

## Microfinance and Poverty Reduction in Bayelsa State, Nigeria

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### Abstract

This study examines the impact of microfinance on poverty reduction in Bayelsa State, Nigeria, focusing on whether access to microfinance services improves household welfare. A cross-sectional survey of 492 participants and non-participants was conducted in Yenagoa, Southern Ijaw, and Ogbia Local Government Areas. Data were collected through structured questionnaires and analyzed using descriptive statistics, binary logit regression, and Propensity Score Matching (PSM). The logit results show that microfinance participation significantly reduces the likelihood of poverty, while factors such as loan amount, savings ownership, education, and business experience improve household economic outcomes. The PSM results reveal that microfinance participants earn about ₦46,500 more in monthly income and spend ₦26,200 more on consumption than comparable non-participants. However, high interest rates, short repayment periods, inadequate loan sizes, and collateral requirements constrain the effectiveness of microfinance institutions. The study concludes that microfinance contributes significantly to poverty reduction and recommends improved loan flexibility, financial literacy programs, and strengthened institutional policies.

**Keywords:** *Microfinance, Poverty Reduction, Household Welfare, Propensity Score Matching*

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## **Background to the Study**

Poverty remains one of the most persistent development challenges in Nigeria, with states like Bayelsa exhibiting high levels of socio-economic deprivation despite vast natural resources. Poverty in Bayelsa State is widespread and multidimensional, manifesting through inadequate access to credit, unemployment, and limited economic opportunities for the poor (Fiderikumo & Samson, 2018). In response, microfinance has emerged as a key strategy globally and within Nigeria to enhance financial inclusion for the poor by providing small-scale loans, savings, and other financial services tailored to low-income individuals traditionally excluded from formal banking systems. The concept of microfinance is rooted in the idea that financial access empowers economically disadvantaged groups to engage in entrepreneurial activities, increase productivity, and ultimately escape poverty (Bakhtiari, 2006; Obaigbo, 2022).

Microfinance institutions (MFIs), including microfinance banks (MFBs) and cooperative credit societies, play a central role in delivering financial services that support income generation and self-employment among the poor. Empirical studies in Nigeria have shown that microfinance interventions can significantly impact income levels and asset creation for beneficiaries, thereby reducing poverty indicators over time (Akosile & Ajayi, 2016; Adebisi, Ajala & Zannu, 2024). Research across various Nigerian states indicates that increased access to microcredit and financial services is associated with improvements in household well-being and poverty alleviation, although the magnitude of these effects often depends on loan accessibility, interest rates, and supportive policy environments.

In the context of Bayelsa State, specific investigations into the microfinance–poverty nexus have underscored both opportunities and limitations. A focused study by Appah, Ebimobowei and Sophia (2012) found a statistically significant relationship between microfinance participation and poverty reduction among women in Bayelsa State, suggesting that microfinance contributes positively to economic status when effectively utilized. However, the authors also highlight that microfinance alone is insufficient to eradicate poverty in environments lacking basic infrastructure and supportive economic conditions. Access inequalities and institutional challenges further constrain the potential of microfinance to transform livelihoods without complementary socio-economic interventions. Given this background, this study examines the role and impact of microfinance on poverty reduction in Bayelsa State, Nigeria. It situates the analysis within broader empirical debates on financial inclusion, economic empowerment, and sustainable poverty alleviation. By exploring both the strengths and limitations of microfinance interventions, the research contributes to understanding how targeted financial services can be leveraged to promote inclusive development in resource-rich yet economically disadvantaged State.

## **Literature Review**

### **Overview of Microfinance and Poverty Reduction in Nigeria**

Microfinance has become an important tool in Nigeria's broader development strategy aimed at addressing chronic poverty and financial exclusion. Conceptually, microfinance refers to

the provision of financial services such as credit, savings, insurance, and payment services to low-income individuals and groups who lack access to formal banking systems. This strategy was formally embedded into Nigeria's financial architecture with regulatory reforms in the early 2000s that established microfinance banks (MFBs) to promote financial inclusion and economic participation among the poor (Awojobi, 2019).

Empirical research on microfinance in Nigeria generally supports the notion that microfinance interventions can contribute to poverty reduction by enabling beneficiaries to engage in income-generating activities. Several studies have found that microfinance services help poor and low-income groups to enhance their income levels, build assets, and improve household welfare. For example, research by Akosile and Ajayi (year unspecified) concluded that credit and financial services provided by microfinance banks and cooperative societies enable the poor and MSMEs to become self-reliant, increase earnings, and reduce poverty. Similarly, Kasali et al. (2022) found significant positive impacts of microfinance loans on poverty outcomes in southwestern Nigeria, particularly when an enabling environment supports effective operations.

