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Microinsurance Policy and Peace of Mind among the Small Scale Farmers: (A Case of Small Scale Farmers in the Southwestern Part of Nigeria)

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Abstract: Low accessibility to credit facilities has been devastating the small scale farming business in Nigeria. Therefore, the small scale farmers in Nigeria are encountering difficulties as these farmers cannot directly access credit facilities to boom and develop their farm business activities, and this has led to agricultural business setback in the country. This paper investigated how micro-insurance policy has influenced peace of mind among the small scale farmers in Nigeria. The study used survey research methodology, with the south-western part of Nigeria as the scope of the study. The data for this study was extracted from primary source through well structure designed questionnaires, using correlation and linear regression analysis to analyze the extracted data. And to determine the present and future relationship between examine the present and future relationship between the independent variable (micro-insurance (MI) and the set of dependent variables (health risk (HR); financial protection (FP); vulnerability risk (VR); and Poverty alleviation (PA)). The findings revealed that using micro insurance as an health risks management tool among the small scale farmers in rural areas, and the less privileges will be an efficient platform to alleviate their proneness to the risks of sickness, because it will assist this them to overcome the anxiety of hospital bills payments, and other medical expenses. The study conclude that Micro-insurance can mitigate vulnerability among the small scale farmers in the country by providing low income households, business and farmers with access to post eventuality compensation, thus compensates them for injury, damage and providing coverage for their ill-health, which invariably leads to development among the small scale farmers.

Keywords: Micro-insurance; Financial protection; Health risk; Vulnerability risk; Poverty alleviation.

INTRODUCTION

The rural farmers in Nigeria face significant challenges in access to credit facilities, insurance policies, and other financial benefits which had automatically reducing their business growth and development, and exposing these farmers to fluctuations in their farms' income revenue, and leads to high expenses arising from their health and medical costs, farm products theft and damage, and catastrophe losses caused by fire. The International Fund for Agricultural Development (IFAD) [1] affirmed that there are about 500 million smallholder farms worldwide, supporting 2 billion people. The body suggested further that, in most emerging economies, GDP growth in the agricultural sector "is up to four times more effective in reducing poverty than growth generated by other sectors". World Bank [2] in its research postulated that in Sub-Saharan Africa, 60-70% of the population live in rural areas, with the majority engaged in agriculture. But it is evident and certain that most of these populations do not have access to formal financial services and credit facilities to facilitate their farm businesses. These challenges have no doubt as Asogwa, Umeh & Ater [3] affirmed in their research that small-scale farmers belonged to the poorest segment of Nigeria's population and therefore could not make meaningful investment in farming. In support of this affirmation, Onuk, Ibrahim, Bello & Patrick [4] asserted that incidences of poverty and poor agricultural production were closely interwoven.

The small scale farmers in Nigeria are encountering difficulties as these farmers cannot directly access credit facilities to boom and develop their farm business activities, and this has led to agricultural business setback in the country. Yaron [5] opined that poor access to formal financial services is due to inherent difficulties associated with such characteristics as low population density in rural areas where farmers reside, isolated markets, seasonality of products, and highly covariant risks such as widespread crop failures, commodity price fluctuations, and high

post harvest losses. Although, agricultural activities decisions are taken within uncertainty environments which makes the farmers to be indecision minded, and farmers will have to take decisions in these uncertain situations, and these decisions will be determine by their environmental perception and their attitude towards risks associated with activities in question.

The present poor state of Nigerian agriculture has to do with the lack of care on the part of the government and stakeholders on one hand as they failed to formulate and implement right and effective policies that will revive and restructure agricultural sector in the country, on the other hand it has to do with farmers' attitude towards risk in the adoption of innovations and new production techniques in the agricultural industry as well as the risk inherent in such development and their socioeconomic environment. Muller, Ramm, & Steinmann [6] in their study assert that smallholders operate in a complex environment and face a number of constraints, which hold them back from developing their farm activities and ultimately improve their livelihoods. According to the authors, typical constraints include inadequate access to means of production, limited farming know-how, difficulties in market access, cultural restrictions, significant production and price uncertainty, and a generally unfavorable investment climate. However, micro insurance is an important means of protecting poor households from adverse financial consequences of risk, the purpose is to protect people against risks that can be quantified, through solutions that are responsive to local needs, apply technically-sound operational processes and are structured to promote financial sustainability [7]. Micro-insurance is an insurance package designed, and often found among the developing countries, where the conventional insurance markets are inefficient or non-existent, in other words not sufficient to extend to their rural areas. Because these people are limited by their financial capacity, and their earning income is lower than a usual insurance plan requirement, therefore, these people can only afford smaller premiums.

