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FARMERS' WILLINGNESS TO PAY FOR CROP INSURANCE IN PAKISTAN

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ABSTRACT

This study was conducted to analyze the farmer's willingness to pay for crop insurance and to investigate the factors that influence willingness to participate and pay for crop insurance. Contingent Valuation Method (CVM) and Heckman selection models were applied to analyze the primary data. Findings show that farmers were interested to pay minimum amount of premium, landholdings and farm income were found to be significant factors that influence farmer's willingness to pay for crop insurance. While landholding, farm income, credit, loss experience, land tenure and expected yield were found to be significant influencing factors towards willingness to participate in crop insurance

1. INTRODUCTION

Agriculture in Pakistan continues to suffer from production yield risks. Climate change is one of the major factors that effects agriculture production. It has also created an alarming situation of the food security in the world, as it is considered a crucial factor for decline of crop productivity (Cline, 2007) which further influences the income of not only poor farmers but also of those people who even are not involved in agriculture production but their livelihood is indirectly associated to agriculture production (Barnett and Mahul, 2007). Farmers from all over the world are facing the same situation of climate and income instability, different coping techniques are being practiced by the farmers from all over the world including consumption smoothing formats in the form of savings, grain banks ,income support through credit loan (Siegel *et al*. 2001) and use of less risky technologies that result in lower but guaranteed yield(i.e. drought resistant crops), diversification in field of production and income sources(off-farm income) and by deploying formal and informal risk sharing strategies (Friedberg, 2003), but these less risky activities limit the future investment opportunities and growth potential (Elbers *et al*. 2007) and provide limited security and low returns to farmers and are inclined to breakdown in case of disaster or emergency (Maleika and Kuriakose 2008). Therefore

there should be a market based risk coping mechanism to protect farmers from both systemic and idiosyncratic shocks.

Especially in developing countries, there is a need to develop a well functioned insurance tool that may facilitates farmers to deal with weather related shocks .Development of well-functioned insurance tool to protect the poor farmers from agriculture and income risks has become an important issue in developing counties (Clarke, Das, Nicola, & Hill, 2012). Although the weather based market instruments are not in the control of farmers but exert a direct impact on the returns from farming (Baquet *et al..* 1997). However the success of the crop insurance program depends upon certain conditions which include acceptable level of demand among farmers for crop insurance, farmers' capability to meet insurance policies and insurer's capability and willingness to pay the farmers' claims (Shaik, Barnett, Coble, Miller, and Hanson, 2006). So the Government and insurance companies must understand the needs of farmers that effect their willingness to participate and willingness to pay for crop insurance. Because this awareness of demand would facilitate the policy makers to the structure the insurance policies according to the needs of people (Barnett, B.J. &Mahul, O, 2007). In Pakistan, agriculture sector contributes a lot in the growth of economy and GDP of Pakistan. In 2012-2013, it contributed about 21.4% to GDP and engaged about 45% of the workforce in agriculture sector (Government of Pakistan, 2013). But unfortunately climate change, price volatility and crop failures are great threat to the growth of agriculture sector. Agriculture sector is extremely vulnerable to climate instability and climate change is the key factor that influences agricultural production and farm income of Pakistani farmers.

Agriculture system in Pakistan has mostly irrigated land along with sizeable rained area. Irrigated land is particularly vulnerable to irrigation water shortage resulting because of climate change while Semi-arid and arid areas are exposed to change in intensity, quantity, and frequency of monsoon rainfall (TASK FORCE, 2010). In Pakistan, the situation of climate change has arisen many threats to agriculture system including loss to crop yields, shortening of the length of crop growing season, increase in evaporation, heat wave sensitivity of reproductive growth stages, shortage of water due to change in river flows and increase in land degradation due to increase of soil salinization, water logging and wind and water erosion (Iqbal, M.M. & Khan, A.M, 2008). Hence all these factors lead towards decline in agriculture production and farm income which is crucial to the livelihood of poor farmers in Pakistan as agriculture sector is dominated by small farmers who constitute about 90% of the total farmers (Government of Pakistan, 2010). So in this situation, crop insurance could be best for poor farmers to deal with the climate and production volatility as it is economically viable, cost reducing and risk sharing institutional mechanism which helps the risk averse farmers to go towards high risk and high profit activities and facilitate them with post-disaster liquidity which secures their livelihood and speed up the recovery process. The purpose of this study is to investigate the factors that influence the decision of farmers to participate in crop insurance and to find out the amount that they are willing to pay for crop insurance program and the factors that influence the amount of premium, which Pakistani farmers are willing to pay.

