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Assessment of Rural Communities' Awareness of Microinsurance Products to Be Marketed in Flood-Prone Areas of Anambra State

Chukwujekwu Obianefo, Chibuike Nwatu, Chinwendu Ahaneku and Obinna Efobi

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[1,2]Obianefo A. Chukwujekwu, [3]Nwatu B. Chibuike, [2]Ahaneku E. Chinwendu and [4]Efobi C. Obinna

[1]IFAD/FGN assisted Anambra State Value Chain Development Programme, Awka
[2]Department of Agricultural Economics and Extension, Nnamdi Azikiwe University, Awka, Nigeria; obianefoca@gmail.com (O.A.C.), ce.ahaneku@unizik.edu.ng (A.E.C.)
[3]Department of Marketing, Enugu State University of Science and Technology, Enugu, Nigeria; chibuike.nwatu@esut.edu.ng (N.B.C.)
[4]Department of Agricultural Economics and Extension, Chukwuemeka Odumegwu Ojukwu University, Igbariam, Anambra State, Nigeria; efobiobinna@gmail.com (E.C.O.)

Correspondence: obianefoca@gmail.com

Abstract: Microinsurance is meant to provide cover for different perils that included natural disasters among others. This study on the assessment of rural communities' awareness of microinsurance products to be marketed in flood-prone areas of Anambra State, Nigeria had four specific objectives which examined the extent of rural communities' awareness of microinsurance products, ascertained the level of awareness of microinsurance products, described the determinants of awareness of microinsurance products, and identified the challenges of rural communities in accessing microinsurance products. Several analytical tools of descriptive statistics and multinomial logistics regression were used. A well-structured questionnaire was used to extract data from a random sample of 246 respondents. Among the eight variables of products of awareness, the study found that rural people are only aware of the assertion that the microinsurance policy covers perils such as natural disasters (flood), livestock, crop yield, etc., and that this microinsurance is common in developing countries. The study recorded a low level of awareness with an average level of 33.3%. Age, marital status, household size, and cooperative membership are the significant variables that influenced the level of awareness. The fact that rural people are not comfortable with the period of indemnity claims and issues with a high cost of premium subscriptions suggests that marketers of insurance products should be strategic in their operations to deliver all-encompassing and gender-friendly insurance products.
Keywords: awareness, microinsurance, products, premium, Anambra State

I. Introduction:

Many people are used to the term insurance, but not many are conversant with microinsurance. Microinsurance is an insurance product specifically designed to take

care of all perils that are common to low-income earners. This type of insurance brings affordable products closer to the abandoned or those left alone by the conventional insurance market. Soye and Oyede (2018) captured these products as retirement benefits, protection against low-income families, accident, hazard or disability insurance, medical bill, burial, flood, livestock, and crop area yield index, among other insurable products. Baidya (2014) noted that the reason they are left alone by the conventional insurance market is due to their low financial capability. Thus, microinsurance was deployed to help them cope with and recover from their social and economic financial loss. Despite that low-income people are more vulnerable to risk due to their involvement in activities like agriculture, they are yet considered uninsurable because of their inability to afford the insurance premium (Davignon, 2004). Aliero and Shuaibu (2011) think that microinsurance marketers should consider the income level of rural people while setting up the premium and that sensitization should be intensified during the introduction stage. As early as 1999, Brown and Churchill suggested that insurance offers protection against unexpected losses through the pooling of resources from others to compensate for the losses of a few. This made insurance an economically viable option. Though, the viability of microinsurance has not been able to thrive due to inherent problems like poor insurance culture, high cost of the premium, inadequate insurance information, and delay in indemnifying beneficiaries among others (Wendy, 2009; Chukwujekwu *et al.*, 2021).

However, emphasis should be placed on farming, fishing, artisans, and craft activities, which are the main occupation of rural people. When insurance marketers are trying to promote the products to rural people, they should be made to know that microinsurance remains an effective way to reduce the vulnerability of low-income people to the effects of a disease, violence, theft, disability from work hazards, and fire outbreaks among others.