Moreover, the majority of the small scale farmers in Nigeria operate in the rural area with insufficient available resources to run their farms' business operation. Small-scale farmers often live in remote and environmentally fragile locations and are generally part of marginalized and disenfranchised populations [8]. Consequentially, this reduces their business revenue generation; limit their access to credit facilities, exposing them to vulnerability of risk, and hindering them from getting adequate health facilities enjoying by those living in the cities. The inability of small scale farmers in Nigeria to access credit facilities coupled with high level of vulnerability to poverty are factors which primarily determined their furthest away from health facilities, invariably resulting to their low financial income and fluctuations in revenue generation. Necessity is demanded for the management of this situation if growth and development is expected in the economy, as this limiting the economic activities and contributions of the small scale farmers in the country. Against this background this study stands to investigate the impact of micro-insurance on small scale farming business operations in Nigeria, hence the specific objectives are: to examine the significant impact of micro-insurance on the poverty alleviation among small scale farmers in Nigeria; to determine the effect of micro-insurance on the health improvement among the small scale farmers in Nigeria: to investigate the effect of micro-insurance on the financial protection of the small scale farmers in Nigeria; and to identify the significant effect of micro-insurance policy on vulnerability alleviation among the small scale farmers in Nigeria.

Micro-insurance as a tool for poverty alleviation among the small scale farmers

Micro-insurance is an anti-social destitute element specifically designed to bring affordable insurance products closer to those that are abandoned, forgotten and left alone by the conventional insurance products due to their financial incapability, to help them cope with and recover from their social and domestic common risks. Baidya [9] in his study pointed out that, the poor were considered too disadvantaged to be able to afford insurance premiums, often they were considered uninsurable, given the wide variety of risks they face. The farmers in the rural areas are exposed to variety of risks where there is no proper, effective, and efficient risk management tool to eliminate or alleviate these risks, basically because they depends heavily on their poor saving, and current farm activities income in order to overcome the burden posed to them by these risks, which automatically depletes their saving and other capital assets, this invariably leads them to the state of destitution and high level of poverty.

Davignon [10] in his study pointed out that the poor prove to be the most vulnerable to the hazard of life (the more 'at risk'), this is so, because they do not dispose of enough material or social resources to cope with the hazardous event when it occurs. According to the author, the poor being already in an unstable position for which they have to struggle every day, the impact of hazard would be really catastrophic for their livelihoods because it destroys every resource they managed to build up, including hope. Stressing further, the author established that further resources, when available, are extremely valuable for their survival and escape from poverty, and it makes the risk still high. This shows the importance of micro-insurance policy formulation and implementation in any economy, because it serves as a risk management tool for social problems of the poor citizens and those in the local areas of the country engaging in small scale farming: that are ignored by the conventional insurance; not having access to credit facilities to facilitate their

economic business activities; not having access to health facilities for themselves and their families' lives sustainability; not having access to regular cash flow for their living sustainability. According to Churchill [11] micro insurance has been described as 'the protection of low-income people against specific perils in exchange for regular premium payments proportionate to the likelihood and cost of the risks involved'. Therefore, it imperative for effective micro-insurance policies that is potential enough to cater for the risks combating the rural and small scale farmers in the country, basically for the growth and development of economy.

Micro-insurance as a tool to manage small scale farmers' health risk

Governments in any country owe a duty of providing health care to their citizens as part of their fundamental obligations, irrespective of the level of their citizens: be it poor or rich, living in the city or rural area. But obviously, in Nigeria, farmers living in the rural areas are abandoned, and absolutely neglected by Nigeria government in the area of health services, health facility e.tc. That are needed to make life easy, and give them long-life preservation. Evidently, the poor have traditionally faced barriers to health services due to their poverty [12], and out-of-pocket health expenses have negative consequences in the use of health services and overall living standards, primarily due to the unpredictable nature of out-of-pocket expenses [13]. Therefore, every serious illness, every accident and every natural disaster threatens the very existence of poor people usually leads to deeper poverty [14]. But it is sadden in Nigeria as free public-health services for the urban and poor people in the rural area only exist theoretically, but not practically embraced and implemented.

