CROP INSURANCE- A STUDY ON AWARENESS OF FARMERS OF MALWA IN M.P

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Abstract

Crop Insurance is an effectual, organized and established mechanism to provide coverage and security in the event of crop loss and failure. The major aim of this research paper is to find out the level of awareness among farmers in Malwa region of Madhya Pradesh, India, and to identify major factors which significantly influence the awareness among the farmers with respect to crop insurance. The study further aims to examine the demographic profile of the farmers and their awareness for crop insurance in Malwa region of Madhya Pradesh. The survey has been conducted in the Malwa region and moreover response of hundred respondents have been recorded. Further 't' test has been applied to evaluate the impact of the chosen demographics and factors on farmers awareness for crop insurance. It has been concluded that there are certain important factors which significantly influence and have an intensified bearing on the awareness of the farmers about crop insurance policy.
Keywords: Crop Insurance, Awareness, Crops, Impact.

I.   INTRODUCTION

Indian Agriculture sets example of such a sector which gives employment to more than 60% of the country's population but unfortunately contributes to as less as 20% of the nation's Gross Domestic Product (GDP). Production and farm earnings in India are often influenced by natural disasters such as cyclones, droughts, earthquakes etcetera. Agriculture in India is also affected by manmade disasters and eruption of epidemics as well. These ultimately lead to loss of the farmers in the form of farmlands, crops and many more which ultimately affect their farm income and ultimately their future. The losses due to unfavourable events of various kinds with various causes are increasing and this definitely calls for means to protect agriculturists and their crops against all kinds of losses. The agriculture in most of the states are highly dependent on rainfall which is again a natural phenomena and in turn indicates the dependence of agriculture in India on uncertainty. Among few risk coping mechanisms crop insurance is a very important one which all farmers should adopt in order to secure their future and not any hazard maybe natural or manmade devastate them by all means. This paper focuses mainly on the awareness of the farmers regarding crop insurance and further identifies the major factors which influence and impact their awareness towards

awareness towards insuring their crops.

II.   SURVEY OF AVAILABLE LITERATURE

Bhende 2005 and 2002, studied about the semi arid tropics being highly dependent on rainfall and rain fed farming being enormously predominant in the region had a lot of risk to be coped with. Hence crop insurance schemes as a effective tool to averse risk will be very helpful for the farmers increasing their income. A well designed crop insurance scheme will protect the farmers and help them earn a stable income. **Mishra** in 1994 did an extensive study on small farmers Gujrat and evaluated the impact of credit-linked comprehensive crop insurance Schemes on crop loans. **Hazell** in 1992 again studied and concluded that crop insurance always leads to a better impact on farms and farmers with respect to their future outputs but also asserted that insurance may be expensive and should be heavily subsidized by the government. An old study by **Walker and Jodha** in 1986 formally assert the dependence of farmers on traditional and backdated modes to cope with risk in absence of a proper crop insurance scheme to be availed. In order to stabilize crop revenue many other crop production mechanisms have been used in absence of crop insurance.

III.   OBJECTIVES

- Primary Objective - To assess the impact of various demographic variables and factors on the awareness of the farmers for crop insurance in Malwa Region.

- Secondary Objective- To identify the important variables which influence the farmers awareness for crop insurance in Malwa Region.

IV.   RESEARCH METHODOLOGY

In order conduct the study a survey has been steered in the Malwa region of Madhya Pradesh. A self structured non disguised questionnaire has been designed and the information available in the questionnaire of 100 respondents has been found useful.

The factors identified to be responsible for the farmers awareness for crop insurance has been listed below in the form of tables and the percentage of the people among various brackets of factors who are aware about crop insurance has also been depicted. Out of 100 respondents only 80 were found aware about crop insurance and 20 were found unaware.

Table 1: Demographics of respondent Farmers and their percentage awareness on crop insurance

Age	Total No.	Aware	% Awareness
15-25	6	2	33.33333333
26-35	30	30	100
36-45	24	20	83.33333333
46-55	30	24	80
More than 56	10	4	40

Education	Total No.	Aware	% Awareness
Illiterate	10	2	20
Up to 5th Class	24	20	83.33333333
Up to 10th Class	40	36	90
Up to 12th Class	12	10	83.33333333
Graduate	8	6	75
Post Graduate	6	6	100

No. of Members in Family	Total No.	Aware	% Awareness
1 to 3	2	2	100
4 to 6	20	16	80
7 to 9	40	36	90
10 to 13	20	16	80
More than 13	18	10	55.55555556

Ownership Pattern of the Farm Land	Total No.	Aware	% Awareness
Farm Owner	58	52	89.65517241
Tenant	32	24	75
Other	10	4	40

Caste	Total No.	Aware	% Awareness
Unreserved	4	4	100
SC	22	18	81.81818182
ST	24	20	83.33333333
OBC	46	36	78.26086957
Any Other	4	2	50

Annual Income	Total No.	Aware	% Awareness
1 To 2 lakhs-	16	14	87.5
2 to 3 lakhs-	44	36	81.81818182
3 to 4 lakhs	20	16	80
4 and above	10	6	60

