MICROFINANCE CREDITS AND ITS IMPLICATIONS FOR SUSTAINABLE DEVELOPMENT GOAL 2 IN NIGERIA

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Abstract
This study examined the effect of microfinance credits on Sustainable Development Goal 2 (Zero Hunger) over the period 2001-2023. The specific objectives were to determine the effect of microfinance bank credits, agricultural output, monetary policy rate, and inflation on the prevalence of undernourishment. The study adopts an ex-post facto research design and extracted annual secondary time-series data from the Central Bank of Nigeria statistical bulletin and World Bank databases. The data were transformed into natural logarithms and analyzed with descriptive statistics, correlation matrix, Phillips-Perron stationarity tests, and Ordinary Least Squares (OLS) regression, implemented in E-Views 12. Accordingly, results showed that microfinance credit had a negative and insignificant (p. value> 0.6913) effect on undernourishment, agricultural output exhibited a positive and marginally insignificant (p. value = 0.0804)effect, monetary policy rate and inflation rate was positively associated with undernourishment, yet similarly insignificant (p. value> 0.0744, and p. value> 0.0742) respectively. The study concluded that microfinance credits, in their current form, have not significantly reduced hunger in Nigeria, as structural and macroeconomic factors continue to undermine their effectiveness. The study recommended improved targeting of microfinance loans toward food-producing activities, strengthening agricultural distribution systems, balancing monetary policy to sustain affordable credit, and stabilizing inflation to protect household purchasing power.

Keywords: Agricultural output, food security, inflation, microfinance credit, monetary policy rate, undernourishment.

1.0 Introduction

Ending hunger requires more than increasing the aggregate quantity of food. Sustainable Development Goal 2 (SDG 2) combines the eradication of hunger and malnutrition with higher smallholder productivity, resilient production systems and better access to productive resources. In this vein, Agriculture, therefore, becomes indispensable in ensuring food security across low- and middle-income countries, especially Nigeria, where it provides livelihoods for more than 60% of the population. Yet, despite its importance, the sector continues to grapple with persistent challenges such as declining productivity, soil

degradation, climate variability, and generational gaps that weaken food systems amongst others (Wonor, Chigbu, Oghogho & Osazuwa, 2026). Population growth has further heightened food demand without a corresponding increase in supply, thereby intensifying hunger across sub-Saharan Africa, Nigeria inclusive (Izuogu, et. al., 2023).This situation undermines the achievement of Sustainable Development Goal 2, which seeks to eliminate hunger, ensure food security, and promote sustainable agriculture by 2030.

Consequently, addressing food insecurity in Sub-Saharan Africa, Nigeria especially, requires a transformation centered on agriculture (Nchanji et al., 2023), with adequate financing as a critical component. Nigeria's food-security challenge makes this relationship urgent. The Food and Agriculture Organization reported that 25.1 million people were likely to experience high levels of acute food insecurity between October and December 2024, even during the harvest period, while 33.1 million were projected to face such conditions during the June-August 2025 lean season (FAO, 2024). These figures reflect the combined effects of conflict, high food prices, climatic shocks, weak infrastructure, post-harvest losses and constrained household purchasing power.

While smallholder farmers occupy a central position in Nigeria's food system, they account for much of domestic food production but frequently operate on fragmented plots, depend on rain-fed agriculture and have limited access to mechanisation, improved inputs, storage, extension and formal markets. Chiaka et al. (2022) show that restricted access to inputs and extension services continues to constrain smallholder contributions to food production. Finance interacts with all of these constraints. A farmer who cannot acquire seed, fertiliser, irrigation, equipment or hired labour at the appropriate stage of the production cycle may remain below potential output even where land and demand are available (Ibebi, 2025).

Meanwhile, conventional banks often perceive small agricultural loans as costly and risky. Rural distance, weak documentation, volatile yields, limited collateral and the seasonality of cash flow raise screening and monitoring costs. In this vein, Microfinance was designed partly to narrow this gap (Fadeyi, Omojeso & Ogbax, 2021). Nigeria's microfinance banks areformalised institutions that mobilise small deposits, provide credit and related services to low-income households as well as microenterprises excluded from conventional banking (Central Bank of Nigeria [CBN], 2020).

This development is plausible. Credit can enable the purchase of productivity-enhancing inputs; savings can provide liquidity and reduce distress sales; insurance can protect investment against shocks; and payment services can connect rural producers to buyers; Notably, the potential benefits of microcredit are sometimes undermined by challenges such as high default rates, poor financial literacy, and limited access to extension services (Babar et al., 2024; Nakano & Magezi, 2020).Nevertheless, reviews of Nigeria's microfinance banks caution that challenges such as limited borrower awareness, high interest rates, and credit rationing often restrict smallholders' access to loans (Fadeyi, Omojeso & Ogbax, 2021).

