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A Study on Impact of Micro Insurance on Risk Management of Rural Households

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Abstract:

Micro insurance products are specifically designed for the low-income marketplace in terms of coverage, premiums, delivery channels, terms and benefits. Micro insurance aims to reduce the vulnerability of low-income families and individuals. The study aimed to assess the impact of micro insurance on risk management of rural households. The study covers a sample of 200 rural households in Canara district of Karnataka and it is identified using simple random sampling. Descriptive research design used to formulate the study. Interview schedule is administered to collect data from the rural households. Findings showed that gender has significant impact on creating awareness on micro insurance policies. The main motivating factors to purchase micro insurance policies consisted of illness coverage, death of family members, disability, loss of property, disease of livestock, business losses and smaller amount of premium. It can be concluded that policy attributes, protection elements, compensation and treatment, and terminal benefit have significant impact on risk management of rural households.

Keywords: Micro Insurance, Rural Households, Risk Management, Awareness, Motivation,

1. Introduction:

Micro insurance is seen as a social security product and an additional financial tool to help people living in poverty face the risks and vulnerabilities they face in their daily lives. Insurance is a device that uses a risk package to compensate individuals and groups who are badly affected by a particular risk or event. Micro insurance is a subcommittee of insurance that provides social security and the role of the social security net for rural households (Paramasivan & Rajaram, 2016). Micro insurance is designed for the protection of low-income groups, with reasonable insurance products to

help them recover from common risks. This is a market-based mechanism, it promises to help sustainable livelihoods by empowering people to adapt and withstand stress. Vulnerable families are those who are unable to manage unforeseen risks. If the risk at home is high, the risk is severe and the risks are significant if several high stress management methods are used to generate total money. Micro insurance products should be more effective than the formal and informal methods used by the rural households for risk management. There is a huge need for exploration about what rural people know about insurance, how they find out, and whether it is right or wrong. It reveals whether their attitude is open and positive, or negative and distrustful and also highlights the microfinance product offered by the company and the need for it (Ayandev, 2012).

The Insurance Regulatory and Development Authority (IRDA) was established in 2000. In August 2004, the IRDA distributed a concept on the need for microfinance development in India. In November 2005, IRDA issued comprehensive guidelines on micro-insurance. These guidelines enabled micro-insurance products, agents and SHGs, MFIs and NGOs to assign micro-insurance products on behalf of insurance companies. IRDA Regulations Bill, a milestone in the development of micro insurance in India (Preeti & Sanjeev, 2015). In India, micro-insurance was the secondary choice for financing. It was found from the relevant literature that a quarter of the hospital-admitted poor live in poverty because they have to pay for medical expenses by selling or mortgaging their property. The Life Insurance Corporation Act, 1956 expressed the government's concern for the backward, low-income people, especially in rural areas.

2. Statement of the Problem:

Rural people live in insecure environments and are exposed to a number of risks, including illness, accidental death, disability and property loss due to theft or fire, agricultural losses and natural and man-made disasters. Risk and the trauma associated with it are key features of poverty. It is now recognized that access to credit or a savings plan alone will not eliminate the vulnerability of the poor. Micro insurance is considered by development practitioners to be one of the financial services that helps the poor cope with risks (Kousky et al., 2021). With greater economic growth and the expansion of income opportunities, the micro insurance sector in India can develop a policy that supports the poorest of the poor with a better environment. Increasing policy focus on rural and agricultural credit and financial services are the potential factors for the growth of the microfinance sector and the growth of the micro insurance sector. Rural families are more vulnerable, i.e., their income is low and irregular and they are less vulnerable to trauma as they do not have the proper tools to manage the risks. Access to insurance, they cannot afford such expensive preventive measures. For example, weather-related uncertainties, plant diseases, and crop pests pose a harvest risk to all farmers, but technologies to reduce risks such as irrigation, pesticides, and disease resistance are less available in varieties and poorer areas (Ndurikia et al., 2017).

3. Review of Literature:

Micro insurance is a tool for economic development by reducing the poverty and vulnerability and it has increased the economic growth through adopting micro insurance policies (Vijayalakshmi, 2014). Singh (2015) inferred that micro insurance is a guarantee against uncertain risk that arise to the rural people. Micro insurance policy caters to those clients who have low income, living at rural outskirts, who are illiterate and are not familiar with insurance services and who tend to face more risk when compared to other class of society in India (Chandhok, 2009). Micro insurance is offered to shield clients against specific risks in consideration for premiums matching the possibility of occurrence of the risk (Roy, 2015). Micro insurance therefore serves as their best bet in building financial confidence and wealth restoration in the event that risks materialize (Uddin, 2017).