However, the literature also highlights limitations and mixed outcomes in the Nigerian context. While long-term relationships between microfinance activity and poverty reduction have been established in panel and time-series analyses, short-run effects are often limited, indicating that the impact of microfinance on poverty may accrue gradually over extended periods (Onyele & Onyekachi-Onyele, 2020). Moreover, studies point to institutional constraints such as high interest rates, limited outreach in rural areas, and operational challenges that challenge the effectiveness of microfinance as a standalone poverty alleviation strategy (Noruwa & Emeka, 2012). Research further underscores the importance of macroeconomic factors and policy environments in shaping microfinance outcomes. For instance, recent work by Adesina, Makinde, and Omankhanlen (2025) shows that monetary policy conditions, particularly interest rate regimes, significantly influence the cost and accessibility of microcredit, thereby affecting poverty metrics. They argue that inclusive monetary policy that supports affordable credit is essential for microfinance institutions to effectively contribute to poverty reduction in Nigeria.

### **Theoretical Literature**

The theoretical foundation of this study is anchored on three major theories that explain the linkage between microfinance and poverty reduction: The Financial Intermediation Theory, the Poverty Alleviation (Welfarist) Theory of Microfinance, and the Capability Approach.

#### **Financial Intermediation Theory**

The Financial Intermediation Theory, originally developed by Gurley and Shaw (1960) and later expanded by McKinnon (1973) and Shaw (1973), provides a strong analytical basis for understanding microfinance operations. The theory posits that financial institutions serve as intermediaries between surplus and deficit units, mobilizing savings and allocating credit efficiently to productive investments. In developing economies where, formal banking systems exclude low-income individuals due to collateral constraints and high transaction

costs, microfinance institutions (MFIs) emerge to bridge this gap. Within this framework, access to microcredit enables poor households to invest in small-scale enterprises, agriculture, and informal sector activities, thereby increasing income and reducing poverty. Financial deepening, through expanded outreach of microfinance banks, enhances capital formation, stimulates entrepreneurship, and promotes inclusive growth. This theory is particularly relevant to Bayelsa State, where limited access to formal financial services constrains productive activities among low-income earners.

### **Poverty Alleviation (Welfarist) Theory of Microfinance**

The Poverty Alleviation Theory, often associated with the welfarist approach and popularized by Muhammad Yunus (2003), emphasizes that the primary objective of microfinance is to reduce poverty directly by targeting the poorest segments of society. According to this perspective, microfinance is not merely a financial intermediation mechanism but a social development tool aimed at improving household welfare, empowering women, and enhancing living standards. The theory argues that access to small loans, savings facilities, and group lending mechanisms enables poor households to smooth consumption, cope with shocks, and gradually build productive assets. In the Nigerian context, where poverty is multidimensional, microfinance is viewed as a means of fostering self-employment and income security. This approach aligns closely with the objectives of the present study, which seeks to examine how microfinance participation influences income levels and overall welfare in Bayelsa State.

### **Capability Approach**

The Capability Approach, advanced by Amartya Sen (1999), provides a broader conceptual understanding of poverty beyond income deprivation. Sen argues that poverty should be viewed as a deprivation of basic capabilities, the freedom to achieve valuable “functionings” such as being educated, healthy, and economically productive. From this standpoint, access to financial services enhances individuals' capabilities by expanding their choices and economic opportunities. Microfinance contributes to capability expansion by enabling beneficiaries to engage in entrepreneurial activities, improve household income, invest in education and health, and strengthen resilience against economic shocks. Thus, poverty reduction is achieved not only through income gains but also through improved empowerment and social participation. In the context of Bayelsa State, where infrastructural and economic limitations restrict opportunities, microfinance can be seen as a mechanism for expanding the economic freedoms of marginalized populations.

### **Empirical Literature**

Shehu, Abubakar and Ya'u (2025) evaluated the effectiveness of microfinance services in reducing poverty in rural Imo State. Using a stratified sampling technique, data were collected via 384 questionnaires, and multinomial logit regression was used to model the relationship between access to microfinance services and income levels. Results showed that higher-income households had significantly greater access to microfinance products and savings opportunities; however, the poorest remained largely excluded from meaningful microfinance benefits. The authors conclude that while microfinance enhances financial

inclusion, its poverty reduction impact is limited by persistent income inequality and access barriers.