Subsequently, despite Nigeria's abundant fertile land and considerable economic potential, low productivity and inefficient supply chains, lack of access to finance remain major obstacles to the agricultural sector (Wonor, Chigbu, Oghogho & Osazuwa, 2026). Recognizing the urgency of improving productivity and addressing inefficiencies in supply chains to achieve Sustainable Development Goal 2, the Federal Government of Nigeria has introduced several policies, incentives, and financial institutions particularly microfinance institutions, aimed at supporting small-scale agricultural producers. Nevertheless, despite these efforts, financial access remains a major bottleneck in the agricultural sector. Credit facilities are still limited, leaving many farmers unable to secure the resources needed to

drive food security (Osabohien, Adeleye & De Alwis, 2020). Furthermore, the government's policies to channel funds into the sector have often failed, thereby increasing dependence on food imports and deepening poverty among farmers (Wonor, Chigbu, Oghogho & Osazuwa, 2026).

This reality underscores the need to critically examine how agriculture is financed, with particular emphasis on microfinance schemes established to extend banking services to those excluded from conventional systems. Understanding how such services particularly credit shape the commercialization of food production is essential, since this directly influences the dynamics of food insecurity in Nigeria. Yet, existing scholarship has often been limited in scope. Many studies conducted within Nigeria have either focused narrowly on specific states or relied heavily on questionnaire-based surveys (Otitoju & Olaiya, 2025; Ogbonna, Muhammad & Adole, 2025; Olarinre, Oladeebo, Ajala, Jabaru & Adio, 2024), thereby failing to capture the broader realities of the national economy. With the notable exception of Agbatokun, Fasasi, Sokunbi & Alabi (2025), few attempts have been made to provide a comprehensive, economy-wide analysis of how microcredits interact with food security and Sustainable Development Goal 2. This gap in the literature not only highlights the significance of the present study but also frames its contribution as addressing an urgent national problem.

Accordingly, this paper formulates the following hypotheses to be tested at 5% significance level:
H_{01}: Micro-credits has no significant impact on sustainable development goal 2 in Nigeria;
H_{02}: There is no significant impact of agricultural outputs on sustainable development goal 2 in Nigeria;
H_{03}: Interest rate has no significant impact on Sustainable Development Goal 2 in Nigeria;
H_{04}: Inflation rate has no significant impact on Sustainable Development Goal 2 in Nigeria.

2.0 Literature Review

Sustainable Development Goal (SDG) 2, Zero Hunger, represents a collective pledge by all nations to eradicate hunger by 2030. To make this enormous task tractable and achievable, specific targets and indicators were established at inception. Altogether, there are eight targets five direct or major targets and three supportive ones. According to the United Nations (2024), the targets are:End hunger; End malnutrition, with internationally agreed targets on stunting and wasting in children under five years of age by 2025; Double the agricultural productivity and incomes of small-scale food producers; Implement resilient agricultural practices that increase productivity and production, maintain ecosystems, and strengthen capacity for climate adaptation; Maintain genetic diversity of seeds, cultivated plants, domesticated animals, and related wild species.

Food security, as Abah and Abah (2025) explain, exists when all individuals consistently have both physical and economic access to sufficient, safe, and nutritious food that meets dietary needs and preferences. This definition captures both supply-side (availability) and demand-side (accessibility) dimensions. In Nigeria, however, food security remains elusive because agricultural production has historically lagged behind population growth, while shocks such as climate variability, insecurity, and inflation further constrain output and drive up food prices. The Cadre Harmonisé analysis revealed that about 27.2 million Nigerians were food insecure in late 2025, with projections suggesting this figure could rise to 34.7 million by mid-2026 without urgent interventions (FAO, 2025). These challenges mirror global setbacks in achieving SDG 2, where progress has stalled and millions remain undernourished (UN, 2024).

However, since poverty and hunger are concentrated in rural areas, where smallholder farmers and their families make up a large share of the poor, eradicating hunger is inseparable from improving agricultural productivity and rural incomes (Mathias & Osikhena, 2025). This study therefore adopts nutrition outcomes as a proxy for SDG 2. In Nigeria, undernourishment rose from 9.3% in 2015 to 15.9% in 2021 (World Bank, 2024), with the number of undernourished people increasing from 11.3 million in 2001 to 45.4 million in 2023 (United Nations, 2026). Prevalence of undernourishment, an SDG indicator (2.1.1), measures the share of the population whose habitual food intake fails to meet minimum dietary energy requirements. Good nutrition is foundational to survival, health, and development, as well-nourished children perform better academically, grow into healthier adults, and provide stronger starts for the next generation (UN, 2026).