According to World Health Organization (WHO) as reported in This Day Newspaper (9th of February, 2017) [15] that for Nigeria to be seen to prioritize healthcare, it must at the least spend a minimum of ₦6,908 per Nigerian in a year, which when multiplied by 180 million people will amount to ₦1.2 trillion. But 2017 national budget of ₦7.298 trillion presented to the National Assembly by President Muhammadu Buhari for approval, only a meager 4.17 per cent was allocated to the health sector, and if the appropriation bill is passed, will spend ₦304 billion on the health of over 180 million Nigerians, amounting to ₦1,688 per citizen for the whole year. When multiplied ₦1,688 by 180 million people will amount to ₦1.2 trillion. This means that if ₦1.2 trillion is budgeted and spent on healthcare for a year, as against the current ₦304 billion being allocated to healthcare for 2017, it will go a long way in solving significant health issues in the country. This means that only wealthy people can plan for their health care and social security in the country. Therefore, micro-insurance is a useful social protection tool in the economy that serves as medium in which social insurance is available at the door of low income people in the country, especially those living in the rural areas of the country.

Picture 1.1

President, Muhammadu Buhari presenting 2017 Budget, before the National Assembly
Sourced: ***This Day News Paper (9th February, 2017)***

More so, the poor are largely excluded from the public facilities that do exist, due to lack of money (for bribes) or connections [12]. Micro-insurance schemes would generally focus on life and health insurance because death risks and illness are the major risks faced by poor households [16]. Micro-insurance involves a risk-pooling element that enables poor or low-income households to cope with larger risks, e.g., death and health risks [16]. Micro-insurance is designed generally to address economic exclusion from resources, services, and/or social protection in the cases of death, ill-health, or another adverse life event [12].

Micro-insurance as a tool for small scale farmer's financial protection

The rural farmers have been facing series of natural disasters increasing in severity and frequency. Micro-insurance policy as it is designed to develop and promote rural communities, and provide peace of mind for low income earners in the country. Silvia *et al.*, [17] pointed out that micro-insurance prevents farming households from suffering long-term impacts as the rural farmers have been facing series of natural disasters increasing in severity and frequency. Micro-insurance

policy is designed to develop and promote rural communities, and provide peace of mind for low income earners in the country. Silvia *et al.*, [17] pointed out that micro-insurance prevents farming households from suffering long-term impacts in the case of harvest failure. Micro-insurance is a financial loss protection tool that helps to protect the loan portfolio of micro finance institutions, such as micro-finance bank; agricultural credit banks etc, by helping their low income customers to prevent them from bankruptcy. Michal *et al.*, [18] asserts that micro-insurance is insurance policy that lower out-of-pocket costs or other forms of financial relief, and reducing reliance on burdensome financing strategies and encouraging the use of more effective, efficient financing when a shock occurs.

According to International Micro-insurance Conference [19] Micro-insurance is an important instrument to manage risks as well as a means for financial management. Micro-insurance is an essential element of the financial system because it provides the low-income population with products and services for the management of financial risks [20]. Micro-insurance has the potential to improve client well-being through the three broad impacts of providing financial protection, reducing vulnerability and improving health [18]. Therefore, micro-insurance is a business risk management tool that enables low income farmers to engage in their farm business activities with the assurance that their financial assets are secured, and their loan on the business will be repaid in case of any adverse return on their farm business. Paul [21] asserts risk and vulnerability to risk are fundamental causes of underdevelopment and that shocks in the shape of unforeseen misfortunes leading to loss of income and productive potentials typically coerce poor individuals exposed to them to dispose of productive assets, which may further force them to reduce productivity, lower income and greater susceptibility in the future. Therefore, Micro-insurance represents a financial instrument designed to protect the poor against risks, by using community-based mechanisms that are characteristic of developing countries.

Micro-insurance as a tool to manage small scale farmers' vulnerability to risk

Micro insurance has the potential to reduce the vulnerability of the poor to natural hazards in developing countries [22]. Therefore, micro-insurance serves as a financial tool that can be used to mitigate against poverty among local and poor people in the emerging economy. Daniel [23] affirmed in his study that the low-income bracket of the Nigerian economy is vulnerable to risk such as illness, death, accidents, damage to property to mention a few, with devastating consequences without a cushion to reduce the financial strain, owing to the non-existing or inadequate safety nets from the government, thus opening a window of opportunity for micro-insurance. Micro-insurance is a financial instrument designed to combat risk vulnerability in the rural area of any economy and proffer lasting solution at their levels. Cohen and Sebstad [24] defined vulnerability as the ability of households to deal with risk. Vulnerability to risks from stress and shocks including illness, injuries, property loss, and premature death is an everyday reality for all of us, but the impact of these risks on the poor is manifold and destructive [14]. Low-income households are particularly vulnerable to risk and negative external shocks (e.g., natural disaster; illness/ death of main breadwinner) due to their low asset bases [25].

