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Co-operatives as Socio-economic Shock Absorbers: Analysis of Farmers' Economic Resilience in Insecurity-Prone Northern Nigeria

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Abstract **Original Research Article**

The study centred on co-operatives as socio-economic shock absorbers: analysis of farmers' economic resilience in insecurity-prone Northern Nigeria. The study also ascertained the effect of co-operative membership on income stability of farmers affected by insecurity and determined the effect of credit access on farm productivity among farmers affected by insecurity. Using a descriptive survey design, 380 co-operatives were drawn from a population of 37740 through multistage sampling. A validated questionnaire provided primary data and its reliability (0.85) confirmed through Spearman Rank Correlation Coefficient. Data collected were analyzed statistically using SPSS 27 through descriptive tools (frequency, percentage, mean and standard deviation) with the aid of a 4 point Likert Scale. The stated hypotheses were tested using single regression statistic. Results showed that co-operative membership ((t-statistic; 6.445; P-value; 0.000 < Sig-value; 0.05) and credit access (t-statistic; 11.226; P-value; 0.000 < Sig-value; 0.05) had a positive significant effect on the income stability of farmers and on farm productivity among farmers affected by insecurity in Northern Nigeria. It concluded that co-operative membership and access to credit collectively strengthen farmers' income stability and productivity in insecure regions, illustrating how joint participation and inclusive financing foster resilience, sustain livelihoods, and reinforce economic survival in Northern Nigeria's conflict-prone communities. The study recommended promoting co-operative participation by government and NGOs through sponsor awareness programs to encouraging farmers in join co-operatives and broadening credit opportunities by collaborating with microfinance institutions to create accessible, low-interest loan packages for co-operative members.

Keywords: Farmers' Economics Resilience, Income Stability, Credit Access, Farm Productivity, Insecurity, Northern Nigeria

INTRODUCTION

Agriculture remains one of the most indispensable pillars of Nigeria's national economy. It is not only a primary source of livelihood for millions of Nigerians but also a foundation upon which food security, income generation, and rural development rest. The sector supports a vast segment of the population, particularly those residing in rural areas, where farming serves as both a source of sustenance and a means of economic empowerment. According to the National Bureau of Statistics (2023), agriculture employs over 70 percent of the rural workforce and contributes substantially to Nigeria's Gross Domestic Product (GDP). Despite this critical role, the sector's growth and productivity have come under severe pressure in recent years due to escalating insecurity and socio-political instability.

In the Middle Belt region, especially in Northern Nigeria, commonly referred to as the country's major producer of food, the impact of insecurity has been particularly devastating. The region has witnessed persistent farmer–herder conflicts, armed banditry, communal clashes, and rampant kidnappings that have disrupted agricultural activities and displaced countless farming families (Igbokwe *et al.*, 2022). These violent occurrences have led to the abandonment of farmlands, destruction of productive assets, and a drastic fall in agricultural output. Consequently, rural livelihoods have become increasingly fragile, with rising poverty rates and widespread food insecurity (NBS, 2023). The ongoing threats have not only weakened individual households but also strained community-level agricultural institutions that once served as safety nets for local farmers.

Against this backdrop, co-operative societies have emerged as vital instruments for recovery and resilience among affected rural communities. Rooted in principles of mutual assistance, collective ownership, and democratic governance, co-operatives enable farmers to pool their limited resources, gain access to affordable credit, purchase inputs collectively, and market their produce more effectively (Onyekuru *et al.*, 2021). Through these collective mechanisms, co-operatives help mitigate the risks associated with insecurity by providing economic and social support structures that individual farmers could not easily establish on their own. In addition, membership in these groups often provides training, shared knowledge, and group marketing opportunities that help stabilize incomes and reduce exposure to risk (Adekunle & Adefalu, 2020). Furthermore, access to co-operative credit empowers farmers to procure quality inputs such as improved seedlings, fertilizers, and irrigation facilities, factors that are essential for sustaining and even enhancing farm productivity amid crisis conditions (Adedeji *et al.*, 2023).

The concept of economic resilience, defined as the ability of individuals and communities to absorb shocks, adapt to challenges, and recover their livelihoods (Folke, 2016), offers a valuable lens for understanding the importance of co-operative societies in conflict-affected environments. In Northern Nigeria alone, over 1.5 million people have been displaced due to violent conflict, leading to significant disruptions in food production and the collapse of rural economies (Northern Nigeria Emergency Management Agency, 2023). Although existing literature acknowledges the developmental significance of co-operatives, there remains a notable scarcity of empirical research exploring how these organizations enhance farmers' capacity to withstand insecurity-related shocks. This study, therefore, investigates how co-operative membership and access to credit collectively influence income stability and farm productivity among farmers operating in insecurity-prone regions.