Microfinance institutions (MFIs) have emerged as vital tools for strengthening food security and promoting inclusive growth, particularly by extending financial services to low-income households and smallholder farmers excluded from traditional banking (Ilesanmi, Bello, Oladoyin&Akinbola, 2024; Otitoju & Olaiya, 2025; Ibrahim & Sani, 2025). Microfinance comprises small-scale financial services designed for people and enterprises that are poorly served by conventional banks. Its core products include deposits, working-capital and investment loans, payment services and, increasingly, insurance and digitally delivered credit. The distinguishing feature is not merely the small size of transactions; it is the attempt to overcome exclusion created by collateral requirements, distance, information asymmetry, irregular income and high transaction costs. Nigeria's regulatory framework expects microfinance banks to support economically active low-income clients and microenterprises while operating within prudential and consumer-protection standards (CBN, 2020).

Microcredit, the focal point of this study,can influence SDG 2 through several pathways. First, it can raise food availability by financing seed, fertiliser, feed, equipment, irrigation and labour. Second, higher yields and farm incomes can improve household economic access to food. Third, finance for storage, processing and transport can reduce post-harvest loss and stabilise availability. Fourth, insurance and savings can help households maintain consumption and productive assets aftershock (Egbetokun, 2025). These pathways correspond to the wider food-security dimensions of availability, access, utilisation and stability (FAO, 2021). They also explain why agricultural output is relevant but incomplete: output does not directly measure affordability, dietary quality, malnutrition or distribution.

The monetary policy rate (MPR) enters the relationship through the cost and availability of funds. A higher policy rate can increase wholesale funding and opportunity costs, encourage lenders to prefer safer assets and raise borrowing costs. The transmission to microfinance clients may nevertheless be weak or uneven. Microfinance rates also reflect high operating costs, credit risk, loan size and local market structure. Informal savings groups and relationship-based lenders may respond more to local liquidity and trust than to formal policy signals. The expected association between MPR and agricultural output is negative, but the size and significance of that association are empirical questions.

Empirical evidence in Nigeria presents mixed findings. Agbatokun, Fasasi, Sokunbi& Alabi (2025) examined food security and microfinance institutions using an ARDL model from 1985–2024. Their results showed no long-run equilibrium between food security indicators and microfinance variables, though short-run dynamics revealed weak associations between lending rates, undernourishment, and poverty. Importantly, their study did not establish whether agricultural output directly advances SDG 2 amidst macroeconomic instability. This paper addresses that gap by adopting agricultural output as a control variable.

Other studies have been narrower in scope. Otitoju and Olaiya (2025) examined rice-farming households in Niger and Nasarawa States and found that access to microfinance services, alongside membership in farmer-based organizations, improved food security outcomes. Their analysis revealed that while household characteristics such as size, age of household head, and farm size negatively influenced food security, participation in microfinance and extension services had positive effects. Yet, their reliance on questionnaires and state-specific scope limits the generalizability of these findings, leaving unanswered questions about whether similar dynamics hold across the wider Nigerian economy.

In contrast, Ogbonna, Muhammad, and Adole (2025) focused on smallholder farmers in Southeast Nigeria and reported that microcredit significantly enhanced agricultural productivity, with beneficiary households recording higher yields and incomes. They further observed that microcredit beneficiaries experienced lower incidence and severity of food insecurity compared to non-beneficiaries. However, their emphasis on productivity rather than nutrition outcomes means the study does not directly capture SDG 2's core objective of Zero Hunger. Moreover, the restriction to three states underscores the narrowness of its scope.

Adding another dimension, Olarinre, Oladeebo, Ajala, Jabaru, and Adio (2024) investigated fish-farming households in Osun State and found that microfinance participation reduced food insecurity, with demographic and farm-related variables shaping participation. Their results suggest that microfinance can indeed mitigate food insecurity, but again, the evidence is localized and sector-specific. Taken together, these state-level studies highlight the potential of microfinance to improve food security but fail to provide a comprehensive national perspective.

Beyond these localized findings, Adeforiti and Onikanni (2024) conducted a literature review of food security financing in Nigeria and concluded that farmers largely self-finance due to weak government support. While they identified both formal and informal sources of finance, they emphasized that systemic challenges such as inflation, climate change, and insecurity undermine food security. Yet, their study lacked empirical backing, making its conclusions less robust.

From a global standpoint, Kotykova, Babych, Iagodzinska, and Tabatskova (2022) analyzed UN agencies' role in implementing SDG 2 and underscored the importance of regulatory support, institutional alignment, and international cooperation. While their findings highlight the structural conditions necessary for achieving Zero Hunger, their focus on calorie intake and international institutions leaves microfinance initiatives largely unexplored.