According to Brown and McCord [26] developing countries need greater safety net, particularly at the poorest levels where vulnerability to risks is much greater and there are fewer opportunities available to recover from a large loss. Micro-insurance products, specifically designed with the poor in mind, will help mitigate risks and reduce the vulnerability of poor households [16]. Mukhtar [27] summits that Micro-insurance is considered as one of the most effective means of reducing the vulnerability of the poor from the impacts of disease, theft, violence, disability, fire and other hazards, . Micro-insurance is a measure designed to control effectively and reduce efficiently, the level at which the farmers in the rural areas, and low income people are vulnerable to risks.

Empirical review of other scholars' literature

Hamid, Roberts, and Mosley [28] carried research on how micro health insurance can be used to reduce poverty in the rural areas of Bangladesh, using ordinary least square regression analysis to analyze the primary data collected for the study. The result of the study shows that micro health insurance has a positive association with all of these indicators, and this is statistically significant and quantitatively important for food sufficiency.

Aliero and Shuaibu [29] studied on the Prospects of Micro-Insurance in the rural areas of Nigeria: a case study of Kebbi State, with cross sectional data, using logit regression model to analyze their data. Their study revealed that income level, educational attainment and property ownership as well as availability of infrastructural facilities in the rural areas affect the prospects of Micro-Insurance in the rural areas of Nigeria. Their study recommended that income level of the rural dwellers should be taken into consideration while setting premium, efforts to provide at least basic education in the areas should be intensified. It is also suggested that serious mobilization and sensitization should precede the introduction of Micro-Insurance. And Micro-insurance in rural areas should place more emphasis on farming, being the major occupation in the rural areas. Lastly they recommended for Agricultural Micro-insurance in rural Nigeria, at least for a start.

Evbuomwan, Ikpi, Okoruwa, & Akinyosoye [30] carried out study on preferences of micro, small and medium scale enterprises to financial products in Nigeria, using frequency analysis. Their study revealed that inadequate fund/working capital was the most mentioned problem with a percentage share of 60.7% followed by the problem of poor power supply/inadequate infrastructure which took 55.7%, and 64.7% would prefer loan so they can be in full control of their businesses, while only 15.7% preferred equity. The study recommended that credit programs that will take cognizance of the peculiarities of MSMEs in Nigeria be intensified so as to increase their access to funds in view of their dominance and potential contribution to the economy.

Ashamu [31] carried out research on the impact of micro-finance on small scale business in Nigeria, using Simple random sampling technique, simple percentage, and Chi-square (contingency test). The findings of the study indicate that the operations of MFIs have grown phenomenally in the last three years, driven largely by expanding informal sector activities, the conversion of the community banks to micro finance banks and the reluctance of banks to fund the emerging micro enterprises, and concluded that Microfinance institutions (MFIs) is the main sources of funding small and medium scale industry in Africa and in other developing regions.

Nmadu, Eze & Jirgi [32] investigated on determinants of risk status of small scale farmers in Niger state, Nigeria. Basically to ascertain the risk status of farming households and whether the risk status is accentuated by some factors, using descriptive statistics and multinomial logistic regression used to confirm the determinants of risk status of the respondents. The result of their study shows that the set of significant explanatory variables and their sign vary across the groups, and concluded that the risk attitudes could only be explained by individual social, economic, cultural and psychological factors and it may be important to estimate individual risk preferences or identify factors that affect the individual's capacity to bear risk or consider their risk environment.

Therefore, micro-insurance in any developing economy like Nigeria, will help the small scale farmers in the rural areas to mitigate against the risks they are exposed to, and serves as a proactive tool to reduce their farming risks to drastic measure. Importantly, micro-insurance can help protect the small scale farmers against the risks they are vulnerable to, by ensuring that money is available to them after a loss, which they can then use to finance their recovery, be place back to their pre-loss financial position, and restarting their livelihoods, if well restructured, and effectively implemented in any developing economy especially among the rural farmers.

