FACTORS MOTIVATING ADOPTION OF CATTLE INSURANCE AMONG CATTLE REARERS

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ABSTRACT

Despite, the intensive efforts made by the Central and State Government in cattle insurance, it is not getting adequate reach. Hence, an attempt has been made to identify the factors influencing cattle rearers to opt for cattle insurance. The primary data were collected from 30 adopters and non- adopters of cattle insurance scheme in Salon block of Raebareli district of Uttar Pradesh by administering a pre- tested structured interview schedule and focus discussion and analyzed with logit regression analysis. The estimated regression coefficients of the variables viz., education, family size, annual income, awareness regarding cattle insurance programme, off farm income, loan amount taken for purchasing animal and location of the cattle rearers with positive signs. Negative signs obtained for the variables like experience of cattle rearers, age of cattle rearer, farm diversification and farm Size. Continued availability of subsidy, simplified procedure and early settlement of claim, an option for reasonable installment mode of premium payment are the suggested measures

Keywords: *Cattle insurance, Factors motivating cattle rearers, National livestock insurance scheme, Logit regression*

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INTRODUCTION

In rural areas, the supplementary income derived from rearing of livestock and serving as great source of support to the farmers facing uncertainties in agriculture. Approximately, 100 million households are dependent upon livestock as either the primary or secondary source of income in India. Despite, having this much impressive figures, livestock sector possesses considerable amount of risk too, as any disease, production risks, accident, or theft of livestock leads to a substantial loss to the household. The risks involved in livestock rearing make it all the more important to regard cattle insurance as an efficient measure to shield the farmers against uncertainties and protect their livelihoods. India has 35 years of long history in livestock insurance. Various schemes have been introduced from time to time, with public insurers as risk carriers. The Government of India introduced a Centrally Sponsored Scheme (CSS) on Livestock Insurance on a pilot basis during 2005 in 100 selected districts and on regular basis from 2008 onwards. Of late it extended to 300 more selected districts. Public insurers cover more than 80% of livestock insurance in India. Four subsidiaries of General Insurance Corporation Ltd. (GIC) extends livestock insurance to farmers against death of animals in all parts of the country where as private players also came into existence recently.

STATEMENT OF PROBLEM

Cattle Insurance is a risk management tool protecting the farmers against uncertainties arising out of natural factors beyond their control. Centrally Sponsored Scheme (CSS) on Livestock Insurance (2005) is an ongoing project undergone systematic changes and modification due to experience gained and lessons learned. Yet, livestock insurance does not cover more than 7% of the cattle population. Various schemes have been used to increase the spread of livestock insurance, with public insurers as risk carriers. Livestock insurance has been offered as a compulsory product with bank credit for dairying activities. More than 90% of livestock insurance has compulsory credit linked products, which are sold using the partner-agent model, with less than 10% sold through direct sales being voluntary products. Most of the schemes were subsidised at 50% in premium. Despite, the intensive efforts made by the Central and State Government to spread of Livestock insurance, it is not getting adequate momentum. In this context, question raised, Why only certain category of farmers have opted cattle insurance as a risk mitigating strategy and why not others? Whether any factors influences farmers to opt /not to opt for cattle insurance? Hence, the study was conducted with the following objective.

OBJECTIVE

- To identify the factors influencing cattle rearers to opt / not to opt for cattle insurance.

METHODOLOGY

The primary data were collected from randomly selected 30 adopters and non- adopters of cattle insurance scheme in Salon block of Raebareli district of Uttar Pradesh by administering a pre- tested structured interview schedule and focus discussion. The secondary data were collected from reports of Department of Animal Husbandry, NABARD, NDDB, FAO publications, and the relevant internet sources. The data were analyzed with the help of simple percentage, index, and Logit model regression. Satisfaction level of cattle rearers (adopters) towards Cattle Insurance was measured by obtaining their responses to ten identified statements on a five point scale which have been given score as ,highly satisfied=5,satisfied=4,some what satisfied=3,dissatisfied=2 and highly dissatisfied=1. The Index for a statement was calculated using the following formula.   The indices were then classified into three zones viz., high .medium and low for interpreting the results.

$$\text{Index} = \frac{\text{Total score obtained for each statement}}{\text{Maximum obtainable score for that statement}} \times 100$$

FINDINGS AND DISCUSSION

Factors that motivate and deject Cattle Rearers to opt for Cattle Insurance

The factors that motivate and deject cattle rearers to opt for cattle insurance has been identified and presented in table .1. Scores have been given as 5, 4, 3, 2 and 1 respectively, according to the intensity of perception of the respondents in decreasing order.