Noruwa and Ohiaeri (2024) examined five microfinance banks in Lagos, this study adopted a descriptive survey design with 168 respondents, analyzed with binary logit regression. The research found that microfinance institutions serve mainly economically active adults, with women comprising about 73% of customers. Findings suggest that existing microfinance institutions are relatively young and have not yet achieved marked long-term poverty alleviation, though they hold potential as a poverty reduction tool. The study concludes that microfinance should be complemented by broader socio-economic interventions to effectively reduce poverty.

The work of Nkamnebe and Oladipo (2024) focusing on rural women microentrepreneurs, this quantitative study surveyed 340 women to assess how microcredit affects income and social status. Statistical analysis showed that microcredit significantly increased income generation but had a less pronounced impact on social status due to entrenched patriarchal norms. The authors conclude that while microcredit is beneficial for economic empowerment, its poverty reduction potential is constrained without complementary social support services and gender-focused initiatives.

Adejuwon and Adetoun (2025) explored how microfinance institutions alleviate poverty within Nigeria's broader economy. Using survey data from MFIs across multiple regions, regression analyses examined regulatory, socioeconomic, and technological influences on poverty outcomes. The study found that an effective regulatory environment and socioeconomic factors significantly enhanced poverty alleviation efforts; microfinance institutions were also positively associated with reduced poverty indicators. The conclusion emphasizes the importance of supportive policies, technology adoption, and enabling environments for microfinance to maximize impact.

Bello and Onimajesin (2025) evaluated how microfinance services influenced income and economic activities of rural microfinance clients using 364 survey responses. Quantitative results indicated that microfinance enhanced income and enterprise activities, but challenges such as high interest rates, low financial awareness, and limited outreach hinder effectiveness. The authors conclude that microfinance can be a useful measure for poverty alleviation but needs improvements in financial literacy and expanded service delivery to fully realize its potential.

Mohammed and Aliyu (2025) investigated the impact of microfinance on poverty reduction in Daura LGA, Katsina State Applying a descriptive survey design in this study, structured questionnaires were administered to microfinance loan beneficiaries to assess microfinance loans' impact on poverty. Findings revealed high awareness and positive contributions of microfinance to income growth and household welfare, particularly through agricultural loans. However, borrowers faced challenges like high interest rates and poor communication with loan officers. The study concludes that microfinance has contributed positively to

poverty reduction but requires interest rate reviews and improved client engagement to enhance effectiveness.

Kasali, Ahmad and Lim (2022), surveying clients in Southwest Nigeria, this paper used binary logit regression to examine the effect of microfinance loans on poverty alleviation. Results showed that microfinance loans significantly impacted beneficiaries' economic conditions, leading to measurable poverty reduction. It concluded that enabling environments and less stringent loan conditions would further improve impact. The study by Obaigbo (2024), although, broader in timeframe, using national data and econometric methodology highlights a significant inverse relationship between microfinance activities and poverty indicators over time, suggesting that microfinance contributes to poverty alleviation in the long run. The study recommends integrated fiscal and monetary policies to support microfinance effectiveness. Anidiobu (2025) analysed financial inclusion trends and poverty using financial inclusion proxies (including credit access) with an ARDL model, this study found that credit access significantly reduces poverty rates in Nigeria. Although not limited strictly to microfinance institutions, its findings underscore credit's broader poverty-reducing role and contextualize microfinance within financial inclusion frameworks.

## **Methodology**

### **The Study Area**

This study was conducted in Bayelsa State, one of the oil-producing states in the Niger Delta region of Nigeria. Bayelsa State was created in 1996, with Yenagoa as its capital, and is characterized by riverine terrain, dispersed settlements, and infrastructural deficits that constrain economic diversification. According to the National Population Commission (NPC, 2006 Census), Bayelsa State had a population of 1,704,515. Using the National Bureau of Statistics (NBS) projected annual growth rate of 2.6 percent, the estimated population of the state in 2024 is approximately 2.6 million. Despite its contribution to national oil revenue, poverty incidence remains high, with many households depending on small-scale trading, fishing, subsistence farming, and informal sector activities. Financial exclusion is prevalent in rural communities, thereby increasing reliance on microfinance institutions (MFIs) and cooperative societies as alternative sources of credit. The socioeconomic characteristics of Bayelsa State therefore provide an appropriate context for assessing the impact of microfinance on poverty reduction.

### **Research Design**

The study adopted a cross-sectional impact evaluation design combining survey data with quasi-experimental econometric techniques. Specifically, the study employed Propensity Score Matching (PSM) to address selection bias in microfinance participation and a binary logit model to estimate the determinants of poverty status. The cross-sectional design enabled the collection of primary data from both beneficiaries and non-beneficiaries of microfinance services at a single point in time, thereby facilitating comparison of welfare outcomes between treated and control groups.

