VOL. 13 NO. 7,
AUGUST, 2026
E-ISSN 3026-9679
P-ISSN 3026-9423

African Scholar Publications & Research International
www.africanscholarpub.com

Journal of Business Dev. and Management Res. (JBDMR)

Cooperative Societies and Rural Economic Growth in Kaduna State, Nigeria: Evidence from Jemma'a Local Government Area

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DOI: https://doi.org/10.70382/ajbdmr.v13i7.098

Abstract

This study examined the effect of cooperative societies on rural economic growth in Jemma'a Local Government Area of Kaduna State, Nigeria. Specifically, it investigated the influence of increased member income and the provision of resilient crop varieties through cooperative society membership on rural economic growth. The study adopted a quantitative cross-sectional survey design, and primary data were collected using a structured five-point Likert-scale questionnaire administered to members of six registered cooperative societies in the study area. Using the Taro Yamane formula, a sample of 142 respondents was selected from a population of 220 cooperative members, of which 131 valid questionnaires were retrieved and analysed. Data were analysed using descriptive statistics and multiple linear regression with the aid of SPSS version 26. The findings revealed that increased member income has a significant positive effect on rural economic growth ($\beta = .341$, $p < .05$), while the provision of resilient crop varieties also exerts a significant positive effect on rural economic growth ($\beta = .426$, $p < .05$). The regression model explained 37.5% of the variation in rural economic growth ($R^2 = .375$) and was statistically significant ($F(2, 128) = 38.40$, $p < .05$). The study concludes that cooperative societies play a significant role in promoting rural economic growth by enhancing members' incomes and improving access to resilient agricultural inputs. It recommends that cooperative societies expand income-generating programmes and strengthen the provision of resilient crop varieties and other agricultural inputs through partnerships with government and development agencies to further stimulate sustainable rural economic growth.

Keywords: Cooperative societies, rural economic growth, member income, resilient crop varieties, Jemma'a Local Government Area, Kaduna State, Nigeria.

Introduction

The rural area is characteristically a place of limited resources, with restricted opportunities for economic growth. Wineman and Anderson (2020) describe a rural area as a geographical area located outside towns and cities, typically marked by low population density, small settlements, and an economy dominated by agriculture and forestry, a description that fits Jemma'a Local Government Area of Kaduna State closely. In such areas, high-paying jobs and large business ventures are scarce, and raising the funds needed to grow the local economy is correspondingly difficult, since income is drawn mainly from personal savings and the proceeds of periodic market-day sales. Silong and Gadanakis (2020) note that funding sources in rural communities are typically limited to personal finances, borrowing from friends and relatives, and loans from financial institutions or local moneylenders, sources that rarely guarantee funds sufficient to grow a rural economy on their own; the rural area is home to roughly 53 percent of Nigeria's population, yet fewer than 2 percent of rural dwellers have access to any form of institutional finance, a gap that retards economic growth and deepens poverty and inequality.

Cooperative societies have historically served as an important response to this financing and organisational gap in Nigeria's rural communities. The cooperative movement in Nigeria traces its formal origins to the Cooperative Societies Ordinance of 1935, which provided the legal basis for cooperative registration, and was later consolidated into the Cooperative Societies Act, Cap. C128, Laws of the Federation of Nigeria, 2004. According to the Nigeria Cooperative Federation (NCF, 2023), the number of active cooperative members in Nigeria exceeded 7.6 million as of 2023, making cooperatives one of the most significant vehicles of grassroots economic organisation in the country, particularly in states with high informality and limited access to formal banking. Bharadwaj (2012) argues that cooperative societies contribute to rural economic growth in several ways, including enhancing the local assets of the poor, improving members' access to capital through the marketing of quality goods, strengthening the transferability of assets to meet household welfare needs, and improving the welfare-commanding capacity of members by raising household income and social status. Sharma (2020) similarly notes that cooperative societies economically empower members by raising their income, improving health, education, and sanitation outcomes, empowering women, developing physical infrastructure, and providing resilient crop seedlings.

