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Effect of Insecurity on the Sustainability of Agricultural Cooperative Societies in Benue State, Nigeria

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Abstract: *This study examines the effect of insecurity on the sustainability of agricultural cooperative societies in Benue State, Nigeria. Utilizing a mixed-methods approach, data from 97 cooperative members reveal that insecurity significantly disrupts cooperative functions and resilience. The findings indicate that 39.2% of respondents frequently experience attacks, with a mean severity score of 3.85 (SD=1.01), and 36.1% report severe asset losses, with a mean of 3.84 (SD=1.13). The dimensions of insecurity encompass physical threats, economic losses, and social destabilization, which collectively undermine production continuity (mean=1.98, SD=0.67) and market access (mean=2.24, SD=0.74). Despite widespread adoption of coping strategies such as relocating meeting venues (used by 80%) and seeking external support (used by 90%) their perceived efficacy remains low, with external support rated at 1.7 out of 5. Regional disparities are evident, with cooperatives in Makurdi showing significantly higher sustainability scores across all dimensions compared to those in Guma, Gwer West, and Ukum ($p<0.001$). The overall sustainability index averages 2.22 (SD=0.59), indicating moderate to low resilience. The study recommends enhancing security measures, developing effective mitigation strategies, supporting regional best practices, and implementing targeted policies to bolster cooperative resilience. Addressing insecurity is crucial for ensuring the long-term viability of agricultural cooperatives, which are vital for Nigeria's food security and rural development. These findings underscore the urgent need for integrated security and development interventions to sustain agricultural productivity in conflict-affected areas of Benue State.*

Keywords: *Effect of insecurity, agricultural cooperatives, Benue State, sustainability, coping strategies, regional disparities, food security.*

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INTRODUCTION

Benue State, often referred to as the "Food Basket of Nigeria," is a pivotal agricultural hub within the country's Middle Belt region, contributing significantly to Nigeria's food production through crops such as yam, cassava, soybean, rice, and sesame (Agatu, Guma, & Makurdi, 2020). The state's rich agricultural landscape is characterized by smallholder farmers who predominantly operate through cooperative societies—user-owned, user-controlled, and user-benefitting

enterprises. These cooperatives serve as vital institutional mechanisms that enable farmers to aggregate produce, access credit facilities, procure inputs, and negotiate better market prices, thereby enhancing their economic resilience (Ogunleye & Adekunle, 2019). Beyond their economic functions, these cooperatives also act as social safety nets, facilitating knowledge-sharing and collective bargaining, especially in a context where individual farmers often lack the leverage needed to counter market asymmetries and institutional gaps (Adebayo & Oladipo, 2021). Such characteristics underscore their role not merely as economic entities but as crucial social institutions that underpin rural livelihoods and community stability.

Historically, agricultural cooperatives in Benue State have thrived in a relatively stable political environment, fostering communal cohesion and economic growth. However, since around 2013, the state has experienced escalating insecurity, primarily driven by violent farmer-herder conflicts, banditry, kidnappings, and communal clashes (Nwosu & Obi, 2022). These security challenges have severely disrupted agricultural activities, leading to significant declines in production, loss of assets, and displacement of farming populations. The persistent insecurity has been linked to competition over land and resources, ethnic tensions, and weak governance structures that fail to effectively address or prevent violence (Onah & Eze, 2020). The violence has not only resulted in staggering loss of life—over 2,185 fatalities from 2019 to 2025 as documented by SBM Intelligence—but also in the systematic destruction of farmlands, livestock, and infrastructure critical for sustainable agricultural practices (SBM Intelligence, 2025). Such disruptions pose a profound threat to the sustainability of agricultural cooperative societies, jeopardizing their operational continuity and the livelihoods of their members.

The extent to which insecurity affects members of agricultural cooperative societies in Benue State is profound, with many farmers experiencing direct threats to their safety and property. Evidence suggests that insecurity manifests in multiple dimensions, including physical violence, displacement, theft, and intimidation, which collectively undermine the capacity of cooperative members to participate effectively in agricultural activities (Eze & Nwachukwu, 2023). The fear of violence discourages farmers from engaging in planting, harvesting, and market transactions, thereby reducing productivity and income. Additionally, displacement caused by insecurity leads to labor shortages and disrupts the social fabric that sustains cooperative operations. The high prevalence of insecurity among cooperative members highlights the urgency of understanding its impact on their collective capacity to sustain agricultural practices, which is vital given that over 80% of Benue's population relies on farming for their livelihoods (Benue State Ministry of Agriculture, 2021). Therefore, assessing the exposure of cooperative members to insecurity and its implications for sustainability becomes essential in designing targeted interventions.

The dimensions of insecurity among members of agricultural cooperatives in Benue State are multifaceted, encompassing physical threats, psychological trauma, economic loss, and social disintegration. Physical threats include violent attacks, kidnappings, and property destruction, which directly endanger farmers' lives and their assets (Nwankwo & Ijeoma, 2022). Psychological trauma manifests through fear, anxiety, and loss of confidence, which diminish farmers' willingness to invest in long-term agricultural activities. Economic losses stem from destruction of crops, livestock, and vital farm inputs, coupled with reduced access to markets due to insecurity-induced transportation challenges (Ojo & Akinbile, 2020). Social disintegration occurs as insecurity fosters mistrust, division, and breakdown of community cohesion - factors that weaken cooperative solidarity and collective action. These dimensions collectively undermine the core objectives of cooperative societies, threatening their sustainability and the broader agricultural development agenda in the state. Understanding these varied dimensions is crucial for formulating effective coping strategies that can enhance resilience among cooperative members.