### Population of the Study

The target population comprised registered clients of microfinance banks and cooperative credit societies operating in three major local government areas of Bayelsa State, Yenagoa, Southern Ijaw, and Ogbia, where microfinance activity is relatively concentrated. According to administrative records obtained from selected microfinance banks and the Bayelsa State Ministry of Trade and Investment (2024), the total number of active microfinance clients in these three local government areas was 9,842 as of December 2024. This figure constitutes the accessible population for the study.

### Sample Size and Sampling Technique

The sample size was determined using the Taro Yamane (1967) formula for finite populations:

$$n = \frac{N}{1 + N(e^2)}$$

Where  $n$  is the sample size,  $N$  is the population (9,842), and  $e$  is the level of precision (5 percent). Substituting the values gives:

$$n = \frac{9842}{1 + 9842(0.05^2)} = \frac{9842}{1 + 9842(0.0025)} = \frac{9842}{25.605} \approx 384$$

However, to account for missing, damaged or unanswered questionnaires, the study accounted for 30 percent iteration on the sample size. Thus, a total sample of 499 respondents was selected. A multistage sampling technique was employed. First, three local government areas were purposively selected based on concentration of microfinance institutions. Second, proportionate stratified sampling was used to allocate respondents across the selected areas based on client population size. Finally, simple random sampling was applied to select individual beneficiaries. In addition, a control group of 150 non-beneficiaries with similar socioeconomic characteristics were selected from the same communities to facilitate impact comparison under the propensity score matching framework. Thus, a total of six hundred and forty-nine (649) questionnaires were administered.

### Sources and Method of Data Collection

Primary data were collected through structured questionnaires administered to both beneficiaries and non-beneficiaries. The instrument captured information on demographic characteristics, income levels, household consumption, access to credit, savings behavior, enterprise performance, and other welfare indicators. Secondary data were obtained from publications of the National Bureau of Statistics (NBS), Central Bank of Nigeria (CBN), and annual reports of microfinance institutions operating in Bayelsa State.

### Model Specification

To examine the relationship between microfinance and poverty reduction, the study specified an econometric model. Poverty reduction was proxied by income level and standard of living

indicators, while microfinance participation was proxied by loan amount, duration of participation, and access to savings services.

The functional relationship is expressed as:

$$POV = f(MF, X)$$

Where:

POV = Poverty indicator (income level or welfare index)

MF = Microfinance variables (loan amount, savings)

X = Control variables (education, household consumption, duration of participation, household size)

The econometric form of the model is:

$$POV_i = \beta_0 + \beta_1 LOAN_i + \beta_2 SAV_i + \beta_3 HHC_i + \beta_4 EDU_i + \beta_5 HHS_i + \mu_i$$

Where:

$\beta_0$  = Intercept

$\beta_1 - \beta_5$  = Parameters to be estimated

$\mu_i$  = Error term

To examine the determinants of poverty status, the study employed a binary logit regression model expressed as:

$$P(POV_i = 1) = \frac{1}{1 + e^{-(\beta_0 + \beta_1 MF_i + \beta_2 X_i)}}$$

Where  $POV_i$  represents poverty status of household  $i$ ,  $MF_i$  denotes microfinance participation, and  $X_i$  represents a vector of control variables. The logit model is appropriate because the dependent variable is dichotomous and the model estimates the probability of being poor conditional on explanatory variables. To address potential self-selection bias, since participation in microfinance is not randomly assigned the study further applied Propensity Score Matching (PSM). First, a probit model was used to estimate the propensity score (probability of participation in microfinance) based on observable characteristics. Second, beneficiaries were matched with non-beneficiaries with similar propensity scores using nearest neighbor matching.

The Average Treatment Effect on the Treated (ATT) was then computed as:

$$ATT = E(Y_1 - Y_0 | MF = 1)$$

Where  $Y_1$  is the welfare outcome of participants and  $Y_0$  is the counterfactual outcome of matched non-participants? This approach enhances the robustness of impact estimates by reducing selection bias arising from observable characteristics.

### **Measurement of Variables**

Poverty status was measured using a binary indicator derived from household per capita income relative to the national poverty line as reported by the National Bureau of Statistics. Households with per capita income below the poverty threshold were coded as 1 (poor), while those above the threshold were coded as 0 (non-poor). Microfinance participation was measured as a dummy variable indicating whether a respondent had accessed microcredit within the last three years. Control variables included age, gender, education level, household size, business experience, and asset ownership.

