Farmers Knowledge about the Agricultural Insurance Scheme in Punjab

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ABSTRACT

Agricultural insurance is one method by which farmers can stabilize farm income and investment and guard against disastrous effect of losses due to natural hazards or low market prices. The basic principle of Agricultural Insurance are that the loss incurred by the few farmers is shared by many in an area and losses incurred in bad years are compensated from resources accumulated in good years. Managing agricultural risk is an important ingredient of our development process. The idea is to encourage farmers to adopt improved farming technology and agricultural practices which, though with potential of higher return could be riskier. Keeping an eye on such vital role of Agricultural Insurance the above said study has been planned to test the knowledge of farmers regarding Agriculture and Livestock Insurance Scheme which shall enable to know the abilities of the farming community that can be instrumental in providing feedback into the demand and supply system of the agriculture. The variable "knowledge" in the study has been operationally defined as the understanding or the familiarity gained through experience by the farmers about the Agricultural Insurance Scheme. It has been measured by preparing an appropriate knowledge test including the items related to various aspects of insurance schemes. A total of 224 insured farmers list was collected from both public and private sector insurance companies, being selected as respondents for the study. About 38.00% of the respondents had medium level of knowledge about the livestock insurance scheme. Where as equal percentage of the respondents (31.00%) had low and high level of knowledge. Majority of the respondents have low level of knowledge (65.32%) about the Weather Insurance Scheme where as 19.35 per cent of respondents had high level of knowledge. Only 15.32 per cent of the respondents had medium level of knowledge about the weather insurance scheme. There was no relatioship between the socio personal characteristics and the knowledge level of the respondents for both the weather and livestock insurance availing farmers. There should be appropriate publicity of insurance schemes so that adequate awareness is raised among the farming community further leading to insurance education of the farmers which shall enable them to decide regarding the various risk managing tools.

Key words: Agricultural Insurance; Weather Insurance; Knowledge level; Risk;

The growing commercialization of agriculture leads to loss for the farmers due to unfavorable eventualities which are compounded. The question is how to protect farmers by minimizing such losses. In most of the states minimum support price has not been implemented for most of the crops. In recent times, mechanisms like contract farming and futuretrading have been established which are expected to provide some insurance against price fluctuations directly or indirectly. But, agricultural insurance is considered an important mechanism to effectively address the risk to output and income resulting from various natural and manmade events. Agricultural Insurance is a means of protecting the agriculturist against financial losses due to uncertainties that may arise from named or all unforeseen perils beyond their control (*AIC, 2008*). According to the *National Agriculture Policy (2000),* "Despite technological and economic advancements, the condition of farmers continues to be unsTable due to natural calamities and price fluctuations". Livestock

being an allied agricultural enterprise also suffers from many diseases. There is a tremendous loss to the owner of the livestock when an animal dies due to these causes. The individual farmers with limited resources are unable to face such losses. The result is often a serious decline in farm income. Consequently failure on the part of farmers to pay their debts and ultimately the entire economy is affected by the risk.

Agricultural insurance is one method by which farmers can stabilize farm income and investment and guard against disastrous effect of losses due to natural hazards or low market prices. Crop insurance not only stabilizes the farm income but also helps the farmers to initiate production activity after a bad agricultural year. It cushions the shock of crop losses by providing farmers with a minimum amount of protection. It spreads the crop losses over space and time and helps farmers make more investments in agriculture. There are two major categories of agricultural insurance: single and multi-peril coverage. Single peril coverage offers protection from single hazard while multiple – peril provides protection from several hazards. The basic principle of Agricultural Insurance are that the loss incurred by the few farmers is shared by many in an area and losses incurred in bad years are compensated from resources accumulated in good years. Managing agricultural risk is an important ingredient of our development process. The idea is to encourage farmers to adopt improved farming technology and agricultural practices which, though with potential of higher return could be riskier.

In context of Punjab which is a low risk state of India, the need of hour is to formulate strategies which would move the state's growth from a plateau phase to again an ever growing phase. Some of the strategies being eyed by the policy makers are diversification from the wheat-paddy rotation, reduction of non-institutional loans, adoption of improved cultivation, increase in production of other crops like oilseeds, pulses, and other risky crops. Farmer's suicides are becoming more and more in the community. One of the factors that could alleviate their lot is the Crop Insurance. Thus Agricultural Insurance can be used as an important instrument of social and economic policy to be pursued by the state for the protection of farmers against unforeseen losses. Livestock is a viable enterprise along with the farming in each and every farm household of Punjab. The initial investment for the livestock is quite

high and if any disaster strikes leading to the death of the animal further adds to heavy losses to the farmer. But if insurance is provided for the livestock then it can give security and financial help to the framers in case of losses. Keeping an eye on such vital role of Agricultural Insurance the above said study has been planned to test the knowledge of farmers regarding Agriculture and Livestock Insurance Scheme which shall enable to know the abilities of the farming community that can be instrumental in providing feedback into the demand and supply system of the agricultural insurance.