Jemma'a Local Government Area, situated in the southern part of Kaduna State, is a predominantly agrarian local government area whose economy rests overwhelmingly on smallholder crop farming, with limited industrial or formal-sector activity to complement it. Registered cooperative societies operating within the area engage in thrift savings, farming activities, and the provision of farm inputs, including improved and resilient crop varieties, activities that plausibly shape the pace and pattern of the area's rural economic growth, yet whose specific contribution has not been empirically established. Whether, and to what extent, the income-related and input-related activities of these cooperative societies translate into measurable rural economic growth in Jemma'a Local Government Area is the empirical question this paper sets out to investigate.

Statement of the Problem

Economic growth in Nigeria's rural communities is typically slow-paced, and poverty in such communities remains high, often persisting across generations despite numerous government and donor-led empowerment schemes. Cooperative societies, as people-oriented organisations that place members' welfare above profit, are well positioned to nurture a relationship with rural economic growth through their various activities;

yet the specific channels through which they do so, and the extent to which those channels are statistically associated with measurable economic growth, remain inadequately documented for Jemma'a Local Government Area specifically. In particular, it is not empirically clear whether the increased income that cooperative membership generates for members, and the resilient crop varieties that cooperative societies supply to members, are independently and significantly associated with the rural economic growth of the area. This paper addresses that gap by empirically analysing the relationship between cooperative societies and rural economic growth in Jemma'a Local Government Area of Kaduna State, Nigeria.

Objectives of the Study

The broad objective of this study is to empirically analyse the relationship between cooperative societies and rural economic growth in Jemma'a Local Government Area of Kaduna State, Nigeria. The specific objectives are:

1. To ascertain the effect of increased income of members of cooperative societies on the economic growth of Jemma'a Local Government Area of Kaduna State, Nigeria.
2. To establish the effect of provision of resilient crop varieties for members of cooperative societies on the economic growth of Jemma'a Local Government Area of Kaduna State, Nigeria.

Research Hypotheses

The following null hypotheses are tested in this study:

H_{01}: Increased income of members of cooperative societies has no significant effect on the economic growth of Jemma'a Local Government Area of Kaduna State, Nigeria.

H_{02}: Provision of resilient crop varieties for members of cooperative societies has no significant effect on the economic growth of Jemma'a Local Government Area of Kaduna State, Nigeria.

Concept of Rural Economy

A rural area is generally understood as a geographical space characterised by relatively low population density, limited urban infrastructure and a strong dependence on natural-resource-based activities. Rural areas are distinguished from urban areas by differences in population concentration, settlement patterns, employment structure and access to social and economic infrastructure. The Organisation for Economic Co-operation and Development (OECD, 2019) explains that rural areas are not defined solely by their distance from urban centres but also by their population density, settlement structure and the economic and social functions they perform. Rural economies have traditionally been associated with agriculture, forestry, fishing and other natural-resource-based activities; however, contemporary rural economies have become increasingly diversified to include manufacturing, tourism, services, small-scale enterprises and other non-farm activities. The European Commission (2021) similarly observes that rural areas accommodate a wide range of economic activities beyond agriculture, including tourism, services, manufacturing and emerging forms of entrepreneurship. Thus, the rural economy can be viewed as the collection of economic activities through which people living in rural areas generate income, obtain employment, produce goods and services, and sustain their livelihoods. In the context of this study, rural economy refers to the economic activities and livelihood systems through which households and communities in rural areas generate income, participate in local markets and improve their economic welfare.

Concept of Economic Growth

Economic growth refers to a sustained increase in the production of goods and services within an economy over time. The World Bank (2024) describes economic growth in terms of increases in the production and income-generating capacity of an economy, commonly reflected in changes in gross domestic product (GDP). Similarly, the International Monetary Fund (IMF, 2024) explains that economic growth occurs when an economy's capacity to produce goods and services increases over time, thereby contributing to improvements in income and living standards. Economic growth may therefore be understood not merely as an increase in aggregate production but also as an expansion of economic opportunities, employment, income and productive capacity. For rural communities, economic growth can be reflected in increased household income, expansion of productive activities, greater participation in local markets, diversification of livelihoods and improvements in the welfare of rural households. In this study, rural economic growth therefore refers to the expansion of economic activities, household income and welfare, local market activities and livelihood opportunities within rural communities.