Financial Intermediation Theory

Financial intermediation theory provides the principal framework for the study. Goldsmith (1969) and later financial-development scholarship explain how intermediaries mobilise savings, screen borrowers, transform maturities, diversify risk and allocate capital to productive uses. Financial systems can promote growth when they reduce transaction and information costs and direct resources towards investments with higher social and private returns (Demirguc-Kunt & Levine, 1999). In the present context, microfinance banks should mobilise dispersed rural savings and extend credit to farmers and agribusinesses that conventional banks find expensive to serve.

The theory also contains a caution. Financial development does not distribute benefits automatically. Greenwood and Jovanovic (1990) show that participation costs can initially favour better-resourced households, while Galor and Moav (2004) emphasise the relationship between inequality, capital accumulation and development. Microfinance can reproduce

exclusion if the poorest clients cannot afford interest, meet documentation requirements, travel to branches or absorb the risk of repayment.

3.0 Methodology

This study employs an ex-post facto research design, relying on annual secondary data spanning 2001-2023. The choice of this period is deliberate: it coincides with the documentation of Sustainable Development Goals, while 2023 marks the latest year for which reliable data on Zero Hunger are available. Data were sourced from the Central Bank of Nigeria's annual statistical publications and the World Bank database. To ensure comparability and allow elasticity-style interpretation, all series were transformed into natural logarithms, thereby reducing scale differences across variables.

The analysis integrates multiple econometric procedures. It begins with descriptive statistics and correlation matrices, followed by Phillips-Perron unit root tests to establish stationarity. Ordinary Least Squares (OLS) estimation is then applied, with residual diagnostics conducted to validate model robustness. Statistical inferences are made at the 5% significance level, where a p-value greater than 0.05 implies failure to reject the null hypothesis, though this does not confirm the absence of an effect. To further strengthen reliability, the Breusch-Pagan-Godfrey test is used to detect conditional heteroskedasticity, while the Jarque-Bera test assesses residual normality.

To capture the relationship between microfinance credits and Sustainable Development Goal 2 (Zero Hunger), this study adapts and extends the econometric framework of Amalachukwu and Oyinloye (2024). Their work examined the effect of microfinance activities on Nigeria's economic development using proxies such as microfinance credit, deposits, and investments, with the Human Development Index as the dependent variable. Unlike their broader focus, the present study narrows the scope to microfinance credits alone, while modifying the dependent variable to reflect nutritional outcomes (prevalence of undernourishment), following Agbatokun, Fasasi, Sokunbi, and Alabi (2025). This adjustment is deliberate, as nutritional outcomes are widely recognized by the United Nations (2026) as a key indicator for assessing progress toward SDG 2.

In addition, monetary policy rate (MPR) and inflation rate (INF) are incorporated as control variables, consistent with the approaches of Isiaka and Osifalujo (2022) and Agbatokun et al. (2025). Agricultural output (AGO) is also included as a control variable to account for the contribution of agriculture to GDP, thereby ensuring that the model captures both financial and real-sector dynamics influencing food security.

The functional relationship is specified as:

$$PoU = f(MCC, AGO, MPR, INF)$$

The estimated log-linear model is:

$$\text{Ln } PoU_t = \alpha_0 + \beta_1 (\ln MCC)_t + \beta_2(\ln AGO)_t + \beta_3(\ln MPR)_t + \beta_4(\ln INF)_t + \mu_t$$

Where: PoU is Prevalence of undernourishments;
MCC is Microfinance banks loans and advances;
AGO is Agricultural output contribution to GDP;
MPR is Monetary policy rate;
INF is Year-on-year inflation rate;
α_0 is the intercept;β_1-β_4 are coefficients;μ is the stochastic error term and t denotes time-series data.

Table 1:
Measurements of Variables

Variables	Role	Measurements	Sources
PoU	Dependent Variable	Prevalence of Undernourishments (% of Population)	World Bank (2026)
MCC	Independent Variable	Microfinance-Bank Credits/Loans (₦'Million)	CBN (2026)
AGO	Control Variable	Agricultural Output (₦'Million)	CBN (2026)
MPR	Control Variable	Monetary Policy Rate (%)	CBN (2026)
INF	Control Variable	Inflation Rate (%)	CBN (2026)

Source: Author's Compilation, 2026.

4.0 Presentation of Results and Discussions

Table 2 presents the descriptive statistics of the untransformed series. The prevalence of undernourishment (PoU) averaged 11.71% between 2001 and 2023, rising from 8.7% at the beginning of the period to 19.9% by the end. This upward trend underscores the worsening food insecurity challenge despite policy interventions. Microfinance credit (MCC) expanded sharply, particularly after 2019, with its mean value considerably higher than the median, reflecting a strong right-skewed distribution. Agricultural output (AGO) averaged ₦19,187.95 billion, increasing from ₦2,015.42 billion to ₦53,273.14 billion, indicating substantial growth in the sector's contribution to GDP.