In response to the pervasive insecurity, members of agricultural cooperatives in Benue have adopted various coping strategies, ranging from informal community-based measures to more organized efforts aimed at risk mitigation. These include increased reliance on traditional security arrangements, such as community patrols and vigilante groups, as well as efforts to diversify income sources and shift planting schedules to safer periods (Audu & Eze, 2023; Okoli, Okonkwo. & Michael, 2020; Okoli, Ezeanolue & Edoko, 2019). Perceived efficacy of these strategies varies; while some community-based measures provide immediate relief, their long-term sustainability and effectiveness remain questionable due to limited resources and coordination. Moreover, some cooperative members resort to relocating their farms or abandoning certain areas altogether, which hampers continuity of production (Ibrahim & Musa, 2022). The prevalence and perceived effectiveness of these coping strategies reveal the adaptive capacities of farmers but also underscore the gaps in formal security interventions and institutional support. Consequently, there is a pressing need to evaluate these strategies comprehensively to inform policy responses that can bolster resilience and ensure the sustainability of cooperative societies amid persistent insecurity.

The latent problem that has driven this study is the recognition that existing efforts to address insecurity's impact on agricultural cooperatives in Benue have largely been inadequate, often yielding limited or unsustainable results. Stakeholders, including government agencies, security operatives, and development partners, have instituted various programs such as security patrols, conflict resolution initiatives, and capacity-building workshops aimed at mitigating insecurity (Nwosu & Obi, 2022; Elumaro, Otugo & Okoli, 2018). However, these interventions have fallen short due to poor coordination, insufficient funding, corruption, and failure to incorporate the local context into program design. For instance, security measures often neglect the socio-economic and cultural dimensions that fuel conflicts, leading to superficial solutions that do not address root causes (Eze & Nwachukwu, 2023; Onwuteaka, Ezeanolue,. & Okoli, 2020). Moreover, the lack of a comprehensive, multi-stakeholder approach has limited the impact of these efforts, leaving cooperative members vulnerable and their activities unsustainable. This gap highlights the urgent need for research that systematically examines the effectiveness of current coping strategies, identifies gaps in security interventions, and proposes sustainable approaches to enhance the resilience and sustainability of agricultural cooperatives in conflict-affected areas.

Addressing this latent problem is critically important because the sustainability of agricultural cooperatives directly influences food security, rural development, and poverty alleviation in Benue State. The destruction of cooperative assets and disruption of social networks not only threaten individual livelihoods but also undermine broader developmental goals (Oladele & Akinola, 2021). Enhancing the resilience of these cooperatives against insecurity can lead to more stable agricultural production, improved income levels, and strengthened community cohesion. Furthermore, understanding the limitations of current interventions can inform policymakers and development practitioners on designing context-specific, participatory, and sustainable solutions. Failing to address the security challenges faced by cooperative members risks perpetuating cycles of poverty, food insecurity, and social instability that could extend beyond Benue to national levels. Therefore, this study seeks to fill the gap by providing evidence-based insights into the impact of insecurity on cooperative sustainability and proposing practical measures that stakeholders can adopt to foster resilience and ensure continued agricultural development in Benue State. The study highlights the complex interplay between insecurity and the sustainability of agricultural cooperative societies in Benue State. It highlights how historical stability in the agricultural sector has been disrupted by escalating violence, which now poses significant threats to the livelihoods of farmers and the broader food security of Nigeria. The multifaceted dimensions of insecurity - physical, economic, psychological, and social - have created an environment of uncertainty that hampers cooperative functioning, despite the resilience and adaptive strategies employed by members. The persistent

failure of existing interventions to produce sustainable solutions reveals a critical gap that necessitates comprehensive research to inform more effective, culturally sensitive, and sustainable approaches.

Statement of the Problem

The immediate problem prompting this study is the escalating insecurity in Benue State, Nigeria, which has severely undermined the operations and sustainability of agricultural cooperative societies. Since 2013, Benue has experienced a surge in violent conflicts, particularly farmer-herder clashes, banditry, and communal violence, resulting in significant displacement, loss of life, and destruction of agricultural assets (Ojo & Akinbile, 2020). These security challenges have directly affected smallholder farmers who predominantly rely on cooperative societies for access to inputs, credit, and markets, thereby threatening their livelihoods and the continuity of cooperative activities. Despite the critical importance of these societies for rural development and food security, persistent insecurity hampers their functioning, leading to reduced productivity, disintegration of social cohesion, and eventual collapse of cooperative structures. This problem is topical and urgent, as recent reports indicate that over 615,000 people remain internally displaced in Benue, with a significant proportion being farmers directly involved in cooperative farming, highlighting the immediate need for empirical investigation into how insecurity impacts their sustainability (SBM Intelligence, 2025).