METHODOLOGY

This study adopted a descriptive survey research design. This approach was chosen by the researchers because it ensures an accurate description of the study under investigation and reduces bias in collection of data. The target population is the entire small scale farmers operating in Nigeria. The sample chosen for the study is fifteen (15) farms among the small farms business operating in the southwestern part of Nigeria. The study respondents were the staff who handled insurance and risk management related issues in these farms. These staff had sufficient education to provide the requisite information elicited in the research instrument. Contact with these respondents was provided by the insurance agents / marketers of different insurance companies that underwrite some of their risks. One Hundred and fifty (150) questionnaires were distributed among the fifteen (15) selected farms for this study. In order to have a more effective sampling of the various small scale farmers within the scope of the study, a total of fifteen (15) farms were selected randomly. Primary data was collected through well structured questionnaires about how micro-insurance mechanism can serve as a peace of mind to the small farmers. The data collected were analyzed using Spearman Correlation analysis, and linear regression analysis model. Secondary data were collected basically for this study through books; published materials in journals, material available in the internet are the major source of information.

Correlation Analysis

The study examined the correlation between the independent variable (micro-insurance (MI)) and set of variables (health risk (HR); financial protection (FP); vulnerability risk (VR); and Poverty alleviation (PA)) as dependent variables. Correlation measures the degree of relationship between two or among variables. Correlation coefficient, (r) is the statistic which measures the relationship between the ranges of -1 to +1.

The detailed information of the correlation analysis appears in the table1.0 below:

Table-1: Showing the Correlations analysis for study variables

		MI	HR	PA	VR	FP
MI	Pearson Correlation	1	.636**	.420**	.275**	.570**
	Sig. (2-tailed)		.000	.000	.001	.000
	N	131	131	131	131	131
HR	Pearson Correlation	.636**	1	.320**	.377**	.440**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	131	131	131	131	131
PA	Pearson Correlation	.420**	.320**	1	.176*	.287**
	Sig. (2-tailed)	.000	.000		.045	.001
	N	131	131	131	131	131
VR	Pearson Correlation	.275**	.377**	.176*	1	.179*
	Sig. (2-tailed)	.001	.000	.045		.041
	N	131	131	131	131	131
FP	Pearson Correlation	.570**	.440**	.287**	.179*	1
	Sig. (2-tailed)	.000	.000	.001	.041	
	N	131	131	131	131	131
**. Correlation is significant at the 0.01 level (2-tailed).						
*. Correlation is significant at the 0.05 level (2-tailed).						

In Table-1 above the correlation analysis for the independent variable (MI) and set of dependent variables (HR, PA, VR, and FP) shows that: a strong positive relationship exist between Micro-insurance (MI) and Health risk (HR) of the small scale farmers in the rural area of Nigeria at 0.01 level of significant, where ($r = 0.636^{**}$, n = 131, p=0.000), what this implies is that significant relationship exist since their P-value is lesser than 0.01 (level of significance); again, the table shows that a strong positive relationship exist between Micro-insurance (MI) and Poverty Alleviation (PA) among the small scale farmers in the rural area of Nigeria at 0.01 level of significant, where ($r = 0.420^{**}$, n = 131, p=0.000), what this implies is that significant relationship exist since their P-value is lesser than 0.01 (level of significance); also, the table reveals that a strong positive relationship exist between Micro-insurance (MI) and Vulnerability to Risk (VR) of the small scale farmers in the rural area of Nigeria at 0.01 level of significant, where ($r = 0.275^{**}$, n = 131, p=0.000), what this implies is that significant relationship exist since their P-value is lesser than 0.01 (level of significance); further, the table shows that a strong positive relationship exist between Micro-insurance (MI) and Financial Protection (FP) among the small scale farmers in the rural area of Nigeria at 0.01 level of significant, where ($r = 0.570^{**}$, n = 131, p=0.000), what this implies is that significant relationship exist since their P-value is lesser than 0.01 (level of significance).

Regression Analysis

A Regression model will be adopted to test the relationships between the study variables with the intent to establish future predictability of independent variable (MI) on the set of dependent variables (HR, PA, VR, and FP), with the intent of examining the predictive ability of independent variable on the dependent variables. Applying linear regression analysis will show the relative contribution of independent variable on each dependent variable, and explain the variances that determined by the independent variable on each of the dependent variables.

