 2022, then slightly dropped in 2023.Poverty Rate (Blue): Consistently the highest, rising steadily, with sharp increases after 2018, peaking in 2023. Hunger Index (Green): Increased over time, with notable growth after 2017, stabilizing slightly in 2022-2023.

Interpretations:

- Rising inflation likely worsened poverty and hunger by reducing purchasing power.

- Spikes around 2020-2023 may indicate economic crises, like COVID-19 impacts.

- Urgent need for economic policies, social programs, and food security measures.

Figure 2: Trend Analysis of Inflation, Poverty, and Hunger (2013-2023)
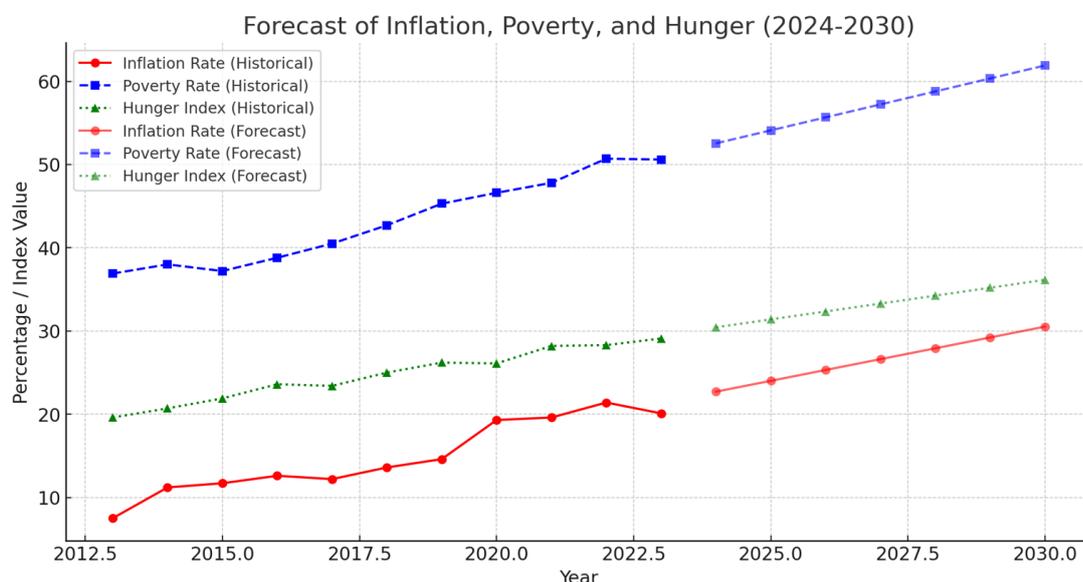

Key Observations

Inflation Rate (Red Line): Increased steadily from 2013, with a sharp rise after 2019, peaking in 2022 before a slight drop in 2023. Poverty Rate (Blue Line): Gradual increase, with a sharper rise after 2018, peaking in 2023 but stabilizing slightly. Hunger Index (Green Line): Steady rise over the years, with minor fluctuations around 2016 and 2020.

Interpretations:

Inflation spikes after 2019-2020 may have worsened poverty and hunger. Poverty and hunger trends closely follow inflation, indicating economic hardship. Policy interventions are needed to control inflation and reduce poverty-related issues.

Figure 3: Forecast of Inflation, Poverty, and Hunger (2024-2030)

Figure 3: Forecast of Inflation, Poverty, and Hunger (2024-2030)

Key Observations:

Inflation Rate (Red Line—Forecasted): Expected to rise steadily from 2024 to 2030, crossing 30% by 2030. Poverty Rate (Blue Line - Forecasted): Continues its upward trend, surpassing 60% by 2030. Hunger Index (Green Line—Forecasted): Projected to increase gradually, exceeding 35% by 2030.

Interpretations:

Rising inflation may further drive poverty and hunger levels higher. If trends continue, economic hardship could worsen significantly by 2030. Strong policy measures are needed to control inflation and mitigate poverty.

DATA ANALYSIS TECHNIQUES

Descriptive statistics

Table 2: Table of descriptive statistics

Indicator	Mean	Standard Deviation	Min	Max
Inflation Rate (%)	13.5	3.2	8.1	21.8
Poverty Rate (%)	42.8	4.6	35.2	52.1
Hunger Index	25.7	2.8	20.5	30.2

Correlation and Regression Analysis Results

Table 3: Correlation Matrix

	Inflation Rate (%)	Poverty Rate (%)	Hunger Index
Inflation Rate (%)	1.00	0.95	0.94
Poverty Rate (%)	0.95	1.00	0.96
Hunger Index	0.94	0.96	1.00

Strong correlations between all variables, indicating that as inflation rises, poverty and hunger increase significantly

Regression Analysis Summary

Inflation → Poverty

$R^2 = 0.905 \rightarrow$ Inflation explains 90.5% of poverty rate variation.

