



Women's Adaptive Strategies and Poverty Reduction in Rural Communities of Cross River State Nigeria

Oriakpono Imade Emmanuel*, Uyang Francis Abul and Omono Cletus Ekok

Department of Sociology, Faculty of Social Science, University of Calabar, Cross River State

Received: 25.07.2026 | **Accepted:** 15.08.2026 | **Published:** 24.08.2026

***Corresponding Author:** Oriakpono Imade Emmanuel

DOI: [10.5281/zenodo.22077464](https://doi.org/10.5281/zenodo.22077464)

Abstract

Original Research Article

This study examines the effect of women's adaptive strategies on poverty reduction in rural communities of Cross River State, Nigeria. A mixed-methods cross-sectional survey design was adopted, with primary data collected from a stratified proportional sample of

400 respondents selected from a population of 991,683 rural women in the Southern Senatorial District of Cross River State, including those engaged in savings cooperatives, petty trading, food processing, and vocational enterprises. Income-based saving schemes, petty trading activities, food processing, and vocational skills acquisition were specified as independent variables, while asset ownership, income level, food security, and employment opportunities served as dependent variables. Data were analyzed using SPSS version 25 through descriptive statistics and Pearson correlation analysis. The findings reveal that income-based saving schemes ($r = .965$, $p = .035$) and vocational skills acquisition ($r = .978$, $p = .022$) exert significant positive relationships with asset ownership and employment opportunities, respectively. Conversely, petty trading activities ($r = .787$, $p = .213$) and food processing ($r = .901$, $p = .0899$) show no statistically significant influence on income level and food security, respectively. The study concludes that women's favorable engagement in specific adaptive strategies, particularly savings and vocational training, substantially enhances household resilience and economic empowerment in rural Cross River communities. It recommends the strengthening of cooperative savings mechanisms, provision of capital for petty traders, improvement of food processing infrastructure, and alignment of vocational training with local market needs to support sustainable poverty reduction.

Keywords: Women's Adaptive Strategies, Poverty Reduction, Income-Based Saving Schemes, Petty Trading, Food Processing, Vocational Skills Acquisition, Cross River State.

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INTRODUCTION

Globally, women's adaptive strategies are increasingly evaluated through the lens of development discourse regarding livelihood practices, shifting focus toward how rural women

perceive and utilize economic mechanisms relative to poverty outcomes (Buvinić & Furst-Nichols, 2016; Kabeeer, 2018). Regionally, across Sub-Saharan Africa, rural women face mounting pressure to maintain household resilience while navigating complex socio-economic environments, making



adaptive livelihood practices a critical factor in strategic poverty reduction (Jaka & Shava, 2018; Babatunde et al., 2025). In Nigeria, the experiences of rural women in Cross River State reflect significant engagement in adaptive strategies, influenced by how women perceive and implement practices such as income-based saving schemes, petty trading, food processing, and vocational skills acquisition. Primary data for this study were collected through structured questionnaires and key informant interviews administered to women in selected rural communities of Cross River State. All variables were operationalized as perceived constructs and measured using four-point Likert scale items ranging from Strongly Agree to Strongly Disagree. This study surveyed rural women in Cross River State to evaluate how adaptive strategies influence poverty reduction, while focusing on context-specific realities.

Despite the critical role of adaptive strategies in poverty reduction, previous research has often relied on broad national or multi-state aggregates (Duru et al., 2022; Ugbe et al., 2023), overlooking the subjective evaluations of rural women in Cross River State regarding the synergistic effect of specific livelihood practices. Furthermore, empirical findings on the impact of isolated strategies on poverty outcomes remain mixed, with a dearth of evidence focused exclusively on Cross River State. To address these gaps, this study adopts a cross-sectional survey approach to measure rural women's experiences instead of relying solely on generalized national indicators. Specifically, the study operationalizes women's adaptive strategies through four constructs: income-based saving schemes, petty trading activities, food processing, and vocational skills acquisition. By integrating these constructs, this study provides a focused evaluation of how these strategies affect poverty reduction in Cross River State, capturing lived experiences and community-level dynamics that broader studies fail to highlight.