The reality on the ground paints a grim picture. The continued escalation of violent conflicts, manifesting in farmer–herder clashes, abductions, and communal attacks, has forced numerous farming households to flee their lands. These repeated crises disrupt production cycles, diminish access to agricultural inputs, and curtail opportunities for financial inclusion. Such hostilities have also eroded rural institutions that once shielded farmers from the harsh economic consequences of insecurity (FAO, 2022; Ezeani & Nnadi, 2023). As a result, many smallholder farmers today experience irregular income

flows, declining productivity, and a weakened ability to adapt to emerging threats.

Beyond insecurity, structural deficiencies in the agricultural financing system have further deepened farmers' vulnerability. The limited availability of affordable credit, combined with the weak integration of co-operative structures into formal financial frameworks, has hindered farmers from rebuilding their livelihoods and investing in resilient practices (World Bank, 2023). Evidence from across Africa demonstrates that well-structured co-operative networks can play a transformative role by providing financial stability, mutual security, and collective resilience in the face of conflict and uncertainty (Tchouassi & Ngangue, 2022). Strengthening such institutions could therefore serve as a pragmatic pathway for fostering recovery and self-sufficiency among conflict-affected farming populations.

Without timely empirical assessment and targeted policy interventions, the negative trends of declining productivity and rural impoverishment may persist, further threatening national food security and economic stability. This makes it both urgent and necessary to examine how co-operative membership and credit access contribute to enhancing farmers' economic resilience in Northern Nigeria, where the intersection of insecurity and financial exclusion continues to shape the future of agricultural sustainability.

LITERATURE REVIEW

Conceptual Review

Co-operatives

The concept of co-operatives originated in early 19th-century Europe, with the Rochdale Society of Equitable Pioneers (1844) in England serving as a foundational model (Ostrom, 2021). Established by weavers confronting exploitation from conventional merchants, it exemplified collective action to meet shared economic needs. The International Co-operative Alliance (1995) defines a co-operative as an autonomous association of individuals voluntarily uniting to address common economic, social, and cultural goals through democratic enterprise. Onyeze *et al.* (2014) in Itodo *et al.* (2025), highlight that co-operatives achieve group objectives through mutual support and economic collaboration. Globally, they promote fairness, equality, and social justice while generating sustainable employment, empowering members, and fostering community development (Okafor *et al.*, 2023).

Co-operative Membership

Co-operative membership is the voluntary joining of individuals who come together to combine resources in pursuit of common economic and social objectives. In the agricultural sector, being part of a co-operative can significantly improve farmers' ability to access markets, obtain credit, and acquire essential inputs. It also enhances their collective bargaining power, providing a safety net against economic shocks. Recent studies indicate that participation in co-operatives helps rural households secure more stable livelihoods and diversify their sources of income (Ezeaku *et al.*, 2023). Beyond economic benefits, co-operative membership strengthens social ties, fosters knowledge exchange, builds trust, and encourages mutual assistance all of which are especially important in regions affected by conflict.

Income Stability

Income refers to the earnings that individuals or households generate from productive activities and serves as a primary measure of economic well-being and stability. In farming communities, income levels are shaped by access to inputs, market opportunities, and institutional support. Research shows that consistent income allows households to better withstand economic disruptions and cope with food insecurity (Nwosu & Onyekachi, 2019). Strengthening income streams through co-operative engagement and inclusive financing mechanisms is crucial for enhancing farmers' resilience and improving overall livelihood outcomes, especially in environments prone to volatility.

Credit Access

Credit access is the ability of individuals or groups to obtain financial resources under terms that are affordable and conducive to productive

investment. For smallholder farmers, access to credit enables them to purchase inputs, adopt new technologies, and expand production. Nevertheless, insecurity and limited financial inclusion continue to hinder rural lending. Evidence suggests that co-operatives often serve as an alternative source of financing, allowing vulnerable farmers to secure the resources they need (Akinola & Ojo, 2024). Expanding access to co-operative-based credit is vital for promoting economic stability and sustainable rural development.

