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FACTORS INFLUENCING FARMERS' CHOICE OF AGRICULTURAL INSURANCE ON ARABLE CROP PRODUCTION IN KWARA STATE, NIGERIA.

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Abstract
Despite the long history of agricultural insurance in Nigeria, crop insurance is yet to be generally embraced or accepted by farmers. This study investigates the factors that influence the choice of agricultural insurance especially by arable crop farmers. A multistage sampling procedure was employed to select a sample size of 154 farmers in the study area. Descriptive statistics was used to examine the array of agricultural crop insurance taken by farmers; their socio-economic characteristics and their risk management options. A logit regression model was used to examine the factors influencing farmers' choice of crop insurance. The findings reveal that most of the farmers (35.3%) were between 45 and 54 years old with at least primary education. Most of them small scale farmers (1-5 hectares) and are highly experienced. Also, most of the farmers (64.9%) were influenced by the financial institutions (Bank of Agriculture (BoA)) compelling them to acquire insurance policy as a precondition for obtaining loans or as a practical response to some risks which they were faced with in the immediate preceding season. Drought, diseases and pest insurance policy were seen to be more subscribed for by arable crop farmers in the study area, while most of them had high risk management options apart from the insurance policy. The logit regression results show that educational level, farm size and accessibility to credit facility were very crucial to the decision by farmers to acquire insurance policy. Other factors include: yield in previous year, and type of damages experienced in the preceding cropping season were found to be significant variables.

Keyword: Arable crop, Insurance, Risk management, Choice, Logit model

Introduction

Increased complexity and variation in agriculture make crop farmers find it very difficult to choose types of insurance when faced with risks or uncertainty. Decision making process consists of a series of actions and choices over time, through which a farmer evaluates an innovation and decides whether to incorporate it into his ongoing practices. Due to the diversity of social, economic and natural factors influencing the adoption of an innovation, making such decision is not a simple process (Sadati, *et al.,* 2010). Agricultural insurance is one of the most important mean of reducing agricultural risks that help stabilizing farmers' incomes (Pishro *et al*., 2011). Agricultural insurance is one of the "planned adaptation techniques" which increases the adaptive capacity of farmers by mobilizing institutions and policies to establish or strengthen conditions that are favorable to effective adaptation and investment in new technologies and infrastructure A branch of agricultural insurance which is referred to as crop insurance, provides farm operators with increased income, improved economic security, peace of mind, and hope of the future through risk abatement, leading to higher levels of investments, farmers' income and flourishing economy. Agricultural insurance is therefore known as a tool for development or a development enabler which is facilitated by insurers who are better known as development institutions. In fact, crop insurance was developed as a form of technology used to meet the needs of small-scale farmers and reduce risk.

Given the objectives of Nigerian Agricultural Insurance Scheme to protect the farmers against the devastating effects of natural disasters by ensuring the payment of appropriate compensation sufficient to bring the farmers back to production after suffering a loss, agricultural insurance, just like any other novel technology, faced several obstacles in its development making it difficult to find its way through the rural communities. Prior to the establishment of Nigerian Agricultural Insurance Corporation (NAIC), Nigerian crop farmers suffered various losses on their investment and had no means of going back to production after any crop losses. The frustration made them to move into cities in search of easy means of livelihood. This situation led to depletion of farming populace, which was a serious threat to food security. The need for a specialized Agricultural Insurance Company to provide insurance cover to farmers was informed by Government's concern over the vacuum created due to the unwillingness of conventional Insurers to accept Agricultural risks, which they considered too risky. This led to the establishment of the Nigerian Agricultural Insurance Scheme on 15th of November, 1987.The implementation of the Scheme was initially vested in the Nigerian Agricultural Insurance Company Limited, which was later incorporated in June, 1988 but later turned into a Corporation in 1993 by the enabling Act 37 of 1993. Nigerian Agricultural Insurance Corporation is therefore a wholly-owned by Federal Government of Nigeria insurance company set up specifically to provide Agricultural insurance cover to Nigerian farmers.

Despite the long history of agricultural insurance in Nigeria, crop insurance has not been favorably disposed to farmers. At present, agricultural insurance is limited to certain group of farmers who were forced to acquire insurance policy as a precondition for obtaining loans from Nigerian Agricultural Banks. This has remained the most feasible strategy to ensure that farmers are able to pay back the loan in event of crop losses arising from natural disasters or other uncertainties.