The rural people involved in this study are exposed to many risks. Yet, there are no better, more efficient and effective risk management strategies put in place to ameliorate the financial loss occasioned by flood, fire, and other natural disasters. To reiterate, these people in rural areas are mainly smallholder farmers and are resource-poor (Obianefo *et al.,* 2021). On the other hand, financial institutions often disenfranchise them during loan processing because of the high risk inherent in their economic activities which the insurance market is there to cater for (Onwurah, 2016).

How the marketers of microinsurance products can penetrate rural people is dependent on how the products are tailored to meet specific needs (Irukwu, 2010). Though, Chukwujekwu *et al.* (2021) suggested that insurance acceptance is dependent on age, level of education and experience, and social networking or association. But whatever the penetration is hinged on, there should be no ambiguity in designing insurance products for low-income people in society. The fact that these people live in the flood-prone area of the state should even be considered during the design. That is to say that the insurance industry should be more strategic in its approach. Obianefo *et al.* (2019) allude that flooding is a perennial event in riverine areas of Anambra State. By flood-prone, the study refers to areas that often witness the overflow of water bodies. It is often destructive due to high water currents. Several scholars described the flood as a disaster caused by a temporal overflow of water into formally dry land, and its impact is overwhelming to humans, plants, and animals (Ezeokoli *et al.*, 2019; Mbinaand and Edem, 2015; Ijigahand and Akinyemi, 2015; Adetunjiand and Oyeleye, 2013). The fact that a flood causes a temporary rise in sea, stream, lake, or river levels makes it a hydrological event that leaves the immediate environment with a devastating effect. Agbonkhese *et al.* (2014) further noted that flood loss has become a re-occurring phenomenon that impacts livelihoods and infrastructural development negatively. The fight against poverty in flood-prone areas is proving difficult because the aftermath of the hydrological event (flood) is hunger and starvation. Some families' survival after a flood depends on the succor they receive from well-meaning

Nigerians. The worst is that financial institutions prefer not to risk their funds in flood-prone areas, especially those without insurance coverage (Olomola *et al.,* 2014).

The scarcity of scholarly materials confirms that studies are yet to expose the level of rural people's awareness of microinsurance products in flood-prone areas of Anambra State, understanding this will help to redirect sensitization and awareness creation to get the people into buying the products which will help to revamp their economy even after the flood. Thus, the study is designed to address the following specific objective:

i. To examine the extent of rural communities' awareness of microinsurance products,
ii. To ascertain the level of awareness of microinsurance products in the study area,
iii. To describe the determinants of awareness of microinsurance products, and
iv. To identify the challenges of rural communities in accessing microinsurance products.

II. Materials and Methods

This study was carried out in Anambra State, Nigeria. The state is bounded by Delta State to the West, Imo State and Rivers State to the South, Enugu State to the East, and Kogi State to the North (Obianefo *et al.,* 2019). Anambra State is located at latitudes 5°32' and 6°45' N and Longitudes 6°43' and 7°22' E, with annual temperature and rainfall of 25.9^{o}C and 138mm respectively (Chukwujekwu *et al.*, 2022). At the last national population census in 2006, the Nigerian Population Commission (NPC) submitted that the State have 4,177,828 people. Anambra people are good entrepreneurs, and farmers, among others.

A multi-stage sampling technique was adopted to arrive at the right sample size through a descriptive survey. Shaughnessy *et al*. (2011); Meludu *et al*. (2022) noted that a descriptive survey design samples individual units of a population or study

representative. Thus, in the first stage, three Local Government Areas (Ogbaru, Anambra West, and Anambra East) where the hydrological event (flood) is common were purposively selected. In stage two, four communities were selected from each LGA. In stage three, four villages were selected from each community to make it a total of forty-eight (48) villages. Finally, in stage four, six flood victims were randomly sampled from each village. This brought the sample size to two hundred and eighty-eight (288) respondents. Data were collected in one month (9th September – 8th October). After the data cleaning, only two hundred and forty-six (246) which represents 85.4% were valid for further analysis.