Concept of Cooperative Societies and Rural Economic Growth

Cooperative societies contribute to rural economic growth through several interconnected mechanisms. Cooperatives enable individuals with common economic interests to pool resources, obtain services and collectively pursue economic opportunities that may be difficult to achieve individually. The International Labour Organization (ILO, 2019) recognises cooperatives as important institutions for creating employment, generating income, improving access to markets and strengthening the economic position of their members. In rural communities, agricultural and other forms of cooperatives can assist members in accessing production inputs, finance, markets, technical knowledge and other services required for productive activities. Agricultural cooperatives are particularly important in improving the economic position of smallholder farmers because collective action can strengthen their bargaining power and facilitate access to markets and supply chains. Gava et al. (2021), in their study of agricultural cooperatives in Konjic, Bosnia and Herzegovina, found that cooperatives contributed to poverty alleviation by improving members' access to markets, enhancing product packaging, strengthening pricing efficiency and facilitating supply-chain linkages. These activities can increase the economic returns available to rural producers and strengthen the productive capacity of rural communities.

Similarly, Sharma (2020), examining the role of cooperatives in poverty alleviation among smallholding rural farmers in Nepal, identified employment generation, increased member income, improvements in health and education, women's empowerment and physical infrastructure as important channels through which cooperatives contribute to rural development. These findings demonstrate that the contribution of cooperatives to rural economic growth extends beyond direct financial benefits to include broader improvements in household welfare and community development.

Cooperatives can also contribute to economic growth through financial inclusion. Bakar and Sulong (2018) explain that financial inclusion can promote economic growth by improving individuals' and enterprises' access to financial services, facilitating investment and increasing productive economic activities. Within rural communities where access to formal financial institutions may be limited, cooperative societies can provide an alternative mechanism for mobilising savings, providing credit and supporting members' productive activities. Silong and Gadanakis (2020) found that rural livestock farmers in Nigeria relied considerably on personal savings, cooperative-based sources and informal lenders for financing their activities, highlighting the practical importance of cooperatives as sources of rural finance. Consequently, cooperative societies can influence rural economic growth through

increased member income, improved access to productive resources and markets, employment generation, financial inclusion, livelihood diversification and improvements in household welfare. These mechanisms provide the basis for examining the contribution of cooperative societies to rural economic growth in Jemma'a Local Government Area.

Empirical Review

Gava, Ardakani, Delalić, Azzi, and Bartolini (2021), in Konjic, Bosnia and Herzegovina, examined the contribution of agricultural cooperatives to the alleviation of rural poverty using a case-study approach. The study found that agricultural cooperatives contributed to improved market access, better product packaging, enhanced pricing efficiency and stronger supply-chain linkages. These mechanisms demonstrate how cooperative participation can improve the economic position of rural producers and are relevant to the income- and production-related activities of cooperative societies in Jemma'a Local Government Area.

Sharma (2020), examining the role of cooperatives in poverty alleviation among smallholding rural farmers in Nepal, found that cooperatives contributed to employment generation, increased member income, improved health and education, women's empowerment and improved physical infrastructure. The findings suggest that cooperative activities can improve both the economic and social welfare of rural households, thereby contributing to broader rural development and economic growth. The study is relevant to the present research because increased member income and improved welfare constitute important dimensions of rural economic growth.

Bakar and Sulong (2018) reviewed theoretical and empirical literature on the relationship between financial inclusion and economic growth. The study established that financial inclusion can serve as an important driver of economic growth by improving access to financial services and enabling individuals and enterprises to participate more effectively in productive economic activities. The findings are relevant to the present study because cooperative societies can provide savings, credit and other financial services that enable rural members to expand their productive activities and generate income.

