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The Effects of Livelihood Risk on Poverty Types among Smallholder Cassava Farmers in Anambra State, Nigeria

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ABSTRACT

This study investigates the poverty types experienced by smallholder cassava farmers in Anambra State, Nigeria, utilizing the international poverty line of $2.15 per day as updated by the World Bank in 2022. The data for the study was collected from a random sampling of 168 farmers after which 150 (89.3%) were found usable. The analytical techniques used for the analysis include descriptive statistics, mean threshold of 5-point Likert scale, ordinal, and multinomial logistics regression analysis. Findings reveal that 74.0% of the farmers live in absolute poverty, with monthly incomes below $451.50, necessary for basic needs. Additionally, 24.0% are relatively poor, earning below $62.30 per month, indicating significant income inequality. Only 2.0% of farmers earn above this threshold, underscoring the critical economic challenges faced by the majority. The analysis of livelihood risks using a 5-point Likert scale shows significant health, environmental, financial, and social risks affecting these farmers. Health risks like illness and poor healthcare access, environmental risks such as extreme weather and soil erosion, and financial constraints including limited access to funds are prominent. Social insecurity also exacerbates these issues. An ordinal logistic regression analysis indicates that health, environmental, financial, and social risks significantly influence poverty levels. Key socioeconomic factors such as age, marital status, farming experience, education, and household size also play crucial roles. The study emphasizes the need for targeted interventions to address these risks, promote sustainable agricultural practices, and improve access to education and financial services to alleviate poverty among these farmers.

INTRODUCTION

Poverty remains a pervasive challenge in many developing regions in which Nigeria is inclusive (Akinyetun, 2022; Udoikah *et al.*, 2023), with smallholder farmers often bearing the brunt due to their vulnerability to various livelihood risks (Botreau & Cohen, 2020; Wudil *et al.*, 2022). In Anambra State, Nigeria, smallholder cassava farmers are particularly susceptible to these risks, which can significantly affect their socioeconomic status and overall well-being (Osuafor *et al.*, 2020). Poverty can limit access to social and economic infrastructure, which subsequently causes food security issues (Adisa & Adesanmi, 2017; Kamara *et al.*, 2019). Cassava, a staple crop in Nigeria, plays a crucial role in the food security and economic stability of these farming communities. However, the livelihoods of cassava farmers are threatened by numerous risks (Willett *et al.*, 2019), including environmental, economic, and social factors, which in turn influence the types and prevalence of poverty within these communities (Oyekola *et al.*, 2021).

Poverty is a multidimensional phenomenon that affects the well-being and livelihood of people in various ways (Köhler *et al.*, 2019; Adeniyi *et al.*, 2023). Poverty can be classified into different

types, such as absolute poverty and relative poverty (Zeng *et al.*, 2021), among others, which are reflections of farmers' income and expenditure for basic needs like nutrition, clothing, and shelter (World Bank, 2023). In September 2022, after the Covid-19 outbreak, the World Bank Group upgraded the extreme poverty line to $2.15 following the release of new purchasing power parity (PPP) data in May 2020 by the United Nations (World Bank, 2023). This upgrade raised the poverty line from $1.90 per person per day to $2.15, using the median poverty line from 28 low-income countries. Using these approaches, Ferreira et al. (2016) classified absolute poverty as a country's population living below the extreme poverty line of $1.90, and relative poverty as those living above the poverty line but below the median level of citizen's expenditure on daily needs like nutrition, clothing, and shelter. This classification is different from the classification of some scholars (Usman & Marmara, 2015; Gweshengwe *et al.*, 2020; Luo *et al.*, 2020) who identified poverty types as human poverty, social poverty, and environmental poverty, depending on the indicators and dimensions used to measure it.