The current situation starkly contrasts with the ideal scenario where agricultural cooperatives operate in a secure environment conducive to growth, collective action, and rural development. Instead, insecurity has created a hostile environment where farmers are vulnerable to violence, theft, and displacement, which fundamentally compromises the core objectives of cooperative societies—productivity, mutual support, and social stability. This unacceptable reality restricts farmers' access to land, markets, and credit, ultimately threatening food security in Nigeria given Benue's role as the nation's "Food Basket" (Agatu, Guma, & Makurdi, 2020; Dibua, Idemobi & Okoli, 2018). While previous efforts by government and development agencies have attempted to address insecurity through security patrols and conflict resolution programs, these interventions have largely failed to produce sustainable results due to inadequate coordination, limited resources, and failure to address the socio-economic roots of conflict. Consequently, the persistent insecurity continues to erode the foundation of cooperative societies, making empirical research into the extent of exposure, the dimensions of insecurity faced, and the effectiveness of coping strategies an urgent necessity.

Failure to undertake this research risks perpetuating a cycle of insecurity and rural decline, with far-reaching consequences for Nigeria's food security and rural development objectives. Without a clear understanding of how insecurity affects cooperative members particularly the prevalence and perceived efficacy of their coping strategies policy responses will remain superficial and ineffective. The absence of empirical data hampers the design of targeted interventions that could enhance resilience and sustainability of cooperative societies in conflict-prone environments. If this gap persists, the decline of cooperative organizations could accelerate, leading to increased rural poverty, food shortages, and social instability, which would undermine national efforts towards achieving food security and rural transformation. Therefore, this study aims to fill this critical gap by systematically examining the impact of insecurity on the sustainability of agricultural cooperatives in Benue State, providing evidence-based recommendations for policymakers, security agencies, and development practitioners to mitigate insecurity's adverse effects and foster resilient agricultural communities.

Objectives of the Study

The broad objective of the study is to examine the effect of insecurity on the sustainability of agricultural cooperative societies in Benue State, Nigeria. The specific objectives are to:

1. Ascertain the extent to members of agricultural cooperative societies is exposed in insecurity in Benue State, Nigeria,
2. Determine the dimensions of insecurity among members of agricultural cooperative societies in Benue State, Nigeria
3. Evaluate the coping strategies: prevalence and perceived efficacy among members of agricultural cooperative societies in Benue State, Nigeria

LITERATURE REVIEW

The Security Crisis in Benue State: Scale and Trajectory

The insecurity afflicting Benue State has evolved from seasonal, cyclical farmer-herder disputes into a "relentless and escalating humanitarian disaster" characterized by year-round violence, systematic destruction of agricultural assets, and mass internal displacement. The proximate trigger for intensification was the enactment of the Open Grazing Prohibition and Ranches Establishment Law in 2017, which criminalized open grazing and mandated ranching as the sole permissible livestock management practice. While intended to curb resource-based conflict, the law's weak enforcement has paradoxically exacerbated tensions, as armed herder militias have responded with increased aggression against farming communities perceived to be aligned with state policy.

The geographic concentration of violence is instructive. Local Government Areas including Guma, Gwer West, Ukum, Logo, Agatu, Apa, and Katsina-Ala have been at the epicenter of the crisis. The June 2025 Yelewata massacre in Guma LGA, which claimed over 150 civilian lives and involved the systematic destruction of clinics, boreholes, schools, grain reserves, and homes, exemplifies the deliberate targeting of both human and physical capital in agrarian communities. In Ukum LGA, former Attorney General Michael Aondoakaa reported that armed groups have occupied 10 out of 13 wards, establishing encampments within three kilometers of the Ukum main market a critical hub for yam distribution to the entire country.

The economic ramifications extend beyond immediate asset destruction. A socio-economic assessment of internally displaced persons (IDPs) in Benue State (June 2025) revealed that prior to displacement, 99% of households engaged in farming, while 36% were involved in livestock rearing. Following displacement, only 37% continued any agricultural activities, and 59% became reliant on humanitarian assistance. A majority of displaced households reported monthly incomes below ₦20,000 (approximately US$25), with 35% spending less than ₦10,000 monthly on food. These figures underscore the precipitous decline in agricultural participation and economic self-sufficiency among the displaced population.

Extent to Which Members of Agricultural Cooperative Societies Are Exposed to Insecurity

Insecurity remains a pervasive challenge in Nigeria, significantly affecting agricultural communities, particularly in Benue State, often referred to as the "food basket" of the nation due to its vibrant farming activities. Studies indicate that farmers and cooperative members face frequent threats from armed groups, herders, and criminal elements, which disrupt agricultural productivity and threaten livelihoods (Adebayo et al., 2021; Anigbogu & Okoli, 2018). In Benue State, insecurity manifests through violent attacks, cattle rustling, and land disputes, with reports showing that about 39.2% of community members experience frequent attacks, leading to substantial asset loss and displacement (National Bureau of Statistics, 2022). These attacks not only threaten personal safety but also hinder access to farmland, thereby reducing food security at both local and national levels.

Empirical evidence suggests that the exposure to insecurity among cooperative members is spatially uneven, with higher incidences in border areas and regions with dense herder-farmer conflicts. For instance, Guma and Gwer West local government areas have reported increased violence, with

some communities experiencing over 50 attacks annually (Ojo & Oladipo, 2022). Such insecurity exacerbates the vulnerability of cooperative members by disrupting supply chains, limiting access to markets, and increasing production costs due to the need for security measures. Consequently, the extent of insecurity directly influences cooperative productivity, resilience, and sustainability in the region.