Farm Productivity

Farm productivity is a measure of how effectively farmers use resources such as land, labor, and capital to produce crops or livestock. High productivity is essential for ensuring food security, generating income growth, and improving rural welfare. Research shows that access to credit, modern agricultural inputs, and extension services significantly enhances productivity (Ibrahim *et al.*, 2023). However, insecurity can disrupt these supports, leading to reduced output and discouraging investment in agriculture. By reinforcing co-operative support structures, farmers can improve both efficiency and resilience in the face of challenges.

Insecurity

Insecurity refers to threats like armed conflict, banditry, kidnapping and arson among others that jeopardize safety, livelihoods, and social order. In farming regions such as Northern Nigeria, persistent insecurity displaces farmers, destroys property, and limits agricultural production. Recent evidence highlights a strong link between insecurity and declining food output in Nigeria's Middle Belt (Olagunju, *et al.*, 2023). Tackling insecurity is therefore essential to restoring farmers' confidence, increasing productivity, and strengthening economic resilience.

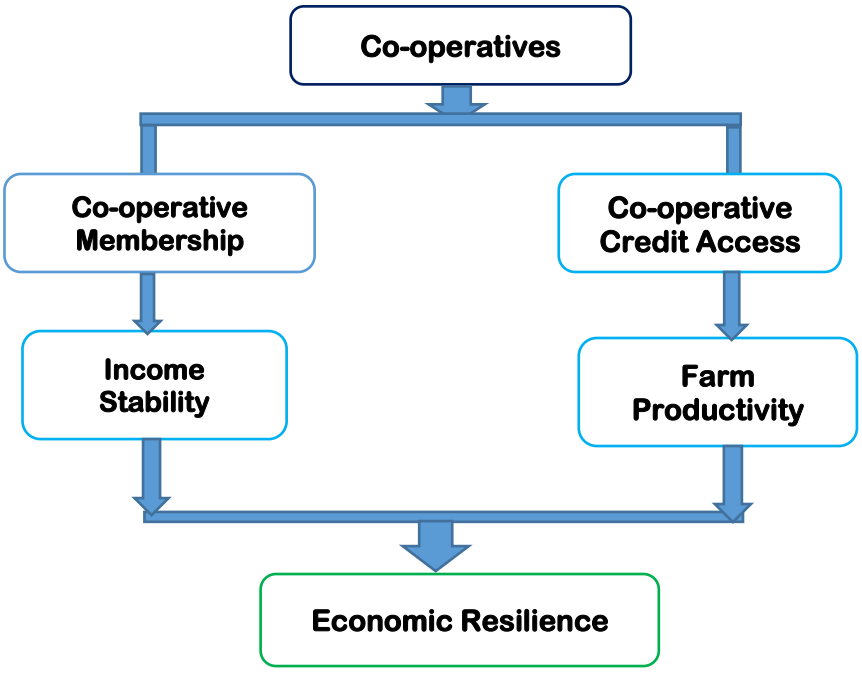

Fig 2.1 Conceptual Framework
Source: Researchers' Model, 2025.

A conceptual framework is a model that explains either graphically or in narrative form, the main things to be studied, the key factors, concepts or variables and the presumed relationship among

them. The framework shows that co-operative membership and credit access positively influence income stability and farm productivity, which collectively strengthen farmers' economic resilience in insecurity-affected areas like Northern Nigeria.

Theoretical Review

The Social Capital Theory, first articulated by Putnam (1993), serves as a valuable theoretical anchor for this research. The framework highlights the importance of social connections, mutual trust, and commonly held values in driving co-operative efforts that advance both individual and collective well-being. It suggests that when communities are bound by networks of reciprocity and shared responsibility, they are more capable of working together toward mutual growth and sustainable development. Within such networks, people not only exchange tangible resources but also share knowledge, experiences, and emotional encouragement, elements that help reinforce social harmony and cohesion.

Despite its wide acceptance, the theory has faced critical scrutiny. Portes (1998) observes that it may overemphasize the positive side of social relationships while paying limited attention to underlying inequalities, power asymmetries, and exclusionary dynamics that sometimes emerge within groups. Conversely, Woolcock (2001) argues that social capital continues to play a vital role in strengthening resilience and enabling communities to act collectively, particularly within developing societies. In the context of Northern Nigerian co-operatives, the theory offers insight into how farmers depend on trust-based relationships, group solidarity, and shared norms to mobilize resources, access credit, manage risks, and adapt to insecurity. These co-operative ties ultimately reinforce their capacity for survival, livelihood recovery, and long-term economic stability.