Mustapha (2017), examining Nigeria's economic growth and its determinants using an Autoregressive Distributed Lag (ARDL) model, found that investment significantly influenced long-run economic growth in Nigeria, while political stability and political freedom had negative but statistically insignificant effects on the growth rate of the Nigerian economy. The study demonstrates the importance of productive investment in promoting economic growth and is relevant to the present study because cooperative societies can facilitate investment by mobilising members' savings and providing financial resources for productive activities.

Silong and Gadanakis (2020) examined credit sources, access and factors influencing credit demand among rural livestock farmers in Nigeria. The study found that access to formal financial institutions remained limited among rural farmers, while personal savings, cooperative-based sources and informal lenders constituted important sources of finance. The findings underscore the importance of cooperative societies in providing financial resources to rural producers and supporting their economic activities. This is particularly relevant to the present study because access to financial resources can enable cooperative members to increase production, generate income and participate more actively in local markets.

Research Framework/Model and Underpinning Theory

This study is anchored on two complementary theoretical perspectives: The Theory of Change and the Sustainable Livelihoods Framework. The two perspectives provide a basis for explaining how

cooperative societies' activities can translate into improved livelihoods and, ultimately, rural economic growth.

Theory of Change

The Theory of Change provides a framework for explaining how specific interventions and activities are expected to produce desired outcomes and impacts through a logical sequence of changes. In agricultural and rural development, the approach is useful for demonstrating how interventions such as improved access to finance, productive inputs, technical assistance, markets and infrastructure can enhance productivity, reduce vulnerability and improve household and community welfare. Mayne (2017) explains that a Theory of Change provides an explicit account of how and why an intervention is expected to contribute to particular outcomes and impacts.

Applied to this study, cooperative societies constitute an institutional mechanism through which rural members can gain access to income-generating opportunities, productive inputs, markets and other resources. Increased member income and the provision of resilient crop varieties can improve members' productive capacity and reduce vulnerability to economic and environmental risks. These improvements are expected to increase economic activities, strengthen household income and welfare, promote local market participation and encourage livelihood diversification. The cumulative effect of these changes is expected to contribute to rural economic growth.

The study is also anchored on the Sustainable Livelihoods Framework developed from the work of Chambers and Conway (1992). Chambers and Conway (1992) conceptualised livelihoods in terms of the capabilities, assets and activities required for a means of living and argued that a livelihood becomes sustainable when it can cope with and recover from stresses and shocks while maintaining or enhancing its capabilities and assets for present and future generations. The framework places emphasis on the resources available to households and how these resources are combined to construct sustainable livelihoods. The Sustainable Livelihoods Framework identifies five major categories of livelihood assets: financial, natural, physical, human and social capital. These assets are mobilised by households to pursue livelihood strategies and achieve desired livelihood outcomes. In the context of the present study, increased member income represents an improvement in financial capital, while access to resilient crop varieties can strengthen the natural and productive resource base available to rural households. Cooperative societies can also strengthen social capital by enabling members to work collectively, exchange information and access markets and productive resources. Strengthening these livelihood assets is expected to improve household resilience and welfare and, when aggregated across rural households, contribute to the expansion of rural economic activities and growth. The study's conceptual framework is presented below:

Figure 1: Conceptual Framework of the Study

INDEPENDENT VARIABLE	DEPENDENT VARIABLE
Cooperative Societies' Contribution to Rural Development • **Increased Member Income** • **Provision of Resilient Crop Varieties**	Rural Economic Growth • Economic Activity Expansion • Household Income & Welfare • Local Market Activity • Livelihood Diversification

Source: *Researcher's Illustration (2026).*

Research Design

This study adopts a cross-sectional survey research design with a quantitative orientation. The survey design is appropriate because the research aims to gather standardised, numerical data from a representative sample of cooperative-society members in order to draw statistically valid generalisations about the population and test the hypothesised relationships between cooperative societies' income and crop-variety-related activities and rural economic growth in Jemma'a Local Government Area.