Development of agricultural insurance equally plays significant role in compensating farmers (the insured) for the damage they suffer much as it provides a secured financial environment for the insurance company themselves. It has facilitated agricultural added value and a virile instrument for sustainable agriculture and poverty reductions. This study however focuses on those factors that determine farmers' choice of agricultural insurance with a view to suggest ways and means to sustain the scheme which is primary to agricultural growth in any clime.

Several studies have focused on estimating price elasticities of demand to gauge how alternative premium subsidy levels may influence agricultural insurance. In the light of the expanded set of options and related decision complexities, it is increasingly important to understand the factors that influence farmers' choices among available crop insurance products.

Makki and Somwaru (2000, 2001a, b) address the choice among insurance products using insurance-unit data compiled by USDA's Risk Management Agency (RMA). They find that insurance product choices are influenced significantly by the level of risk, cost of insurance, and premium subsidy. Moreover, in the presence of asymmetric information, high yield-risk farmers are more likely to select revenue insurance contracts and higher coverage levels (Makki and Somwaru, 2001b). However, the RMA data do not include nonparticipating farmers, nor do the data contain financial, risk management, and other business and demographic characteristics of farm businesses, which also is likely influence crop insurance choice. The objective of this study is to analyze the factors influencing farmers' choice of crop insurance among basic peril covered by Nigerian Agricultural Insurance Scheme (e.g., to purchase or not and then to choose among fire, drought, disease and pest, flood, windstorm, lightening and explosion), and to determine how levels of risk, risk management practices, production, and financial factors influence these choice.

Literature Review

Risk is understood to be a probability of threat of damage, injury, liability, loss or any other negative occurrence that is caused by external or internal vulnerabilities and that may be avoided through preemptive actions. Risk has two components: uncertainty and exposure. If both are not present, then there is no risk (Parihar, 2003).

The terms risk and uncertainly are two definitions which are easy to mix up since they are also similar to each other and hard to interpret (Hardaker *et al.,* 2004). According to Smidts (1990) risk can be divided into systematic, nonsystematic and disastrous risks. Systematic risk is related to events that recur over time and with a pattern that can be measured by probabilities. It can be analyzed to get an estimation of the probability of different outcomes that may occur.

Crop insurance has been used for a long time and was developed over 200 years ago (Smith & Glauber, 2012). It started as private insurance funds, which offered protection for livestock and perils, such as hail insurances. Though crop insurance has been available for a long time, it has primarily been used in developed countries. However, during the last 50 years the supply and the design of the insurance products have been subjected to vigorous extensions.
A major reason for the change is government intervention in terms of premium subsidies and support programs.

Insurance policies in the agricultural sector are quite similar to any other insurance (Smith & Glauber, 2012). Premiums from the customers have two purposes; cover the cost of losses to the clients and cost of administration. Agricultural firms face several different insurance solutions depending on what they want to insure, where yield and price are the most common insurances.

Several studies concerning factors affecting farmers' crop insurance decision have been conducted. Barry *et al.,* (2004) evaluate the demand for crop insurance in their study "Factors influencing farmers' crop insurance decisions" by using expected utility theory. The basis of the theory is that farmers expect a larger utility while having insurance, compared to the utility when not having access to insurance. In the study a survey questionnaire was sent out to farmers in Illinois, Iowa and Indiana with corn and soybean as primary crops. The survey includes questions about demographic, business information, risk attributes, risk management and other similar subjects. Since these demographic and socioeconomic factors like age, education, farm size, debt use, geographic position, yield risk, experiences and tenure can affect the risk preferences these determinants should also be considered at crop insurance usage. In the study, the Likert attitudinal scale was used where farmers define their own view of risk and risk management options by choosing an alternative on a scale from 1 to 5. The results show that the likelihood of using crop insurance is higher for older, less tenured, larger, highly leveraged farms and by farmers that perceive higher level of yield risk. The study also shows that the level of insurance depends on the farmers' risk preferences.

The choice to purchase insurance also depends on the premium level, expected indemnity, risk level and availability of alternative risk management tools (Makki & Somwaru, 2001). A study made by Ginder & Aslihan (2006) shows that the price of the insurance is the most influential factor determining the farmers' decision to have a crop insurance cover.

In a study made by Shaik (2008), the farmers' demand for insurance is analyzed by estimating the price elasticity for demand. The choice to purchase insurance or not is based upon the expected utility theory and the farmers' risk preferences.