Measurement of Variables

Constructing academic research requires a special skill to clearly define and measure all the variables of interest. For easy understanding, the variables to be measured are classified into dependent and independent observations.

Dependent variable: the dependent variable for this study is the level of respondents' awareness of microinsurance products. What qualifies a variable to become dependent is when the outcome of the variable depends greatly on the manipulation of another variable. The microinsurance products available were listed on a 4-point Likert scale, and the Brown Taxonomy approach was used to convert the extent of awareness to the level of awareness.

Independent Variables: all the variables whose outcomes are not dependent on the manipulation of others have been identified and separated as the independent variables. Their units of measurement are shown as:

Gender: This is the social position of respondents, it is measured as a dummy variable where 0 is for females, and 1 is for males.

Marital status: marriage is a union of two adults, the researcher(s) used 0 to represent single respondents, and 1 to represent married respondents.

Working experience: working experience is the wealth of knowledge that the respondents have acquired over time in doing a similar business for more than five years. The unit of measurement is a year.

Household size: this is the total number of people living and feeding from the same pot. It was measured as the number or count of people.

Equally, the age and education of the respondents were measured in years. The researcher(s) understood that how long the respondents are involved with formal education affects their response to the questionnaire.

Farm size: rural people are mainly involved in agriculture and fishing; their farm size was measured in a hectare. Both access to credit and membership in a cooperative were measured with a dummy variable where 1 is yes and 0 is no.

Finally, the list of the challenges affecting participation in microinsurance was given to the respondent to tick from based on multiple responses.

III. Data Analysis

This study utilized a combination of different analytical techniques. Objective one was achieved from the mean threshold of the 4-points Likert scale. Objective two adopted the technique by Brown taxonomy used in Obianefo *et al*. (2022). Objective three was achieved with a multinomial logistics regression adopted from Shah *et al.* (2022). And objective four was achieved with a simple descriptive statistic.

Model Specification

- descriptive statistics is defined as:

$$p = \frac{x * 100}{X}$$

Where: p is the percentage outcome, x is the observed outcome, and X is the expected outcome

- Multinomial Logistic Regression (MLR) adopted by Shah *et al*. (2022) and El-Habil (2012) to explain the determinants of the level of awareness of microinsurance product is defined as:

$$Log(\pi_j\,(X_i) = \frac{exp^{\alpha_{oi}+\beta_{1j}X_{1i}+\beta_{2j}X_{2i}+\cdots\beta_{pj}X_{pi}}}{\sum_{j=1}^{k-1} exp^{\alpha_{oi}+\beta_{1j}X_{1i}+\beta_{2j}X_{2i}+\cdots\beta_{pj}X_{pi}}}$$

Where π is the level of awareness, X_i is the vector(s) of explanatory, and β_j is the parameter to be estimated.

Eventually, the MLR probability model used in Chatterjee and Hadi (2006) was used to establish the probability of respondent's awareness of microinsurance products as defined by:

$$\widehat{\pi_1} = \frac{exp\ (y_i)}{1+\sum exp(y_i)}$$

Where y_i is the predicted responses from the exponential value of the MLR result.

IV. Results and Discussions

The extent of rural communities' awareness of microinsurance packages

Table 1 reflects the mean score of the 4-points Likert scale used to capture the respondent's awareness of the microinsurance packages they can benefit from. The International Association of Insurance Supervisors (IAIS) noted that this type of insurance is accessed by low-income populations and that its products are distinguished by a particular market segment on which it focuses (IAIS, 2007). However, eight items of microinsurance products were captured and a decision was reached at 2.5 as a threshold of awareness. Therefore, any score below this decision value means not aware. The result revealed that the respondents are only aware of two products which are that the microinsurance policy cover perils such as natural disaster (flood), livestock, crop yield, etc. (M = 2.55), and that microinsurance is