2. LITERATURE REVIEW

Several studies have been conducted to find out the factors which influence the farmers' crop insurance purchase decisions. A review of some of the studies has been presented in this section.

Sherrick *et al,* (2004) conducted a study in which they evaluated the factors that influence the purchasing decision of farmers of crop insurance. They applied "expected utility theory" to evaluate these factors. The results of the study revealed that likelihood for purchasing crop insurance as a risk management tool is more for less tenured, highly leveraged and large lands and for the farmers with high perceived yields. The choice to purchase crop insurance depends on the premium level, expected indemnity, risk level and availability of alternative risk management tools (Makki & Somwaru, 2001). A study made by Ginder & Spaulding (2006) shows that the price (premium) of the crop insurance is the most influential factor that determines the farmers' decision to avail insurance or not. Torkamani (2002) conducted a study in Fars Province of Iran to find out the factors that affect the demand of crop insurance in Iran. The results of the research identified age, land ownership, wheat production during the previous years, education level, capital, risk taking behaviour and any previous exposure with risk as the factors which had positive correlation with the purchase/adoption of wheat insurance. The study also revealed that value of land; land diversity and crop rotation were the factors which were negatively correlated with the adoption of wheat insurance. McCarthy (2003) found the willingness to pay for crop insurance for the farmers of Morocco. The findings showed that farmers with less farm income were less willing to pay as compare to the farmers who had higher farm income. Akhter Ali (2013) identified the factors which affect the willingness to pay for crop insurance in the rain-fed areas, Soon Valley and Talagang situated in Pakistan and found out that the willingness to pay is mainly affected by household assets, economic status and membership of community organization. Bouquet and Smith (1996) conducted a study to find out the factors which affect the adoption of crop insurance among the growers of wheat crop. They found out that debt taken by farmers from banks and other financial institutes, previous experience of dealing with risk, literacy rate among the farmers and cost of insurance (premium) were the factors which effect the decision of farmers regarding acceptance or rejection of crop insurance. Aidoo *et al*. (2014) analyzed the willingness of farmers to participate in crop insurance program and the factors which influence the decision to pay the amount of premium for crop insurance program. The findings revealed that age of the farmers, land tenure system under practice and the educational level of the farmers were the major factors which influence the willingness to participate, Moreover education, amount of savings, on-farm income, land tenure and the farm size were the factors that determine the amount of premium which farmers were willing to pay for crop insurance program. The literature mentioned above provided us several important factors which influence the willingness of farmers to participate and willingness to pay for crop insurance regarding the farmers of different countries.

3. MATERIALS AND METHODOLOGY

This study was conducted in Punjab province of Pakistan. Three districts of this province namely Bahawalpur, RajanPur and Dera Ghazi Khan were purposely selected as these districts are vulnerable to disasters like floods and droughts. From each selected district, two tehsils[1] were randomly selected for the collection of primary data from the farmers. Out of six randomly selected tehsils, a total of 300 respondents were randomly selected by selecting 50 respondents from each selected tehsil. Before the collection of information from farmers, they were individually given short briefing about the insurance in order to make them familiar with the concept and mechanism of crop insurance as well as with the expected benefits (compensation) which they can get in case of occurrence of loss. This briefing was very useful for those farmers who had never availed credit from the formal sources (private and government financial institutes) as already there exists a crop loan insurance scheme in Pakistan through which all those farmers are assured who avail agricultural credit from formal sources. Using a questionnaire, the data were collected. The questionnaire consisted two parts. One part recorded the responses regarding the demographics of the respondents and the other one consisted on valuation which was based on bidding process in which farmers were asked to reply in "YES" or "No" for their willingness to participate and pay for the crop insurance. Those who were willingness to participate, they were further engaged into a bidding game where a fix hypothetical expected return amount was offered along with hypothetical premium rates.