The study by Mphande (2016); Su, Saikia, and Hay (2019) defined livelihood risk as the probability or threat of losing or reducing the assets, capabilities, and opportunities that people need to sustain their livelihoods. Livelihood risk can be caused by various factors, such as natural disasters, conflicts, diseases, market failures, and policy changes (Sime & Anne, 2019). However, this study represents a pioneering effort to comprehensively analyze the relationship between livelihood risks and poverty types among smallholder cassava farmers in Anambra State, using the recent international poverty line of $2.15 per person per day (World Bank, 2023), which differs from the approach based on 2/3 of household income proposed by the Foster-Greer-Thorbecke (FGT) poverty index developed by Erik Thorbecke, Joel Greer, and James Foster in 1984. The closest study to ours was conducted by Okoror *et al.* (2019) in Edo State, which is outside the region of our study location. However, their study used the $1.25 international poverty line proposed by the World Bank in 2015. Our study will contribute to scholarly knowledge by addressing the current upgrade to the $2.15 post-Covid-19 international poverty line (World Bank, 2023). Although studies by Ahaneku *et al.* (2019) and Ejiogu *et al.* (2021) in the Southeast focused on the determinants of risk management among cassava farmers, they did not examine the role of livelihood risk in determining poverty types among these farmers. By identifying the different poverty types prevalent among these farmers, describing the livelihood risks they face, and estimating the influence of these risks on poverty, this research aims to provide a nuanced understanding of the complex dynamics at play. Furthermore, the study investigates the determinants of poverty types, offering insights into the specific factors that contribute to varying poverty levels within the community.

In Anambra State, Nigeria, where agriculture is the main source of income and employment for over 60% of the population (Obianefo *et al.*, 2019), poverty, and livelihood risk are major challenges that affect the rural farming communities (Zeng *et al.*, 2021). The rural farming communities depend largely on the production and processing of cassava, one of the most important staple crops in the country (Osuafor *et al.*, 2020). According to Olutosin and Sawicka (2019); Osuji (2019), Cassava is a resilient and versatile crop that can grow in diverse agro-ecological zones and provide food security, income generation, and employment opportunities for the rural population. Adepoju *et al.* (2019) submitted that cassava is a staple food crop, that fits well into the farming systems and smallholder processing in Nigeria because it is available all year round, thus providing livelihood support for rural households. Yet, cassava production and processing are exposed to various livelihood risks, such as climate change, pests and diseases, price fluctuations, and inadequate infrastructure.

Therefore, it is important to analyze the livelihood risk and poverty types in Anambra State farming communities. This analysis can help to understand the causes, consequences, and coping strategies

of poverty and livelihood risk among rural farmers. A notable aspect of this research is its methodological approach, employing both multinomial and ordered logistic regression models to operationalize the study objectives. By utilizing these econometric tools, the study aims to generate actionable policy recommendations that can effectively address the identified challenges and improve the livelihoods of smallholder cassava farmers.

The significance of this study extends beyond the immediate study area. Its findings will not only fill a critical knowledge gap in the literature on livelihood risks and poverty among smallholder farmers but also provide a valuable basis for policy intervention since it remains the first to adopt the $2.15 poverty line in the study area. The insights gained can inform strategies to enhance the resilience of cassava farmers to livelihood risks, thereby reducing poverty and promoting sustainable development in Anambra State and potentially across West Africa. By contributing to the understanding of how livelihood risks affect poverty among smallholder farmers, this study aims to influence policy-making and development initiatives. The ultimate goal is to develop targeted interventions that can mitigate the adverse effects of these risks and support the sustainable livelihoods of cassava farmers, ensuring food security and economic stability as suggested by Ayantoye (2021). Using the recent international poverty line of $2.15 (World Bank, 2023) to achieve the above, the study hinged on the following study objectives which are to:

i. identify the poverty types among smallholder cassava farmers in the study;

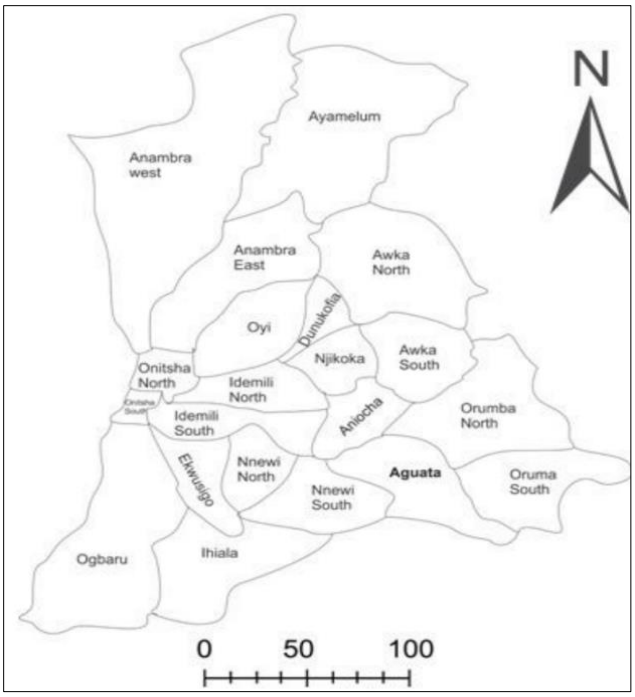
ii. describe the various livelihood risks affecting smallholder cassava farmers;

iii. estimate the influence of livelihood risk on poverty types in farming communities; and

iv. investigate the determinants of poverty types in farming communities.