common in developing countries (M = 2.52). The grand mean of 1.85 is an indication that the majority of the respondents are not aware of microinsurance packages. Again, the grand standard deviation value of 0.72 which is above 0.50 is high enough to show variation in individual responses in the study. Rural people are not aware of a product that is not brought to their notice through marketing and other sensitization platforms. This poor awareness result supports the earlier assertion by Zaheenah and Bisschoff (2014) who noted that the least protected people in the market are most vulnerable to financial shocks. Many rural communities in Anambra State suffers from perennial flood and other disasters which results in significant loss to the economy. Churchill *et al*. (2012) opined that the loss occasioned by natural disasters makes the men-headed household vulnerable. Zaheenah and Bisschoff (2014) also, submitted that the impact on women is far greater. Thus, the fact that Churchill *et al*. (2012) pointed to microinsurance as a gender-sensitive industry is more reason it should be marketed in the study area because the bulk of food consumed in Nigeria comes from rural areas. Thus, when properly sold to the respondents, it will cause sustainable development, social protection, and ensure food security among other benefits to the economy.

Table 1: The extent of rural communities' awareness of microinsurance products

Sn.	**Microinsurance products**	**Mean**	**Std. Dev.**	**Decision**
1	It gives protection to individuals without retirement benefit	1.51	0.584	Not aware
2	It is tailored to protect low-income families	1.50	0.555	Not aware
3	It takes care of the medical bill of the household head during an accident or work hazard	1.55	0.575	Not aware
4	It takes care of burial expenses in case of the death of the household head	1.61	0.580	Not aware
5	It offers protection against farm implements	2.00	0.790	Not aware
6	the microinsurance policy cover perils such as natural disaster (flood), livestock, crop yield, etc.	2.55	1.082	Aware
7	It gives cover for an occurrence that may lead to disability	1.54	0.568	Not aware
8	This microinsurance is common in developing countries	2.52	1.064	Aware
	Grand mean	1.85	0.72	Not aware

Source: Field Survey, 2022.

The level of awareness of microinsurance products

Table 2 shows the classification of the level of awareness of microinsurance in rural communities of Anambra State. Scholars like Marafa *et al.* (2019) viewed the level of awareness as the image understanding of insurance companies in Nigeria. The study revealed that the majority (65.0%) of the respondents have a low level of awareness of microinsurance products, while the remaining 30.9% had a medium level of awareness, and the last 4.1% had a high level of awareness. The average score of 33.3% which falls within the 0 – 49.0% classified as a low level of awareness is an indication that there is a very low level of awareness of microinsurance products in the study area. The early study by Seog (2002) noted that insurance providers should look into the low acceptance or awareness of insurance products as a way to improve the insurance market. Haven found a standard deviation value (7.97) that is high enough to show much variation in responses, confirming the need to understudy the microinsurance market in rural areas for national benefit. With the content that Marafa *et al.* (2019) noted that the poor image of insurance companies is responsible for the negative attitudes of the people, Chukwujekwu *et al.* (2021) therefore, submitted that poor insurance culture has affected how the message of insurance sink to the mind of farmers or rural people. Thus, the researcher(s) makes bold to affirm that microinsurance markets have not harnessed the available markets in rural areas which are translated from this finding.

Table 2: the level of awareness of microinsurance coverage in the study area

Classification (%)	**Frequency**	**Percentage**	**Mean**	**Std. Dev.**
0 – 49.0 (Low level)	160	65.0		
50.0 – 69.0 (Medium level)	76	30.9	33.3	7.97
70.0 – 100 (High level)	10	4.1		
Total	246	100.0		

Source: Field Survey, 2022

The determinants of awareness of microinsurance products

A Multinomial logistic regression approach with maximum likelihood estimation criteria (Table 3) was used to determine the variables responsible for awareness level. The low level of awareness was the reference or baseline information. Different analytical suppositions were tested to confirm the accuracy of the model. The high and closeness of the Akaike information criterion (AIC) (401.829) and Bayes information criterion (BIC) (471.935), which are greater than the Log-likelihood of 361.829 means that the model was well-fitted and that the result was close to expectation. The Likelihood ratio text of 18.416*** is significant at a 1% level of probability and confirmed that at least, one of the independent variables included in the analysis influenced the respondents' level of awareness.