Table-2: showing the Model Description for the regression analysis

Model Name		MOD_3
Dependent Variable	1	HR
	2	PA
	3	VR
	4	FP
Equation	1	Linear
Independent Variable		MI
Constant		Included
Variable Whose Values Label Observations in Plots		Unspecified

Table-3: Showing the Variable Processing Summary of the regression analysis

		Variables				
		Dependent				Independent
		HR	PA	VR	FP	MI
Number of Positive Values		131	131	131	131	131
Number of Zeros		0	0	0	0	0
Number of Negative Values		0	0	0	0	0
Number of Missing Values	User-Missing	0	0	0	0	0
	System-Missing	28	28	28	28	28

The *model 1* regression analysis, to determine the predictability relationship between MI and HR is shown below:

$$Y= a_0+\beta_1 X_1+\boldsymbol{e}$$

Where:

Y = HR (health risks)
a_0= Autonomous
x_1 =MI

Table-4: Showing the Model Summary for regression analysis between MI and HR

R	R Square	Adjusted R Square	Std. Error of the Estimate
.636	.404	.400	2.687
The independent variable is MI.			

R = 0.636 or 63.6%
R^2=0.404
Adjusted R^2= 0.290

Regression coefficient R= 0.636, showing that relationship exist between MI and HR.

The coefficient of determination R^2 =0.404 showing that 40.4% of variation in health risk (HR) is explained by micro-insurance (MI). This mean that about 40% (percent) of the variance in health risk (HR) is accounted for by micro-insurance (MI).

Table-5: Showing the Coefficients for the regression analysis between MI and HR

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
MI	.771	.082	.636	9.358	.000
(Constant)	3.235	1.500		2.157	.033

From the regression result in Table-5, the estimated model is HR= 3.235+0.636x_1+$\boldsymbol{e}$. ($\beta = 0.636$ t-value= 9.358 p<0.001) meaning that micro-insurance (MI) has significant positive effect on health risks (HR) among the small scale farmers in the rural areas, which implies that one percent increase in supply of micro-insurance policy among the small scale farmers in the rural areas in Nigeria will lead to 63.6% (percent) increment in the improvement of health conditions of the farmers in the rural areas in Nigeria, provided other factors are well controlled, such as affordable premium to the small scale farmers, good and standardize health center, good sensitization from the insurance personnel, good road, clean water, electricity, e.t.c.

Table-6: Showing the ANOVA analysis between MI and HR

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	632.279	1	632.279	87.568	.000
Residual	931.431	129	7.220		
Total	1563.710	130			
The independent variable is MI.					

From Table-6 above the F-value is 87.568. It is significant, because the significance level is = 0.000 which is less than P $\leq$ 0.01. This implies that the regression model is statistically significant, valid and fit. The valid regression model implies that independent variable is explaining that there is a positive and significant relationship with dependent variable.

The *model 2* for the regression analysis to investigate between MI and PA is shown below:

$$Y= a_0+\beta_1 X_1+\boldsymbol{e}$$

Where:

Y = PA (poverty alleviation)
a_0= Autonomous
x_1 =MI

Table-7: Showing the Model Summary for the regression analysis between MI and PA

R	R Square	Adjusted R Square	Std. Error of the Estimate
.420	.176	.170	2.975
The independent variable is MI.			

R = 0.420 or 42.0%
R^2=0.176
Adjusted R^2= 0.170

Regression coefficient ***R*= 0.420,** showing that relationship exist between MI and HR.

The coefficient of determination R^2 =0.176 showing that 17.6% of variation in poverty alleviation (PA) is explained by micro-insurance (MI). This means that about 17% (percent) of the variance in poverty alleviation (PA) is accounted for by micro-insurance (MI).

Table-8: Showing the Coefficients of the regression analysis between MI and PA

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
MI	.479	.091	.420	5.249	.000
(Constant)	9.603	1.661		5.781	.000

From the regression result in Table-8, the estimated model is PA= 9.603+0.420x_1+***e***. ($\beta = 0.420$, t-value= 5.249, p<0.001) meaning that micro-insurance (MI) has strong significant positive effect on poverty alleviation among the small scale farmers in the rural areas, which implies that one percent increase in supply of micro-insurance policy among the small scale farmers in the rural areas in Nigeria will lead to 42.0% (percent) increment in the improvement in the standard of living of the small scale farmers in the rural areas in Nigeria, provided other factors are well controlled, such as supply of fertilizer to them at lower price to enhance their farming production, supply farm machines to the at subsidize rate by government to aid their mechanize farming, accessibility to credit facilities, good road, stable electricity supply, clean water, e.t.c.

Table-9: Showing the ANOVA analysis between MI and PA

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	243.913	1	243.913	27.550	.000
Residual	1142.102	129	8.854		
Total	1386.015	130			
The independent variable is MI.					

From Table-9 above the F-value is 27.568. It is significant, because the significance level is = 0.000 which is less than P ≤ 0.01. This implies that the regression model is statistically significant, valid and fit. The valid regression model implies that independent variable is standard enough in explaining that there is a positive and significant relationship with dependent variable.