Family Type	Total No.	Aware	% Awareness
Nuclear	20	16	80
Joint	80	64	80

Type of House	Total No.	Aware	% Awareness
Kuchha	40	36	90
Pukka	28	22	78.57142857
Mixed	32	22	68.75
Farm size (in Acre)	Total No.	Aware	% Awareness
1 to 5 Acre	30	20	66.66666667
6 to 10 Acre	32	28	87.5
11 to 15 Acre	20	18	90
16 to 20 Acre	12	10	83.33333333
More than 21 Acre	6	4	66.66666667

Source: Data collected through self designed structured and non-disguised questionnaire from farmers in

Malwa Region

The study was further taken ahead to judge the impact of various factors on the awareness level of the Malwa farmers and in order to justify the study some hypothesis are put to test which are as follows:

Null Hypothesis: H_{01}- There is no significant impact of age on the awareness level of farmers with respect to crop insurance in Malwa Region of Madhya Pradesh.

Table 2: AGE-t-Test: Paired Two Sample for Means

t-Test: Paired Two Sample for Means		
	Total Farmers	*Aware Farmers*
Mean	20	16
Variance	128	154
Observations	5	5
Pearson Correlation	0.982909972	
t Stat	3.651483717	
P(T<=t) two-tail	0.021742978	
t Critical two-tail	2.776445105	

Source: Authors Calculation

The t-stat rightfully appears to be greater than critical value hence the calculated value is greater than the book value at 5% level of significance and the p value is less than alfa value 0.05.Hence we reject the null hypothesis that there is no significant impact of age on the awareness level of

farmers with respect to crop insurance in Malwa Region of Madhya Pradesh and conclude that here is a significant impact of age on the awareness level of farmers with respect to crop insurance in Malwa Region of Madhya Pradesh.

Null Hypothesis: H_{02}- There is no significant impact of education on the awareness level of farmers with respect to crop insurance in Malwa Region of Madhya Pradesh.

Table 3: EDUCATION-t-Test: Paired Two Sample for Means

t-Test: Paired Two Sample for Means		
	Total Farmers	*Aware Farmers*
Mean	16.66666667	13.33333333
Variance	170.6666667	161.0666667
Observations	6	6
Pearson Correlation	0.977901524	
t Stat	2.988071523	
P(T<=t) two-tail	0.030514977	
t Critical two-tail	2.570581836	

Source: Authors Calculation

The t-stat appears to be greater than critical value hence the calculated value is greater than the book value at 5% level of significance and the p value is less than alfa value 0.05.Hence we reject the null hypothesis that there is no significant impact of education on the awareness level of farmers with respect to crop insurance in Malwa Region of Madhya Pradesh and conclude that here is a significant impact of education on the awareness level of farmers with respect to crop insurance in Malwa Region of Madhya Pradesh.

Null Hypothesis: H_{03}- There is no significant impact of size of family on the awareness level of farmers with respect to crop insurance in Malwa Region of Madhya Pradesh.

Table 4: SIZE OF FAMILY-t-Test: Paired Two Sample for Means

t-Test: Paired Two Sample for Means		
	Total Farmers	*Aware Farmers*
Mean	20	16
Variance	182	158
Observations	5	5
Pearson Correlation	0.978912447	
t Stat	3.16227766	
P(T<=t) two-tail	0.034109423	
t Critical two-tail	2.776445105	

Source: Authors Calculation

The t-stat significantly appears to be greater than critical value hence the calculated value is greater than the book value at 5% level of significance and the p value is less than alfa value 0.05.Hence we reject the null hypothesis that there is no significant impact of size of family on the awareness level of farmers with respect to crop insurance in Malwa Region of Madhya Pradesh and conclude that here is a significant impact of size of family on the awareness level of farmers with respect to crop insurance in Malwa Region of Madhya Pradesh.

Null Hypothesis: H_{04}- There is no significant impact of land ownership on the awareness level of farmers with respect to crop insurance in Malwa Region of Madhya Pradesh.

Table 5: FARM OWNERSHIP-t-Test: Paired Two Sample for Means

t-Test: Paired Two Sample for Means		
	Total Farmers	*Aware Farmers*
Mean	33.33333333	26.66666667
Variance	577.3333333	581.3333333
Observations	3	3
Pearson Correlation	0.998855204	
t Stat	10	
P(T<=t) two-tail	0.009852457	
t Critical two-tail	4.30265273	

Source: Authors Calculation

The t-stat is greater than critical value hence the calculated value is greater than the book value at 5% level of significance and the p value is less than alfa value 0.05.Hence we reject the null hypothesis that there is no significant impact of farm ownership on the awareness level of farmers with respect to crop insurance in Malwa Region of Madhya Pradesh and conclude that here is a significant impact of ownership of family on the awareness level of farmers with respect to crop insurance in Malwa Region of Madhya Pradesh. Awareness of farmers who own farm land is different from those who do not own farm land.

Null Hypothesis: H_{05}- There is no significant impact of Annual Income on the awareness level of farmers with respect to crop insurance in Malwa Region of Madhya Pradesh.