Monetary policy rate (MPR) averaged 12.83%, ranging between 6.0% and 20.5%, while inflation (INF) averaged 13.77%, with values spanning 6.56% to 28.92%. The Jarque-Bera probabilities suggest that MCC and INF deviate significantly from normality, reinforcing the need for cautious interpretation. Since the data are nominal, common inflationary and scale trends may contribute to apparent co-movements, making diagnostic checks essential.

Table 2:
Descriptive Statistics, 2001-2023

Statistic	PoU (%)	MCC (₦'Mn)	AGO (₦'Bn)	MPR (%)	INF (%)
Mean	11.71304	255,954.2	19,187.95	12.83696	13.77051
Median	10.80000	90,422.25	15,816.00	13.00000	12.00000
Maximum	19.90000	148,8235.	53,273.14	20.50000	28.92179
Minimum	8.700000	1,313.995	2,015.422	6.000000	6.563952
Std. Dev.	3.298251	391,702.2	14,510.42	3.453102	5.406988
Skewness	1.310543	2.010517	0.935036	0.082141	1.161505
Kurtosis	3.554140	6.137658	2.893951	3.157359	4.071427
Jarque-Bera	6.878113	24.92971	3.362231	0.049594	6.271648
Probability	0.032095	0.000004	0.186166	0.975508	0.043464
Observations	23	23	23	23	23

Source: Authors' Computation using E-Views 12, 2026.

Correlation coefficients range from -1 to +1, indicating the strength and direction of the linear relationship between variables. Values between 0.75 and 0.99 reflect a very strong positive association, while those between 0.50 and 0.74 suggest a strong relationship. Coefficients falling within the range of 0.35 to 0.49 are interpreted as indicating a weak correlation, while those falling below 0.35 are considered to be very weak. These classifications were applied to the variables under study, as presented in Table 3. As observed, there exists a very strong and positive correlation between PoU, MCC, and AGO; while there is a very weak and positive correlation between PoU, MPR and INF.

Table 3:
Correlation Matrix

	LnPoU	LnMCC	LnAGO	LnMPR	LnINF
LnPoU	1.000000				
LnMCC	0.890664	1.000000			
LnAGO	0.892392	0.989195	1.000000		
LnMPR	0.200085	-0.025231	-0.046400	1.000000	
LnINF	0.450078	0.291883	0.243318	0.394439	1.000000

Source: Authors' Computation using E-Views 12, 2026.

Table 4 reports that all four variables are non-stationary in levels, however, when taking the first differences, all the variables are rejected at the 5% significance level due to their t-statistics that is lesser than all critical values of the level form and also a probability value below 0.05. This means that these series are all stationary in their first difference or integrated in order of one, {I(1)}.

Table 4:
Stationarity Test

Phillips-Perron Test	Level P-Value	First Diff. Statistic	First Diff. P-Value	Integration Order
LnPoU	0.9965	-1.442887	0.0350	I(1)
LnMCC	0.9996	-4.298597	0.0002	I(1)
LnAGO	1.0000	-4.839496	0.0000	I(1)
LnMPR	0.5680	-4.337411	0.0002	I(1)
LnINF	0.7944	-7.127346	0.0000	I(1)

Source: Authors' Computation using E-Views 12, 2026.

Regression Estimates

Table 5 presents the reported OLS estimates. The model is jointly significant ($F = 32.78358$; $p < 0.05$) and explains 85.2482% of the variation in prevalence of undernourishment. Given the trending I(1) series, however, the R-squared and F-statistic should not be interpreted as proof of a stable causal model. The coefficient signs and their uncertainty are more useful as exploratory evidence.

Table 5:
OLS Estimates (2001- 2023): Dependent Variable = LnPoU

Variables	Coefficients	Standard Error	T-Statistics	P-Values
C	-0.930745	0.800485	-1.162727	0.2601
LnMCC	-0.033614	0.083307	-0.403499	0.6913
LnAGO	0.318840	0.172100	1.852646	0.0804
LnMPR	0.145135	0.076632	1.893922	0.0744
LnINF	0.127821	0.067431	1.895569	0.0742

Model Statistics	Value	Model Statistics	Value
R-Squared	0.879303	Adjusted R-Squared	0.852482
F-Statistics	32.78358	Prob. (F-Statistics)	0.000000
Durbin-Watson	0.675510	Observations	23

Source: Authors' Computation using E-Views 12, 2026.

Constant Term (C): The constant term (-0.9307) represents the baseline level of undernourishment when all explanatory variables are held at zero. Its negative sign suggests

that, in the absence of microfinance credit, agricultural output, monetary policy rate, and inflation, the model predicts a lower prevalence of undernourishment. However, the coefficient is statistically insignificant (p-value = 0.2601), meaning the baseline effect is not reliable. This reflects that undernourishment in Nigeria cannot be explained independently of financial and macroeconomic variables; structural and sectoral dynamics are essential drivers of food insecurity.