Also, Adinolfi *et al.* (2012) evaluates crop insurance in France and Italy, and shows that weather conditions has less influence on the farmers' insurance decisions. They find that business related factors such as farm size, the number of crops grown and the premium levels influence the farmers' insurance decisions. The choice of insurance was based on the expected utility framework

Methodology

The Study Area

The study was carried out in Kwara state, which is one of the six States in North Central geopolitical zone of Nigeria. The State has sixteen Local Government Areas (LGAs) which covers an area of 74,256sq km of Nigeria area of 768sq km, (approximately one-twelfth). In the State, there are 247,975

farm families with 254,242 hectare of cropped area. The State lies between latitude $7^0$45'N and $9^0$30'N and longitudes $2^0$30'E and $6^0$35'E. The annual rainfall pattern across the State extends between the month of April and October with minimum (600-1,500mm) with peak rains in May to June and September to October. The months of November to February are virtually without rainfall and the mean temperatures ranges from 20^0C to 22^0C. Humidity ranges from 50% in dry season and up to 85% in the wet season. The State is bordered in the north by Niger State, in the south by Oyo, Osun and Ekiti States, in the east by Kogi State and in the west by Benin Republic. Because of its unique geographical position, the State is referred to as the "gateway" between the north and the south of the country.

Agriculture is the main stay of the economy and the main crops grown are: sweet potato, cassava, yam, cowpea, groundnut, maize, sorghum, wheat, melon, kola nut, Shea nut, tobacco, beniseed, palm produce, Okro, melon, pepper, some leafy vegetables and livestock reared include poultry, goats, sheep and cattle, fishing is also prominent along the lower River Niger Basin. The prevailing agricultural system combines bush fallow and mixed cropping with emphasis on subsistent farming, while some farmers engage in craft activities such as weaving, blacksmithing, bricklaying, carpentry and welding. Kwara State population is heterogeneous, attracting different ethnic groups including the Yoruba, Nupe, Baruba, Fulani and Hausa. The major ethnic groups in the State is Yoruba and their language is widely spoken across the State.

Population and Sampling Procedure

A multistage technique was employed to select the sample. At the first stage, five LGAs (Edu, Patigi, Asa, Ifelodun and Baruten) were purposively selected due to high production of cereal, tuber and leguminous (Ministry of Agriculture and Natural Resources, Ilorin, Kwara State 2010). The second stage was a random selection of five villages from each of the selected LGAs. The list of mixed crop farmers was compiled with the help of the village heads. From the statistic of farmers' census, it is noted that Edu, Patigi, Asa, Ifelodun and Baruten local government area of Kwara state have an average population of farmers cultivating maize, rice, cassava, yam, cowpea, groundnut, soybean and millet to be 8336, 5739, 6146, 4947 and 5328 respectively. Therefore, the third and final stage was the random selection of 0.5% of the total number of farmers in each of the five selected LGAs i.e. 42, 29, 31, 25 and 27 respectively, making a total of 154 farmers' altogether.

Method of Data Analysis

Descriptive and inferential statistics were used for data analysis. The descriptive statistic was used to examine the types of agricultural crop insurance taken by farmers; their socio-economic characteristics and their risk management options, while logit regression model was used to determine the factors influencing the choice of crop insurance cover provided by the Nigerian Agricultural Insurance Corporation. Logit method was use to analyze how the entire set of the variables affect the decision to purchase an insurance or not. The method estimates the probability for a yes or no outcome (Greene, 1993). The variables are binary and has been given a value Y = 1 for having an arable crop insurance cover and Y = 0 for not having a crop insurance cover.

The logit regression model is a unit or multivariate technique which allows for estimating the probability that an event occurs or not by predicting a binary dependent outcome from a set of independent variables. This was used to determine the factors affecting farmers' participation in agriculture insurance scheme. There are two reason for choosing Logit model for this study instead of linear probability and probit models according to (Greene 2003). Logit model ensures production of probability of choice within (0, 1) range and has the lowest diagnostic test and the the greatest Pseudo R^2 (McFadden) value. This is an advantage over linear probability model and it is easier and more convenient to compute than probit model. The Logit model is based on cumulative logistic probability function and it is computationally tractable.