METHODOLOGY

This study was conducted in farming communities of Anambra State, specifically in three (Anambra, Aguata, and Onitsha) agricultural zones. Anambra State is situated between Delta State to the West, Imo State and Rivers State to the South, Enugu State to the East, and Kogi State to the North. Its geographical coordinates range from latitudes 5°32' to 6°45' N and longitudes 6°43' to 7°22' E. The State experiences an average annual temperature of 25.9°C and rainfall of 138mm (Johnson *et al*., 2021). In 2023, the Nigerian Bureau of Statistics estimated the population of Anambra State as 7,299,910 people. The residents of Anambra are known for their entrepreneurial skills and engage in various occupations, including farming. The major crops produced in Anmabra State include cassava, yam, rice, and potato among others (Obianefo et al., 2024).



Source: Merem et al. (2019)

The study adopted a quantitative research design approach. Due to the infinite nature of the study population, a purposive and multi-stage sampling technique was implemented to arrive at a sizable sample size for the study. The sampling process involved the following stages: Stage one: Three agricultural zones (Anambra, Aguata, and Onitsha) were purposively selected because of their long history of cassava production. Stage two: at this stage, two Local Government Areas (LGAs) were randomly selected from each agricultural zone to make a total of six LGAs. Stage three: two communities were randomly selected from each LGA to make it a total of twelve (12) communities. Stage four: two villages were randomly selected from each community to make it a total of twenty-four (24) villages. Stage five: at this last stage, seven cassava farmers were randomly interviewed using a structured questionnaire to arrive at a sample size of one hundred and sixty-eight (168) respondents. At the end of the data collection stage, only 150 (89.3%) of the questionnaires were returned and used for data analysis.

The data collection process took place from 15th August to 6th October 2023 during the peak of harvest. To ensure accuracy and transparency, the research assistants recruited were trained on the use of the Kobocollect Android data kit. According to Obianefo *et al.* (2024), the Kobocollect data tool helps minimize data manipulation and speed up the research process.

Data Analysis

The study used a combination of different analytical techniques to operationalize the objectives. Objective one (identify the poverty types among smallholder cassava farmers in the study) was achieved using a descriptive statistic such as a chart, and percentage to categorize the farmers accordingly based on the World Bank 2022 classification of poverty line. Objective two (describe the various livelihood risks affecting smallholder cassava farmers) was achieved from the mean threshold of a 5-point Likert scale. Objective three (estimate the influence of livelihood risk on poverty types in farming communities) was achieved with an ordinal logistic model adopted from

Okoye *et al*. (2010). Objective four (investigate the determinants of poverty types in farming communities) was achieved with a multinomial logit regression model adopted from Shah *et al.* (2022).

The ordinal logit model to address objective iii was defined as:

$$log\left(\frac{P(PT \geq j)}{P(PT \leq j)}\right) = \alpha_j + \beta_{ER}ER + \beta_{HR}HR + \beta_{FR}FR + \beta_{SR}SR + e_i$$

Where: *PT* = Poverty type, *ER* = Environmental risk, *HR* = Health risk, *FR* = Financial risk, and *SR* = Social risk. *j* represents the threshold or cut-off points between the ordered categories of poverty types (absolute poverty < \$2.15, \$2.15 ≥ relative poverty < mean income of the total population of cassava farmers in the study).

The marginal effects show how a change in the independent variables affects the probabilities of being in each poverty category defined by:

$$\frac{\partial P(PT = k)}{\partial X} = P(PT = k)\left(\beta - \sum_{m-1}^{k-1} P(PT = m)\beta\right)$$

Where: *k* represents the poverty type categories (1, 2, or 3), and *β* represents the coefficients of the independent variables.