Empirical Review

Zou (2022) analyzed the effects of farmer co-operative membership on household income and inequality in rural China. Using multivariate and quantile regression models, the study found that co-operative participation increased household income and narrowed income disparities, particularly benefiting higher-income households.

Okafor *et al.* (2024) assessed the effect of agricultural co-operative membership on farm sustainability and food security in Anambra State, Nigeria. Through descriptive statistics and regression analysis, the study revealed that co-operative membership had a strong positive impact on farm productivity and overall food security.

Zhu (2024) investigated the role of agricultural co-operatives in promoting collective action and income stability among 381 farmers in the Tarim River Basin, China. Empirical analysis showed that co-operative involvement strengthened collective initiatives, leading to greater income stability and resilience against economic shocks.

Boansi (2024) examined the effects of agricultural credit on cocoa productivity in Ghana's conflict-prone regions. Employing descriptive statistics and regression analysis, the study revealed that access to credit enhanced yield, gross income, and net income while narrowing the yield gap.

Adesiyan (2024) explored the relationship between credit access, land use, and crop diversification among cocoa households in Nigeria's conflict-affected areas. Regression and correlation analyses indicated that credit access improved farm productivity, optimized land use, and strengthened food security.

Suh *et al.* (2025) examined how co-operative membership influences household income and food security among 475 smallholder farmers in Kasungu District, Malawi. Using both qualitative content analysis and quantitative statistical techniques, the study found that membership significantly boosted income and dietary diversity, even under worsening food security conditions.

Kehinde (2025) explored the determinants of co-operative membership and its effect on poverty among Nigerian smallholder farmers. Descriptive and regression analyses indicated that membership reduced poverty levels by enhancing income stability and access to critical resources.

Khan and Kim (2025) investigated how access to agricultural credit influences maize productivity among smallholder farmers in Cameroon's conflict-affected Northwest region. Using cross-sectional surveys and an endogenous switching regression model, the study found that credit access significantly increased maize yields.

Nyirongo (2025) assessed the link between credit access, farm productivity, and poverty reduction in Malawi's insecure regions. Using survey data and multivariate regression models, the study found that credit access boosted farm income, increased market participation, and enabled diversification into new business activities.

Ogbonna (2025) studied the impact of microcredit on agricultural productivity and food security among smallholder farmers in Southeast Nigeria. Descriptive and regression analyses showed that microcredit access significantly enhanced productivity and food security, enabling farmers to adopt improved inputs and technologies.

Previous studies by Zou (2022), Zhu (2024), and Suh *et al.* (2025) explored how participation in co-operative societies impacts farmers' income stability in nations such as China and Malawi. Likewise, the works of Okafor *et al.* (2024) and Kehinde (2025) examined its contribution to improving productivity and reducing poverty within Nigeria. In a similar context, Boansi (2024) and Khan and Kim (2025) analyzed how farmers' access to credit facilities enhances agricultural yields in Ghana and Cameroon. Despite these valuable insights, none of these studies examined the joint influence of co-operative membership and credit access on farmers' economic resilience amid insecurity in Northern Nigeria. To the researcher's best knowledge, this study may not have been previously conducted in the chosen study area. Furthermore, the variables employed in this study differ from those adopted in earlier research, as do the analytical techniques applied. These distinctions represent the precise gaps this study set out to address. This study, therefore, bridges both the contextual and methodological void identified in existing literature.

MATERIALS AND METHODS

Research Design

The study adopted a descriptive survey research design method, and was carried out in Benue State, located in Nigeria's North Central region and commonly referred to as Nigeria's "Food Basket," part of the Middle Belt, and was established in 1976. The state shares boundaries with Nasarawa to the north, Taraba to the east, Kogi to the west, Enugu to the southwest, Ebonyi and Cross River to the south, and Cameroon to the southeast. The state's capital, Makurdi, serves as the political and economic hub. Benue is predominantly inhabited by the Tiv, Idoma, and Igede ethnic groups, alongside smaller populations of Etulo, Hausa, and Jukun peoples. Agriculture employs over three-quarters of the state's population, shaping both livelihoods and the local economy. The state is one of the country's most agriculturally productive states. Major crops include yam, rice, cassava, soybean, maize, sorghum, sesame, and sweet potato among others.