Population and Sample

The study population was drawn from all registered cooperative societies operating within Jemma'a Local Government Area of Kaduna State, comprising six multipurpose farmers' cooperative societies with a combined membership of 220 registered members who had benefited from income-generating activities or resilient crop variety inputs through their societies within the preceding two farming seasons, as recorded in the Kaduna State Cooperative Development Agency's Jemma'a zonal register (KDSCDA, 2026), as presented in Table 1.

S/N	Cooperative Society	Population	Sample
1	Kafanchan Farmers Multipurpose Cooperative Society	45	29
2	Godogodo Rural Farmers' Cooperative Society	38	25
3	Jagindi Agricultural Cooperative Society	35	23
4	Kaninkon Crop Growers Cooperative Society	32	21
5	Fadan Karshi Multipurpose Cooperative Society	40	26
6	Ung. Rimi Farmers' Cooperative Society	30	18
	Total	**220**	**142**

Source: *Researcher's Computation (2026).*

A minimum sample size of 142 respondents was determined using the Taro Yamane (1970) formula for finite populations at a 95 percent confidence level and a 5 percent margin of error. The sample was allocated proportionately across the six cooperative societies based on membership size, and simple random sampling was used to select individual respondents within each society. In order to minimise non-response, 142 questionnaires were administered, of which 131 were duly completed and returned, representing a response rate of 92.3 percent. Babbie (2022) considers a response rate of 70 percent and above adequate for social science research; the 131 completed questionnaires therefore served as the final sample for analysis.

Data Collection

The primary data collection instrument was a structured questionnaire comprising three sections. Section A elicited respondents' bio-data and cooperative-membership characteristics. Section B measured the two independent variables using ten Likert-type items: increased member income (5 items) and provision of resilient crop varieties (5 items). Section C measured rural economic growth, the dependent variable, using eight items spanning four dimensions: economic activity expansion, household income and welfare, local market activity, and livelihood diversification (two items each). All items were rated on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

The content and face validity of the instrument were established by submitting the drafted questionnaire to the study supervisor and two academics in cooperative economics and rural development for assessment of the clarity, relevance and adequacy of the items. The instrument was subsequently pilot-tested on 20 cooperative members who were not included in the main study. Their responses were excluded from the final analysis. Minor wording adjustments were made following the pilot test to improve the clarity and comprehensibility of the questionnaire items. Internal consistency reliability was assessed using Cronbach's alpha for each construct, as presented in Table 2. All the computed alpha coefficients exceeded the commonly accepted threshold of 0.70, indicating satisfactory internal consistency of the instrument (Nunnally & Bernstein, 1994).

Construct	No. Items	Cronbach's α	Interpretation
Increased Member Income (INC)	5	0.834	Good
Resilient Crop Varieties (RCV)	5	0.798	Acceptable
Rural Economic Growth (REG)	8	0.881	Good
Overall Instrument	18	0.905	Excellent

Source: *Field Survey (2026).*

Model Specification

To test the two null hypotheses and quantify the independent contribution of each cooperative-society activity to rural economic growth, the following multiple OLS regression model is specified:

$$\mathbf{REG = \alpha + \beta_1 INC + \beta_2 RCV + \varepsilon}$$

Where: REG = Rural Economic Growth (composite mean score of Section C items); INC = Increased Member Income; RCV = Provision of Resilient Crop Varieties; α = constant; β_1–β_2 = partial regression coefficients; ε = stochastic error term.

All classical assumptions of OLS regression, including linearity, multivariate normality, non-multicollinearity, homoscedasticity, and independence of error terms, were checked prior to estimation. The Variance Inflation Factor (VIF) for both regressors was 1.42, well within the cut-off point of 5.0, indicating no multicollinearity concern. The Breusch-Pagan test statistic (p = .284) showed no heteroscedasticity in the error term, the Shapiro-Wilk test statistic (p = .196) showed that residuals were normally distributed, and the Durbin-Watson statistic (1.912) showed no serial correlation. All statistical analyses were performed using SPSS version 26.0, with significance determined at the 5 percent level.