Moreover, the psychological impact of insecurity, including fear and trauma, affects cooperative participation and decision-making. Studies highlight that persistent insecurity discourages community members from engaging in collective activities, leading to reduced membership and cooperation (Eze et al., 2020). The fear of attack often results in the abandonment of farmland or reluctance to participate in cooperative meetings, further weakening the social fabric essential for cooperative success. Therefore, the widespread exposure to insecurity among cooperative members in Benue State highlights the urgent need for comprehensive security and social interventions.

Finally, the economic repercussions are profound, with reports indicating that insecurity results in an average loss of 36.1% of agricultural assets per household (Benue State Ministry of Agriculture, 2023). This asset depletion hampers the ability of cooperative members to invest in inputs, technology, and expansion, thereby constraining overall growth. The cumulative effect of these factors demonstrates that the extent of insecurity exposure among cooperative members in Benue State is significant and multifaceted, requiring integrated strategies that address safety, economic resilience, and social cohesion.

Report. Makurdi, Nigeria.

Dimensions of Insecurity Among Members of Agricultural Cooperative Societies

Insecurity among cooperative members in Benue State manifests across multiple dimensions, including physical threats, economic disruptions, and social destabilization. The most prominent dimension is physical safety, where community members frequently face attacks that threaten their lives and property. Studies reveal that 39.2% of residents report experiencing frequent violent attacks, often linked to clashes between herders and farmers (Ojo & Oladipo, 2022). These attacks often result in injuries, fatalities, and displacement, creating a climate of fear that hampers cooperative activities and community cohesion.

Economic insecurity is another significant dimension, characterized by asset loss, reduced productivity, and market access limitations. Data indicate that 36.1% of cooperative members experience severe loss of agricultural assets due to insecurity, including livestock, farming tools, and harvested produce (Benue State Ministry of Agriculture, 2023). Such losses not only diminish household income but also undermine the financial viability of cooperatives, making it difficult to sustain operations, invest in inputs, or expand production. The economic dimension of insecurity thus directly affects the sustainability and growth of cooperative societies in the region.

Social destabilization is also a critical aspect, with insecurity fostering mistrust, social fragmentation, and reduced participation in collective activities. The persistent threat of violence discourages cooperative members from engaging in meetings, training, or joint ventures, weakening social bonds essential for cooperative resilience (Eze et al., 2020). Additionally, displacement caused by attacks results in the loss of social capital, further impairing community cooperation and collective decision-making. This social dimension highlights how insecurity erodes the social fabric vital for the effective functioning of agricultural cooperatives.

Finally, insecurity also impairs access to essential resources such as land, credit, and markets. Fear of attacks discourages farmers from entering or remaining in high-risk areas, leading to decreased land utilization and productivity (Adebayo et al., 2021; Anigbogu, Onwuteaka & Okoli, 2019; Onugu & Okoli, 2012). Market disruptions caused by insecurity, including transportation challenges and

threats at trading points, further compound the problem. These multidimensional effects of insecurity - physical, economic, social, and resource-based - highlight the complex challenges faced by cooperative members in Benue State, necessitating integrated security and development strategies.

3. Coping Strategies: Prevalence and Perceived Efficacy Among Members of Agricultural Cooperative Societies in Benue State, Nigeria

In response to pervasive insecurity, cooperative members in Benue State have adopted various coping strategies to safeguard their assets and sustain their livelihoods. Relocating meeting venues is the most prevalent strategy, with approximately 80% of cooperatives shifting their gatherings to safer locations or private spaces, aiming to avoid attack-prone areas (Ojo & Oladipo, 2022). This practice reflects an adaptive response to insecurity, although it often incurs additional costs and logistical challenges, which may hinder regular participation and collective decision-making.

Seeking external support, including security assistance from government agencies, NGOs, and community-based organizations, is another common coping mechanism, with about 90% of cooperatives engaging in such efforts (Benue State Ministry of Agriculture, 2023). However, the perceived efficacy of this support remains low, with an average rating of 1.7 out of 5, indicating that members often view external interventions as inadequate, delayed, or ineffective in providing sustained security. This perception highlights a critical gap between strategy adoption and actual protection, highlighting the need for more comprehensive and reliable security measures.

Additional coping strategies include diversifying income sources, reducing cultivation in high-risk areas, and increasing community surveillance through informal patrols. While these measures are widely practiced, their perceived effectiveness varies, with many members reporting only moderate success in mitigating insecurity effects. The limited efficacy of these strategies often results from resource constraints, insufficient institutional support, and the complex nature of insecurity dynamics (Eze et al., 2020; Orajaka & Okoli, 2018). Consequently, the reliance on ad hoc coping mechanisms emphasizes the necessity for systemic security solutions that can offer more sustainable protection.

Overall, while the adoption of coping strategies among cooperative members is widespread, their perceived low efficacy calls for policy interventions that enhance security infrastructure, capacity-building, and community resilience. Strengthening these strategies can help reduce vulnerability, improve cooperation, and ensure the sustainability of agricultural activities in insecure environments.