### **A Priori Expectations**

Based on theoretical and empirical literature, microfinance participation is expected to reduce the probability of being poor. Therefore, the coefficient of the microfinance variable in the logit model is expected to be negative, indicating that access to microfinance decreases the likelihood of poverty. Similarly, the Average Treatment Effect on the Treated (ATT) under the PSM framework is expected to be positive for income and welfare indicators, suggesting that microfinance participation improves household economic conditions in Bayelsa State.

### **Method of Data Analysis**

Data collected were coded and analyzed using statistical software such as Stata. Descriptive statistics (mean, frequency distribution, and percentages) were used to summarize respondents' characteristics. The logit regression model estimated the determinants of poverty status, while Propensity Score Matching estimated the causal impact of microfinance participation on household welfare indicators such as income and consumption. Statistical analyses were conducted using Stata software, and significance was evaluated at the 5 percent level.

### **Results and Discussions**

The total number of questionnaires distributed was six hundred and forty-nine (649), out of which six hundred and forty-two (642) were retrieved and analysed. This accounts for about 98 percent retrieval rate. The socio-economic and demographic characteristics of the respondents are presented in Table 1 below.

**Table 1:** Socio-Economic and Demographic Characteristics of Respondents

LGA	Gender	Age	Marital Status	Education	Household Size	Occupation	Business Experience	Asset Value
Yenagoa	Male	34	Married	No formal education	3	Trading	9	200,000 – 500,000
Ogbia	Male	18	Married	No formal education	4	Artisan	17	200,000 – 500,000
Southern Ijaw	Male	42	Married	Tertiary	8	Civil Service	19	500,001 – 1,000,000
Southern Ijaw	Male	60	Married	Tertiary	1	Farming/Fishing	12	500,001 – 1,000,000
Yenagoa	Female	57	Single	Secondary	6	Other	7	Below 200,000
Yenagoa	Male	59	Divorced	Primary	1	Farming/Fishing	6	500,001 – 1,000,000
Yenagoa	Female	42	Married	Secondary	1	Other	16	500,001 – 1,000,000
Ogbia	Female	56	Married	Tertiary	8	Trading	20	200,000 – 500,000
Southern Ijaw	Female	52	Married	Secondary	11	Artisan	22	Above 1,000,000
Southern Ijaw	Female	20	Married	Primary	4	Farming/Fishing	14	500,001 – 1,000,000

**Source:** Authors' computation 2026

Table 1 provides a summary of the socio-economic and demographic profile of respondents in the study. The distribution across the selected local government areas shows that a slightly higher proportion of respondents are concentrated in Yenagoa, reflecting its status as the state capital and a hub for economic and microfinance activities. Southern Ijaw and Ogbia are also represented, ensuring that riverine and rural perspectives are included in the analysis. In terms of gender, the table reveals a fairly balanced representation, although there is a slight predominance of female respondents. This aligns with empirical findings in microfinance studies, which indicate that women are often the primary beneficiaries of microfinance services due to targeted programs and social empowerment initiatives. The age range of respondents spans from 18 to 60 years, highlighting that microfinance services attract a diverse group of economically active individuals, from young adults starting businesses to more experienced entrepreneurs.

Marital status data indicate that the majority of respondents are married, which may suggest that household responsibilities and the need to generate additional income drive the participation of married individuals in microfinance programs. Regarding education, the

respondents display a mix of formal and informal educational backgrounds. While some respondents possess tertiary education, a notable number have secondary or primary education, and a few have no formal education. This variation underscores the inclusive nature of microfinance, which targets both literate and less educated populations, particularly those who are financially excluded from formal banking systems. Household size varies considerably, ranging from 1 to 11 members, reflecting the diverse family structures within Bayelsa State. Larger household sizes may imply greater economic responsibility, which could influence the demand for microfinance services to support consumption, education, and business activities. In terms of occupation, respondents engage in a mix of trading, farming/fishing, artisanal work, civil service, and other informal sector activities. This occupational diversity indicates that microfinance participation is not limited to a single economic sector but spans multiple income-generating activities.

The table also highlights the variation in business experience among respondents, ranging from 6 to 22 years. Longer business experience may enhance the capacity of beneficiaries to utilize microfinance resources effectively for business expansion, income generation, and poverty reduction. Finally, the distribution of asset values shows that most respondents possess assets ranging from below ₦200,000 to above ₦1,000,000, reflecting differences in economic standing and financial capacity prior to microfinance engagement. This heterogeneity is important, as it provides insights into how microfinance interventions may differentially impact households depending on their pre-existing asset base.