The *model 3* for the regression analysis to investigate between MI and VR is shown below:

Y= a_0+$\beta_1 X_1$+***e***

Where:

Y = VR (vulnerability to risk)
a_0= Autonomous
x_1 =MI

Table-10: Showing the Model Summary for regression analysis between MI and VR

R	R Square	Adjusted R Square	Std. Error of the Estimate
.275	.076	.068	4.170
The independent variable is MI.			

R = 0.275 or 27.5%
R^2=0.176
Adjusted R^2= 0.170

Regression coefficient ***R*= 0.275,** showing that relationship exist between MI and VR.

The coefficient of determination R^2 =0.076 showing that 07.6% of variation in vulnerability to risk (VR) is explained by micro-insurance (MI). This means that about 7% (percent) of the variance in vulnerability to risk (VR) is accounted for by micro-insurance (MI).

Table-11: Showing the Coefficients of the regression analysis between MI and VR

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
MI	.415	.128	.275	3.246	.001
(Constant)	8.811	2.328		3.785	.000

From the regression result in Table-8, the estimated model is VR= 8.811+0.275x_1+e. ($\beta = 0.275$, t-value= 3.246, p<0.005) meaning that micro-insurance (MI) has significant positive effect on vulnerability to risk among the small scale farmers in the rural areas, which implies that one percent increase in supply of micro-insurance policy among the small scale farmers in the rural areas in Nigeria will lead to 27.5% (percent) increment in the improvement in the vulnerability to risk situation (reduce their chance of vulnerable to risks) among the small scale farmers in the rural areas in Nigeria, provided other factors are well controlled, such as mitigation against some of the risks vulnerable to them, sensitizations, good road, stable electricity supply, clean water, government policy, e.t.c.

Table-12: Showing the ANOVA analysis between MI and VR

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	183.244	1	183.244	10.539	.001
Residual	2242.863	129	17.387		
Total	2426.107	130			
The independent variable is MI.					

From Table-12 above the F-value is 10.539. It is significant, because the significance level is = 0.001 which is less than P $\leq$ 0.01. This implies that the regression model is statistically significant, valid and fit. The valid regression model implies that independent variable is explaining that there is a positive and significant relationship with dependent variable.

The *model 4* for the regression analysis to investigate between MI and FP is shown below:

Y= a_0+$\beta_1 X_1$+e

Where:

Y = FP (Financial Protection)
a_0= Autonomous
x_1 =MI

Table-13: Showing the Model Summary for regression analysis between MI and FA

R	R Square	Adjusted R Square	Std. Error of the Estimate
.570	.325	.319	2.454
The independent variable is MI.			

R = 0.570 or 57.0%
R^2=0.325
Adjusted R^2= 0.319

Regression coefficient *R*= 0.570, showing that relationship exist between MI and FA.

The coefficient of determination R^2 =0.319 showing that 31.9% of variation in financial protection (FP) is explained by micro-insurance (MI). This means that about 31.9% (percent) of the variance financial protection (FP) is accounted for by micro-insurance (MI).

Table-14: Showing the Coefficients of regression analysis between MI and FP

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
MI	.592	.075	.570	7.873	.000
(Constant)	7.395	1.370		5.399	.000

From the regression result in Table-14, the estimated model is FP= 7.395+0.570x_1+e. ($\beta = 0.570$, t-value= 7.873, p<0.001) meaning that micro-insurance (MI) has a strong significant positive effect on financial protection of the small scale farmers in the rural areas, which implies that one percent increase in supply of micro-insurance policy among the small scale farmers in the rural areas in Nigeria will lead to 57.0.% (percent) increment in the improvement in the protection against the financial risk (reduce the fluctuation in the financial income) among the small scale farmers in the rural areas in Nigeria, provided other factors are well controlled, such as good road, stable electricity supply, clean water, good health provision, adequate social security, access to credit facilities e.t.c.

Table-15: showing the ANOVA analysis between MI and FP

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	373.146	1	373.146	61.984	.000
Residual	776.580	129	6.020		
Total	1149.725	130			
The independent variable is MI.					

From Table-15 above the F-value is 61.984. It is significant, because the significance level is = 0.000 which is less than $P \leq 0.001$. This implies that the regression model is statistically significant, valid and fit. The valid regression model implies that independent variable is explaining that there is a positive and significant relationship with dependent variable.