Microfinance Credit (MCC): The negative coefficient (-0.0336) suggests that increases in microfinance loans are associated with a slight reduction in undernourishment. However, the effect is statistically insignificant (p-value = 0.6913), indicating that credit expansion has not had a meaningful impact on nutrition outcomes during the study period. This points to the limited effectiveness of microfinance in addressing hunger, possibly due to small loan sizes, high repayment burdens, or diversion of funds away from agricultural uses. For PoU, the result implies that while microfinance may have some potential to reduce hunger, its current scale and structure are insufficient to produce measurable improvements.

Agricultural Output (AGO): The positive coefficient (0.3188) shows that higher agricultural output has coincided with an increase in undernourishment although this result is insignificant with a p-value (0.0804) above 5% level. This paradox highlights that output growth does not automatically translate into improved nutrition. While productivity has risen, households may still face food insecurity due to post-harvest losses, poor distribution networks, or export orientation that reduces domestic availability. Importantly, when considered alongside the inflation results, it becomes clear that even in the advent of increased productivity, households' purchasing power may be eroded. Rising output, therefore, does not guarantee lower undernourishment if inflation simultaneously reduces affordability of food.

Monetary Policy Rate (MPR 0.0742) The positive coefficient (0.1415) suggests that higher policy rates are associated with increased undernourishment yet, this result is also not significant with a p-value (0.0744) above 5% level. This reflects the restrictive effect of tighter monetary conditions on access to affordable credit. As borrowing costs rise, households and farmers face reduced ability to finance food production or consumption. For PoU, this implies that monetary tightening coincides with worsening hunger, as households struggle to maintain adequate food intake under higher financing costs.

Inflation Rate (INF) The positive coefficient (0.1278) indicates that higher inflation is associated with increased undernourishment. Although marginally insignificant (p-value = 0.0742), this result aligns with economic expectations: inflation erodes household purchasing power, making food less affordable even when agricultural productivity rises. In practice, households may consume less or switch to lower-quality diets as prices increase, thereby worsening nutrition outcomes. For PoU, this reinforces the idea that inflation undermines the benefits of output growth, as affordability remains a critical determinant of food security.

Post-Estimation Diagnostics

The Breusch-Pagan test does not reject homoskedasticity at 5%. The residual Jarque-Bera p-value of 0.0.370531 is consistent with approximate normality. These diagnostics are reassuring about residual behaviour.

Table 6:
Post-Estimation Diagnostics

Diagnostic Test	Statistic	P-Value	Decision at 5%
Heteroskedasticity: Breusch-Pagan-Godfrey (F-Statistics)	1.324310	0.2989	No significant homoskedasticity effect detected
Jarque-Bera Residual Normality Test	1.985634	0.370531	Residual normality not rejected

Source: Authors' Computation using E-Views 12, 2026.

Policy Implications

The regression results, which show microfinance credit having an insignificant effect on undernourishment and agricultural output, monetary policy rate, and inflation all positively associated with worsening hunger, are consistent with earlier Nigerian studies. For example, Agbatokun, Fasasi, Sokunbi, and Alabi (2025) found no stable long-run relationship between microfinance variables and poverty, while Otitoju and Olaiya (2025) and Olarinre et al. (2024) reported that although microfinance participation improved food security at the state level, the effects were limited and not transformative. Similarly, Ogbonna, Muhammad, and Adole (2025) highlighted that productivity gains from microcredit did not directly translate into improved nutrition outcomes. These parallels reinforce the current study's conclusion that both credit expansion and output growth have failed to significantly reduce hunger even at the national level, especially when inflation erodes household purchasing power.

The findings also align with the cautionary insights of the Financial Intermediation Theory. While Goldsmith (1969) and Demirguc-Kunt& Levine (1999) emphasize the potential of financial intermediaries to mobilize savings and allocate credit productively, Greenwood & Jovanovic (1990) and Galor&Moav (2004) warn that financial development can reproduce exclusion if structural barriers persist. The insignificant impact of microfinance credit and the paradoxical link between output growth and undernourishment reflect these theoretical concerns: financial and agricultural expansion alone do not guarantee equitable improvements in nutrition. Instead, the results confirm that without addressing inequality, affordability, and distributional inefficiencies, the benefits of financial intermediation remain uneven, leaving hunger unresolved.

5.0 Conclusions and Recommendations

Food insecurity continues to pose a serious challenge in Nigeria, where hunger persists despite notable growth in agricultural output and the expansion of financial services. Microfinance institutions were introduced to bridge financial exclusion and empower smallholder farmers, with the expectation that access to credit would translate into improved food security and progress toward Sustainable Development Goal 2 (Zero Hunger).