Statement of Hypotheses:

The following null hypotheses are formulated to guide the study-

1. There is no significant relationship between income-based saving scheme and asset ownership among women in rural communities of Cross River State.
2. Petty trading activities do not significantly relate with income level of women in rural communities of Cross River State.
3. There is no significant relationship between food processing and food security among women in rural communities of Cross River State.
4. Vocational skills acquisition does not significantly relate with employment opportunities among women in rural communities of Cross River State.

This study contributes to understanding how various women's adaptive strategies influence poverty reduction outcomes in rural communities of Cross River State. It provides policymakers, community leaders, and development partners with empirical insights into strengthening livelihood mechanisms for sustainable rural women's empowerment.

LITERATURE REVIEW

Variables examined in this study include women's adaptive strategies (proxied by income-based saving schemes, petty trading activities, food processing, and vocational skills acquisition) and poverty reduction dimensions (asset ownership, income improvement, food security, and employment opportunities) among women in rural communities of Cross River State. These variables capture the multidimensional relationship between women's livelihood practices and socio-economic outcomes in the Cross River context, focusing on the unique rural dynamics that shape women's economic participation in the state (Ugbe et al., 2023; Obinna & Nzeribe, 2018).

Income-based Saving Schemes and Asset Ownership

Income-based saving schemes refer to structured or informal financial arrangements such as rotating

savings and credit associations, village savings and loan associations, thrift contributions, and cooperative societies through which women in Cross River State mobilize and manage financial resources derived from their income (Obinna & Nzeribe, 2018). These schemes are particularly relevant in rural economies of Cross River State where access to formal financial institutions remains limited, enabling women to save regularly, access credit, and invest in productive activities.

Asset ownership refers to women's possession and control over economic resources such as land, housing, livestock, business capital, savings, and productive tools that contribute to economic security and poverty reduction in Cross River communities (Effiong et al., 2016).

Petty Trading Activities and Income Improvement

Petty trading activities are widely conceptualized as small-scale informal commercial engagements involving the buying and selling of goods and services, typically characterized by low capital requirements and simple operational structures commonly practiced in rural markets of Cross River State (Akpan et al., 2020). Petty trading constitutes a dominant livelihood strategy for women who often face restricted access to formal employment opportunities in the state.

Income improvement among women in rural communities of Cross River State refers to the sustained increase in earnings, purchasing power, and financial stability achieved through engagement in income-generating activities such as petty trading (Fabiya & Akande, 2023).

Food Processing and Food Security

Food processing is broadly understood as the conversion of raw agricultural commodities into consumable or preservable products through operations such as drying, milling, fermenting, and storage, which enhance value addition and shelf life in rural Cross River communities. Women are predominantly engaged in food processing activities

including cassava transformation, fish smoking, and palm oil extraction (Otu & Anam, 2014).

Food security refers to a situation where all individuals, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets dietary requirements for a healthy and active life in Cross River rural households (Awodele & Olajide, 2020).

Vocational Skills Acquisition and Employment Opportunities

Vocational skills acquisition is broadly conceptualized as the process through which women obtain practical, technical, and cognitive competencies that enhance their capacity to perform tasks, generate income, and participate effectively in labour markets in Cross River State (Effiong, 2025). It encompasses structured and informal learning processes such as vocational training and apprenticeships facilitated through community-based initiatives.

Employment opportunities refer to the availability and accessibility of income-generating activities, jobs, or entrepreneurial ventures that women in rural Cross River communities can engage in to sustain their livelihoods (Ugbe et al., 2023).

Empirical Review

Studies have found mixed and inconclusive findings regarding the relationship between women's adaptive strategies and poverty reduction in rural communities, particularly concerning how rural women in Cross River State perceive and utilize livelihood practices instead of relying solely on generalized national data.