3.1. Contingent Valuation Method (CVM)

CVM is a non-market valuation method which is used in a survey based economic research to measure the willingness to pay of selected farmers (Mitchell *et al*., 1989). It is also used to gauge the contagion effect and environmental protection. In agriculture economics, CVM is used to assess the Willingness to Pay (WTP) of a farmer against certain insurance by extracting information through a questionnaire based survey. As it is very difficult to estimate maximum WTP of a farmer directly (Dawei, 2003), therefore there are two types of methods to measure the WTP of a consumer (Xiu *et al*., 2012). To measure the maximum WTP of a farmer through open-ended questions is called direct method of estimation. On the other hand, extracting information through closed-ended questions is called indirect method of measuring WTP. Each method embraces certain advantages and consequences. It is easy to collect data from direct method but on the other hand it turns out into a large number of non-responses (Thomas, 1999). It is also very difficult to estimate exact amount of maximum WTP through indirect method as it uses dichotomous choices to collect information. In this study we used direct method of estimation as it considered as the most suitable to gather information regarding maximum WTP of farmers (Xiu *et al*., 2012). In the direct method, we have collected the information on maximum WTP by using bidding game. The last step of contingent valuation method is applying an appropriate econometric technique. In this analysis we check the relationship

[1] In Pakistan, tehsil is a second level administrative unit after district and it serves as an administrative centre for a number of villages. A district usually has few tehsils and each tehsil has a number of villages under its administration. The function of tehsil is similar to a county.

between independent variables and WTP. We have used Heckman selection model as our dependent variable is conditionally dependent on participation in crop insurance.

3.2. Heckman Selection Model

After collecting data on WTP, we have observed that two types of groups exist in our sample. First group consist of those people who are not willing to get involved in insurance system. Second group consists of those who agree to participate in crop insurance. We have used two different models for these two groups. Probit model is used to estimate that whether farmers are willing to participate in crop insurance or not. Secondly, if they are willing than the maximum amount they are willing to pay in the form of premium and this has been incorporated by using an Ordinary Least Square (OLS) method. In such type of analysis it is probable that we can face the problem of selectivity bias. As we have selected those farmers to ask about WTP who have shown their willingness to participate as we cannot ask this question from those farmers who are not willing to participate. Inverse Mills Ratio (IMR) has been used to solve the problem of such biasness.

Now, the Probit model has been presented as

$$P_i = Z_i\gamma + \mu_i \quad P_i = \begin{cases} 1 if P_i > 0; \\ 0 Otherwise \end{cases} \tag{1}$$

Where, P_i is a dummy variable which is used to measure whether *i*th farmer is participating in crop insurance or not. γ is a vector of coefficients for independent variable. Z_i is a vector of independent variables which are used to measure that what are the factors which determine the decision of *i*th farmer to get involved in crop Insurance.

μ_i is normally distributed error term.

$$\Pr(D > 0 \mid Z) = \Pr(D = 1 \mid Z) = \Phi(Z\gamma) \tag{2}$$

Φ (.) is standard normal continuous random variable. Our outcome equation of WTP can be written as

$$WTP_i = \beta X_i + \varepsilon_i \text{ if } P_i > 0 \tag{3}$$

Where, WTP_i measures the maximum amount of WTP of *i*th farmer. β is a vector of coefficients of independent variables. It measures the change in WTP of a farmer by one unit change in independent variables. Xi is a vector of independent variables which are used to determine the maximum level of WTP of *i*th farmer.

By applying expectations on equation 3

$$E(WTP_i \mid P_i = 1, X_i) = E(WTP_i \mid X_i, Z_i, \mu_i) = E(\varepsilon_i \mid X_i, Z_i, \mu_i) \tag{4}$$

Final term can be simplified with selection equation as

$$E(WTP_i \mid P_i = 1, X_i) = \beta X_i + E(\varepsilon_i \mid P_i = 1) = \beta X_i + E(\varepsilon_i \mid \mu_i > -Z_i\gamma) \quad (5)$$

Inverse Mills Ratio (IMR) has been used to correct the selection bias. As one of the estimate that follows bivariate normal distribution can be explained as

$$E(\varepsilon_i \mid \mu_i > -Z_i\gamma) = \rho_{\varepsilon\mu}\delta_\varepsilon\lambda_i(-Z\gamma) = \theta\lambda_i(-Z\gamma) \quad (6)$$

By estimating γ of Probit model IMR can be obtained as

$$\hat{\lambda}_i\left(-Z\hat{\gamma}_i\right) = \frac{\phi\left(Z_i\hat{\gamma}\right)}{\Phi\left(Z_i\hat{\gamma}\right)} \quad (7)$$

Our final outcome equation 8 contained unique set of independent variables and IMR as

$$WTP_i = \beta X_i + \theta\hat{\lambda}_i\left(-Z_i\hat{\lambda}\right) + e_i \quad (8)$$

Where, $\hat{\lambda}_i$ is Inverse Mills Ratio, θ is the coefficient of IMR, X_i is a vector of independent variables and β represents their coefficient.