The multinomial logit model to address objective iv was defined as:

$$log(P(Y_j) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 \ldots + \beta_7 X_7 + \varepsilon_j$$

Where: β_0 is the intercept, β_1, ..., β_7 are the coefficients for the independent variables for the two categories (absolute and relatively poor), ε_j is the stochastic error term beyond the farmers' control, X_1 = Sex (binary variable: 0 = Female, 1 = Male), X_2 = Age (continuous variable; years), X_3 = Marital status (categorical variable; single, married, divorced, or widowed), X_4 = Farming experience (continuous variable, measured in years), X_5 = Years of study (continuous variable), X_6 = Cooperative membership (binary variable: 0 = Non-member, 1 = Member), and X_7 = Household size (continuous variable; number of people).

RESULTS AND DISCUSSIONS

The Poverty Types among Smallholder Cassava Farmers

The poverty types experienced by smallholder cassava farmers are presented in Table 1. The international poverty line of \$2.15 for developing countries updated by the World Bank in September 2022 was used. The 2023 exchange rate of N638.7/USD was used for the conversion. The average household size in the study was 7 people. Adopting the \$2.15 per person per day (World Bank, 2023) for the 7 people per household implied that \$15.05 was spent per day.

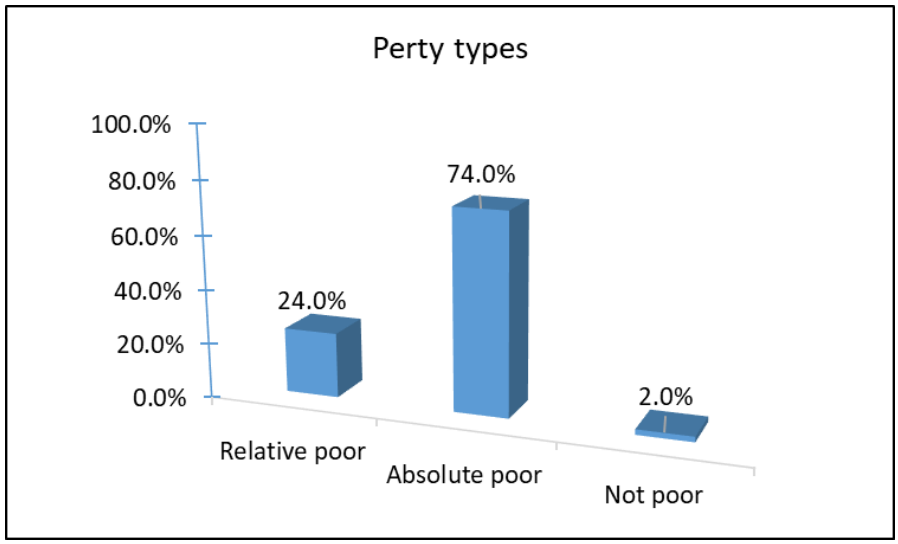


Figure 1: Poverty type in rural communities

The study revealed that 74.0% of smallholder cassava farmers live in absolute poverty. This means their monthly income is below $451.50, which is the calculated amount needed to cover basic necessities; clothing, shelter, and food (Zeng et al., 2021) for an average household of 7 people in 30 days (1 month). Again, 24.0% of the farmers are relatively poor. Their income is below $62.30, calculated as 50% of the median income of the farmers adopted from the World Bank (2023) purchasing power parity, indicating significant income inequality (Ferreira et al., 2016). These farmers are in critical situations that need urgent intervention. The farmers' high susceptibility to economic shocks, natural disasters, and health crises, as noted by Olawuyi and Ijila (2023), exacerbates their poverty. This vulnerability can lead to a vicious cycle where any setback (e.g., crop failure, illness, market fluctuations) further deepens their poverty. Furthermore, only 2.0% of the farmers have an income above $451.50 per month and can meet their household needs. These findings implied that the majority of smallholder cassava farmers are struggling to meet their basic needs. This high level of poverty limits their ability to invest in better farming practices, inputs, and technologies, which in turn affects productivity and sustainability. The pervasive poverty impacts food security both at the household and community levels, as farmers might not produce enough for their consumption or sale.