METHODOLOGY

The variable "knowledge" in the study has been operationally defined as the understanding or the familiarity gained through experience by the farmers about the Agricultural Insurance Scheme. It has been measured by preparing an appropriate knowledge test including the items related to various aspects of insurance schemes. A total of 224 insured farmers list was collected from both public and private sector insurance companies, being selected as respondents for the study. Out of these 224 farmers 22 farmers were the contract farmers who had insured the potato crop being grown in Sangrur district of the state, 102 farmers had insured paddy for the season of *kharif,* 2008 under Weather Insurance; and the rest 100 farmers had insured their cattle under Livestock Insurance Scheme. Two knowledge tests were being separately prepared for Weather Insurance Scheme and Livestock Insurance Scheme. The items relating to the various aspects of Agricultural Insurance Schemes such as claim procedure, settlement procedure, and loss estimation of their produce were collected. The final test was being prepared by retaining the items on the basis of "Difficulty Index" and "Discriminatory Index". The items with difficulty index value ranging from 20 to 80 were retained. And the items with discrimination index value of above 0.20 were included in the final knowledge test. The reliability coefficient and the validity of the knowledge test were worked out to be 0.868 and 0.931 respectively, thus indicating the knowledge test to be considered reliable and valid. The test pertaining to the Weather Based Crop Insurance Scheme (WBCIS) consisted of 13 items and the test for Livestock Insurance consisted of 11 items. A score of 1 (one) was given to each correct

answer of an item and zero was given to each wrong answer. The total score obtained by the respondents on all items of knowledge test was considered as the knowledge score of that respondent. The cumulative cube root method was employed to classify the respondents into different categories of knowledge level with probability proportion to the number of respondents in each category (*Singh and Mangat, 2002*). The knowledge level categories were formulated as low, medium and high on the basis of the above mentioned method. Other statistical tools used to analyse the data were frequency and percentage. The correlation analysis was carried out to find out the relationship between socio personal variables and the knowledge level using Pearson Product Moment Correlation Coefficient.

RESULTS AND DISCUSSION

It is evident from Table 1 that the respondents were classified into three categories according to their age, viz young, middle and old. For the respondents insured under weather insurance little more than two fifth of the respondents were in the middle age group i.e 42.74 per cent where as 56.00 per cent of the respondents insured under livestock insurance were under the same age group. While 30.64% and 28.00% of the respondents insured under weather and livestock insurance respectively belonged to young age group. About 26.00 per cent and 16.00 per cent of the respondents insured under weather and livestock insurance fell in the old age group. The education of the respondents was categorized into five categories as presented in Table 1. It is clear from the Table that 53.22 per cent and 55.00 per cent of the respondents covered under weather and livestock insurance respectively fell in the middle category. Whereas 41.93% and 36.00% of the respondents insured under weather and livestock insurance respectively were educated up to primary. The operational land holding of the respondents was classified into categories on the basis of Statistical Abstracts of Punjab-2010. The study findings revealed that respondents operational land holding varied between 2.5 to 25 acres. Majority (65.32%) of respondents insured under weather insurance were operating on 5.0 – 10 acres. Where as little more than half (51.00%) of the respondents insured under livestock insurance were operating on 5.0 -10.0 acres. The social participation of the respondents was categorized into three categories

Table 1. Distribution of respondents according to their socio- personal characteristics

Parameters	Category	Crop/weather Insu.= 124		Livestock Insu.= 100	
		No.	%	No.	%
Age (yrs)	Young(25-38)	38	30.64	28	28.00
	Middle(38-42)	53	42.74	56	56.00
	Old(42-61)	33	26.61	16	16.00
Education	Illiterate	04	3.22	05	5.00
	Primary	52	41.93	36	36.00
	Middle	66	53.22	55	55.00
	Matric	02	1.61	04	4.00
Land (acres)	Marginal (< 2.5)	17	13.70	01	1.00
	Small (2.5-5)	06	4.83	13	13.00
	Semi Medium (5.0-10.0)	81	65.32	51	51.00
	Medium (10.0-25.0)	20	16.12	46	46.00
Social Partici-pation	Low(9-13)	76	61.29	46	46.00
	Medium(13-16)	47	37.90	52	52.00
	High(16-25)	01	0.80	02	2.00
Extension Contacts	Low(0-6)	02	1.61	03	3.00
	Medium(6-7)	58	46.77	55	55.00
	High(7-8)	64	51.61	42	42.00
Mass Media Exposure	low(0-5)	06	4.83	00	0
	Medium(5-9)	110	88.70	98	98.00
	High(9-10)	08	6.45	02	2.00

by using cumulative cube root method. The study findings revealed that majority (61.29%) of the respondents insured under weather insurance had low social participation but little more than half (52.00%) of the respondents insured under livestock insurance belonged to medium social participation category. The data in Table 1 further shows that little more than half (51.61%) of the respondents insured under weather insurance belonged to high extension contacts category where as 55.00% of the respondents insured under livestock insurance had medium extension contacts. None of the respondents insured under livestock insurance had low mass media exposure but as small as 4.83% of the respondents insured under weather insurance had low mass media exposure. Majority (88.70% & 98.00%) of the respondents insured under weather and livestock insurance had medium mass media exposure.