Micro insurance is used to refer to a low value insurance product designed for low-income earners. Thus, availability of micro insurance would in some ways provide the poor with some protection, peace of mind and dignity (Farooqui, 2015). Most of the rural sectors are not aware of the basic insurance facilities that they can avail through micro insurance policy. Micro insurance does provide protection to illness as well as those groups who work in hazardous conditions and faces heavy risk (Aishwarya & Almeida, 2018). Insurance prevents farmers from suffering massive losses that occur due to adverse events. It prevents them from selling productive assets or using their savings. (Nahv et al., 2014). Risk management support rural households to avoid potential losses in their farm, cattle, properties and life (Njuguna & Arunga, 2013). Naik (2015) have concluded that micro insurance is not only the mechanism for reducing vulnerability but also ensures social and economic security to the poor.

4. Objectives of the Study:

The present study is commenced with the objectives proposed below.

1. To scrutinize the socioeconomic background of rural households in the Canara district.
2. To assess the awareness of rural households with regard to micro insurance policies.
3. To examine the factors motivating to purchase micro insurance policies.
4. To investigate the impact of micro insurance on risk management of rural households.

5. Research Methodology:

The study intended to measure the impact of micro insurance on risk management of rural households. The study was conducted in Canara district of Karnataka. Population for the study consists of rural households seeking to purchase micro insurance policies. Therefore, the present study covers a sample 200 rural households in the different places of the district. Interview schedule is used for collecting data from the respondents. The study is proposed on the premise of descriptive research design. The study also used probability sampling method; particularly simple random

sampling is used for data collection. The interview schedule is prepared with four parts, that is, the first part covers socio-economic background, second part deals with awareness of rural households on micro insurance policies, and third part covers factors motivating to purchase micro insurance, and fourth part focus on impact of micro insurance on risk management of rural households. Prior to collection of data, a pre-test was performed to maintain clarity, reliability and comprehensiveness of the interview schedule. The study also considered 40 rural households for pilot study. The study used simple percentage analysis, chi-square test, descriptive analysis, factor analysis and regression coefficient to analyse the data. For data collection, the interview schedule was prepared with the scale value of 1 to 5, where 1 assigned for strongly disagree and 5 for strongly agree.

6. Results and Discussions:

6.1. Analysis of Socio-Economic Background:

The socio-economic background of rural households is discussed in table-1.

Table -1
Analysis of Socio-Economic Background

Variables	Distribution	Number	Percentage
Gender	Male	113	56.5%
	Female	87	43.5%
Age	Less than 25 years	38	19.0%
	25 – 35 years	71	35.5%
	36 – 50 years	59	29.5%
	More than 50 years	32	16.0%
Educational Qualification	Uneducated	43	22.5%
	Up to HSC	69	34.5%
	Diploma/Degree	61	30.5%
	PG/Professional	27	13.5%
Monthly Income	Below Rs.15,000	42	21.0%
	Rs15,000 – 25,000	57	28.5%
	Rs.25,001 – 50,000	71	35.5%
	Above Rs.50,000	30	15.0%
Occupation	Daily Wage	27	13.5%
	Private employee	47	23.5%
	Government employee	17	8.5%
	Business	80	40.0%
	Others	29	14.5%

Family Size	Up to 3 members	64	32.0%
	3 – 5 members	113	56.5%
	Above 5 members	23	11.5%
Family Type	Joint family	123	61.5%
	Nuclear family	77	38.5%

Source: Primary Data

Table – 1 shows the results of socioeconomic background of rural households. Gender of the key persons in rural household's shows that 56.5% are male and 43.5% are female. Age of the key persons in rural households reveals that 19.0% are in less than 25 years, 35.5% are in 25 – 35 years of age, 29.5% are in 36 – 50 years of age, and 16.0% are in more than 50 years of age. Educational qualification discloses that 22.5% are uneducated, 34.5% are completed education up to HSC, 30.5% are completed diploma or degree, and 13.5% are completed PG/professional degree. Monthly income of rural households divulges that 21% are in less than Rs.15,000, 28.5% are in Rs.15,000 – 25,000, 35.5% are in Rs.25,001 – 50,000, and 15.0% are in more than Rs.50,000. Occupation of rural households includes 13.5% are daily wagers, 23.5% are private employees, 8.5% are employed in government, 40.0% are in business, and 14.5% are others. Family size reveals that 32.0% are in up to 3 members family, 56.5% are in 3 – 5 members and 11.5% are in above 5 members. Type of family reveals that 61.5% of them are in joint family and 38.5% of them are in nuclear family.

6.2. Awareness on Micro Insurance:

Awareness of rural households towards micro insurance policies is measured with respect to the gender. Therefore, the relationship between awareness of rural households and gender of rural inhabitants is investigated with chi-square test at 5% significant level. In this way, null hypothesis states that gender has no significant impact on creating awareness on micro insurance. The results are given in table 2.

