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Factors Affecting Awareness Level of Farmers about Crop Insurance: A Case Study of Haryana

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

Dependency of Indian agriculture is still continuing on monsoon. The unpredictable and irregular distribution of monsoon rains increases risk and uncertainty farmers. Spreading the risk is an important aspect of decision making to farmers. For the improvement in the handling of perilous outcomes across individuals, there is a need for contingent plans. So, to be aware and to understand the importance of crop insurance and the related policies has become necessary for the farmers of Haryana. We have tried to know the stage of their awareness about crop insurance through this study. The main objective of the study is to trace out the awareness level of farmers about crop insurance in Haryana and which are the main factor that affect their awareness level. The present study finds that there are so many socio-economic factors which affect the knowledge of farmers about crop insurance like age, education, sources of major income, category of farming, income level and experience of farming. Education plays major role in understanding policies and importance of insurance for the farmers. Both the government and the implementing agency in the area should initiate awareness campaign in order to increase the level of farmers. Awareness campaign should be conducted by the government from time to time at the village level to enhance

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the awareness level of farmers. The study suggests that the knowledge level of farmers about crop insurance and its schemes can be increased by using different platforms of spreading awareness through various educational efforts.

Keywords: Monsoon; risk; crop insurance; awareness; knowledge.

1. INTRODUCTION

Now, Haryana has been transformed from a food lacking to a food surplus state due to better infrastructure facilities attached with agriculture research support and excellent addition network to disseminate the information related to improved farm practices to farmers of the state. Haryana has become the second highest contributor of food-grains to the central pool [1]. Agriculture is an important economic activity for the people in Haryana state. Most of the total population depends directly or indirectly on it. During recent past, agriculture in the state is decreasing in terms of arable land and crop production due to rising demand for land from other economic sectors, insufficient labor, frequently affected by natural calamities, and the increasing cost of agricultural inputs such as seeds, fertilizers, pesticide and low market price. Therefore, there is the need for protecting farmers from the various risks and hazards [2]. Crop insurance is a tool aimed to mitigate the financial losses suffered by the farmers due to damage and destruction of their crops as a result of various production risks [3]. To stabilize farm income and to protect farmers against dreadful effect of losses due to natural hazards or low market prices, agriculture insurance is an effective tool. After a bad farming year, crop insurance also helps the farmers to commence production activity. Through agriculture insurance, crop losses can be spread over the space and time which helps farmers to invest more in agriculture [4]. For addressing the issues related to crop losses and risks associated to the prices of crop produce, agriculture insurance is a key solution. It is important to learn the crash of crop insurance on farmers is of main importance because crop insurance is still in its early stage in India. A risk management tool and a risk transfer device, on which the farmers can depend in the event of crop failure, can be defined as crop insurance [5]. Due to flexibility in monsoon, Indian agriculture has to face various risks during the cropping period of different crops. Natural disasters may occur due to the abnormal behavior of the monsoon in India. So, there is need to some provisions to wrap the risk which

may occur in future and crop insurance is the only instrument available to defend against production risk in agriculture. Therefore, this study was undertaken with the objective to illustrate out the knowledge of farmers about crop insurance and the related schemes.

2. LITERATURE REVIEW

The leading occupation of the workforce of Haryana is agriculture and allied activities. The state's contribution is considerable in Green Revolution. At present, Haryana is known as major contributor in the production of grains and milk in the country. A major proportion of the population of the state is involved in farming. But, farming is a very risky business today. Specially, in developing countries, low productivity which is connected with high instability is the basic problem in ground of agriculture. In spite of scientific advancement, to fight with the manmade or natural hazard, crop insurance is the best action which is gaining the position to reduce the risk of farmers in farming. To bring insecurity in rural economy of the state, risk and uncertainty are double dangers, which obstruct agricultural production. Insufficient and irregular rainfall, hail-storm, attacks of pest and diseases etc. are the major risks and reason for considerable losses in agriculture. Farmer and nature are in opposite position in crop production [6]. The farmers are making suicide attempts because of the losses due to risks involved in agriculture, selling their properties or their properties are seized by the bank and financial institutions for the loan availed by them. To cover the risks which may occur in future and for maintaining constancy in farm income, the basic tool which is recognized is crop insurance. It minimizes the problem of rural indebtedness, which is traceable to the frequent failure of crops and also provides protection to farmers against losses caused by crop failure and thereby ensures stability in farm income. It also reduces, to some extent, government expenditure incurred on relief measures extended to meet the havoc caused by natural calamities. By protecting the economic interest of the farmers against possible risk or loss, it accelerates the adaptation of new agricultural practices. For increasing the