Income-based Saving Schemes and Asset Ownership: Empirical studies have identified a strong connection between savings participation and asset accumulation among rural women. For instance, Obinna and Nzeribe (2018) documented that cooperative societies in Cross River State were designed to improve financial access and asset ownership. Supporting this, Ibor et al. (2017) noted that when women perceive income-based saving

schemes as credible, it significantly enhances asset holdings such as livestock and household items. Conversely, prior studies highlighted that if perceived access to savings remains low despite group participation, women may view it as a structural bottleneck. Community surveys confirmed that women who perceived genuine savings mechanisms reported higher asset ownership, which directly correlates with improved household resilience. These findings indicate that income-based saving schemes only positively impact asset ownership in Cross River State when women view the arrangements as genuinely supportive and accessible (Obinna & Nzeribe, 2018; Effiong et al., 2016).

Petty Trading Activities and Income Improvement: Empirical research consistently shows that perceived engagement in petty trading affects income levels by signaling livelihood diversification. Local studies in Cross River contexts emphasized that petty trading serves as a key income source for rural women. Survey-based evidence from women traders indicates that when participation is perceived as consistent, it contributes to household financial stability. However, counter-evidence reveals limitations: if women perceive petty trading profits as insufficient for reinvestment, it may signal underlying economic constraints, limiting income growth. These findings indicate that while trading activities are observable, their effect on income improvement in Cross River rural communities depends entirely on perceived sustainability and market conditions (Akpan et al., 2020; Fabiyi & Akande, 2023).

Food Processing and Food Security: Evidence from regional and local studies demonstrates that perceived involvement in food processing plays a decisive role in household food outcomes. Studies in Cross River State highlighted that processing activities such as cassava transformation help stabilize food supply. This is empirically supported by community reports showing that women who perceive these activities as effective believe it improves food availability. However, if stakeholders perceive processing efforts as constrained by high costs or spoilage, it may be viewed as insufficient for security. Collectively, these empirical findings

suggest that food processing enhances outcomes only when women perceive the practices as reliable for household nutrition (Otu & Anam, 2014; Sanusi & Ibrahim, 2023).

Vocational Skills Acquisition and Employment Opportunities: Global and local evidence suggests that perceived skills acquisition acts as a critical indicator of employability. Vocational training initiatives in Cross River State aim at enhancing women's competencies. Empirical observations by community leaders indicate that high perceived skills relevance signals better employment access. A recent livelihood review demonstrated that training, when perceived as practical by women, directly correlates with self-employment. Conversely, if acquisition is perceived as mismatched with local needs, it fails to improve opportunities. These findings suggest that vocational skills acquisition must be viewed as relevant to ensure positive employment impacts in Cross River rural areas (Effiong, 2025; Ugbe et al., 2023).

Theoretical Review

This study is grounded in Feminist Theory and Empowerment Theory. Feminist Theory, advanced by scholars such as Kabeer (2018), asserts that socio-economic outcomes for women are heavily influenced by gendered structures and women's agency in navigating constraints, rather than solely by external interventions. Within the framework of this research, women's adaptive strategies (income-based saving schemes, petty trading activities, food processing, and vocational skills acquisition) capture the lived experiences of rural women in Cross River State. Feminist Theory clarifies how women respond to patriarchal barriers through collective and individual practices, which directly influence poverty reduction dimensions. Empowerment Theory supplements this perspective by emphasizing that access to resources and capacity building shape women's ability to achieve better outcomes. In the scope of this study, the perceptions and participation of rural women in Cross River communities constitute a vital element. By synthesizing Feminist Theory and Empowerment Theory, this study elucidates the effect of adaptive strategies on poverty

reduction as a mechanism involving agency and structural navigation in Cross River State.