The overall model was 65.0% correct in explaining the relationship between socioeconomic characteristics and the level of awareness of microinsurance. In the study area. The study further revealed that the probability of demonstrating a medium level of awareness was 0.534 units, and that of a high level of awareness was 0.466 units.

The coefficient of age was negative and significant at a 5% level of probability for a high level of awareness with a marginal effect size of 0.960, this implies that older rural people have low awareness of microinsurance products by 96.0%. This is a good result as they may not have the ICT facility to keep updated with recent trends. This is also in agreement with Chukwujekwu *et al.* (2021) who found that older farmers are less aware of National Agricultural Insurance Corporation (NAIC) products. Sadly, the coefficient of marital status was negative and significant at a 1% level of probability, the marginal effect size of 2.753 units implies that married respondents are less aware of microinsurance. This finding revealed that single respondents are more risk averse, their high level of awareness shows they are scared of losing their scarce resources to any insured peril.

Just like expected, the coefficient of cooperative membership was positive and significant at a 1% level of probability, the marginal effect size of 0.247 implies that rural people belonging to any cooperative association have a high level of awareness by 24.7%. A cooperative member with knowledge could share the information with members during meetings. Furthermore, household size was also a significant determinant at a 1% level of probability. At one point, an increase in household size increase the risk of low awareness by 90.9%, and in the other quarter increased awareness to a high level by over 100%. The study, therefore, revealed that age, marital status, cooperative membership, and household size are important variables in the study of awareness of microinsurance products in the study area. This means that the multinomial model adopted from Obianefo *et al.* (2022) and Shah *et al.* (2022) remains one of the best to explain the relationship between socioeconomic characteristics and awareness level of microinsurance products in the study area.

Table 3: the determinants of awareness of microinsurance products

	Medium level of awareness				**High level of awareness**			
Source of variation	**B**	**Std. Error**	**Wald**	**Exp(B)**	**B**	**Std. Error**	**Wald**	**Exp(B)**
Intercept	-0.502	0.664	0.57		-3.298	1.753	3.54	
Gender	-0.123	0.288	0.18	0.884	0.039	0.697	0.00	1.039
Age	*0.011*	0.01	1.33	1.011	-0.041	0.026	2.50**	0.96
Marital status	-0.002	0.205	0.00	0.998	1.013	0.562	3.24***	2.753
Agric. Experience	-0.008	0.014	0.31	0.993	0.023	0.03	0.56	1.023
Education year	0.004	0.028	0.02	1.004	0.02	0.068	0.09	1.02
Farm size	-0.095	0.107	0.79	0.909	-0.04	0.258	0.02	0.961
Coop. membership	0.234	0.289	0.66	1.264	1.399	0.774	3.27***	0.247
Credit access	-0.002	0.285	0.00	0.998	0.072	0.694	0.01	1.075
Household size	-0.095	0.051	3.54***	0.909	0.195	0.109	3.19***	1.216
Diagnostic tools								
Nagelkerke Pseudo R^2	0.092							
Akaike information criteria	401.829							
Bayes Information Criteria	471.935							
Log Likelihood	361.829							
LR Test	18.416***							
Probability	0.534				0.466			
Classification	65.0%							

Source: Field Survey, 2022.

The challenges of rural communities in accessing microinsurance products

The study descriptively presented the challenges faced by rural people in accessing the products of microinsurance in the study area. The result is presented in figure 1. The figure shows that the majority (93.5%) of the respondents complain about the delay in indemnity claims. This indemnity claim is what the insurance company pays someone who has active premium payment with the company in the face of financial loss as contained in the peril insured. This could be the reason they seem not interested in insurance products in the area. Also, many (85.4%) of the people lack information as to where they can access this insurance product. This means, there is a need to intensify sensitization and awareness in form of marketing the product to the people. Just like found in Chukwujekwu *et al.* (2021), the study found that 80.1% of the respondents reported poor insurance culture. This is poor insurance culture is common to low-income people. Furthermore, the study also revealed that 76.8% of the respondents noted that they lacked government support in accessing microinsurance products. Considering the urgency to sustain the nation's food security which is produced by rural farmers, the government need to intensify effort to subsidize microinsurance products. Finally, the study revealed that 36.2% of the people complained about the high cost of insurance products. This is the area where the government can come in to encourage the people. The government should not rely on the succour they give to rural people after the incidence of floods and other disasters. The study by Wendy (2009) also pointed to high transaction costs as a challenge to microinsurance in Bangladesh.