It is expressed as:

$$P_i = E\left(Y = {}^{1}\!/_{X_1}\right) = \beta_1 + \beta_2 X_2 + \beta_3 X_3 ... \beta_{11} X_{11} \text{ ----------} (1)$$

For ease of estimation, equation (1) is further expressed as:

$$P_1 = \frac{1}{1+e^{-Z_I}} = \frac{e^z}{1+e^z} \text{ ----------} (2)$$

Where: P_i = Probability of an event occurring

$$Z_i = \beta_1 + \beta_2 X_1$$

The empirical model of the logistic regression for this study assumed that the probability of the farmers' participation in Agricultural insurance scheme is expressed as:

$$P_i = \frac{\left(b_0 + b_1 x_1 + b_2 x_2 + b_3 x_3 + ...b_{11} x_{11}\right)_e}{\left(b_0 + b_1 x_1 + b_2 x_2 + b_3 x_3 + ...b_{11} x_{11}\right)_{1+e}} \text{ ----------} (3)$$

1range from minus infinity to plus infinity and it is expressed as:

$$Z_i = \ln\left(\frac{P_1}{1-P}\right) = b_0 + b_1 x_1 + b_2 x_2 + b_3 x_3 + ...b_{11} x_{11} \text{ ----------} (4)$$

To obtain the value of Z_i the likelihood of observing the sample was formed by introducing a dichotomous response variable. The explicit logit model was expressed as:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 ... + \beta_{11} X_{11} \text{ ----------} (5)$$

Where: Y =1 farmers that are under insurance cover and Y= 0 for farmers who are not under insurance cover.

The explanatory variables are as follows.

X_1 = Age of arable crop farmers (Years)
X_2 = Educational level of arable crop farmers (years of schooling)
X_3 = Farm size of arable crop farmers (hectares)
X_4 = Household size of arable crop farmers (number)
X_5 = Arable crop yield (kg)
X_6 = Accessibility to credit (amount of loans a farmer accessed)
X_7 = Other occupation
X_8 = Quantity of yield affected (kg)
X_9 = Contact with extension agents (number of contacts)
X_{10} = Access with insurance expert
X_{11} = Type of crop damaged experienced.
$b_1 - b_{11}$ = Coefficients of stimulus variables
b_0 = Constant or intercept term
u= Error term

In this study, Logit model is preferred because it has the lowest diagnostic test, except the pseudo R^2 (McFadden) which has the greatest value. Marginal effect was calculated to discuss the predictive power of the model.

Results and Discussion

Table 1 summarizes the socio-economic characteristics of the respondent in the study area. Most of the farmers in the study area are male (58.4%). The farmers' age bracket is mostly between 45 and 54 years (25.3%). The study also reveals that most of the farmers attained a primary education (29.9%) and most of them are highly experienced in arable crop farming enterprises because 67.5% of them have more than 10 years experienced in farming business. It is also expected that as the farmers grow older in the occupation, the more experienced they become. The result from the table above shows that majority of the farmers cultivated 1-5 hectare of farmland to arable crop.

This finding is in congruent with the findings of Olayide (1980) that generally, majority of Nigerian crop farmers are into small scale production. It is also noted from the table that 48.1% of the farmers engaged in other business enterprise apart from farming business. Most of them either have one business or the other to supplement their main farming operation. Credit availability is also known to help in the procurement of farm inputs on a timely basis and also in the adoption of yield increasing innovation thereby increasing the efficiency of the farmers. Most of the farmers (37.6%) source for their credit from Agricultural Credit Cooperatives Society while a total 23.3% of the farmers' source for their income either through Commercial Banks or the Bank of Agriculture. Based on the information received by the respondent, this results indicates that only 23.3% of the farmers has an insurance cover because only these categories of farmers obtained a credit from a financial institution as it was noted that only those farmers that obtained loan from a formal financial institution has an insurance cover.

Descriptive analysis of table 2 below reveals that 43.5% of the total respondents under arable crop insurance are influenced by the financial institution. This observation was in line with the characteristics of the farmers having an insurance policy cover as a prerequisite for obtaining a loan credit from the financial institution.

The result on table 3 points to the fact that most (41.5%) of the farmers chose insurance cover for rice production. The choice of insurance cover for rice production might be as a result of inconsistent rainfall experienced in the study area over the years. A study by Ajiboye *et al.,* (2015) reveals the reason why most of the farmers in the study area chose an insurance cover for rice production. The study revealed that Kaduna state in the Northern region of the country had a maximum yield of rice of about 2.680 tons/ha and heat stress of 103.909 and 12.181mm maximum rainfall of 95 percentile while Delta state had the maximum yield of rice production of 4.979toms/ha in the Southern region. On the other hand, Kwara state had the lowest yield of rice in the north central region with 12.272tons/ha and 12.090mm maximum rainfall of 95th percentile.