Table 1. Factors motivating and dejecting cattle rearers to opt for cattle insurance

S.No	Motivating Factors	Adopters (n=30)	
		Score	Rank
1	High probability of occurrence of damage	98	III
2	Increased production cost	48	IV
3	Compulsion from bank while taking loan	106	II
4	Influence of friends & community	106	II
5	Availability of subsidy	120	I
S.No	Dejecting Factors	Non Adopters (n=30)	
		Score	Rank
1	Less probability of risk occurrence	80	IV
2	Lack of confidence in new product	110	II
3	Lack of awareness about scheme	106	III
4	Previous bad experiences of fellow cattle rearers	120	I
5	Inadequate payout structure to meet out the cost of rearing	34	V

Source: Compiled from primary data

The table 1 projected the Non NLIS Adopters indicated that the major factor was "compulsion from bank while taking loan". On the other hand, "availability of subsidy" was the major factor reported by NLIS Adopters. Nevertheless, the factor "increased production cost" common for both the categories of cattle rearers was indicated as a main factor. An influence of friends and community was ranked as second motivating factor. Being new product, cattle rearers were basically reluctant but after seeing their friends and community members adopting the same it motivates them also. High probability of occurrence of damage was ranked as third major factor.

However, previous bad experiences (Rank I) of fellow cattle rearers and lack of confidence in new products (Rank II) were reported as major factors lead to non adoption of crop insurance. Previous bad experiences comprised of non settlement of genuine claims of fellow cattle rearers, non settlement of claims on time, corruption from the part of insurance company and bad behavior of surveyors. Lack of awareness about the cattle insurance programme ranked third among the factors identified. Relevance has been noticed between the confidence level of respondents over cattle insurance products and awareness regarding it. To conclude that availability of subsidy, influence of friends and community and compulsion of bank while taking loan were the motivating factors

Factors contributing in decision making to opt for Cattle Insurance:

A Logit regression analysis has been attempted to understand the relationship and contribution of the factors identified in the adoption of cattle insurance among the cattle rearers.

The mathematical form of the model used in this study is:

$$\ln (p_i/(1-p_i)) = \beta_0 + \sum_{j=1}^{k} \beta_j X_{ij} \tag{1}$$

where p_i is the probability of the i_{th} farmer being adopter and X_k the k_{th} explanatory variable.

Logit model results

The Chi-square test was used, which tests the joint significance of the explanatory variables, is statistically significant at the 1% level of probability (Gujarati, 1995).

Model Summary

-2 Log likelihood	Cox & Snell R Square[1]	Nagelkerke R Square[2]	Model chi –squre
33.053	.566	.755	50.125** on 11 degrees of freedom

The estimated model explains the correct success rates for predicting adopter and non-adopter respondents are 86.7% and 86.7%, respectively.

Equation of the model (Variable Y):

$$Y=1/(1+\exp((1.227 0.254*EXP+0.017*AGE+0.475*EDU+0.118*FAMS+0.875*INC-0.076*FSIZ+2.878*AWER-2.087*DIV+0.314*OFI+1.231*LOCAT+2.667*LOAN)))$$

The positive signs attached to the estimated coefficients of the variables EDU, FAMS, INC, AWER, OFI, LOAN and LOCAT indicate that the greater the values of these variables the higher the tendency for farmers to participate in cattle insurance. Similar results also reported by Mohammed M A & Ortmann G F(2005).The negative signs of EXP, DIV and FSIZ indicate that the greater the value of these variables the lower the probability that the farmers, would insure.