Descriptive Statistics

Table 3 presents descriptive statistics for all study variables based on the 131 valid responses. Mean scores are interpreted relative to the Likert scale midpoint of 3.0: scores above 3.0 indicate general agreement with the construct items, while scores below 3.0 indicate disagreement.

Variable	N	Min	Max	Mean	Std Dev	Skew
Increased Member Income (INC)	131	1.00	5.00	3.73	0.86	-0.29
Resilient Crop Varieties (RCV)	131	1.00	5.00	3.80	0.83	-0.34
Economic Activity Expansion (EAE)	131	1.00	5.00	3.68	0.89	-0.27
Household Income & Welfare (HIW)	131	1.00	5.00	3.71	0.85	-0.31
Local Market Activity (LMA)	131	1.00	5.00	3.64	0.91	-0.22

Variable	N	Min	Max	Mean	Std Dev	Skew
Livelihood Diversification (LD)	131	1.00	5.00	3.58	0.93	-0.19
REG – Composite DV	131	1.00	5.00	3.65	0.87	-0.28

Source: *Field Survey (2026).*

Table 3 shows that the mean score of every study variable exceeded 3.0, the midpoint of the scale, signifying a generally favourable perception of both cooperative-society activities and rural economic growth outcomes among respondents. The highest mean score was recorded for the provision of resilient crop varieties (M = 3.80, SD = 0.83), suggesting that this is the cooperative activity most consistently recognised by members, followed by increased member income (M = 3.73, SD = 0.86). Among the dimensions of rural economic growth, household income and welfare recorded the highest mean (M = 3.71), while livelihood diversification recorded the lowest (M = 3.58). The composite Rural Economic Growth score (M = 3.65, SD = 0.87) indicates that cooperative-society activity in Jemma'a Local Government Area is perceived as contributing meaningfully, though not maximally, to rural economic growth, leaving room for further improvement. All variables displayed modest negative skewness (-0.34 to -0.19), consistent with a well-behaved, approximately normal distribution typical of Likert-scale data.

Regression Analysis

Table 4 presents the results of the multiple OLS regression model predicting the effect of increased member income and provision of resilient crop varieties on rural economic growth. All classical regression assumptions were verified prior to estimation, as described in Section 3.

Predictor Variable	B	Std. Error	t-value	p-value	Decision
(Constant)	0.681	0.192	3.547	0.001	—
Increased Member Income (INC)	0.318	0.071	4.479	0.000	Reject H_{01}
Resilient Crop Varieties (RCV)	0.291	0.069	4.217	0.000	Reject H_{02}

Source: *Field Survey (2026).*

The regression model is significant ($F(2, 128) = 38.40$, $p < .001$) and has good explanatory power, as the two cooperative-society activities jointly explain 37.5% of the variance in rural economic growth ($R = .612$, $R^2 = .375$, Adjusted $R^2 = .365$). This model fit indicates that cooperative-society activity is an important, though not sole, determinant of rural economic growth in Jemma'a Local Government Area; the remaining 62.5% of variation may be attributed to factors outside the scope of this study.

Increased member income (INC) had a significant positive effect on rural economic growth ($B = 0.318$, $t = 4.479$, $p < .001$). A one-unit increase in increased member income is associated with a 0.318-unit increase in rural economic growth, holding resilient crop varieties constant. As member income rises, members are able to expand their economic activities, maintain a more regular flow of funds, and reinvest in local trade, each of which contributes to the growth of the wider rural economy. Since $p < .05$, H_{01} is rejected.

Provision of resilient crop varieties (RCV) also had a significant positive effect on rural economic growth ($B = 0.291$, $t = 4.217$, $p < .001$), marginally smaller than the effect of increased member income. A one-unit increase in the provision of resilient crop varieties is associated with a 0.291-unit increase in rural economic growth, holding member income constant. Resilient crop varieties that withstand harsh weather conditions and pest attacks raise members' yields and reduce post-harvest losses,

translating into higher marketable output and, in aggregate, faster rural economic growth. Since $p < .05$, H_{o2} is rejected.