The result in table 4 reveals that 46.8% and 43.6 % of farmers under insurance policy plan purchased drought and disease and pest insurance policy plan as provided by crop insurance company.

Likert point measurement was used to rank the risk management option employed by farmers in the study area to minimize the enormous agricultural risks in crop production processes. For risk management option, 13 item statement was measured on 4 likert measurement of frequently used, occasionally used, rarely used, and not used. The mid-point was calculated thus. 1+2+3+4+5= 15. This was divided by 5 to obtain 3.0. Any risk management option employed by arable crop whose mean fall above 3.0 are rated high while those with mean below 3.0 are rated low. The result in table 5. It is observed that government program/ insurance and sales of asset are seen to be rarely used by farmers to as option to minimize farm risk while irrigation, financial savings, multiple cropping enterprises, planting of cover crops, diversification of crops, practising crop rotation and bank loan from financial institution are highly management option used by arable crop farmers in the Study area to minimize farm risk.

For the measurement of factor that determined choice of arable crop insurance policy, 2 point likert (yes/no) measurement was used to calculate the mean of the factors and then ranked accordingly. The mean score of all the factors are mentioned in table 6 to find out which factors have a great influence on farmers' choice of arable crop insurance companies. The major factor that determined a choice of arable crop insurance in the study area is weather condition followed by expensive nature of insurance as claimed by the farmers in the area. Crop yield in previous year and price of monthly premium ranked third and fourth factors that determined the choice of arable crop insurance respectively. The payment of indemnity by the crop insurance companies was indicated to be untimely and inadequate by most of the farmers and this has affected their choice insurance policy plan. Probability of receiving a claim payment or indemnity is ranked fifth as a factor that farmers considered in choosing crop insurance policy.

The other factors as shown in table 6, inadequate information about arable crop insurance expert or extension agent, incompetence of insurance company issuing the policy and government subsidization on premium are seen to be considered as frivolous factors that determined the choice of crop insurance in the study area. The farmers are reluctant to purchase an insurance covers because of rigorous procedures in claim of insurance sum assured, inaccessibility to insurance personnel and inadequate information dissemination to mention a few.

The result of the logit regression model is presented in table 7. The coefficient of educational level of the farmers was found to be positive and significant at 10% and this conforms to the a priori expectation that the higher the educational level of farmers, the higher their choice of agricultural insurance scheme. This result is strongly in agreement Olubiyo *et al.* (2009); Masoumi *et al* (2013) and Farayola *et al* (2013).

The result shows a positive and significant relationship between farm size and the choice of arable crop insurance by farmers. This implies that increase in farm size have a positive probability that an arable crop farmer will purchase an insurance policy cover. In other words, farmers who have larger farm size are more likely to use an insurance policy. This result is consistent with the study by Fallah *et al*. (2012). It is also noticed that arable crop farmers who have access to credit facility are more likely to purchase an agricultural insurance policy. Crop yield in previous year and type of damage experience in previous year also have a positive and significant relationship with the choice of arable crop insurance policy.

The Logit models are typically used to figure out a probability that the dependent variable y is 0 or 1 based on a number of input variables. We're trying to predict a binary value, such as whether or not an arable crop farmer will purchase an insurance policy plan. We have a number of input variables such as age, education status, farm size, household size, crop affected in previous farming season, crop yield in previous year etc. All these variables may contribute in some way to the choice of insurance policy by the farmers in the study area.

This result seems logical because farmer who experienced damage in their farm in previous year are more informed of new technologies, facilities and opportunities. Therefore they show positive reaction to new innovation as a mean of managing risk through a planned adaptation method. This result is consistent with the result of similar study by Masoumi and Khodadadi (2013).

Conclusion

Agricultural crop insurance is known to be one of the risk management options employed by farmers to supplement any loss or damage incur in their farming business. It is an effective tool for risk management in agriculture and its choice by farmers is dependent on many factors. This study concludes that education, farm size, factors such as the level of education, age of farmers, farm size, accessibility to credit facility, crop yield in previous year and type of damage experienced in the farm in previous year determine farmers' decision to buy into insurance scheme. It is observed that most of the insured farmers do not take any an insurance cover to bear losses but as a pre-requisite to obtain financial

assistance from a financial institution and in clear sense, most of the farmers did not have a direct access to their insurer. There has not been any evidence of adequate and prompt payment of insurance payout of any crop yield loss incurred by the insured farmers in the study area.