awareness among farmers, the attitude of farmers is need to be changed, so that the farmers could understand that the premium sum paid by the farmers is not a burden but an investment for them in the event of loss of crop. Social participation and education will increase the awareness of the farmers [7]. Lack of awareness among farmers about the risk management techniques is the main reason behind it. So, it is very important to study about various aspects of crop insurance. The government should give more stress to review the existing crop insurance schemes and should reframe them in such a way, that farmers could be self motivated to participate in the agriculture insurance programmes [8]. Adequate awareness should be raised among the farming community which will lead to insurance education of the farmers and will facilitate them to decide regarding the various risk managing tools. To sensitize the farmers, efforts should be made by agricultural universities and the state department of agriculture which may act as a risk management tool under adverse conditions [9].

3. RESEARCH METHODOLOGY

The present study is exploratory in nature, which is based on primary data. For recording the data, a well structured questionnaire was developed and administered on the sampled farmers. The questionnaire was administered on farmers randomly selected from all over in Haryana. Data obtained through structured questionnaire was analyzed using simple statistical tools such as percentage and calculating factor score of awareness. Eight statements have been used as indicators to construct the crop insurance awareness by using data reduction technique. The variables involved in indicators were measured on binary scale, so the conventional factor analysis technique was not applicable for such type of cases. The determinative technique that is used for data reduction in case of categorized variable was utilized which is also known as Latent Trait Model. Instead of explaining the factors among statements / indicators, the technique is utilized for constructing the index of crop insurance awareness. The present paper has reported the results of a survey of 567 farmers from all over the Haryana state conducted to assess their attitude and knowledge about different facets of crop insurance and its schemes to analyze the factors affecting knowledge and awareness among the farmers. The paper further examines the attitude of farmers towards crop insurance.

The study also gives suggestions that may be helpful to increase the awareness level of the farmers about crop insurance.

4. RESULTS AND DISCUSSION

The collected data is analyzed to explore the knowledge level of farmers about crop insurance and schemes related to crop insurance. The existing literature pointed out the number of factors which influence the awareness level of farmers towards crop insurance and the level of understanding the importance of it. After giving critical thinking the study identified major factors such as age of the respondents, educational qualifications, sources of their major income, income group of the respondents, category of farming and experience of farming to trace the awareness level of farmers towards significance of crop insurance. The awareness level is proxied by past status of farmers about crop insurance, whether they have availed the crop insurance or not or they would like to or not going to purchase crop insurance. The proportions of responses sharing the agreement with statements have been computed for all data set and also for different categories classified on the basis of above reference factors.

The Table 1 depicts the demographic details of the sampled farmers. Age of the farmers, literacy level and their educational qualifications have been described in this table. The data given in the table states that highest number of the farmers belonged to the age group of 45-55 (26.5%) followed by the age group of 35-45 (25.9%) and 25-35 (24.5%). The age group of 18-25 has the lowest percentage of the farmers (6.5%). 16.6% farmers belonged to the age group of 55 and above. If we talk about the literacy level of the respondents, it was found that out of the total 567 respondents, 509 were the literate respondents and 58 were illiterate. The figures further indicate that the maximum number of farmers were metric (35.0%) followed by below metric (29.7%) and senior secondary (19.4%). The minimum numbers of farmers was post graduate (4.3%) among the total farmers. The percentage of graduate farmers was 11.6%.

4.1 Indicators of Awareness

The precondition to the acceptability and the success of crop insurance schemes lies in increasing awareness amongst farmers about these schemes launched by the government. There is also an urgent need to educate the

farmers about financial products to create awareness among them. To trace out the awareness among farmers we have utilized the following indicators. These indicators are used to record the responses in the presence and absence of the situation in terms of yes and no.