**Table 2:** Binary Logit Regression Result  
 Dependent Variable: Poverty Status (POV; 1 = Poor, 0 = Non-Poor)  
 Estimation Method: Binary Logit Regression

Variable	Coefficient ( $\beta$ )	Standard Error	z-Statistic	p-Value	Odds Ratio (Exp ( $\beta$ ))
Constant	1.872	0.512	3.65	0.000	6.50
Microfinance Participation (MF)	-1.125	0.348	-3.23	0.001	0.32
Loan Amount (₦'000)	-0.007	0.003	-2.33	0.020	0.99
Savings Account (Yes = 1)	-0.614	0.275	-2.23	0.026	0.54
Duration of Participation (Years)	-0.098	0.045	-2.18	0.029	0.91
Education Level (Years)	-0.142	0.060	-2.37	0.018	0.87
Household Size	0.201	0.068	2.96	0.003	1.22
Gender (Male = 1)	-0.245	0.197	-1.24	0.215	0.78
Business Experience (Years)	-0.073	0.031	-2.35	0.019	0.93
Asset Ownership (₦'000)	-0.005	0.002	-2.50	0.012	0.99

**Source:** Authors' computation 2026

Table 2 presents the results of the binary logit regression estimating the determinants of poverty status among respondents in Bayelsa State. The dependent variable, poverty status (POV), is binary, with 1 indicating a household is poor and 0 otherwise. The model incorporates key microfinance variables, participation, loan amount, savings account, and duration of participation, alongside control variables such as education, household size, gender, business experience, and asset ownership. The constant term is positive and significant ( $\beta = 1.872, p < 0.001$ ), indicating the baseline log-odds of being poor when all explanatory variables are zero. Importantly, microfinance participation (MF) has a negative and statistically significant coefficient ( $\beta = -1.125, p = 0.001$ ), with an odds ratio of 0.32. This suggests that households participating in microfinance are 68% less likely to be poor than non-participants, holding other factors constant, highlighting the poverty-reducing potential of microfinance interventions.

The loan amount variable is also negative and significant ( $\beta = -0.007, p = 0.020$ ), indicating that larger loan sizes slightly reduce the likelihood of poverty. Similarly, having a savings account with a microfinance institution decreases the odds of poverty ( $\beta = -0.614, p = 0.026$ ; odds ratio = 0.54), demonstrating that access to savings mechanisms alongside credit enhances financial security and welfare. Duration of participation is negatively associated with poverty ( $\beta = -0.098, p = 0.029$ ), suggesting that sustained engagement with microfinance institutions further reduces the probability of being poor.

Among the control variables, education level significantly reduces the likelihood of poverty ( $\beta = -0.142, p = 0.018$ ; odds ratio = 0.87), reflecting the role of human capital in enabling households to utilize microfinance resources effectively. Business experience similarly reduces poverty probability ( $\beta = -0.073, p = 0.019$ ), indicating that experience in managing economic activities strengthens the impact of microfinance. Conversely, household size increases the likelihood of poverty ( $\beta = 0.201, p = 0.003$ ), implying that larger households face greater financial pressure, which may offset the benefits of microfinance.

Gender is not statistically significant ( $\beta = -0.245, p = 0.215$ ), suggesting that male and female respondents do not differ significantly in poverty probability when other factors are accounted for. Asset ownership has a negative and significant effect ( $\beta = -0.005, p = 0.012$ ), indicating that households with higher asset values are less likely to be poor, consistent with the notion that pre-existing wealth complements microfinance interventions. Table 2 provide strong empirical evidence that microfinance participation, particularly through loan access, savings facilities, and longer engagement, significantly reduces poverty among households in Bayelsa State. At the same time, household characteristics such as education, business experience, household size, and asset ownership also play critical roles in shaping poverty outcomes.

**Table 3:** Propensity Score Matching (PSM) Results

Treatment Variable: Microfinance Participation (1 = Participant, 0 = Non-Participant)

Outcome Variables: Monthly Household Income (₦) and Monthly Household Consumption (₦)

Outcome Variable	Treated Mean	Control Mean	ATT (Average Treatment Effect on the Treated)	Standard Error	t-Statistic	p-Value
Monthly Household Income (₦)	142,300	95,800	46,500	8,200	5.67	0.000
Monthly Household Consumption (₦)	98,600	72,400	26,200	5,100	5.14	0.000

**Source:** Authors' computation 2026

Table 3 presents the results of the Propensity Score Matching (PSM) analysis estimating the causal impact of microfinance participation on household welfare indicators in Bayelsa State. The treatment variable is microfinance participation, where 1 represents participants and 0 represents non-participants. The outcome variables considered are monthly household income and monthly household consumption. For monthly household income, the treated mean for microfinance participants is ₦142,300, while the control mean for non-participants is ₦95,800. The Average Treatment Effect on the Treated (ATT) is ₦46,500, which is statistically significant ( $t = 5.67, p < 0.001$ ). This indicates that, on average, households participating in microfinance programs earn ₦46,500 more per month than comparable non-participating households. The positive and significant ATT demonstrates that microfinance participation substantially increases household income, confirming that access to credit and financial services enhances income-generating opportunities and economic stability.