The present study, however, demonstrates that microfinance credits have not delivered the anticipated impact on reducing undernourishment. While credit expansion exists, its effect on nutrition outcomes is weak and statistically insignificant, reflecting the structural limitations of Nigeria's financial and agricultural systems. This reinforces the broader conclusion that microfinance, in its current form, has yet to become a transformative instrument for tackling hunger. Achieving meaningful progress will require rethinking how microfinance credits are deployed and integrated into the wider food security framework, ensuring that financial inclusion translates into tangible improvements in household nutrition.

Following the findings, it is recommended that, to strengthen the role of microfinance credits, loan targeting should be improved to ensure funds are directed toward food-producing

activities that directly enhance household nutrition. For agricultural output, investments in storage, distribution, and local food systems are needed so that productivity gains translate into accessible food. Regarding monetary policy, interest rate management should balance inflation control with the need to maintain affordable credit for smallholder farmers. Finally, inflation stabilization remains essential, as unchecked price increases erode household purchasing power and negate the benefits of both credit expansion and agricultural growth.

Limitations of the Study

The study has important limitations. The study is limited to 2001 to 2023 because prevalence of undernourishment variable has a 2-to-3 years reporting lag, thus, there is no newer or separate data point for 2024 beyond the 2023 value on United Nations, Food Agricultural Organization or World Bank Data Warehouse. Furthermore, total microfinance credit is not disaggregated into agricultural and non-agricultural uses. Future research should therefore, use real, sectorally disaggregated credit and savings; test cointegration and structural breaks; estimate error-correction or ARDL models; and utilize up-to-date records from official sources.

References

Abah, P. O., & Abah, O. E. (2025). Advancing sustainable agriculture for improved nutrition and food security in Nigeria. *African Journal of Agriculture and Food Science*, 8(2), 9–20.

Adeforiti, R. &Onikanni, T. E. (2024). Hunger spread and issues in government agricultural sector financial policies: Analysis of food security financing in Nigeria. *Journal of Governance and Integrity*, 7(2), 770 – 779.

Agbatogun, K. K., Fasasi, A. O., Sokunbi, A. R., &Alabi, A. O. (2025). The impact of food security and microfinance institutions on inclusive growth in Nigeria. *Ilorin Journal of Management Sciences*, *9*(1), 17-27.

Amalachukwu, A. C. &Oyinloye, L. (2024). Effect of microfinance bank activities on economic development in Nigeria (1986-2022). *African Banking and Finance Review Journal (ABFRJ)*, 15(15), 173 – 187.

Babar, M. A., Babar, M. M., Lehri, S. M., Arif, M., Hanif, M., Ullah, N., Ali, M. B., & Ashraf, M. (2024). Impact of microfinance on agriculture sector development, SMEs and small entrepreneurs: A literature review. *Spry Contemporary Educational Practices*, 3(1), 842–854.

Central Bank of Nigeria. (2020). *Guidelines for the regulation and supervision of microfinance banks in Nigeria*. https://www.cbn.gov.ng/Out/2020/FPRD/MFB%20REGULATION%20DRAFT%20MERGED.pdf

Central Bank of Nigeria. (2024). *Annual statistical bulletin*. https://www.cbn.gov.ng/documents/Statbulletin.html

Central Bank of Nigeria, (2026). *Statistical Bulletin*, CBN Publication.

Chiaka, J. C., Zhen, L., Yunfeng, H., Xiao, Y., Muhirwa, F., & Lang, T. (2022). Smallholder farmers' contribution to food production in Nigeria. *Frontiers in Nutrition, 9*, 916678. https://doi.org/10.3389/fnut.2022.916678

Demirguc-Kunt, A., & Levine, R. (1999). *Bank-based and market-based financial systems: Cross-country comparisons* (Policy Research Working Paper No. 2143). World Bank.

Egbetokun, S. O. (2025). Microcredit and gendered pathways to inclusive growth: Evidence from women entrepreneurs in rural and urban Nigeria. *Nexus International University Journal of Educational Research*, 11(3), 65 – 78.

Fadeyi, O. A., Omojeso, B. V. &Igbax, S. I. (2021). A review of microfinance banks effects on smallholder development in Nigeria. *African Journal of Agricultural Research,* 17(9), 1249 – 1255.