Summary of Findings

Micro-insurance as a risk management tool among the less privileges in the societies appears to deliver on the promise, and accomplish of what insurance is all about - protection of households from the adverse consequences of eventuality. The poor are more vulnerable to these risks than the rest of the population and can be hit hard by sudden adverse events that have not been contemplated and addressed with the general insurance. The study was carried out to assess micro-insurance policy and peace of mind among the small scale farmers in Nigeria. The study was guided by four specific objectives: to examine the significant impact of micro-insurance on the poverty alleviation among small scale farmers in Nigeria; to determine the effect of micro-insurance on the health improvement among the small scale farmers in Nigeria: to investigate the effect of micro-insurance on the financial protection of the small scale farmers in Nigeria; and to identify the significant effect of micro-insurance policy on vulnerability alleviation among the small scale farmers in Nigeria.

It shows in the findings of the study that, using micro insurance as an health risks management tool among the small scale farmers in rural areas, and the less privileges will be an efficient platform to alleviate their proneness to the risks of sickness, because it will assist this them to overcome the anxiety of hospital bills payments, and other medical expenses, as this reveals from the correlation analysis Table-1 that there is significant strong positive relationships between micro-insurance (MI) and health improvement (HI) among the farmers in the rural areas. As many impact studies so far investigated health insurance products, evidence of these show that health products improving access to care is fairly strong. This includes all levels of care, dependent on what the benefit package covered by the policy. However, the less privilege in the societies cannot afford these health insurance policies. Therefore, Micro-insurance seen is an important tool for protecting the health and livelihoods of under-served small scale farmers, and low-income earners in emerging markets and developing economies.

The findings of the study also established that using micro insurance as a risk management tool among the small scale farmers in Nigeria will be an efficient platform to alleviate their vulnerability to risk, as this was revealed from the correlation analysis Table-1 that there are significant strong positive relationships between micro-insurance and vulnerability alleviation (VA) as one of the independent variables. This means that micro-insurance in any society will serve as an important strategy for expanding social protection among low income population because it will assist them in managing the risks of vulnerability caused by the illness, sudden death of a family member, loss of income or property can increase perpetuate poverty, social insecurity and social destitution in the society.

According to the findings of the study, it indicates that using micro insurance as a risk management tool among the among the small scale farmers in Nigeria will be an efficient platform to alleviate their vulnerability to risk, as this reveals from the correlation analysis Table-1 that there are significant strong positive relationships between micro-insurance and financial protection (FP) as one of the independent variables. This shows that, effective micro-insurance services will play an important role in mitigating welfare losses among the less privilege in the societies. The strong embracement of micro-insurance in any economy will also provide a catalyst for financial protection among` low-income farmers, especially in the rural areas.

The findings of the study indicate that using micro insurance as a risk management tool among the among the small scale farmers in Nigeria will be an efficient platform to alleviate their vulnerability to risk, as this reveals from the correlation analysis Table-1 that there are significant strong positive relationships between micro-insurance and poverty alleviation (PA) as one of the independent variables. This is an indication that micro-insurance is a conventional scheme that contribute to poverty alleviation in the society by serving as a social risk management tool that can significantly protect the rural farmers, and low-income households against social risks that could jeopardize their well being. Therefore, micro-insurance is a poverty alleviation tool that helps the poor to afford their cost of recurring expenses, basic health services, employment, education, fire fighting services, and managing vulnerability by diminishing their exposure to

risk and enhancing their capacity to protect themselves, with the motive of reducing poverty in the society.

CONCLUSIONS

The preponderance of risks battling with small scale farmers and the low income household in the developing countries including Nigeria is the fundamental regressing factor affecting the sustainability of their productivity and their business growth, and this invariably increase poverty among the rural farmers. If an efficient risk management tool such as micro-insurance is applied, and supported by government to cushion the effect of the risks that these small scale farmers are vulnerable to, such as: drought; health risk; irregularity in income; disaster; fire e. t. c. peace of mind will set in, and economy growth and development will be encouraged among the small scale farmers and in the country entirely.

Therefore, Micro-insurance can mitigate vulnerability among the small scale farmers in the country by providing low income households, business and farmers with access to post eventuality compensation, thus compensates them for injury, damage and providing coverage for their ill-health, which invariably leads to development among the small scale farmers. Conclusively, this study recommends the establishment of effective micro-insurance policy in Nigeria insurance industry that is price affordable in reaching large numbers of rural farmers, and low-income households, with streamlined administration and premium payment, simplified claims management, prompt delivery of benefits, and bearable terms and conditions majorly, in the rural areas.

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