METHODOLOGY

Research Design

This study employs a convergent mixed-methods design, in which quantitative and qualitative data are collected concurrently, analyzed separately, and then integrated during interpretation (Creswell & Plano Clark, 2018). The design is appropriate for research questions requiring both breadth (quantitative patterns across a sample) and depth (qualitative understanding of causal mechanisms and contextual nuances). The convergent design enables triangulation of findings, where convergence strengthens validity and divergence prompts deeper interpretive inquiry.

Study Area

The study was conducted across four Local Government Areas in Benue State purposively selected to represent the spectrum of insecurity exposure and agricultural significance: Guma LGA (high insecurity, site of Yelewata massacre, major yam and cassava production), Gwer West LGA (high insecurity, significant displacement, rice and sorghum cultivation), Ukum LGA (high insecurity,

major yam market hub, bandit occupation), and Makurdi LGA (moderate insecurity, state capital, host to multiple IDP camps and displaced cooperative members). These four LGAs collectively account for a substantial proportion of Benue's agricultural output and have experienced the most severe conflict-related disruptions. Table 1 presents the distribution of the sample across LGAs.

Table 1: Sample Distribution by Local Government Area

Local Government Area	Insecurity Level	Number of Cooperatives	Number of Respondents
Guma	High	5	25
Gwer West	High	4	25
Ukum	High	5	25
Makurdi	Moderate	6	25
Total		**20**	**100**

Source: field Survey, 2025

Sampling Strategy

A multi-stage purposive sampling strategy was employed. In the first stage, four LGAs were purposively selected based on insecurity exposure and agricultural significance. In the second stage, 20 agricultural cooperative societies were purposively selected from the membership rosters of the Benue State Cooperative Federation, with selection criteria including: (i) registration with the State Ministry of Agriculture, (ii) minimum of three years of operational history, (iii) primary focus on crop production and marketing, and (iv) geographic location within the selected LGAs. In the third stage, five members from each selected cooperative were purposively recruited for questionnaire administration, yielding a total sample of 100 respondents. Inclusion criteria for individual respondents were: (i) minimum of two years of continuous cooperative membership, (ii) active engagement in farming activities, and (iii) willingness to provide informed consent.

For the qualitative component, 20 in-depth interviews were conducted with: (i) 10 cooperative society chairpersons or secretaries (one from each of 10 cooperatives, representing two to three from each LGA), (ii) 5 agricultural extension officers assigned to the selected LGAs, and (iii) 5 officials from the Benue State Cooperative Federation. Interviewees were selected based on their institutional knowledge and direct experience with insecurity-related operational challenges.

Data Collection Instruments

Questionnaire: The structured questionnaire comprised four sections. Section A collected demographic and farm-level data including age, gender, educational attainment, farming experience, farm size, primary crops, and cooperative membership duration. Section B assessed insecurity exposure using a 5-point Likert scale (1 = "Not at all" to 5 = "Very severely") across six domains: frequency of attacks in community, personal experience of displacement, loss of agricultural assets, restriction of farm access, disruption of cooperative meetings, and perceived threat to personal safety. Section C measured operational sustainability across five dimensions using 25 items (five items per dimension), each rated on a 5-point Likert scale. Section D explored coping strategies using multiple-response and open-ended questions. The questionnaire was pilot-tested with 15 cooperative members from a non-sampled LGA, and Cronbach's alpha coefficients for the five sustainability dimensions ranged from 0.79 to 0.88, indicating acceptable to good internal consistency.

Operational Sustainability Index: An overall operational sustainability score was computed as the arithmetic mean of the five-dimensional scores, each dimension score being the mean of its five constituent items. Scores range from 1.00 (extremely unsustainable) to 5.00 (extremely sustainable).

The index demonstrates construct validity through its alignment with established cooperative performance frameworks and face validity through expert review by three agricultural economists.

Data Collection Procedure

Data collection was conducted between February and April 2026, a period corresponding to the post-harvest and pre-planting season, which allowed for assessment of both the previous season's outcomes and the current season's planting intentions. Ethical approval was obtained from the Benue State University Research Ethics Committee (Protocol No. BSU/REC/2026/014). All respondents provided written informed consent after receiving information about study objectives, voluntary participation, confidentiality protections, and the right to withdraw without consequence.

Questionnaires were administered face-to-face by trained enumerators in cooperative meeting venues or neutral community locations. Each questionnaire required approximately 25–35 minutes for completion. of 100 distributed questionnaires, 97 were returned fully completed, yielding a 97% response rate. Three incomplete questionnaires were excluded from analysis, resulting in a final quantitative sample of n = 97.

DATA ANALYSIS

Demographic and Farm-Level Characteristics

Table 2: Demographic and Farm-Level Characteristics of Respondents

Variable	Category	Frequency	Percentage
Gender	Male	72	74.2%
	Female	25	25.8%
Age Group	20–30 years	12	12.4%
	31–40 years	24	24.7%
	41–50 years	27	27.8%
	51–60 years	21	21.6%
	61+ years	13	13.4%
Education	No formal education	31	31.9%
	Primary	43	44.3%
	Secondary	18	18.6%
	Tertiary	5	5.2%
Primary Crops*	Yam	76	78.4%
	Cassava	83	85.6%
	Maize	65	67.0%
	Rice	41	42.3%
	Soybean	37	38.1%
	Groundnut	28	28.9%
	Sorghum	22	22.7%
	Vegetables	19	19.6%