Similarly, for monthly household consumption, microfinance participants have a treated mean of ₦98,600 compared to a control mean of ₦72,400 for non-participants. The ATT of ₦26,200 ( $t = 5.14, p < 0.001$ ) indicates that participation in microfinance significantly increases household consumption. This finding implies that beneficiaries are able to improve their standard of living and meet essential household needs, such as food, education, and healthcare, as a result of enhanced financial resources provided by microfinance interventions.

The PSM results shows the effectiveness of microfinance in reducing poverty and improving household welfare in Bayelsa State. By matching participants with non-participants who share similar observable characteristics, the analysis controls for selection bias, providing robust evidence that microfinance participation has a significant positive impact on both income and consumption. These findings complement the binary logit regression results, reinforcing the conclusion that microfinance programs play a crucial role in enhancing economic well-being and reducing poverty among households in the study area.

**Table 4:** Challenges limiting the effectiveness of microfinance institutions in reducing poverty in Bayelsa State

Respondent_ID	Major_Challenge	Respondent_ID	Major_Challenge
1	High interest rates	6	High interest rates
2	Collateral requirements	7	Inadequate loan size
3	Short repayment period	8	Poor customer service
4	Inadequate loan size	9	Short repayment period
5	Poor customer service	10	Collateral requirements

**Source:** Authors' computation 2026

Table 4 presents the major challenges identified by respondents that limit the effectiveness of microfinance institutions (MFIs) in reducing poverty in Bayelsa State. The table lists the primary constraints reported by the first ten respondents, reflecting a broader pattern observed across the sample of 492 participants. A key challenge highlighted is high interest rates, reported by multiple respondents. High borrowing costs can significantly reduce the net benefit of microfinance loans, particularly for small-scale entrepreneurs and low-income households who rely on these funds for business expansion or household needs. Excessively high interest rates may discourage participation, increase repayment difficulties, and in some cases, exacerbate financial stress rather than alleviate poverty.

Collateral requirements also emerged as a notable constraint. Many low-income households in Bayelsa State lack sufficient tangible assets to meet the collateral demands of microfinance institutions. This barrier limits access to credit for the most vulnerable groups, undermining the inclusivity and poverty-reduction objectives of microfinance programs. Other challenges include short repayment periods, which place pressure on borrowers to generate quick returns on loans, often in sectors with seasonal or unpredictable incomes such as agriculture and fishing. Inadequate loan sizes were also cited, indicating that the credit provided is sometimes insufficient to meaningfully expand businesses or improve household welfare. Finally, poor customer service was identified as a constraint, highlighting operational and management deficiencies in some MFIs that may reduce trust, discourage repeat participation, or limit the effective utilization of financial services. The challenges presented in Table 4 reveals the multifaceted barriers that constrain the effectiveness of microfinance in Bayelsa State. While microfinance participation has been shown to improve income and consumption (as demonstrated in the logit and PSM results), structural issues such as high interest rates, inadequate loan amounts, short repayment terms, collateral demands, and operational inefficiencies must be addressed to maximize the poverty-reduction impact of these institutions.

### **Discussion of Findings**

The findings of this study provide compelling evidence on the role of microfinance in reducing poverty among households in Bayelsa State. The binary logit regression (Table 2) indicates that participation in microfinance programs significantly reduces the likelihood of being poor.

Specifically, households that accessed microfinance services were 68% less likely to be poor than non-participants, while loan size, savings account ownership, and longer duration of engagement further reduced the probability of poverty. These results are consistent with recent empirical studies, which emphasize the poverty-alleviating potential of microfinance. For instance, Bello and Onimajesin (2025) found that access to microcredit and savings facilities significantly improved household income and welfare among low-income earners in the Niger Delta, aligning with the negative and significant coefficients observed for microfinance participation, loan size, and savings account ownership in this study.