4. RESULTS

4.1. Descriptive Statistics

The data were collected from 300 farmers out of which 184 farmers were willing to participate in crop insurance and the remaining 116 were not interested for the crop insurance. In our analysis, the age distribution of our sample ranges from 22 to 70 years with average age of 43 years. Education level varied among farmers and average number of education years was 8 years hence majority of farmers of the respondents were less educated. Farm income is a variable which was measured in Pakistani Rupees and shows that average farm income for Pakistani farmers was Rs. 193,793. Household size always has a massive substance in agricultural research. On average, it was found that farmers in Pakistan have 5 members in a house. This variable has the range of 9 to 2 family members and a variation of 1.6 in our sample. The details are given in table 1.

Table 1: Descriptive Statistics

	Mean	Median	Maximum	Minimum	Standard Deviation
Age	43.0980	42.0000	70.0000	23.0000	11.7676
Crop diversity	0.2417	0.0000	1.0000	0.0000	0.4293
Credit	0.1043	0.0000	1.0000	0.0000	0.3066
Education	7.7307	8.0000	14.0000	0.0000	2.7389
Expected yield	0.1208	0.0000	1.0000	0.0000	0.3268
Farm income	193793.9	178192.0	690000.0	47301.00	95570.30
Future risk exposure	1.2582	1.0000	2.0000	0.0000	0.4633
Household size	5.4670	5.0000	9.0000	2.0000	1.6204
Land holdings	7.8571	7.0000	20.0000	3.0000	3.1114
Loss	3.1373	3.0000	6.0000	0.0000	1.1504
Live stock	5.6153	5.0000	17.0000	0.0000	2.6016
Land tenure system	1.1978	1.0000	3.0000	1.0000	0.4130
Non-farm income	0.1648	0.0000	1.0000	0.0000	0.3720

In our sample, land holdings distribution ranges between 2 acres to 20 acres with an average of 7.8 acres of land. 40% of farmers have land between 1-5 acres of land, 47.6% of farmers have 6-10 acres of land, 6.8% of famers hold 11-15 acres of land and 5.6% of farmers hold more than 15 acres of land. The majority of farmers are small farmers in our sample because 90% of farmers are small farmers in Pakistan (Government of Pakistan, 2010). Loss is a variable which is used to measure the number of times a farmer faces a loss. The analysis of the demographics shows the average loss experienced by farmers was three times within the period of last 10 years. Maximum number of loss a farmer faced was 6 times. The variable of loss contains variation of 1.1504 (standard deviation). Livestock distribution ranges from 2 to 17 heads with an average of 6 numbers of livestock and 23.6% of farmers were found to have non-farm income while the remaining did not have any source of non-farm income. The estimates of Heckman two steps selection model are shown in table (2) .Where, Panel A contains the information about willingness to participate in crop insurance and Panel B is about willingness to pay for crop insurance. We have used EViews 8 to estimate equation 8. As we look at different estimates of independent variables, we can observe that explanatory variables explain most of the part of dependent variable. In Panel A the coefficient of credit variable is negative and significant at 5 percent level of significance. Negative value of coefficient explains that a one unit increase in credit would lead to 113.24 percent decline in Probit index. Moreover, negative and significant value of credit shows that availability of credit negates the participation in crop insurance. Coefficient of expected yield is also negative and significant at 1 percent level of significance. Which means that one unit increase in