Food and Agriculture Organization. (2021). *The state of food security and nutrition in the world 2021*. https://doi.org/10.4060/cb4474en

Food and Agriculture Organization. (2024, November 11). *33.1 million Nigerians projected to be food insecure in 2025*. https://www.fao.org/nigeria/news/detail/33.1-million-nigerians-projected-to-be-food-insecure-in-2025/en

Food and Agriculture Organization (FAO), (2025). Nigeria's hunger crisis: 34.7 million at risk without urgent intervention (Cadre Harmonisé results). FAO in Nigeria. https://www.fao.org/nigeria/news/detail-events/en/c/1750590/

Galor, O., &Moav, O. (2004). From physical to human capital accumulation: Inequality and the process of development. *Review of Economic Studies, 71*(4), 1001-1026. https://doi.org/10.1111/0034-6527.00312

Goldsmith, R. W. (1969). *Financial structure and development*. Yale University Press.

Greenwood, J., & Jovanovic, B. (1990). Financial development, growth, and the distribution of income. *Journal of Political Economy, 98*(5), 1076-1107. https://doi.org/10.1086/261720

Ibebi C. (2025). Assessing the role of bank credit in stimulating agricultural growth in Nigeria. *International Journal of Innovative Agriculture & Biology Research*, 12(1), 16-25.

Ibrahim, Y. A., & Sani, B. N. (2025). The impact of microfinance services on smallholder rice farmers' performance in Kaduna State, Nigeria. *Journal of Economics and Allied Research*, 9(4), 46 55.

Ilesanmi, J. O., Bello, T. O., Oladoyin, O. P., &Akinbola, A. E. (2024). Microcredit and rural household livelihoods in Southwest Nigeria. *International Journal of Economic, Finance and Business Statistics*, 2(5), 289–302.

Isiaka, N. A., &Osifalujo, B. B. (2022). The relationship between microfinance banks and sustainable development in Nigeria: Cointegration analysis. *International Journal of Business, Technology and Organizational Behavior, 2*(1), 46-61.

Izuogu, C. U., Olaolu, M. O., Azuamairo, G. C., Njoku, L. C., Kadurumba, P. C. &Agou, G. D. (2023). A review of the digitalization of agriculture in Nigeria. *Journal of Agricultural Extension*, 27(2), 47-64.

Kotykova, O., Babych, M., Iagodzinska, A. &Tabatskova, A. (2022). Global initiatives on implementation of zero hunger policy. *Agricultural and Resource Economics: International Scientific E-Journal*, 8(2), 30 – 49.

Mathias, B. &Osikhena, M. M. (2025). Exploring sustainable agriculture and food insecurity in Nigeria. *International Journal of Business Economics & Management Science (IJBEMS)*, 8(7), 27 – 39.

Nchanji, E. B., Chagomoka, T., Bellwood-Howard, I., Drescher, A., Schareika, N. & Schlesinger, J. (2023). Land tenure, food security, gender and urbanization in Northern Ghana. *Land Use Policy*, 132, 106834.

Ogbonna, S. I., Muhammad, M. U. &Adole, P. O. (2025). Impact of microcredit on agricultural productivity and food security among smallholder farmers in southeast Nigeria. *AKSU Journal of Agriculture and Food Sciences*, 9(2), 124-142

Olarinre, A. A., Oladeebo, J. O., Ajala, A. K., Jabaru, M. O., &Adio, M. O. (2024). Does microfinance participation affect food insecurity? Empirical evidence from fish farmers in Osun State, Nigeria. *International Journal of Research and Innovation in Social Science, 8*(10), 2197-2209.

Otitoju, M. A., & Olaiya, A. Q. (2025). Microfinance services and membership of farmer-based organization as drivers of household food security among rice farmers in Niger and Nasarawa States, Nigeria. *Indonesian Journal of Agricultural Research, 8*(1), 23-31. https://doi.org/10.32734/injar.v8i1.18051

Shehu, N., Abubakar, Z. & Ya'U, M. H. (2025). Impact of microfinance on poverty in Imo state, Nigeria. *International Journal of Intellectual Discourse (IJID)*, 8(2), 176 – 193.

United Nations, (2024). *Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture*. https://sdgs.un.org/goals/goal2

United Nations, (2024a). The state of food security and nutrition in the world 2024 (SOFI 2024). FAO, IFAD, UNICEF, WFP https://openknowledge.fao.org/handle/20.500.14283/cd1254en

United Nations, (2025). *Sustainable Development Goal 2: Zero Hunger*. Retrieved from https://nigeria.un.org/en/sdgs/2

United Nations, (2026). Sustainable Development Goal Indicators Database, UN Statistics. Retrieved from https://unstats.un.org/sdgs/dataportal/countryprofiles/NGA

World Bank, (2026). *Nigeria Data Extracts*. Available at https://data.worldbank.org/country/nigeria

Wonor, A. I., Chigbu, G., Oghogbo, M. Y. & Osazuwa, O. M. C. (2026). Strengthening food security through digital agriculture and youth empowerment in Nigeria. *The American Journal of Agriculture and Biomedical Engineering*, 8(3), 43 – 59.