METHODOLOGY

This study adopted a mixed-methods cross-sectional survey design to examine rural women's adaptive strategies and their impact on poverty reduction in rural communities of Cross River State. Primary data were collected solely through structured questionnaires and Key Informant Interviews. All variables were operationalized as perceived constructs and measured using 4-point Likert scale items. The cross-sectional design was deemed appropriate because it allows for the collection of data from rural women at a single point in time, enabling statistical inference on the relationship between adaptive livelihood practices and poverty reduction without variable manipulation (Creswell & Creswell, 2018; Nworgu, 2015). This design is particularly suited to this current methodological survey where women's lived experiences are measured to capture the dynamics of recent socio-economic shifts. The study utilized a structured questionnaire containing 4-point Likert-scale items (1 = Strongly Disagree to 4 = Strongly Agree) to ensure standardized data collection and comparability across different rural communities. This approach facilitates robust descriptive and inferential analysis of constructs related to women's adaptive strategies.

The study population comprises 991,683 women, consisting of rural dwellers in the Southern Senatorial District of Cross River State as officially projected by demographic estimates for 2024 (United Nations Department of Economic and Social Affairs, 2024). Participants were purposively selected based on their direct involvement and expertise in income-based saving schemes, petty trading, food processing, or vocational skills acquisition within these communities. The inclusion of these rural women ensures a balanced representation of those who evaluate the impact of adaptive strategies on household poverty reduction (Ajake & Amalu, 2012).

Sample Size Determination

The sample size was determined using Yamane's (1967) formula for finite populations at a 5% margin of error: $n = N / [1 + N(e^2)]$ Where: $N = 991,683$ (population size), and $e = 0.05$ Substituting the values: $n = 991,683 / [1 + 991,683(0.05^2)]$ $n = 991,683 / [1 + 991,683(0.0025)]$ $n = 991,683 / [1 + 2479.21]$ $n = 991,683 / 2480.21$ $n = 399.8 \approx 400$

To ensure sufficient statistical power and account for potential non-responses or incomplete entries from this rural demographic, approximately 500 questionnaires were distributed to yield the required 400 valid responses. A stratified proportional sampling method was employed to ensure that respondents from the various local government areas (e.g., Odukpani, Akamkpa, Akpabuyo, Biase) were proportionally represented according to their group sizes. This enhances representativeness and reduces sampling bias (Saunders, Lewis, & Thornhill, 2019). Items for the adaptive constructs were adapted from validated livelihood and poverty reduction scales, with modifications to suit the Cross River State rural context. Data analysis was conducted using SPSS 25, utilizing Descriptive Statistics and Pearson Correlation Analysis. Pearson Product Moment Correlation was conducted to test the hypotheses for the dependent and independent variables.

Model Specification: $r = \Sigma(x_1 - \bar{x}_1)(x_2 - \bar{x}_2) / \sqrt{[\Sigma(x_1 - \bar{x}_1)^2 \Sigma(x_2 - \bar{x}_2)^2]}$ Where: r = Pearson correlation coefficient x_1 = Score of independent variables (Saving schemes, Petty trading, Food processing, Vocational skills) x_2 = Score of dependent variables (Asset ownership, Income level, Food security, Employment) $\bar{x}_1$ = Mean of independent Variable $\bar{x}_2$ = Mean of dependent variable H_{01} = No significant relationship between saving schemes and asset ownership H_{02} = No significant relationship between petty trading and income level H_{03} = No significant relationship between food processing and food security H_{04} = No significant relationship between vocational skills and employment

Validity and Reliability of Instrument: Face and content validity were established through expert evaluation by academic supervisors specializing in rural sociology, development studies, and gender economics. The supervisors reviewed the

questionnaire for construct alignment with standard adaptive livelihood metrics and poverty reduction frameworks. A pilot study was conducted with 50 participants from Yakurr, Obubra, and Abi Local

Government Areas to test internal consistency using Cronbach's Alpha. All constructs recorded alpha coefficients above 0.50, indicating satisfactory reliability (Babbie, 2010).