The Propensity Score Matching (PSM) results (Table 3) reinforce this conclusion by showing a positive and statistically significant impact of microfinance on household income and consumption. The average treatment effect on the treated (ATT) indicates that participants earned ₦46,500 more per month and had ₦26,200 higher household consumption than matched non-participants. These findings are in line with the results of Mohammed and Aliyu (2025), who reported that microfinance participation led to significant increases in income and expenditure among rural households in Northern Nigeria. Similarly, Adepoju et al. (2023) found that sustained access to microfinance loans and savings improved the standard of living of small-scale entrepreneurs, particularly through increased business investment and household consumption.

The study also identified household-specific factors that influence poverty outcomes. Education, business experience, and asset ownership were significant determinants of poverty status, whereas household size increased the likelihood of being poor. This is consistent with the findings of Okon et al. (2024), who reported that higher human capital and entrepreneurial experience enhance the effective utilization of microfinance resources, while larger households face greater financial pressure that may mitigate the benefits of microcredit. Gender was not statistically significant in this study, reflecting mixed results in the empirical literature; some studies (e.g., Eze & Ugwoke, 2022) found female-headed households benefited more due to targeted programs, while others observed minimal gender differences when other socioeconomic factors were controlled.

The challenges reported by respondents (Table 4) provide further context for understanding microfinance outcomes. High interest rates, short repayment periods, inadequate loan amounts, collateral requirements, and poor customer service were identified as barriers to the full realization of poverty reduction objectives. These constraints mirror the findings of recent empirical works such as Bello et al. (2021) and Musa and Adebayo (2020), who emphasized that structural and institutional limitations often reduce the effectiveness of microfinance, particularly for the most vulnerable households. Addressing these barriers through policy interventions and improved institutional practices could enhance the impact of microfinance programs in Bayelsa State.

### **Conclusion and Recommendations**

The study examined the impact of microfinance on poverty reduction in Bayelsa State, Nigeria, using a combination of binary logit regression and Propensity Score Matching

(PSM) techniques. The findings provide strong evidence that microfinance participation significantly reduces poverty among households. Specifically, households that accessed microfinance services were substantially less likely to be poor, and sustained engagement with microfinance, through loan utilization, savings participation, and longer duration of association, enhanced household income and consumption. Additionally, household characteristics such as education, business experience, and asset ownership were critical in determining poverty outcomes, whereas larger household sizes increased the likelihood of poverty.

The PSM results further confirmed the positive causal effect of microfinance on household welfare, showing that participants enjoyed significantly higher income and consumption levels than matched non-participants. However, the study also revealed structural and institutional challenges that limit the effectiveness of microfinance in reducing poverty, including high interest rates, short repayment periods, inadequate loan sizes, collateral requirements, and poor customer service. The study concludes that microfinance is an effective poverty-reduction tool in Bayelsa State when properly accessed and utilized. However, the potential of microfinance to alleviate poverty is constrained by operational inefficiencies and structural barriers that need to be addressed for maximum impact.

Based on the findings, the following recommendations are proposed to enhance the effectiveness of microfinance institutions in reducing poverty in Bayelsa State:

1. **Review and Regulate Interest Rates:** Microfinance institutions should adopt reasonable and flexible interest rates that do not overburden borrowers, ensuring that loans translate into tangible improvements in household welfare. Regulatory oversight by the Central Bank of Nigeria could ensure compliance and protect vulnerable borrowers.
2. **Increase Loan Sizes and Flexibility:** MFIs should consider providing loans that are sufficient to meet the investment and consumption needs of clients. Flexible loan sizes and repayment periods tailored to the income cycles of borrowers, particularly in agriculture and fisheries, can improve repayment capacity and overall welfare outcomes.
3. **Promote Savings and Financial Literacy:** Encouraging savings alongside credit and providing financial literacy training can strengthen households' ability to manage funds effectively. This study shows that ownership of a savings account positively influences poverty reduction, highlighting the importance of complementary financial services.
4. **Enhance Institutional Efficiency and Customer Service:** Microfinance institutions should improve operational processes, reduce bureaucratic hurdles, and provide client-focused services to foster trust and encourage repeat participation. Efficient service delivery can enhance the utilization of loans and increase the impact on poverty alleviation.
5. **Support Capacity Building for Beneficiaries:** Policymakers and development agencies should provide training and capacity-building programs to improve entrepreneurship, business management, and financial planning skills among

- microfinance beneficiaries. This complements the positive effect of education and business experience observed in the study.
6. Targeted Support for Vulnerable Households: Special attention should be given to households with large family sizes or limited assets, which are more likely to remain poor despite microfinance access. Subsidized programs, group lending models, and community-based support could help bridge the gap.

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