Population of the Study, Sample Size and Sampling Techniques

The population of the study comprised 37740 registered co-operatives (Director of Co-operatives, Ministry of Co-operative and Rural Development, Markurdi, Benue State). Cochran's (1963) statistical equation served as the basis for determining the study's sample size, providing a systematic approach for precision and confidence estimation The study made use of a multistage sampling technique to achieve fair and practical representation across the state. In the first phase, the State was stratified into its senatorial districts to capture diversity in geography and governance. The justification lies in their recognition by Federal Republic Nigeria as standard administrative divisions, each representing roughly one-third of the State. In the second phase, one Local Government Area from each district was selected randomly to ensure equal selection chances and reduce bias, improving sample accuracy. At the final state, two communities were randomly selected from to reflect areas with strong insecurity related issues. This guaranteed that every community with insecurity related issues had a fair chance of

being included to maintain fairness and objectivity and the expected outcome was a sample that captured them, making it possible to draw meaningful comparisons among different localities.

Cochran's statistical equation

$$n = \frac{n_o}{1 + \frac{(n_o - 1)}{N}}$$

$$n_o = \frac{Z^2pq}{e^2}$$

Where:

- n = Sample Size
- n_o = Representative Sample for Proportion
- N = Total Population = 37740
- Z^2 = The abscissa of the normal curve = 1.96
- p = Proportion of success in the population from pilot survey = 0.5
- q = Proportion of failure in the population from pilot survey = 0.5
- e = error limit = 0.05

$$n_o = \frac{(1.96)^2 (0.5 \times 0.5)}{(0.05)^2}$$

$$n_o = \frac{3.8416 \times 0.25}{0.0025}$$

$$n_o = 384.16$$

$$n = \frac{384.16}{1 + \frac{(384.16 - 1)}{37740}}$$

$$n = \frac{384.16}{1 + \frac{383.16}{37740}}$$

$$n = \frac{384.16}{1+0.0102}$$

$$n = \frac{384.16}{1.0102}$$

Therefore, n = 380

Table 1 Sampling Procedure

S/N	Senatorial District	LGA	Area/Community	Sample
1	**Benue South**	**Agatu**	**Okokolo**	**72**
			Odugbo	**60**
2	**Benue North-East**	**Guma**	**Wannune,**	**64**
			Shitile	**62**
3	**Benue North-West**	**Kastina-Ala**	**Mbachior**	**68**
			Abaji	**54**
Total				**380**

Source: Field Survey, 2025.

Method of Data Collection and Analysis

A validated questionnaire and its reliability (0.85) confirmed through Spearman Rank Correlation Coefficient, provided primary data. Data collected were analyzed statistically using SPSS 27 through descriptive tools (frequency, percentage, mean and standard deviation) with the aid of a 4 point Likert Scale. The stated hypotheses were tested using single regression statistic at 0.05 level of significance.

RESULTS AND DISCUSSION

Table 2 Questionnaire Response Rate

Questionnaire	Distributed	Returned	Not Returned
Copies	**380**	**358**	**22**
Percent (%)	**100**	**94**	**6**

Source: Field Survey, 2025.

As shown in table 2, 380(100%) copies of questionnaire were distributed, 358(94%) copies were returned, while 22(6%) copies were withheld. Thus given 94% response rate.

Table 3 effect of co-operative membership on income stability of farmers affected by insecurity

Item	Option	SA	A	D	SD	Mean	S. Dev.
1	**Membership pooling savings strengthens resilience against income shocks.**	**131 (36.6%)**	**105 (29.3%)**	**63 (17.6%)**	**59 (16.5%)**	**2.860**	**1.0885**
2	**Collective marketing ensures members stable and fair produce prices.**	**98 (27.4%)**	**138 (38.5%)**	**68 (19.0%)**	**54 (15.1%)**	**2.782**	**1.0112**
3	**Co-operative credit access sustains production despite insecurity disruptions.**	**96 (26.8%)**	**128 (35.8%)**	**60 (16.8%)**	**74 (20.7%)**	**2.687**	**1.0807**
4	**Risk-sharing through co-operatives cushions members during financial loses**	**108 (30.2%)**	**112 (31.3%)**	**68 (19.0%)**	**70 (19.6%)**	**2.721**	**1.0950**
	AGGREGATE					**2.763**	**1.0689**