To stabilize the income and mitigate the risk in agriculture, the government has also launched different crop insurance schemes for different period. To know how farmers can assess crop insurance, I have used the indicators given in the Table 2. These indicators are the part of questionnaire which is administered on the

farmers and responses were recorded through interviews. The above table list to assess the awareness among farmers in Haryana. The figures in the table state that 59.6% farmers had an idea about crop insurance while, 15.3% respondents knew about the implementation crop insurance schemes in Haryana. It is surprising that 0.9% sampled farmers are having crop insurance against 30.9% in the past. However there is inclination among farmers toward insurance scheme as 72.5% respondents were ready to purchase crop insurance in future if they would be offered. 61.4% farmers wanted to be aware of the necessary components of the schemes under their crops would be insured.

Table 1. Demographic profile of the respondents

Variable	Frequency	Percentage
Age		
18-25	37	6.5
25-35	139	24.5
35-45	147	25.9
45-55	150	26.5
55 and above	94	16.6
Total	567	100.0
Literacy		
Illiterate	58	10.2
Literate	509	89.8
Total	567	100.0
Educational qualifications		
Below Metric	151	29.7
Metric	178	35.0
Senior Secondary	99	19.4
Graduate	59	11.6
Post-graduate	22	4.3
Total	509	100.0

Source: Primary data

Table 2. Indicators of awareness

S. no.	Indicators	Awareness level (%)
1.	Heard about crop insurance	59.6
2.	Knowledge your crops could be insured	54.7
3.	Relevance of crop insurance	54.0
4.	Knowledge about crop insurance schemes	15.3
5.	Availed crop insurance in past	30.9
6.	Availing any type of crop insurance at present	0.9
7.	Willingness to go for crop insurance	72.5
8.	Inclination to understand the key components of crop insurance scheme before going for it	61.4

Source: Primary data

Generally, age is considered as one of the factors which affects the level of maturity and maturity level supports the rationality in decision making capacity of the farmers. Many researchers have the view that age plays an important role in the adoption of innovations and related information and were believed to be positively correlated with age. Younger farmers are known to be less resistant to change than the old farmers and they accept and adopt innovations and new technologies readily and quickly as stated by [10] and [11]. Table 3 depicts that age group of farmer's affects its level of awareness about crop insurance. On the basis of average score, it was found that the age group of 35-45 was most aware group of farmers (3.11) followed by group 25-35 (2.98), 45-55 (2.93) and 18-25 (2.48). The age group of 55 and above was least aware about crop insurance (2.42). It can be concluded from the data that young generation is more conscious towards information sources. Another reason may be the education that affects a lot. The respondents with the age group of 55 and above were not so much educated and that's why they were not so aware about crop insurance.

Table 3. Age and awareness level

Age	Awareness level (Mean)
18-25	2.48
25-35	2.98
35-45	3.11
45-55	2.93
55 and above	2.42

Source: Primary data

Table 4. Education and awareness level

Education	Awareness level (Mean)
Below Matric	2.43
Matric	2.46
Senior secondary	3.05
Graduate	4.73
Post-graduate	5.70

Source: Primary data

It is concluded from Table 4 that education and awareness level are positively related with each other. It can be clearly observed from the data given in the table that with the increase in education, awareness level of farmers also increases. The post-graduate farmers had the highest mean (5.70) followed by the graduates (4.73). Senior secondary (3.05) respondents were more aware than Matric farmers (2.46). Below matric respondents were least aware

about the crop insurance in Haryana. Thus, we can say that education and awareness level are highly correlated.

Table 5. Sources of major income and awareness level

Sources	Awareness level (Mean)
Agriculture	2.77
Livestock	1.40
Both (agriculture and livestock)	2.90
Non-agriculture	2.13
Agriculture + non-agriculture	4.24
All of these	4.56

Source: Primary data

The Table 5 explains the awareness level of respondents with different sources of their major income. It can be clearly observed from the data that farmers whose source of major income was livestock were less aware (1.40) about crop insurance followed by non-agriculture (2.13). The reason was that they were not directly involved in agriculture. The awareness level of farmers whose major source of income was agriculture was (2.77) and with non- agriculture was (2.13). The awareness level of the farmers having agriculture and non-agriculture as the source of major income was 4.24. Further, it was concluded that the respondent having different sources of income along with agriculture were most aware about crop insurance (4.56).