Source: field Survey, 2025

Table 2 summarizes the demographic and farm-level characteristics of the sample (n = 97). The sample is predominantly male (74.2%), reflecting the gendered composition of cooperative leadership and formal membership in the study area, though women participate extensively in cooperative activities through spousal representation. The mean age is 46.8 years (SD = 11.3), with 42.3% of respondents aged 41–60 years. Educational attainment is relatively low: 31.9% have no formal education, 44.3% have primary education, 18.6% have secondary education, and 5.2% have tertiary education. Mean farming experience is 22.4 years (SD = 10.8), and mean cooperative

membership duration is 9.6 years (SD = 6.2). Mean farm size is 2.3 hectares (SD = 1.7), consistent with smallholder predominance. Primary crops cultivated include yam (78.4%), cassava (85.6%), maize (67.0%), rice (42.3%), and soybean (38.1%), with most farmers cultivating multiple crops.

Table 2: Descriptive Statistics of Demographic Characteristics

Continuous Variable	Mean	SD	Min	Max
Age (years)	46.8	11.3	23	72
Farming experience (years)	22.4	10.8	5	48
Cooperative membership (years)	9.6	6.2	2	28
Farm size (hectares)	2.3	1.7	0.5	8.0

Source: field Survey, 2025

The table presents descriptive statistics for four continuous variables related to the study participants. The mean age of the respondents is 46.8 years, with a standard deviation (SD) of 11.3 years, indicating that most participants are middle-aged, with ages generally ranging from 23 to 72 years. The farming experience averages 22.4 years (SD = 10.8), suggesting that respondents are generally seasoned farmers, with experience spanning from as little as 5 years to as much as 48 years. Regarding cooperative membership, participants have been members for an average of 9.6 years (SD = 6.2), with the shortest duration being 2 years and the longest 28 years, reflecting varying levels of engagement within cooperatives. Lastly, the average farm size among respondents is 2.3 hectares, with a standard deviation of 1.7 hectares, and farm sizes range from 0.5 hectares to 8.0 hectares, indicating that most farmers operate small-scale farms, typical of the region. Overall, these statistics highlight a relatively experienced, middle-aged farming population with modest farm sizes and varying lengths of cooperative membership.

Table 3: Extent to members of agricultural cooperative societies is exposed in insecurity in Benue State, Nigeria (n = 97)

Insecurity Indicator	Not at all	Slightly	Moderately	Severely	Very Severely	Mean (SD)
Frequency of attacks in community	2 (2.1%)	8 (8.2%)	21 (21.6%)	38 (39.2%)	28 (28.9%)	3.85 (1.01)
Personal displacement experience	32 (33.0%)	15 (15.5%)	18 (18.6%)	22 (22.7%)	10 (10.3%)	3.24 (1.38)*
Loss of agricultural assets	4 (4.1%)	10 (10.3%)	16 (16.5%)	35 (36.1%)	32 (33.0%)	3.84 (1.13)
Restriction of farm access	2 (2.1%)	5 (5.2%)	14 (14.4%)	41 (42.3%)	35 (36.1%)	4.05 (0.96)
Disruption of cooperative meetings	5 (5.2%)	9 (9.3%)	18 (18.6%)	39 (40.2%)	26 (26.8%)	3.74 (1.11)
Perceived threat to personal safety	3 (3.1%)	6 (6.2%)	18 (18.6%)	38 (39.2%)	32 (33.0%)	3.93 (1.02)

Source: field Survey, 2025

The table provides an assessment of respondents' exposure to various insecurity indicators, measured across five levels of severity: Not at all, Slightly, Moderately, Severely, and Very Severely. For each indicator, the frequency and percentage of respondents falling into each severity

category are presented, along with the mean score and standard deviation (SD), which reflect the overall perception of insecurity severity among participants.

Regarding the frequency of attacks in the community, a substantial proportion of respondents (39.2%) experienced attacks at a severe level, with nearly 29% perceiving attacks as very severe, leading to a high mean score of 3.85 (SD = 1.01). This indicates that attacks are a significant concern for the community. For personal displacement experience, about 22.7% of respondents reported severe displacement, with a mean score of 3.24 (SD = 1.38), suggesting displacement remains a notable insecurity issue, though less widespread than attacks. The loss of agricultural assets is also prominent, with 36.1% experiencing severe loss and a mean score of 3.84 (SD = 1.13), highlighting the economic impact of insecurity on farmers' assets. Restriction of farm access is perceived as highly severe, with 36.1% indicating very severe restrictions and a mean of 4.05 (SD = 0.96), implying significant limitations on farming activities. Disruption of cooperative meetings, which hinder collective action, affects many respondents, with 40.2% reporting severe disruption and a mean of 3.74 (SD = 1.11). Lastly, perceived threat to personal safety is also high, with 33% perceiving it as very severe and a mean of 3.93 (SD = 1.02). Overall, the data suggest that insecurity manifests in multiple forms that severely impact the safety, economic stability, and functioning of cooperative members in the community.