Table 1: Poverty types of smallholder farmers

Classification	Cut of point	Frequency	Percentage
Relatively poor	Less than $62.30	36	24.0%
Absolute poor	Less than $451.50	111	74.0%
Not poor	Greater than equal to $451.50	3	2.0%
Median Income	$124.63	150	100.0%
World Bank (2023) poverty line	$2.15		
Mean Household size	7		
Currency conversion rate	₦638.7/$		
Household daily needs	$15.05		

Source: Field Survey, 2023.

Livelihood Risks Peculiar to Smallholder Cassava Farmers in the Study Area

The results of the Livelihood Risks Peculiar to Smallholder Cassava Farmers are presented in Table 2. The study employs a 5-point Likert scale to evaluate the livelihood risks faced by smallholder cassava farmers in Anambra State. A threshold score of 3.0 was set for decision-making, with a mean score of 3.0 or above indicating an accepted risk. The findings reveal the prevalence and impact of health, environmental, financial, and social risks on these farmers.

All health risk indicators scored above the threshold, confirming significant health risks. High mean scores and substantial standard deviations indicate that illness (M = 3.7), poor healthcare access (M = 3.1), disease prevalence (M = 3.2), and COVID-19 outbreaks (M = 3.5) are major concerns. Health risks reduce productivity and increase healthcare costs, straining farmers' financial resources (Dwivedi et al., 2020). Addressing these issues through improved healthcare services and disease management can enhance farmers' well-being and economic stability.

Environmental risks are prominent, with extreme weather (M = 3.7) and soil erosion (M = 3.6) scoring particularly high. The standard deviations indicate variability in the farmers' experiences of these risks. Among the indicators, geological disaster scored 3.1, pests and diseases scored 3.4, and agricultural products 3.5. According to Ogundipe et al. (2020), environmental risks threaten crop yields and food security. Mitigating these risks through sustainable farming practices, soil conservation, and climate adaptation strategies is crucial for maintaining agricultural productivity.

Table 2: Livelihood risks peculiar to smallholder cassava farmers

Sn.	Risk dimension	Indicators	Mean	Std. dev.	Grand mean
A	Health risk				
1		Risk of illness	3.7	1.338	
2		Poor access to healthcare	3.1	1.263	3.4
3		Prevalence of disease	3.2	1.269	
4		Outbreak of Covid-19	3.5	1.389	
B	Environmental risk				
5		Extreme weather	3.7	1.549	
6		Geological disaster	3.1	1.354	
7		Pests and diseases	3.4	0.952	3.4
8		Soil erosion	3.6	1.565	
9		Agricultural product	3.5	0.968	
C	Financial risk				
10		Shortage of funds	3.4	0.968	
11		Poor access to fund	3.6	0.958	3.5
12		Market price	3.3	0.905	
D	Social risk				
13		Public affair	2.9	1.158	
14		Social security risk	4.2	0.913	3.5

Source: Field Survey, 2023.

Financial risks are significant, with poor access to funds (M = 3.6) being the highest. The relatively lower standard deviations suggest a consistent experience of financial constraints among farmers. Other financial risks scored 3.4 (shortage of funds), and 3.5 (market price). These financial constraints limit the ability of farmers to invest in farm improvements and cope with unexpected expenses. This assertion corroborates the report by Zelda and Ugochi (2022) who argued that enhancing access to credit and financial services can empower farmers to invest in better inputs and technologies, improving their economic resilience.

Furthermore, social security (M = 4.2) risk is notably high, whereas public affairs (M = 2.9) scored slightly below the threshold. The high mean and lower standard deviation for social security risk indicate a prevalent and consistent concern. Social insecurity can disrupt farming activities and reduce community cohesion. Implementing social safety nets and enhancing security measures can create a more stable environment, allowing farmers to focus on agricultural productivity (Nwozor *et al*., 2019).

Thus, the findings highlight that smallholder cassava farmers in Anambra State face significant livelihood risks across health, environmental, financial, and social dimensions. Each risk type poses unique challenges that can adversely affect the farmers' productivity and economic stability.

Influence of Livelihood Risk on Poverty Types among the Smallholder Cassava Farmers

The result of the ordinal logistic regression analysis used to describe the influence of various livelihood risks (health, environmental, financial, and social risks) on poverty types among smallholder cassava farmers in Anambra State is presented in Table 3. Diagnostically, the Akaike's Information Criterion (AIC) and Bayesian Information Criterion (BIC) values (72.467 and 90.531, respectively) being higher than the Log Likelihood value (-30.234) indicate that the model is adequately specified. The significant Likelihood Ratio Chi-Square value (26.62) at the 1% probability level confirms that at least one of the livelihood risks significantly influences poverty type.