Knowledge Level of farmers availing Livestock Insurance: The level of knowledge of the respondents

Table 2. Distribution of the respondents according to their knowledge level regarding the Livestock Insurance Schemes (N=100)

Knowledge level	Knowledge scores	Respondents	
		No.	%
Low	4-5	31	31.00
Medium	5-6	38	38.00
High	6-10	31	31.00

Table 3. Distribution of the respondents according to their knowledge level regarding the Weather Insurance Schemes (N=124)

Knowledge level	Knowledge scores	Respondents	
		No.	%
Low	0-3	81	65.32
Medium	3-4	19	15.32
High	4-10	24	19.35

Table 4. Relationship between selected Socio Personal Characteristics and Level of Knowledge

Parameters	'r' Crop/weather Insu.= 124	'r' Livestock Insu.= 100
Age	0.031^{NS}	0.00034^{NS}
Education	0.024^{NS}	0.001^{NS}
Operational Land Holding	0.064^{NS}	0.011^{NS}
Social Participation	0.141^{NS}	0.063^{NS}
Extension Contacts	0.004^{NS}	0.013^{NS}
Mass Media Exposure	0.052^{NS}	0.006^{NS}

NS: Non Significant

was classified into three categories by using cumulative cube root method *viz.* low, medium and high regarding the various aspects of Livestock Insurance Schemes. A perusal of the data in Table 2 revealed that 38.00 per cent of the respondents were under the second category i.e medium level of knowledge. Where as 31.00 per cent of respondents had low as well as high level of knowledge. These findings of the study can be attributed to the reason that the farmers availing livestock insurance are the loannee farmers for whom insurance is compulsory. These respondent farmers are well versed with all the aspects of livestock insurance scheme. The risk covered is well defined in these products with timely compensation and well systemised mode of premium collection and compensation payment. Such features of this product attract the attention of the insured farmer

well towards all the aspects of the insurance scheme. Livestock Insurance coverage is generally low in terms of a voluntary product; since the non loannee farmers have no compulsion of insuring the product thus they don't know the insurance scheme and how it can give coverage in terms of any risk to the cattle reared by them. So it can be concluded that the presence of both private and public sector companies presence does not account for competition of the product as other retail products; hence less coverage (tagged with loan). The field functionaries of the line department in the state should extend the knowledge of such schemes at grass root level to the farmers so that he attains the level of making decision of risk he has and how to assure any loss in income accruing of those risks. Wide publicity of such insurance schemes and products should be done through various mass media so that every section of farming class gets aware of such risk mitigating tools to manage his farm income.

Knowledge Level of farmers availing Weather Based Crop Insurance: The data in Table 3 revealed that majority of the respondents have low level of knowledge (65.32%) about the Weather Insurance Scheme where as only 19.35% of respondents had high level of knowledge. Further the data in the Table revealed that 15.32% of the respondents had medium level of knowledge. Low level of knowledge about the insurance product indicates that the insured respondents has availed it with utter ignorance about the scheme provision. This also indicates that there is no direct link between the insurance companies and the insured farmers. The whole gamut of insurance lies at the discretion of the Financial Institution / Contracting Company. This is also one of the major reasons behind the pathetic state of insurance awareness and education. This calls for another effective channel for implementation of Weather Insurance/ Crop Insurance which first requires the adequate publicity of insurance schemes through mass media and the further leading to the insurance education of the farmers by the various stakeholders. About one fifth of the respondents have high level of knowledge since they had availed the insurance from IFFCO Tokio General Insurance Company Ltd.; which operates in the state through its wide network of cooperative structure. This clearly indicates the approach to reach the farmers at their

doorstep for the popularisation of agricultural insurance.

Relationship between Knowledge level and Socio Personal Characteristics: The independent variables were tested for their relationship with the knowledge level as presented in Table 4. The findings clearly indicates that there is no relationship between the socio personal characteristics (age, education, operational land holding, social participation, extension contacts, and mass media exposure) and the knowledge level of the respondents who have insured their crop or livestock. Since agricultural insurance is either compulsory or has been piloted in the state due to which there has been no probable relationship between the above cited independent variables and their knowledge level.

CONCLUSION

In Punjab, Agricultural Insurance has not been of much importance since risk averseness is accounted in terms of assured irrigation and high input use which makes the paddy wheat crop rotation a non risky one. But the recent past reveals the diversification from the dominant paddy wheat non sustainable crop rotation. If the weather insurance scheme is properly devised for specific crops which requires introduction into the crop rotation and is adequately made a part of the agricultural policy, then it can be one of alternative to motivate the farmers for assured income. The meagre implementation of the scheme in the state is restricted to particular group of farmers or has been piloted in the state; indicating adhocism. This may be the possible reason behind the poor knowledge level of farmers about the insurance of crops and no relationship between the socio personal characteristics and their knowledge level. This suggests appropriate publicity of insurance schemes so that adequate awareness is raised among the farming community further leading to insurance education of the farmers which shall enable them to decide regarding the various risk managing tools. Steps can be taken by both the Punjab Agricultural University and the State Department of agriculture to sensitize the farmers and the field functionaries regarding agricultural insurance which can act as a risk management tool under adverse conditions.

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