Table 4: Dimensions of insecurity among members of agricultural cooperative societies in Benue State, Nigeria (n = 97)

Sustainability Dimension	Mean	SD	Min	Max	% Scoring < 2.00	% Scoring ≥ 3.00
Financial Viability	2.11	0.71	1.00	4.20	48.5%	12.4%
Membership Stability	2.31	0.69	1.20	4.40	41.2%	18.6%
Production Continuity	1.98	0.67	1.00	3.80	56.7%	6.2%
Market Access	2.24	0.74	1.00	4.20	46.4%	14.4%
Institutional Capacity	2.45	0.72	1.00	4.40	35.1%	22.7%
Sustainability Index	**2.22**	**0.59**	**1.08**	**3.76**	**42.3%**	**11.3%**

Source: field Survey, 2025

The table presents an analysis of the dimensions of insecurity experienced by members of agricultural cooperative societies in Benue State, Nigeria, based on a sample of 97 respondents. The mean scores across all dimensions are relatively low, with values ranging from 1.98 for Production Continuity to 2.45 for Institutional Capacity, indicating generally moderate insecurity levels in these areas. Specifically, nearly half of the respondents (56.7%) scored below 2.00 in Production Continuity, suggesting that more than half perceive significant disruptions in their production activities due to insecurity. Similarly, a substantial proportion also scored below 2.00 in other dimensions, such as Membership Stability (41.2%) and Market Access (46.4%), reflecting widespread insecurity-related challenges affecting these aspects of cooperative functioning.

The percentage of respondents scoring 3.00 or above, which indicates higher perceived security or stability in these dimensions, remains relatively low across all categories—ranging from 11.3% in the overall Sustainability Index to 22.7% in Institutional Capacity. This indicates that a majority of respondents do not perceive these dimensions as stable or secure. Notably, Membership Stability and Market Access have slightly higher percentages (18.6% and 14.4%, respectively) of respondents reporting scores at or above 3.00, but these still represent less than a quarter of the sample, highlighting persistent insecurity and instability.

The standard deviations (SD) are moderate, around 0.59 to 0.74, suggesting some variability in perceptions among respondents, but overall, the scores are clustered around the means. The overall

Sustainability Index has a mean of 2.22, with 42.3% scoring below 2.00, reinforcing the conclusion that overall perceptions of sustainability are low, primarily due to insecurity in various dimensions. The low mean scores and high percentage of respondents perceiving insecurity in these key areas underscore the substantial impact of insecurity on the sustainability of cooperative societies in Benue State, pointing to the need for targeted security interventions to bolster resilience and stability.

Table 5: Coping strategies: prevalence and perceived efficacy among members of agricultural cooperative societies in Benue State, Nigeria

Coping Strategy	Cooperatives Reporting Use	Perceived Efficacy*
Relocating meeting venues to safer areas	16 (80%)	Moderate (2.8)
Reducing loan sizes or suspending credit	15 (75%)	Low (2.1)
Pooling resources for private security	8 (40%)	Low to Moderate (2.5)
Shifting to less vulnerable crops	12 (60%)	Moderate (2.9)
Forming informal marketing arrangements	10 (50%)	Low (2.2)
Seeking external support (NGOs, government)	18 (90%)	Very Low (1.7)

Source: field Survey, 2025

The table presents data on the prevalence of various coping strategies used by members of agricultural cooperative societies in Benue State, Nigeria, along with their perceived effectiveness.

Prevalence of Coping Strategies:

Seeking external support (NGOs, government) is the most commonly reported strategy, used by 90% of cooperatives, indicating high reliance on external assistance during insecurity. However, its perceived efficacy is very low, with a mean score of 1.7, suggesting members believe this support is largely ineffective.

Relocating meeting venues to safer areas is practiced by 80% of cooperatives, with a moderate perceived efficacy of 2.8, indicating it is somewhat effective in reducing insecurity risks associated with meetings.

Shifting to less vulnerable crops is used by 60%, with a moderate efficacy rating of 2.9, suggesting this strategy is viewed as somewhat effective in mitigating insecurity impacts on farming.

Reducing loan sizes or suspending credit is reported by 75%, but perceived as having low efficacy (2.1), implying limited confidence in this approach.

Forming informal marketing arrangements is used by 50%, with low perceived efficacy (2.2), indicating skepticism about its effectiveness.

Pooling resources for private security is the least used strategy, by 40%, but has a low to moderate perceived efficacy of 2.5, suggesting some members see limited benefit.

Summary:Members actively adopt various coping strategies to manage insecurity, with external support being the most common but perceived as largely ineffective. Strategies like relocating meetings and shifting to less vulnerable crops are moderately regarded as effective. Overall, there is a perception that many strategies have limited efficacy, highlighting the need for more effective interventions to address insecurity in the community.

Table 6: Mean Sustainability Scores of Agricultural cooperatives by Local Government Area (n = 97)

Dimension	Guma (n=24)	Gwer West (n=24)	Ukum (n=24)	Makurdi (n=25)	ANOVA F	p-value
Financial Viability	1.92 (0.61)	1.88 (0.59)	1.95 (0.64)	2.68 (0.67)	9.83	<0.001
Membership Stability	2.10 (0.57)	2.04 (0.55)	2.18 (0.62)	2.89 (0.65)	11.24	<0.001
Production Continuity	1.79 (0.58)	1.72 (0.53)	1.85 (0.60)	2.54 (0.63)	14.67	<0.001
Market Access	2.08 (0.62)	2.02 (0.59)	2.14 (0.66)	2.71 (0.70)	7.24	<0.001
Institutional Capacity	2.28 (0.61)	2.22 (0.58)	2.35 (0.64)	2.92 (0.67)	8.91	<0.001
Overall Index	**2.03 (0.49)**	**1.98 (0.45)**	**2.09 (0.52)**	**2.75 (0.55)**	**12.36**	**<0.001**

Source: field Survey, 2025

The table compares the mean scores of various sustainability dimensions of agricultural cooperatives across four different Local Government Areas (LGAs): Guma, Gwer West, Ukum, and Makurdi. Each dimension's mean score is presented along with the standard deviation in parentheses, and the table includes ANOVA F-values and p-values to test for statistical differences among the areas. Findings revealed that:

Financial Viability:

Scores range from approximately 1.88 to 2.68.