Source: Field Survey, 2025 Via SPSS 27

The analysis in table 3 presents responses of the respondents on the effect of co-operative membership on income stability of farmers affected by insecurity. The results suggest that majority of the respondents agreed to the items with aggregate mean score of 2.763, surpassing the minimum acceptance mean of 2.5

Table 4 Effect of credit access on farm productivity among farmers affected by insecurity

Item	Option	SA	A	D	SD	Mean	S. Dev.
5	C**redit access enables timely purchase of improved farm inputs**	93 (26.0%)	130 (36.3%)	72 (20.9%)	63 (17.6%)	2.707	1.0401
6	**Loan availability supports mechanization, increasing overall farm efficiency**	97 (27.1%)	127 (35.5%)	69 (19.3%)	65 (18.2%)	2.715	1.0545
7	**Credit financing encourages adoption of modern agricultural technologies**	117 (32.7%)	100 (27.9%)	70 (19.6%)	71 (19.8%)	2.735	1.1175
8	**Access to credit enhances irrigation, ensuring year-round productivity**	101 (28.2%)	126 (35.2%)	60 (16.8%)	71 (19.8%)	2.718	1.0801
	AGGREGATE					**2.560**	**1.0731**

Source: Field Survey, 2025 Via SPSS 27

The analysis in table 4 shows that the respondents were in agreement to all the items on the effect of credit access on farm productivity among farmers affected by insecurity, as reflected in the aggregate mean score of 2.560, exceeding the minimum acceptance mean of 2.5.

Test of Hypotheses

Hypothesis I: Co-operative membership has no significant effect on income stability of farmers affected by insecurity

Table 5i

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.931[a]	6	.865	.26055
Predictors: (Constant), Co-operative membership				

Table 5ii

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	57.077	1	57.077	18.604	.000[b]
	Residual	1095.276	357	3.068		
	Total	1152.353	358			
Dependent Variable: Income stability of farmers Predictors: (Constant), Co-operative membership						

Table 5iii

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.614	.089		18.111	.000
	Low-cost products	.529	.082	.931	6.446	.000
a. Dependent, Income stability of farmers						

The result shows that the coefficient of co-operative membership has significant effect on Income stability of farmers. The results of the t – statistics denoted that the coefficient was statistically significance. This is because observed values of t – statistics (6.446) was greater than its P-values (0.000). The results of the

F – statistical test showed that the overall regression of the hypothesis was statistically significance. This was because observed value of the F – statistics (18.604) was great than its P-value (0.000). Again, the empirical result showed that the Pearson product moment correlation analysis (r) was 0.931. The strength of relationship between the two variables was high. However, the null hypothesis, affirming that co-operative membership has a significant effect on income stability of farmers affected by insecurity.

Test of Hypothesis II: Credit access has no significant effect on farm productivity among farmers affected by insecurity

Table 6i

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.931[a]	.866	.865	.26055
a. Predictors: (Constant), Credit access				

Table 6ii

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	43.789	1	43.789	9.184	.000[b]
	Residual	1702.176	357	4.768		
	Total	1745.965	358			
a. Dependent Variable: Farm productivity						
b. Predictors: (Constant), Credit Access						

Table 6iii

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.418	.075		5.568	.000
	Low-cost production methods	.201	.017	.969	11.826	.000
a. Dependent Variable: Farm productivity						

The result shows that the coefficient of credit access has a significant effect on farm productivity. The results of the t – statistics denoted that the coefficient was statistically significant. This was because observed values of t – statistics (11.826) was greater than its P-values (0.000). The results of the F – statistical test showed that the overall regression of the hypothesis was statistically significance. This was because observed value of the F – statistics (9.184) was greater than its P-value (0.000). Again, the result showed that the Pearson product moment correlation analysis (r) was 0.931. The strength of relationship between the two variables was high. However, the hypothesis is rejected, indicating that credit access has a significant effect on farm productivity among farmers affected by insecurity.