Table -2

Awareness on Micro Insurance

Variables	Chi-Square	
	Value	Sig.
Health insurance	25.698	0.000
Crop insurance	18.962	0.000
Insurance for cattle farm	21.634	0.000
Insurance for property	27.527	0.000
Life insurance	18.738	0.000
Vehicle insurance	27.385	0.000

Claiming procedure	19.421	0.000
Rider benefits	21.846	0.000
Foreclosure of policy	23.875	0.000
Lapse of policy	24.157	0.000

Source: Primary Data

Table – 2 discloses the results of chi-square test; the computed values are significant at 1% level of significance. It failed to support the null hypothesis, their gender has significant impact on creating awareness on micro insurance policies. It implies that rural households have sufficient awareness on micro-insurance policies such as health insurance, crop insurance, cattle farm insurance, property insurance, life insurance and vehicle insurance. Furthermore, investors have sufficient awareness on claiming procedure, rider benefits, foreclosure of policy and lapse of policy.

6.3. Factors Motivating to Purchase Micro Insurance:

Purchase of micro insurance policies are motivated by several factors; hence it is investigated. The present study endeavoured to assess the aspects relating to micro insurance products towards forming motivation among rural households. The study employed t-test to assess the computed mean value on the basis of agreement level of rural households. In this way, the computed mean value of the rural household is compared with hypothesized mean value 3 to get the significant value. Subsequently, its results are given in table 3.

Table -3

Factors Motivating to Purchase Micro Insurance

Variables	Mean	SD	SE Mean	t-value	Sig.
To cover of illness	3.532	1.423	0.25	24.836	.000
Death of family members	3.654	1.837	0.49	26.783	.000
Disability	4.087	1.532	0.37	19.772	.000
Accident problems	2.453	1.684	0.25	17.329	.000
Loss of property	3.575	1.756	0.18	20.854	.000
Disease of livestock	4.115	1.871	0.32	24.746	.000
Business losses	3.889	1.641	0.26	31.537	.000
Natural disaster	2.935	0.984	0.51	25.724	.000
Poor level of harvesting	2.946	0.965	0.42	23.851	.000
Continuous crop losses	3.182	1.594	0.45	18.575	.000
Smaller amount of premium	3.734	1.474	0.23	17.328	.000
Safety of life or assets	2.846	1.326	0.14	18.319	.000

Source: Primary Data

Table – 3 reveals that mean value of factors motivating to purchase micro insurance policies are ranging from 2.453 to 4.115. Especially, it is identified that the variables such as, to cover illness, death of family members, disability, loss of property, disease of livestock, business losses and smaller amount of premium with mean value of more than 3. It is found that the rural household have strong agreement on the t-values with mean score more than ‘3’ that is, 24.836, 26.783, 19.772, 20.854, 24.746, 31.537, 18.575, and 17.328 are significant at 1% level. Therefore, it can be concluded that these factors are motivating the rural households to purchase micro insurance policies.

6.4. Impact of Micro Insurance on Risk Management of Rural Households:

Micro insurance provides better solutions for the rural households with lowest possible amount of premium. Risk scattered in all walks of life of rural households. Risk may be found with their livestock, farm, property, vehicle, health and life of the rural people. Impact of micro insurance on risk management can be identified in four major areas such as policy attributes, protection elements, compensation and treatment, and terminal benefit. Therefore, its impact on risk management among rural household is measured. So as to test the significance difference between impact of micro insurance on risk management of rural households, the following null hypothesis is proposed.

H₀: There is no relationship between micro insurance policies and risk management of rural households.

Regression coefficient and factor analysis have been administered to measure impact of micro insurance and risk management practice of rural households. Accordingly, the results of KMO and Bartlett’s test are presented in table4.

**Table -4
KMO and Bartlett’ Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.819
Bartlett’s Test of Sphericity	Approx. Chi-Square	1259.687
	df	191
	Sig.	.000

Source: Primary Data

Table – 4 shows the values of KMO measure of sampling adequacy. It reveals that the data is appropriate with the value of 0.819. Bartlett’s test is executed and its outcome shows extremely significant result with p<0.001 and it confirms that the results of factor analysis is perfect.