Makurdi has the highest mean (2.68), indicating better financial viability.

The F-value (9.83) and p-value (<0.001) suggest significant differences among LGAs.

Membership Stability:

Scores are between 2.04 and 2.89.

Makurdi again scores highest (2.89), indicating more stable memberships.

Significant differences exist ($F=11.24$, $p<0.001$).

Production Continuity:

Scores range from 1.72 to 2.54.

Makurdi shows the highest sustainability (2.54).

Differences among LGAs are statistically significant ($F=14.67$, $p<0.001$).

Market Access:

Scores vary from 2.02 to 2.71.

Makurdi has the best market access score.

Significant differences are confirmed ($F=7.24$, $p<0.001$).

Institutional Capacity:

Scores range from 2.22 to 2.92.

Makurdi scores highest, indicating stronger institutional capacity.

Differences are significant ($F=8.91$, $p<0.001$).

Overall Index:

Ranges from about 1.98 to 2.75.

Makurdi has the highest overall sustainability score.

The overall differences are statistically significant ($F=12.36$, $p<0.001$).

Across all dimensions, cooperatives in Makurdi demonstrate significantly higher sustainability scores compared to those in Guma, Gwer West, and Ukum. The consistent pattern and very low p-values (<0.001) indicate that the differences among LGAs are statistically significant, highlighting regional disparities in cooperative sustainability.

CONCLUSION AND RECOMMENDATIONS

The study revealed that:

1. A significant proportion of community members experience severe insecurity, with 39.2% reporting frequent attacks and 36.1% experiencing severe loss of agricultural assets. Threats to personal safety and restrictions on farm access are also perceived as very severe, indicating that insecurity severely hampers agricultural activities and community stability.
2. Although most cooperatives actively adopt coping strategies—such as relocating meeting venues (80%) and seeking external support (90%)—the perceived efficacy of these measures remains low to moderate. For instance, external support is used by 90% but rated very low in efficacy (mean = 1.7), highlighting a gap between strategy adoption and actual effectiveness.
3. Cooperatives in Makurdi exhibit significantly higher scores across all sustainability dimensions - financial viability, membership stability, production continuity, market access, and institutional capacity - compared to those in Guma, Gwer West, and Ukum. These disparities suggest that location significantly influences cooperative resilience and effectiveness.
4. Low Sustainability Scores Indicate Need for Improved Interventions: The overall sustainability index averages around 2.22, with less than 50% of cooperatives scoring above 3.0 in key dimensions. This points to generally moderate to low sustainability levels among cooperatives, emphasizing the urgent need for targeted policies and interventions to enhance their resilience and capacity to withstand insecurity challenges.

In conclusion, the pervasive insecurity in Benue State profoundly hampers the functioning and sustainability of agricultural cooperatives, with many community members experiencing frequent attacks, asset losses, and threats to personal safety. Despite widespread adoption of coping strategies, their limited perceived efficacy highlights the need for more effective security and resilience-building measures. Significant regional disparities, particularly the higher sustainability scores observed in Makurdi compared to other areas, highlight the influence of location and resource availability on cooperative resilience. Overall, the moderate to low sustainability levels across cooperatives reveal an urgent necessity for targeted policies, increased support, and strategic interventions aimed at strengthening institutional capacity, enhancing economic viability, and improving security, thereby ensuring the long-term stability and productivity of these vital community institutions.

Based on the findings, the study recommends that:

1. Enhance Security Measures and Community Safety Initiatives: Collaborate with government authorities, security agencies, and local communities to implement targeted security interventions such as patrols, community watch programs, and rapid response systems to reduce attack frequency and asset loss. Improving safety will create a more conducive environment for cooperative activities and community stability.
2. Develop and Support Effective Insecurity Mitigation Strategies: Invest in training and resources to help cooperatives adopt more effective and sustainable security strategies. This could include providing access to private security services, agricultural insurance schemes, or establishing community-based security alliances that have proven efficacy in similar contexts.
3. Promote Regional Best Practices and Support for Less Resilient Areas: Identify and replicate successful models from Makurdi and other higher-performing regions to strengthen cooperatives in Guma, Gwer West, and Ukum. Tailored capacity-building programs, financial support, and infrastructural development should focus on bridging regional disparities and fostering resilience.
4. Implement Targeted Policy Interventions and Support Programs: Governments and development partners should design comprehensive policies that provide financial aid, capacity-building, and infrastructural support to improve the overall sustainability of cooperatives. Special focus should be placed on enhancing institutional capacity, access to markets, and member stability, alongside addressing insecurity challenges, to build more resilient agricultural cooperatives.

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