DISCUSSION OF FINDINGS

The findings of the study revealed that co-operative membership had a positive significant effect on the income stability of farmers affected by insecurity in Northern Nigeria ((t-statistic; 6.445; P-value; 0.000 < Sig-value; 0.05)). This outcome agrees with earlier findings by Zou (2022), Zhu (2024), and Suh *et al.* (2025), which demonstrated that collective participation in co-operatives boosts household earnings and financial consistency through mutual support and shared resources. Similarly, Okafor *et al.* (2024) and Kehinde (2025) reported that belonging to agricultural co-operatives contributes to food security and poverty reduction among Nigerian smallholder farmers. Unlike those studies that mainly concentrated on productivity and food supply, this research advances understanding by examining co-operative participation within an environment of persistent insecurity. The result highlights the stabilizing influence of co-operatives during crises characterized by displacement and livelihood disruptions. The steady income observed among members may be attributed to collective savings, easier access to loans, and organized marketing that help manage risks caused by conflict. Consequently, co-operatives function as economic lifelines that shield farmers from income instability, reinforce resilience, and sustain livelihoods amid insecurity and uncertainty.

It was further established that credit access had a positive significant effect on farm productivity among farmers affected by insecurity in Northern Nigeria (t-statistic; 11.226; P-value; 0.000 < Sig-value; 0.05). This finding is consistent with the works of Boansi (2024), Adesiyan (2024), and Khan and Kim (2025), who discovered that credit access enhances yields, profitability, and input utilization in conflict-prone agricultural zones of Ghana, Nigeria, and Cameroon. Comparable results by Nyirongo (2025) and Ogbonna (2025) confirmed that financial access through co-operatives promotes diversification and food security by enabling farmers to adopt improved technologies and inputs. In contrast to earlier research conducted in stable agricultural environments, this study broadens the discussion by demonstrating that co-operative-based credit continues to be a strong catalyst for productivity even in insecure regions. The positive results can be explained by the trust-driven framework of co-operatives, which allows for easier credit distribution, shared risks, and joint loan repayment. Access to such funds helps farmers purchase improved seeds, fertilizers, and irrigation systems, offsetting losses triggered by insecurity. Therefore, co-operative credit plays a crucial role in enhancing adaptability, maintaining productivity, and promoting long-term resilience in conflict-affected farming communities.

CONLUSION AND RECOMMENDATIONS

Following an in-depth analysis, the study there concludes that co-operative membership and access to credit collectively strengthen farmers' income stability and productivity in insecure regions, illustrating how joint participation and inclusive financing foster resilience, sustain livelihoods, and reinforce economic survival in Northern Nigeria's conflict-prone communities. The study recommends promoting co-operative participation by government and NGOs through sponsor awareness programs to encouraging farmers in join co-operatives and broadening credit opportunities by collaborating with

microfinance institutions to create accessible, low-interest loan packages for co-operative members. This study enriches existing scholarship by empirically connecting co-operative membership and credit access to farmers' resilience, revealing their joint impact on income stability and agricultural productivity in insecure environments.

REFERENCES

Adedeji, S., Oke, O. & Fagbemi, T. (2023). Resilience and adaptation of rural households to insecurity shocks in North-Central Nigeria. *African Journal of Economic Sustainability,* 11(3), 98–112.

Adekunle, O. & Adefalu, L.L. (2020). Role of agricultural co-operatives in enhancing rural farmers' livelihoods in Nigeria. *Journal of Rural Development Studies*, 36(2), 45–58.

Adesiyan, A.T. (2024). Is there a linkage between credit access, land use, and crop diversification in achieving food security? Evidence from cocoa-producing households in Nigeria. Agricultural Systems, 14(1), 96–110.

Akinola, A.O. & Ojo, O. (2025). Leveraging on membership in agricultural co-operatives to enhance credit access among smallholder farmers in Nigeria. *Journal of Rural Development and Sustainability*, 7(2), 45–58

Boansi, D. (2024). Impact of agricultural credit on productivity, cost, and returns from cocoa production in Ghana. *Cogent Economics & Finance*, 12(1), 2402035.

Ezeaku, H.A., Daura, H.A. & Abubakar, H. (2022). Membership of co-operative society and livelihoods promotion of rural women in Katsina State, Nigeria. *International Journal of Research and Innovation in Social Science (IJRISS)*, 6(8), 1–6.

Ezeani, C.A. & Nnadi, F.N. (2023). Insecurity and agricultural livelihood decline in Northern Nigeria: Implications for rural resilience. *Journal of Rural Policy and Development Studies*, 14(2), 55–70.

FAO. (2022). *The impact of conflict and insecurity on agricultural livelihoods in West Africa.* Rome: Food and Agriculture Organization of the United Nations.

Folke, C. (2016). Resilience: The emergence of a perspective for social–ecological systems analyses. *Global Environmental Change*, 16(3), 253–267.