Table 3.1. Reliability Test Results Source: SPSS Version 25 Output

Variable	Obs	Sign	Cronbach's Alpha
Income-based saving schemes	50	+	0.732
Petty trading activities	50	+	0.765
Food processing	50	+	0.789
Vocational skills acquisition	50	+	0.817
Poverty reduction outcomes	50	+	0.795
Overall Scale Reliability	50		0.780

Source: Field Survey, 2026 (SPSS Version 25).

Interpretation The reliability analysis indicates that all measurement constructs achieved satisfactory internal consistency, with Cronbach's Alpha coefficients ranging from 0.732 to 0.817, exceeding the recommended minimum threshold of 0.50 (Babbie, 2010). Specifically, Vocational skills acquisition recorded the highest reliability coefficient ($\alpha = 0.817$), followed by Poverty reduction outcomes ($\alpha = 0.795$), Food processing ($\alpha = 0.789$), Petty trading activities ($\alpha = 0.765$), and Income-based saving schemes ($\alpha = 0.732$). The overall reliability coefficient of 0.780 demonstrates that the research instrument possesses good internal consistency and is suitable for subsequent inferential statistical analyses.

A Priori Expectation The study is theoretically anchored on Feminist and Empowerment Theories, with the expectation that Income-based saving schemes, Petty trading activities, Food processing, and Vocational skills acquisition will exert significant positive relationships with Asset ownership, Income level, Food security, and Employment opportunities. Accordingly, the expected parameter signs are expressed as $r_1 > 0$, $r_2 > 0$, $r_3 > 0$, and $r_4 > 0$, implying that favorable women's engagement regarding these adaptive strategy attributes is expected to enhance household poverty reduction and socio-economic resilience. The model further evaluates these constructs to account for contextual synergistic influences on rural women's livelihoods in Cross River State.

4.0 RESULTS AND DISCUSSION

4.1 Data Analysis

Table 1: Summary of Relationship between Income-Based Savings Schemes and Asset Ownership among Rural Women in Cross River State

Variable	N	Mean (X)	Standard Deviation (SD)	Pearson (r)	Sig. (p)	Decision
Income-Based Savings Schemes	994	15.147	8.579	.965	.035	Reject H ₀
Asset Ownership	994	15.971	11.598			

Interpretation

The analysis reveals a significant positive relationship between income-based savings schemes and asset ownership among rural women in Cross River State, Nigeria ($r = .965$, $p = .035$). Since the p -

value is below the 0.05 significance level, the null hypothesis is rejected. This indicates that participation in organised savings schemes significantly improves women's ability to acquire productive assets, thereby strengthening household financial resilience, economic stability, and long-term poverty reduction across rural communities.

Table 2: Summary of Relationship between Petty Trading Activities and Income Level among Rural Women in Cross River State

Variable	N	Mean (X)	Standard Deviation (SD)	Pearson (r)	Sig. (p)	Decision
Petty Trading Activities	994	14.263	7.211	.787	.213	Retain H ₀
Income Level of Women	994	14.216	5.541			

Interpretation

The results indicate no significant relationship between petty trading activities and the income level of rural women in Cross River State, Nigeria ($r = .787$, $p = .213$). Because the p -value exceeds the 0.05 significance threshold, the null hypothesis is

retained. This suggests that petty trading alone does not substantially increase women's income, possibly because of limited capital, low profit margins, market competition, and persistent household expenditure pressures affecting overall financial advancement.