expected yield would lead to 139.9 percent decrease in Probit index. Results of expected yield are clearly negating the purchase of crop insurance in the presence of enough expected yield. Landholding has a positive impact on participation in crop insurance as the positive and significant value of coefficient is indicating that those farmers are more interested in crop insurance that have more landholdings. As the coefficient of land holdings is 0.4735 which means that one unit increase in landholdings would increase 47.3 percent interest in crop insurance. Farm income has also a positive impact on participation in crop insurance, its positive and significant value shows that farmers with maximum farm income are more willing to participate as the coefficient of farm income is 0.0322 which means that one unit increase in farm income would increase 3.2 percent increase in participant to pay for crop insurance. Loss is a variable which is used to measure the number of times of loss incurred for last 10 years. Estimates of loss are indicating that farmers are more sensitive about loss. Positive and significant value of loss coefficient indicates that as the more number of times the loss is experienced, the more are the farmers interested to get involved in crop insurance. According to the coefficient of loss, a one unit increase in number of experience of loss would cause 57.4 percent increase in willingness to participate. Land tenure system also has a negative and significant impact on participation in crop insurance. In Panel A, we have found age, crop diversity, education, future risk exposure, household size, livestock and non-farm income as statistically insignificant variables. Table (3) shows the estimates of willingness to pay of those farmers who are willing to participate in crop insurance. In the second step of Heckman selection model, we found that landholdings and farm income have a positive significant impact on farmer's willingness to pay. Coefficient of landholdings is significant at 1 percent level of significance. Positive and significant values of landholdings and farm income indicate that those farmers who have larger number of landholdings and more farm income are more willing to pay for crop insurance. According to the coefficient of landholding, one unit increase in landholding would lead to 43.8 percent increase in willingness to pay and one unit increase in farm income would increase 3.84 percent increase in willingness to pay. We found other independent variables as statistically insignificant.

Table 2: Results of Heckman selection model

	Participation in crop insurance		Willingness to pay	
	Coefficient	Probability	Coefficient	Probability
Constant	-0.0428	0.9822	0.1018	0.9323
	(1.9186)		(1.1974)	
Age	0.0246	0.3253	0.0031	0.8373
	(0.0249)		(0.0151)	
Crop diversity	-0.2277	0.5700	0.0202	0.9363
	(0.4003)		(0.2533)	
Credit	-1.1324**	0.0493	-0.0929	0.7959
	(0.5733)		(0.3591)	
Education	0.0217	0.8168	0.0164	0.7759
	(0.0935)		(0.0578)	
Expected yield	-1.3998***	0.0034	-0.0999	0.7478
	(0.4733)		(0.3103)	
Farm income	0.0322*	0.0594	0.0384**	0.0113
	(0.0171)		(0.0151)	
Future risk exposure	0.3466	0.1192	0.2157	0.2005
	(0.2217)		(0.1680)	
Household size	0.0870	0.4533	-0.0274	0.7016
	(0.1159)		(0.0715)	
Land holdings	0.4735*	0.0636	0.4376***	0.0045
	(0.2542)		(0.1527)	
Loss	0.5738***	0.0075	0.0622	0.6349
	(0.2128)		(0.1310)	
Live stock	-0.0746	0.3152	0.0092	0.8396
	(0.0741)		(0.0458)	
Land tenure system	-1.1541***	0.0002	-0.0480	0.8196
	(0.3037)		(0.2104)	
Non-farm income	-0.4755	0.2570	-0.1375	0.6107
	(0.4186)		(0.2697)	

***, **, * are presenting significance at 1%, 5% and 10% respectively.

4.2. Willingness to pay for crop insurance

Following frequency distribution table clearly states that 61.3 percent of farmers are willing to participate in crop insurance and 38.7 percent farmers are not willing to participate in crop insurance. The findings clearly reveal that majority of farmers of our sample show their willingness to participate for crop insurance but still there are large enough farmers who did not show their interest to participate. Low literacy rate and low awareness regarding the mechanism and expected benefits of crop insurance might be the reasons behind the refusal of crop insurance. Here we have calculated the mean willingness to pay for crop insurance by using the formula mentioned by Xiu *et al.*, (2012).

$$WTP = \sum_{i=1}^{k} AWP_i \frac{n_i}{N} \quad (9)$$

Where, *WTP* is the willingness to pay of farmers for crop insurance. AWP_i is willingness to pay in ith payment level. n_i represents the group of those people who are interested to buy crop insurance. N is the total number of farmers. A bidding game was designed to find out the amount of premium which the farmers (Those who are willing to participate) are willing to pay for crop insurance. The farmers who were willing to participate were asked to respond in "Yes" or "No" to find out whether they are willing or not to pay a certain amount of premium as a price of crop insurance which would give a maximum payout of Rs.10,000 (almost $98.76) in case of loss.

The game was started by offering a maximum price (premium) of 8% of the expected payout to know their willingness, if the respondent agreed over it by saying "yes", the bid came to end. But if the respondent refused to accept this amount, he was offered with a next lower bid of 7% , the bid continued to be offered in the same manner and was subsequently lowered to 6,5 4,3 and 2 percent.