The coefficient of Health Risk (β = -0.100) was negative and significant at the 5% level of probability. The implication is that an increase in health risk reduces the likelihood of being poor by an exponential value of 0.905 units. This suggests that efforts to mitigate health risks, possibly through insurance coverage, have positively impacted farmers' economic stability. Ensuring that farmers can manage health-related issues without falling deeper into poverty is crucial (Zeng *et al*., 2021).

The coefficient of Environmental Risk (β = 0.189) was positive and significant at a 1% level of probability. The implication is that an increase in environmental risk increases the likelihood of being poor by an exponential value of 1.208 units. This suggests the urgent need for strategies to mitigate environmental risks such as climate change, soil degradation, and natural disasters to protect farmers from falling into deeper poverty. Given the positive correlation between environmental risk and poverty, there is an immediate need to implement environmental protection and risk mitigation strategies (Zaria & Ismail, 2024). This includes promoting sustainable agricultural practices, investing in climate-resilient infrastructure, and providing education on environmental management.

Table 3: Influence of livelihood risk on poverty types among the smallholder cassava farmers

Parameter Estimates	Coeff.	Std. Error	Wald Chi-Square	Exp(B)
Cut 1	-1.826	1.645	1.23	0.161
Cut 2	6.488	1.730	14.06	657.492
Health risk	-0.100	0.063	2.49	0.905
Environmental risk	0.189	0.058	10.55	1.208
Financial risk	0.208	0.077	7.31	1.231
Social risk	-0.270	0.108	6.23	0.763
Scale	0.213[a]			
Likelihood Ratio Chi-Square			26.62***	
Omnibus t-stat.			0.000	
Akaike's Information Criterion (AIC)			72.467	
Bayesian Information Criterion (BIC)			90.531	
Log Likelihood			-30.234	

Source: Field Survey, 2023. Sig. @ 5% (**), and 1% (***)

Again, Financial Risk was positive and significant (β = 0.208) at the 1% level, this implies that an increase in financial risk raises the likelihood of being poor by an exponential value of 1.231 units. Financial instability, such as access to credit and market fluctuations, severely impacts farmers' livelihoods and increases their poverty levels (Ikenga et al., 2024). Furthermore, the coefficient of Social Risk (β = -0.270) was negative and significant at the 1% level of probability. This indicates that an increase in social risk reduces the likelihood of being poor by an exponential value of 0.763 units. This may suggest that strong social networks and community support can play a protective role against poverty. The role of social risk in reducing poverty underscores the importance of strong community ties and support systems. Encouraging cooperative societies, social safety nets, and community-based initiatives can provide essential support to farmers. This support strengthens community cohesion (Nwokwu, and Ogayi, 2021). The study's findings emphasized the multifaceted nature of poverty among smallholder cassava farmers in Anambra State.

Determinant of Poverty Types

The study on the Effects of Livelihood Risk on Poverty Types among Smallholder Cassava Farmers in Anambra State, Nigeria, employs a multinomial logistic regression to analyze the influence of socioeconomic variables on different poverty types. The result is presented in Table 4. The model's Final Chi-square value of 25.3, significant at a 1% level, indicates that the chosen socioeconomic variables significantly explain variations in poverty types among smallholder cassava farmers. This suggests that targeting specific socioeconomic factors could effectively address poverty in this context. Again, the Nagelkerke Pseudo R-square value of 0.403 implies that 40.3% of the variation in poverty types is explained by the socioeconomic variables included in the model. The remaining 59.7% could be attributed to external factors like inflation, government policy inconsistencies, natural disasters, and social risks, indicating a need for broader agricultural and economic policies to mitigate these external risks. From Table 4, the researcher(s) found that when not properly managed, farmers have a probability of 57.3% of advancing to relative poverty and 43.7% of advancing to absolute poverty.