Ibrahim, A., Usman, M. & Mohammed, S. (2023). Assessment of the extent of rice small-holder farmers' productivity and their perceptions of the role of agricultural extension services in Bauchi State, Nigeria. *Nigerian Journal of Agricultural Research,* 15(4), 67–80.

Igbokwe, E.M., Odo, M.I. & Ezeh, C.I. (2022). Insecurity and food production challenges in Nigeria: Evidence from Northern Nigeria. *Journal of Peace and Conflict Studies*, 9(1), 67–81.

Itodo, E.P., Ogbodo, A.J. & Eneh, P.C. (2025). Performance of women co-operatives in addressing gender inequality issues in Enugu State, Nigeria. *International Journal of Sub-Saharan African Research (IJSSAR).* 3(1), 205-218.

Kehinde, A.D. (2025). Leveraging Membership in agricultural co-operatives to alleviate poverty among Smallholder Farmers in Nigeria. *Sustainable Futures,* 9, Article 100313.

Khan, C.M. & Kim, S.G. (2025). Evaluating the impact of agricultural credit access on smallholder maize farmers' productivity in the Northwest Region of Cameroon. *Sustainability,* 17(17), 7574.

National Bureau of Statistics (NBS). (2023). Agricultural performance and food security report. Abuja: NBS.

Northern Nigeria Emergency Management Agency (BESEMA). (2023). Situation Report on Internally Displaced Persons in Northern Nigeria. Makurdi: BESEMA.

Nwosu, E., & Onyekachi, O. (2019). Do financial stability and institutional

quality have impact on financial inclusion in developing economies? A new evidence from Nigeria. *International Journal of Sustainable Development*, 11(1), 18–40.

Nyirongo, B B. (2025). Credit Access, productivity, and poverty reduction in Malawi's conflict-affected regions. *Agricultural Finance Review*, 85(3), 44279.

Ogbonna, S.I. (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.

Okafor, O. E., Okonkwo, C. J. & Ngene, N. C. (2024). Assessment of the influence of co-operative membership on farm business sustainability and food security in Anambra State. *West African Journal on Sustainable Development*, 1(2), 42–57.

Okafor, O.E., Obi-Okogbuo, E.J., Nwokorobia, C. & Nwafor, O.G. (2023). Assessment of the economic empowerment of the youth through co-operatives in Ogbaru Local Government Area, Anambra State. *Global Journal of Arts Humanity and Social Sciences*, 3(6), 741-752.

Olagunju, F.I., Akinola, A.O. & Ogundele, O.A. (2023). Insecurity, rising costs push 31 million Nigerians into acute food shortage, study says. *Reuters*. https://www.reuters.com/world/africa/insecurity-rising-costs-push-31-mln-nigerians-into-acute-food-shortage-study-2024-08-27/

Onyekuru, A.N., Emenyonu, C.A. & Odoemenam, V.C. (2021). Co-operatives and poverty alleviation among rural households in Nigeria. *Journal of Agricultural Extension*, 25(2), 60–73.

Ostrom, E. (2021). *Governing the commons: The evolution of institutions for collective action.* Cambridge University Press.

Portes, A. (1998). Social capital: Its origins and applications in modern sociology. *Annual Review of Sociology*, 24(1), 1–24.

Putnam, R. D. (1993). Making democracy work: Civic traditions in modern Italy. Princeton University

Suh J, Ji, S. & Nindi-Chigwe, T.C. (2025). Collective action under risk and uncertainty: assessing impacts on smallholder farmers' income and food security in Malawi. *Front. Sustain. Food Syst.* 9:1607329.

Tchouassi, G., & Ngangue, P. (2022). Co-operative networks and resilience in conflict-affected African communities: Lessons from the Sahel. *African Journal of Development Economics*, 9(4), 211–230.

Woolcock, M. (2001). The place of social capital in understanding social and economic outcomes. *Canadian Journal of Policy Research*, 2(1), 11–17.

World Bank. (2023). *Financing resilience: Strengthening rural credit and co-operative systems in fragile contexts.* Washington, DC: World Bank Group.

Zhu, X. (2024). Impact of agricultural co-operatives on farmers' collective action and income stability in the Tarim River Basin. *Agricultural Systems*, 14(1), 96–110.

Zou, Y. (2022). Impacts of farmer co-operative membership on household income and income inequality in rural China. *Agricultural and Food Economics*, 10(1), Article 22.