Table 6. Income group and awareness level

Income	Awareness level (Mean)
Up to 1 lac	1.86
1-2 lacs	2.82
2-3 lacs	3.62
3-4 lacs	3.57
4-5 lacs	3.36
Above 5 lacs	4.64

Source: Primary data

Table 6 states that the farmers with highest income group of above 5 lacs had the highest awareness level (4.64) followed by 2-3 lacs (3.62), 3-4 lacs (3.57), 4-5 (3.36) and 1-2 (2.82). The lowest income group, up to 1 lac was the least aware group (1.86) about crop insurance. The large farmers having income of more than 5 lacs were more conscious about their agricultural risks because they had also capacity to spend money for risk management that's why it was the highest aware group. Respondents with income group up to 1 lac were marginal or landless

farmers having less paying capacity for crop insurance, therefore; they were not so concerned about it.

Table 7. Category of farming and awareness level

Category	Awareness level (Mean)
Marginal farmers	1.71
Small farmers	2.76
Large farmers	3.52
Landless farmers	1.30

Source: Primary data

The data in the Table 7 explains the category of respondents and their awareness level about crop insurance. The data revealed that the large farmers were more conscious about their crop losses as compared to small farmers. Awareness mean of large farmers was highest (3.52) followed by the small farmers (2.76) and marginal farmers (1.71). The landless farmers were least aware (1.30) about crop insurance.

Table 8. Experience of farming and awareness level

Experience	Awareness level (Mean)
0-5 years	1.96
5-10 years	2.87
10-15 years	2.83
Above 15 years	2.97

Source: Primary data

The figures given in the Table 8 indicate that how experience affects the awareness level of the respondents. The farmers having experience of 5-10 years with awareness mean (2.87) and 10-15 years (2.83) were less aware in comparison to the farmers with maximum experience of more than 15 years. Here, the biggest reason for that was only and only education. Maximum numbers of highly experienced farmers were below matric and matric, that's why their awareness level was low. So, the conclusion is that education plays a major role in increasing the awareness level of the farmers.

4.2 Discussion

The data state that 59.6% farmers have an idea about crop insurance. Only 15.3% respondents know about the implementing crop insurance schemes in Haryana. It is very surprising that 30.9% farmers have availed crop insurance in the past but, 0.9% sampled farmers are availing at present. But the data also gives a positive sign

of farmers' increasing consciousness towards crop insurance. 72.5% respondents are ready to purchase crop insurance in future if they would offer. 61.4% farmers want to know about the necessary components of the schemes under their crops would be insured. Young generation is more conscious towards information sources. The reason may be the education that affects a lot. Education and awareness level are highly correlated. As well as education is the main factor, which affects awareness level but maturity level of respondents could not be ignored. Educational qualification affects directly to the awareness. The maximum numbers of farmers who are highly qualified belong to the more aware class. Different sources of major income have an effect on their awareness about crop insurance. Agriculture is considered as main occupation of farmers in Haryana. Service and business (other than agri-business) class was not so much concerned about crop insurance. In large income group, number of farmers was less but awareness among them was more and in small income group numbers of farmers were more but awareness among them was less. The reason may be other sources of income, education and maturity level of respondents. With the education, experience also matters a lot in increasing awareness. Respondents who are involved in agriculture and related activities are more concerned about crop insurance and those who earn major income from other sources are not so aware about it.

5. CONCLUSION

The present study finds that awareness level of farmers was very low towards crop insurance schemes. This problem has also highlighted in the literature. Both the government and the implementing agency in the area should initiate awareness campaign in order to increase the level of farmers. Awareness campaign should be conducted by the government from time to time at the village level to enhance the awareness level of farmers. The study suggests that the knowledge level of farmers about crop insurance and its schemes can be increased by using different platforms of spreading awareness through various educational efforts. The main limitation of the study was the studied area i.e. only Haryana, because the whole economy of the country is known as agricultural economy. Therefore, this kind of studies is most relevant for all the farmers from the entire country to spread out the important information regarding crop insurance.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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