Table .2 Logit model results (N=60)

Variable	B	S.E.	t-stat	Wald	df	Sig.	Exp(B)
Experience (EXP*)	-.254	.132	-1.925	3.705	1	.054	.775
AGE	-.017	.100	0.167	.028	1	.866	.983
Education(EDU)	.475	.661	0.719	.517	1	.472	1.608
Farmsize(FAMS)	.118	.210	0.560	.314	1	.575	1.125
Income(INC)	.875	1.150	0.762	.580	1	.446	2.400
Farmsize(FSIZ)	-.076	.166	-0.459	.211	1	.646	.927
Awareness(AWER)	2.878	1.567	1.837	3.376	1	.066	17.795
Diversificati	-2.089	1.070	-1.951	3.805	1	.051	.124

on(DIV*)							
Off farm income(OFI)	.314	1.108	0.285	.081	1	.776	1.370
Location(LOCAT)	1.231	1.196	1.030	1.060	1	.303	3.427
LOAN*	2.667	1.367	1.951	3.808	1	.051	14.393
Constant	-1.227	3.247	0.378	.143	1	.705	.293

Model chi –square	50.125** on 10 degrees of freedom
Correct prediction percentage	
Adopters	86.70%
Non-adopters	86.70%
Total	86.70%

Note : * Indicates statistical significance at the 5% levels of probability.

A negative coefficient estimate of variables EXP & AGE indicates that the probability of purchasing cattle insurance decreases with the experience. Aged and highly experienced cattle rearers showed their reluctance in adoption of cattle insurance products as they might have acquired good knowledge by virtue of their experience, through time to deal with various types of risks even without insurance. Awareness has a positive coefficient estimate and its t-value is very close to the significance level (95%) , indicating the probability of adoption of insurance increases with the awareness regarding the product, schemes and benefits of insurance .A cattle rearer who have good awareness, is more likely to adopt cattle insurance than an unaware one. A negative coefficient estimate of DIV* implies that the probability of adopting insurance decreases if the farm is diversified, as diversification itself is a risk management technique in which one can compensate the income loss in one enterprise by a higher income in other enterprise. The findings are congruent with the study of Mishra and Goodwin (1997). The positive estimated coefficient for LOAN* indicated that the loanee cattle rearers were more likely to take insurance products, because of its mandatory nature. LOCAT is though statistically significant but the absolute t-value is greater than one. It implies that cattle rearers residing within the vicinity of study area (2 km), were more likely to take cattle insurance as the Veterinary hospital (insurance agency) and other infrastructural facilities available nearby. Variables EDU, INC, FSIZ and OFI are not statistically significant, though the positive signs attached to the estimated coefficients of the variables. It indicates that the greater the values of these variables, higher the tendency for farmers to participate in cattle insurance and the negative signs of FSIZ indicate that the greater the value of farm size the lower the probability that the farmers would insure.

CONCLUSION

Hence, to conclude that insurance service providers have to adequately nurture the motivating factors to maximize the reach. At the same time appropriate measures has to be taken to minimize the dejecting factors. On the light of findings the study prescribed suggestive measures such as special combined package inclusive of cattle insurance and crop insurance in the notified area, continued availability of subsidy, simplified procedure and early settlement of claim, an option for reasonable installment mode of premium payment for developing farmers' friendly modified National Livestock Insurance Scheme.

REFERENCES

1. Mahul, O., & Skees, J. (2007). Managing Agricultural Risk at the Country Level: The Case of Index-Based Livestock Insurance in Mongolia. *World Bank Policy Research Working Papers.*

2. Mishra AK & Goodwin BK(1997). Farm income variabilityand the supply of off-farm labour. *American Journal Agricultural Economics 79:880-887.*

3. Mohammed M A & Ortmann G F(2005), Factors Influencing Adoption of Livestock Insurance By Commercial Dairy Farmers In Three Zobatat Of Eritrea, *Agrekon*, Vol 44 (2)