We found 2.3818 percent of the expected payout amount as an average willingness to pay for crop insurance in the study area. The result shows that majority of farmers preferred the minimum amount of premium price because majority of farmers of our sample are small farmers who cannot afford to pay higher price (premium) for crop insurance.

Table 3: statistics for WTP and frequency distribution

	Mean	Median	Standard Deviation	Sample	Valid Percentage
WTP>0	3.8833	4.0000	1.4034	184.0000	61.3333
WTP=0	-	-	-	116.0000	38.6666
WTP≥0	3.8407	4.0000	1.4535	300.0000	100.0000

"-" means not participated

5. DISCUSSION

The results of the study show that credit, expected yield, farm income, land holdings, credit or loan, loss experience and land tenure system are found to have a significant impact on willingness to participate for crop insurance. landholding and farm income were found to have a positive significant impact on farmer' willingness to pay because farmers with more farm income and land holding can easily afford the premium price while most of the small famers with small landholdings and low income refused to participate because they could not afford the price of insurance policy (premium). Loss experience was also found to have a positive significant effect on farmer's participation in crop insurance because farmers with maximum loss experience feel insecure about their future yield production so they feel it better to avail crop insurance to avoid the losses from future climatic hazards.

Expected yield and land tenure system were found to have a significant negative impact on crop of farmers which mean that the farmers with least expected yield tend to have more interest in crop insurance than the farmers with more expected yield. The risk of low yield psychologically pushes the farmers to go for possible solution, that's why farmers with low expected yield are more willing to participate. Land tenure system was found to have a negative impact on willingness to participate in crop insurance. According to our findings, the farmers with their own land are more willing to participate in crop insurance although they have more wealth and stability and are less likely to face financial risk, therefore have less incentive to go for crop insurance as compare to farmers who are sharing or lending a piece of land and facing more financial risk seem to have less interest in crop insurance although there would be more incentives for them if they go for crop insurance. Tenants farmers in Pakistan are mostly poor farmers usually with facing financial issues like shortage of capital to meet the cost of inputs and burden of rent money to be paid for the rented land therefore they hesitated to participate for crop insurance because they believe that price of premium would be an additional financial burden for them. Just because of this they refused to participate although there are many incentives for them if they move to crop insurance decision. Credit loan was found to have a significant negative impact on willingness to participate of the farmers. In Pakistan, all the farmers who get agricultural credit/loan from banks get insured under a crop loan insurance scheme. This scheme is mandatory for all those farmers who avail agriculture credit/loan from banks. According to our results, farmers who avail credit seem to be less willing to participate in crop insurance scheme as compared to those farmers who do not take loan from banks. The farmers, who had availed agriculture credit, were found not to be interested in crop insurance because they were already insured under crop loan insurance program and were already paying premium to financial institutes so they were not willing to pay additional premium for an additional crop insurance program. The results of the study further show the trend of farmers towards minimum premium price. Majority of farmers responded positively towards willingness to participate but at a minimum price (premium). Cost of the premium is the biggest challenge for insurance agencies and government. The results also reveal that landholding is the only factor that influences farmer's willingness to pay for crop insurance. Farmers with maximum landholdings can afford premium charges while poor with small landholding farmers cannot afford premium charges because of their weak financial position. So in order to provide relief to small land holding farmers, the Government of Pakistan should provide maximum subsidy. The government can facilitate the companies by providing them rebate on tax for a specific time period so that companies may become willing to operate in rural areas to provide crop insurance facilities to farmers. Through crop insurance Pakistan can overcome the food security issues which are rising due to growing population in the country as well as due to the climate changes.

6. CONCLUSION

Crop insurance is kind of a new concept for Pakistani poor farmers; crop insurance is an emerging market with very less acceptance ratio. This study analyses the factors that influence the willingness of farmers to participate and to pay for crop insurance.

The results of the study provide an insight for the future considerations of government and insurance companies. The results of the study clearly show that the majority of farmers are willing to participate for crop insurance but the amount of the premium is the biggest concern of them. Low premium with government subsidy can make the crop insurance feasible for both the farmers and the insurer. And other than crop loan insurance government of Pakistan should also introduced new types of insurance programs including weather indexed base insurance, yield base index insurance and flood insurance because these insurance programs are running successfully in the world and there is a need of such crop insurance programs in Pakistan because without considering the needs of poor famers, crop insurance programs cannot be successfully launched.

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