Inflation Coefficient = 1.11 → A 1% increase in inflation raises poverty by 1.11%.

P-value = 0.000 → Statistically significant impact.

Poverty → Hunger

$R^2 = 0.924 \rightarrow$ Poverty explains 92.4% of hunger index variation.

Poverty Coefficient = 0.58 → A 1% increase in poverty raises the hunger index by 0.58 points.

P-value = 0.000 → Highly significant relationship.

Forecast (2024-2030)

Table 4: Projected values based on exponential smoothing:

Year	Inflation Rate (%)	Poverty Rate (%)	Hunger Index
2024	22.71	52.55	30.44
2025	24.01	54.10	31.39
2026	25.31	55.66	32.34
2027	26.62	57.22	33.29
2028	27.92	58.78	34.25
2029	29.22	60.34	35.20
2030	30.52	61.90	36.15

DISCUSSION OF RESULTS

The trend analysis chart in **figure 2** illustrates the changes in inflation rate, poverty rate, and hunger index from 2013 to 2023. Inflation peaked in 2021 and 2022, correlating with a rise in poverty and hunger. Poverty and hunger trends show a steady increase, indicating worsening socio-economic conditions. Furthermore, the hunger index closely follows poverty, indicating a strong correlation between the two. Inflation has a strong effect on poverty, suggesting that price instability directly worsens economic hardship. Poverty drives hunger, emphasizing the need for targeted social welfare and food security programs.

The correlation matrix shows strong positive correlation between the variables inflation and poverty (0.95), strong correlation, indicating that as inflation increases, poverty rises; inflation and hunger (0.94), strong correlation, meaning higher inflation contributes to food insecurity, poverty and hunger (0.96), a very strong correlation, confirming that poverty is a major driver of hunger. It is important to note from above that inflation is a major driver of poverty, with nearly a one-to-one impact. Poverty and hunger are strongly linked, meaning economic hardship directly increases food insecurity.

The forecast trend charts (2024-2030) in figure 3 illustrate both historical (2013-2023) and forecasted (2024-2030) trends for inflation, poverty and hunger. Inflation is projected to rise sharply, crossing 30% by 2030, and poverty will continue its upward trend, reaching nearly 62% by 2030. The hunger index follows the same pattern, emphasizing worsening food insecurity. Without intervention, economic instability will worsen, pushing more Nigerians into poverty. Food security measures and inflation control policies are urgently needed, and social programs targeting the most vulnerable groups can mitigate the crisis.

CONCLUSION

The analysis of inflation, poverty, and hunger in Nigeria (2013-2023) reveals a strong correlation between inflation, poverty, and hunger; inflation has a direct and significant impact on poverty and hunger. The correlation matrix confirms that rising inflation is linked to poverty (0.95 correlation) and worsening hunger (0.94 correlation). Poverty and hunger are almost perfectly correlated (0.96 correlation), reinforcing that economic hardship leads to food insecurity.

Regression analysis shows that a 1% increase in inflation raises poverty by 1.11%. Similarly, a 1% rise in poverty increases hunger by 0.58 points. These findings indicate that inflation control is critical for poverty alleviation and hunger reduction. Forecasts (2024-2030) indicate worsening conditions; inflation is projected to exceed 30% by 2030, worsening economic instability. The poverty rate could surpass 61%, affecting millions more Nigerians. The hunger index could reach 36, signaling a severe food security crisis.

POLICY RECOMMENDATIONS

1. Inflation Control Measures

The Central Bank of Nigeria (CBN) should implement interest rate adjustments to curb inflation. A more stable exchange rate policy is necessary to reduce imported inflation. Temporary price controls on food and fuel can help reduce inflationary pressure.

2. Poverty Alleviation Strategies

Government and private sector collaborations should focus on skills development and employment and expand cash transfer programs to support vulnerable populations. Access to low-interest loans for small businesses will boost economic resilience.

3. Hunger and Food Security Interventions

Increased funding for local farmers to boost food production and reduce dependency on imports. The government should implement policies to stabilize food prices. Expansion of school feeding and community food banks to assist the most affected households.

4. Long-Term Structural Reforms

Reducing reliance on oil by investing in agriculture, manufacturing, and technology. Effective monitoring of social programs to ensure they reach intended beneficiaries. Strengthening education and financial access to empower low-income populations. Urgent policy action is needed to mitigate the inflation-poverty-hunger cycle. Furthermore, government intervention should prioritize economic stability, food security, and social welfare. Finally, without reforms, Nigeria risks deepening economic crises and worsening humanitarian conditions.

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