Finally, it should be mentioned that creating necessary facilities for insurance of agricultural crops like government subsidization on premium, decrease in sum assured bottleneck, decrease in monthly insurance premium, and adequate information about the benefit of agricultural insurance is an effective step toward farmers' choice of insurance policy cover.

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Table 1: socio economics characteristics of the respondent

Variable		Frequency	%
Gender	Male	90	58.4
	Female	64	41.6
	Total	154	100
Age (Years)	25 – 34	17	11
	35 – 44	25	16.2
	45 – 54	39	25.3
	55 – 64	37	24
	≥65	34	22
	Total	154	100
Year of schooling	No formal Education	27	17.5
	Primary	46	29.9
	Secondary	39	25.3
	ND/NCE	24	15.6
	HND/BSC	18	11.7
	Total	154	100
Farming experience (years)	≤5	16	10.4
	6 – 10	34	22
	>10	104	67.5
	Total	154	100
Household size(Number)	≤5	22	14.3
	6 – 8	87	56.5
	9 – 11	18	11.7
	>11	27	17.5
	Total	154	100
Farm size (Ha)	1 – 5	107	69.5
	6 – 10	17	11
	≥10	30	19.5
	Total	154	100
Other occupation		74	48.1
	Business/Trading		
	Artisan	27	17.5
	Public/ Civil servant	53	34.4
	Total	154	100
Source of credit	Personal savings	42	27.3
	Family member	-	-
	Friends/Relatives	18	11.7
	Agricultural cooperative society	58	37.6
	Commercial banks	16	10.4
	Bank of Agriculture	20	12.9
	Total	154	100

Table 2: Arable crop insurance purchase decision influencers

Influencers'	Frequency	%
No one	-	-
Insurance expert	14	14.9
Extension agent	11	11.7
Media house	8	8.5
Financial institution	61	64.9
Other farmers	-	-
Total	94	100

Table 3: Insurance cover participation by arable crop farmers'

Crop	Frequency	%
Maize	-	-
Rice	39	41.5
Cassava	-	-
Yam	11	11.7
Cowpea	-	-
Groundnut	-	-
Soybean	23	24.5
Millet	21	22.3
Total	94	100

Table 4: Type of insurance policy plan purchased by arable crop farmers

Policy	Frequency	%
Fire	-	-
Drought	44	46.8
Diseases and pest	41	43.6
Flood	9	9.6
Windstorm	-	-
Lightening and explosion	-	-
Burglary	-	-
Total	94	55.1

Table 5: Risk management option practiced by arable crop farmers

Management option	**Mean**	**Status**
Irrigation	5.93	High
Government program/ Insurance	2.01	Low
Financial Savings	4.31	High
Multiple crop enterprises	5.16	High
Cover cropping	4.90	High
Diversification	5.41	High
Crop rotation	5.04	High
Fallowing	3.23	High
Engaged in other paid job	3.37	High
Sell asset	2.91	Low
Bank loan	4.08	High
Borrow from cooperative society	3.71	High
Others	3.94	High

Likert mean = 3.0

Table 6: Factors affecting choice of arable crop insurance in the study area

Factors	Mean	Standard deviation	Rank
Weather condition	3.23	0.72	1st
High premium	3.08	0.83	2nd
Government subsidization on premium	2.16	0.92	8th
Crop yield in previous year	2.94	0.99	3rd
Incompetence of insurance company issuing the policy	2.25	0.91	7th
Price of premium	2.93	0.86	4th
Probability of receiving a claim payment/ indemnity	2.82	0.89	5th
Inadequate information about arable crop insurance expert or extension agent	2.62	0.81	6th

Table 7: Result of Logit model

Variable	Coefficient	Standard error	z-statistics	Marginal effect
Constant	-1.250	2.5700	-0.49	-0.10
Age	0.0069	0.0063	1.10	0.17
Education level	0.0085	0.0027	3.21	0.74***
Farm size	0.0540	0.0171	3.16	0.61***
Household size	0.0769	0.0255	0.30	0.14
Accessibility to credit facility	0.137	0.0524	2.61	0.38**
Crop yield in previous year	0.0556	0.0273	2.01	0.49*
Crop affected	-0.0058	0.0054	-1.07	-0.650
Access with insurance agent	0.0041	0.0063	0.65	0.52
Access with extension agent	0.0173	0.099	0.17	0.41
Type of damage experienced in previous year	0.113	0.062	1.82	0.28*
McFadden $R^2 = 0.58$				
Goodness of fit = 0.76				

(***), (**), (*) Respectively indicate significance levels at 1%, 5% and 10%