Table 3: Summary of Relationship between Food Processing and Food Security among Rural Women in Cross River State

Variable	N	Mean (X)	Standard Deviation (SD)	Pearson (r)	Sig. (p)	Decision
Food Processing	994	12.798	5.544	.901	.0899	Retain H_0
Food Security	994	14.386	7.453			

Interpretation

The findings reveal no significant relationship between food processing activities and food security among rural women in Cross River State, Nigeria ($r = .901$, $p = .0899$). Since the p-value is greater than the 0.05 significance level, the null hypothesis is

retained. This implies that food processing efforts alone are insufficient to guarantee food security because high production costs, inadequate storage facilities, and post-harvest losses continue limiting sustainable nutritional outcomes and household welfare.

Table 4: Summary of Relationship between Vocational Skill Acquisition and Employment Opportunities among Rural Women in Cross River State

Variable	N	Mean (X)	Standard Deviation (SD)	Pearson (r)	Sig. (p)	Decision
Vocational Skill Acquisition	994	16.054	11.129	.978	.022	Reject H_0
Employment Opportunities	994	14.400	6.794			

Interpretation

The analysis demonstrates a significant positive relationship between vocational skill acquisition and employment opportunities among rural women in Cross River State, Nigeria ($r = .978$, $p = .022$). Since the p-value is below the 0.05 significance level, the null hypothesis is rejected. The finding confirms that practical vocational training significantly enhances employability, encourages sustainable self-employment, improves income-generating capacity, and promotes lasting economic independence within rural communities across the state.

financial resilience and wealth creation. Petty trading activities, however, show no significant influence on income levels because of prevailing structural and economic constraints. Likewise, food processing fails to significantly improve food security. Conversely, vocational skill acquisition significantly expands employment opportunities, strengthening self-employment capacity, economic empowerment, and sustainable livelihoods among rural women.

5.0 CONCLUSIONS AND RECOMMENDATIONS**Conclusions**

Overall, the study confirms that women's adaptive strategies significantly drive poverty reduction outcomes in rural communities of Cross River State. The analysis shows that poverty reduction depends

Discussion of Findings

The findings for Cross River State indicate that income-based savings schemes significantly improve women's asset ownership, enhancing

heavily on women's engagement in income-based saving schemes and vocational skills acquisition, which significantly improve asset ownership and employment opportunities. Grounded in Feminist and Empowerment theories (Kabeer, 2018; Effiong, 2025), findings highlight that targeted livelihood practices and agency are critical for sustainable rural women's empowerment and household resilience, whereas isolated efforts in petty trading and food processing remain constrained by structural bottlenecks.

Recommendations

Income-Based Saving Schemes (IBSS): The Ministry of Women Affairs and community leaders should optimize local financial frameworks through transparent and sustainable cooperative savings structures. Microfinance institutions and cooperative societies must ensure clear communication of credit accessibility and fund management to maintain women's confidence, support robust capital accumulation, and enhance household asset ownership without perceptions of systemic financial risks or structural bottlenecks.

Petty Trading Activities (PTA): The Cross River State Ministry of Commerce and Industry must focus on managing and transparently reporting market interventions and micro-grant allocations relative to local economic stability. Coordinated efforts by local government authorities and market unions are needed to reinforce consistent market support and provide clear explanations of micro-credit mechanisms, thereby preserving traders' confidence and enhancing stakeholder trust in sustained income generation and financial advancement.

Food Processing (FP): Emphasis should be placed on optimizing storage facilities, equipment subsidies, and supply chain logistics relative to long-term nutritional viability. The Ministry of Agriculture and rural development agencies should prioritize transparent reporting of infrastructural restructuring metrics to prevent perceptions of excessive operational costs, thereby limiting post-harvest losses and supporting sustainable food resources for household food security and welfare.

Vocational Skills Acquisition (VSA): The National Board for Technical Education (NBTE) and state vocational centers must adequately explain and sustain curriculum updates and local market inclusion over extended periods. Training regulators and community-based initiatives should collaborate to ensure transparent disclosure of long-term skill development strategies, helping women understand cumulative structural improvements and preventing superficial perceptions, thereby supporting sustained employability, self-employment capacity, and the long-term economic competitiveness of rural women.

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