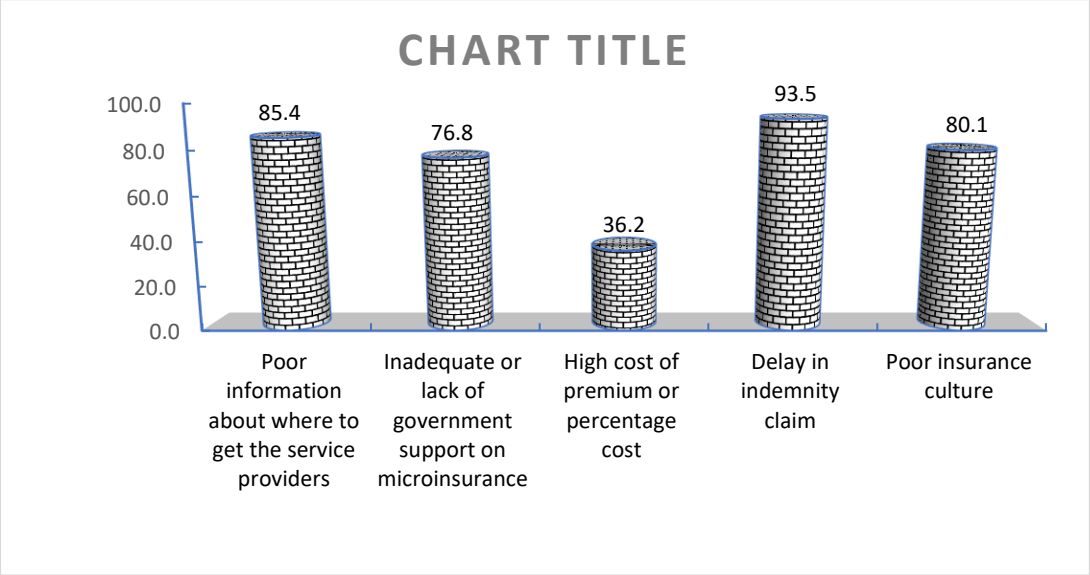

Figure 1: Challenges of accessing microinsurance in agrarian communities in Anambra State

V. Conclusion and recommendations

This study on the assessment of rural communities' awareness of microinsurance products to be marketed in flood-prone areas of Anambra State, Nigeria is as important as its title appears. This is because accessing microinsurance products by rural people will go a long way to improve the general economy of the nation by reducing the financial loss incurred by the farmers in the rural area. With the knowledge that microinsurance is common to low-income people which is common to rural areas, allowing the farmers to subscribe for a particular peril cover will lead to food security because farmers will be indemnified when they have active subscriptions before the flood. The whole concept is to kick back them to the start of an active production lifestyle. Thus, it is suggested that low-income people be properly sensitized to buy into available insurance windows. The study, therefore, recommends that microinsurance premiums should be made affordable considering the income strength of the rural people, and information about microinsurance should be easily accessible to all. Government and non-governmental agencies should increase awareness campaigns of microinsurance instead of the succour they give to flood victims after the event.

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Author's Contribution:

Obianefo A. Chukwujekwu: the lead researcher initiated the study, wrote the first draft of the paper, and analyzed and interpreted the data. Nwatu B. Chibuike and Ahaneku E. Chinwendu: reviewed thw paper, design and deployed and coordinated the fieldwork. Efobi C. Obinna: proofread the work and arranged the manuscript according to the format and style. All the authors have read through the manuscript.

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Appendix 1: Image from the flood location during the field work