The negative and significant coefficients for age (-0.212 for relative poverty and -0.161 for absolute poverty) imply that older farmers are less likely to be poor. This could be due to increased access to economic support with age. Policy implications include providing more support to younger farmers to enhance their economic stability. Equally, the significant negative coefficient (-4.179) for marital status suggests that being married reduces the likelihood of poverty. This finding highlights the importance of social support systems, indicating that programs aimed at enhancing family stability could also help reduce poverty. Also, Obianefo *et al.* (2021) noted that married farmers enjoy productive contributions from their spouses for land and other economic assets that can alleviate poverty.

Furthermore, the positive and significant coefficient for farming experience (1.297) suggests that more years in farming may not necessarily reduce poverty due to reliance on outdated farming methods. This underscores the need to promote modern agricultural practices and technologies to improve productivity and economic outcomes for experienced farmers. However, Weiss *et al.* (2014) noted that work experience helps to achieve higher integration in the workplace, but does not guarantee a higher wage in the long run. The study by Uchemba *et al.* (2021) argued that only experienced farmers who adopted modern technology can improve their production because old ways or crude technologies have yielded no significant result. This finding revealed that a respondent can be experienced in doing what may profit little. The negative and significant relationship between education and relative poverty (-0.363) implies that higher educational attainment reduces poverty. This highlights the importance of educational initiatives and access to formal schooling as crucial factors in poverty alleviation strategies. This finding is in agreement with Tai *et al.* (2018) who found that an additional year of formal schooling increases the likelihood of choosing a livelihood from wage-paying work. Yardimcioglu *et al.* (2014) also noted that education has a positive association with income growth and poverty reduction. Janjua and Kamal (2011) further suggested that enrollment in formal education is a contributor to poverty alleviation. Howbeit, Bilenkisi *et al.* (2015); argued that advancement in the education status of household heads improved family income and reduced poverty status in Turkey.

Table 4: Determinant of Poverty Type Multinomial

	Relative poverty			**Absolute poor**		
Explanatory Variable	**Coeff.**	**Wald**	**Exp(B)**	**Coeff.**	**Wald**	**Exp(B)**
Intercept	19.777	3.73		20.79	4.31	
Sex	-3.017	1.32	0.049	-2.361	1.02	0.094
Age	-0.212	3.90***	0.809	-0.161	2.60**	0.851
Marital status	-4.179	3.48***	0.015	-2.177	1.45	0.113
Farming experience	0.26	2.79**	1.297	0.189	1.88	1.208
Level of education	-0.363	2.22**	0.696	-0.277	1.82	0.758
Cooperative membership	0.437	0.05	1.549	-1.633	1.16	0.195
Household size	-0.496	2.39**	0.609	-0.387	2.15**	0.679
Intercept						
Cox and Snell			0.155			
Nagelkerke			0.403			
McFadden			0.346			
Final Chi-square			25.3***			
Probability			0.563			0.437

Source: Field Survey, 2023. Sig. @ 5% (**), and 1% (***). Reference category = not poor

Lastly, the negative and significant coefficients for household size (-0.496 for relative poverty and -0.387 for absolute poverty) suggest that larger household sizes reduce poverty, likely due to the availability of family labour, which reduces production costs. Policies that support larger households, such as family labour programs and community-based support, could be beneficial. However, these findings suggest that addressing both individual socioeconomic factors and broader external risks is crucial for effectively reducing poverty among smallholder cassava farmers in Anambra State, Nigeria.

CONCLUSION AND RECOMMENDATION

The study on poverty types among smallholder cassava farmers in Anambra State, Nigeria, highlights the significant levels of poverty experienced by this group. Utilizing the international poverty line of $2.15 per day, the study found that 74% of the farmers live in absolute poverty, unable to meet basic needs such as clothing, shelter, and food. Another 24% are relatively poor, with incomes below 50% of the median income. These findings underscore the severe economic challenges faced by the majority of these farmers, who are highly susceptible to economic shocks, natural disasters, and health crises. Such vulnerability can perpetuate a cycle of poverty, further aggravated by any setback, such as crop failure or illness.

The analysis also revealed that various livelihood risks significantly impact poverty levels among these farmers. Health risks, such as illness and poor healthcare access, and environmental risks, like extreme weather and soil erosion, were found to be particularly detrimental. Financial risks, including poor access to funds and market price fluctuations, also contribute significantly to poverty. On the other hand, social risks, including social insecurity, further compound these issues. The findings highlight the need for targeted interventions to address these risks, promote sustainable agricultural practices, and improve access to education and financial services.

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