Table - 5
Rotated Component Matrix

	Components			
	1	2	3	4
Risk coverage of policy	0.823	0.158	0.135	0.218
Sum assured	0.798	0.143	0.184	0.254
Return potential in the policy	0.746	0.325	0.237	0.167
Convenient tenure and mode of premium payment	0.765	0.166	0.081	0.187
Trust on customer friendly operation	0.787	0.194	0.256	0.179
Procedure for claim processing	0.792	0.251	0.212	0.235
Premium charged on policy	0.233	0.801	0.174	0.168
Family protection	0.158	0.796	0.135	0.197
Protection against unexpected events	0.148	0.749	0.149	0.124
Regular pensions on retirement for annuity plans	0.097	0.752	0.262	0.144
Saving money for child education/marriage	0.301	0.739	0.327	0.169
Able to access quality medical treatment	0.214	0.215	0.788	0.088
Compensation in case of natural disaster	0.237	0.211	0.751	0.187
Compensation in case of loss of livestock	0.189	0.261	0.726	0.255
Maturity benefit on policy	0.158	0.247	0.322	0.773
Easy surrender facility	0.136	0.231	0.241	0.747

Source: Primary Data

Table – 5 reveals the outcomes of rotated component matrix; it discloses that all factors of risk management such as, policy attributes, protection elements, compensation and treatment, and terminal benefit can be accepted with features essential for restructure. The first factor policy attributes are loaded with six factors; it covers risk coverage of policy, sum assured, return potential in the policy, convenient tenure and mode of premium payment, trust on customer friendly operation, and procedure for claim processing. The second factor protection elements are loaded with five factors; it consists of premium charged on policy, family protection, protection against unexpected events, regular pensions on retirement for annuity plans and saving money for child education / marriage. The third factor compensation and treatment are loaded with three factors such as, able to access quality medical treatment, compensation in case of natural disaster, and compensation in case of loss of livestock. The fourth factor terminal benefit is loaded with two factors such as, maturity benefit on policy and easy surrender facility. The reduction of factor analysis is possible because the variables are associated. The score given to any one variable is partly the result of the effect of other attributes.

Table-6
R-Square and Durbin-Watson Test

Model	R Square	Durbin-Watson
1	0.722	1.899

Source: Primary Data

Table– 6 reveals the result of R-Square and Durbin-Watson test. Consequently, R-Square test result of 0.722 can be computed and deployed for the regression analysis. The Durbin-Watson test result of 1.899, a sign that the autocorrelation is almost reaching to zero or there is a significant variation exist between both variables.

Table-7
Results of Anova Test

Model	F	Sig.
1	89.632	0.000

Source: Primary Data

Table– 7discloses the Anova results, it confirms that these antecedents of risk management among rural households are not all equal to each other and could be used to estimate the dependent variable, impact of micro insurance on risk management as is authorized by F value of 89.632 and strong significance level of $p < 0.000$.

Table-8
Results of Regression Coefficient

Variables	Standardized Beta Coefficient	T	Sig.	Collinearity Statistics	
				Tolerance	VIF
1 (Constant)	.443	0.734	.626	.456	2.154
Policy attributes	.367	5.652	.000	.678	1.564
Protection elements	.289	5.861	.000	.631	1.492
Compensation and treatment	.375	4.352	.000	.716	1.376
Terminal benefit	.269	4.953	.000	.579	1.688

Source: Primary Data

Table– 8divulges the results of all variables are significant ($p < 0.001$) with high beta (0.367, 0.289, 0.375 and 0.269) and t-values (5.652, 5.861, 4.352 and 4.953). The VIF value of less than 10 is found for all variables. It directly substantiated the problem of multi-collinearity have not subsisted and all data are mutually exclusive. The results showed that policy attributes, protection elements, compensation and treatment, and terminal benefit have significant impact on risk management of rural households. It is actually confirmed by examining the t-statistic for all the independent

variables such as, policy attributes, protection elements, compensation and treatment, and terminal benefit, and it has significant relationship ($p < 0.000$) with risk management of rural people. It indicates that the null hypotheses are not correct and it can be rejected. Hence, there is relationship between micro insurance policies and risk management of rural households.

7. Findings and Conclusion:

To a maximum possible extent, risk management practice of rural households is managed by the micro insurance policies. Micro insurance is not only the mechanism for reducing vulnerability but also ensure social and economic security to the poor. It protects rural households against those risks that they are unable to protect themselves through informal mechanisms, savings or credit. Micro insurance providers are concerned that coverage of risks can be provided on a sustainable basis. Demographic profile shows that 56.5% are male, 35.5% are in 25 – 35 years of age, 34.5% are completed education up to HSC, 35.5% are in Rs.25,001 – 50,000, 40.0% are in business, 56.5% are in 3 – 5 members family and 61.5% of them are in joint family. Gender has significant impact on creating awareness on micro insurance policies. To cover illness, death of family members, disability, loss of property, disease of livestock, business losses and smaller amount of premium factors are motivating the rural households to purchase micro insurance policies. It can be concluded that policy attributes, protection elements, compensation and treatment, and terminal benefit have significant impact on risk management of rural households. Therefore, micro insurance is appropriate when there is an overlap of perspectives of both the household and the provider. Low income and poor people have different needs and priorities. Designing insurance products on a one-size-fits-all platform runs the risk of neglecting these differences and affecting any insurance programme adversely.

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