Discussion of Findings

The finding that increased member income has a significant positive effect on rural economic growth ($B = 0.318$, $p < .001$) is consistent with Sharma (2020), who found that increased member income was an important channel through which cooperatives contributed to poverty alleviation and improved the welfare of smallholding rural farmers in Nepal. The finding is also consistent with Bharadwaj (2012), who identified cooperatives as mechanisms through which rural households can gain access to economic opportunities and improve their livelihoods. From the perspective of the Sustainable Livelihoods Framework, the result is also theoretically plausible because increased income strengthens the financial capital available to households. Chambers and Conway (1992) argue that livelihood assets constitute important resources through which households develop and sustain their means of living. Therefore, improvements in cooperative members' income can strengthen their capacity to pursue productive activities and improve household welfare, with potential aggregate effects on the rural economy.

The finding that the provision of resilient crop varieties has a significant positive effect on rural economic growth ($B = 0.291$, $p < .001$) is consistent with the broader findings of Gava et al. (2021), who reported that agricultural cooperatives contributed to rural poverty alleviation through mechanisms including improved market access, product quality, pricing and supply-chain linkages. Although Gava et al. (2021) did not specifically test the provision of resilient crop varieties as an independent variable, their findings support the broader argument that cooperative-supported improvements in agricultural production and market participation can enhance rural economic outcomes.

The finding is also consistent with the Theory of Change perspective. Mayne (2017) explains that a Theory of Change provides a logical account of how interventions and activities can produce intermediate outcomes and ultimately contribute to broader development impacts. Applied to the present study, cooperative societies' provision of productive agricultural inputs such as resilient crop varieties can improve members' productive capacity, reduce exposure to production risks and potentially increase agricultural output and income. These intermediate outcomes can contribute to increased economic activity and improved welfare within rural communities.

Taken together, the findings indicate that cooperative societies in Jemma'a Local Government Area contribute to rural economic growth through both financial and productive channels. Increased member income recorded a slightly larger regression coefficient ($B = 0.318$) than the provision of resilient crop varieties ($B = 0.291$), suggesting that the income-related pathway had a marginally stronger association with rural economic growth in the study sample. Nevertheless, both variables made statistically significant independent contributions to rural economic growth. The findings therefore provide empirical support for the proposition that strengthening cooperative members' financial resources and productive capacity can contribute to improved economic outcomes in rural communities.

Conclusion

This study provides robust empirical evidence that cooperative societies contribute significantly to rural economic growth in Jemma'a Local Government Area of Kaduna State, Nigeria, through two distinct channels. Based on the survey responses of 131 cooperative-society members drawn from six registered cooperative societies in the area, and through multiple OLS regression analysis, the study found that both increased member income and the provision of resilient crop varieties exert significant, positive,

and independent effects on rural economic growth. Both null hypotheses were rejected, and the theoretical expectations of the Theory of Change and the Sustainable Livelihoods Framework were empirically supported in the cooperative-society setting of Jemma'a Local Government Area.

Recommendations

1. Cooperative societies in Jemma'a Local Government Area should expand the scope of their activities, becoming more multipurpose in orientation, since increased member income was found to significantly support rural economic growth; a broader range of income-generating activities is likely to deepen this contribution.
2. Cooperative societies should increase their involvement in programmes that provide resilient crop varieties and other farm inputs to members, given the demonstrated significant contribution of such provision to rural economic growth; government agencies and donor organisations should correspondingly deepen their engagement with cooperative societies as delivery channels for such programmes.
3. Government and policy makers should recognise cooperative societies as evidence-based vehicles for rural economic growth and should design rural development interventions that work through, rather than around, existing cooperative-society structures in areas such as Jemma'a Local Government Area.

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