Table 6: ANNUAL INCOME-t-Test: Paired Two Sample for Means

t-Test: Paired Two Sample for Means		
	Total Farmers	*Aware Farmers*
Mean	20	16
Variance	198	142
Observations	5	5
Pearson Correlation	0.995954972	

t Stat	3.651483717	
P(T<=t) two-tail	0.021742978	
t Critical two-tail	2.776445105	

Source: Authors Calculation

The t-stat is greater than critical value hence the calculated value is greater than the book value at 5% level of significance and the p value is less than alfa value 0.05.Hence we reject the null hypothesis that there is no significant impact of annual income on the awareness level of farmers with respect to crop insurance in Malwa Region of Madhya Pradesh and conclude that here is a significant impact of annual income on the awareness level of farmers with respect to crop insurance in Malwa Region of Madhya Pradesh.Level of awareness of farmers with different incomes are different.

Null Hypothesis: H_{06}- There is no significant impact of Caste on the awareness level of farmers with respect to crop insurance in Malwa Region of Madhya Pradesh.

Table 7: CASTE-t-Test: Paired Two Sample for Means

t-Test: Paired Two Sample for Means		
	Total Farmers	*Aware Farmers*
Mean	20	16
Variance	302	190
Observations	5	5
Pearson Correlation	0.997740564	
t Stat	2.390457219	
P(T<=t) two-tail	0.075130455	
t Critical two-tail	2.776445105	

Source: Authors Calculation

The t calculated value in this case is less than the t critical or book value at 5% level of significance and the p value is greater than the alfa value 0.05.This compels us to accept the null hypothesis and conclude that there is no significant impact of Caste on the awareness level of farmers with respect to crop insurance in Malwa Region of Madhya Pradesh.

Null Hypothesis: H_{07}- There is no significant impact of family type on the awareness level of farmers with respect to crop insurance in Malwa Region of Madhya Pradesh.

Table 8: FAMILY TYPE- t-Test: Paired Two Sample for Means

t-Test: Paired Two Sample for Means		
	Total Farmers	*Aware Farmers*
Mean	50	40
Variance	1800	1152
Observations	2	2
Pearson Correlation	1	
t Stat	1.666666667	
P(T<=t) two-tail	0.344041739	
t Critical two-tail	12.70620474	

Source: Authors Calculation

The t calculated value in this case is less than the t critical or book value at 5% level of significance and the p value is greater than the alfa value 0.05.This compels us to accept the null hypothesis and conclude that there is no significant impact of Family type on the awareness level of farmers with respect to crop insurance in Malwa Region of Madhya Pradesh. Whether a farmer belongs from a nuclear family or joint family , their level of awareness does not differ however.

Null Hypothesis: H_{08}- There is no significant impact of type of house on the awareness level of farmers with respect to crop insurance in Malwa Region of Madhya Pradesh.

Table 9:TYPE OF HOUSE- t-Test: Paired Two Sample for Means

t-Test: Paired Two Sample for Means		
	Total Farmers	*Aware Farmers*
Mean	33.33333333	26.66666667
Variance	37.33333333	65.33333333
Observations	3	3
Pearson Correlation	0.944911183	
t Stat	3.77964473	
P(T<=t) two-tail	0.063414188	
t Critical two-tail	4.30265273	

Source: Authors Calculation

The t calculated value in this case is less than the t critical or book value at 5% level of significance and the p value is greater than the alfa value 0.05.This compels us to accept the null hypothesis and conclude that there is no significant impact of type house a farmer live in on the awareness

level of farmers with respect to crop insurance in Malwa Region of Madhya Pradesh. Whether a farmer live in kuccha or pakka house, their level of awareness does not differ however.

Null Hypothesis: H_{09}- There is no significant impact of type of house on the awareness level of farmers with respect to crop insurance in Malwa Region of Madhya Pradesh.

Table 10: SIZE OF FARM-t-Test: Paired Two Sample for Means

t-Test: Paired Two Sample for Means		
	Total Farmers	*Aware Farmers*
Mean	20	16
Variance	126	86
Observations	5	5
Pearson Correlation	0.960650696	
t Stat	2.881988897	
P(T<=t) two-tail	0.06119882	
t Critical two-tail	2.776445105	

Source: Authors Calculation

The t-stat significantly appears to be greater than critical value hence the calculated value is greater than the book value at 5% level of significance and the p value is less than alfa value 0.05.Hence we reject the null hypothesis that there is no significant impact of size of farmers farm on the awareness level of farmers with respect to crop insurance in Malwa Region of Madhya Pradesh and conclude that here is a significant impact of size of farm that a farmer owns or produces crops in, on the awareness level of farmers with respect to crop insurance in Malwa Region of Madhya Pradesh.

V.   DISCUSSION & CONCLUSION

- India has a plush heritage and a world known name of being an agriculturally rich economy. A name old made does create responsibilities and seek maintenance, which is not really possible if the reason is dependent on unforeseen and uncontrollable events.
- Farmers farm income is not usually stable or secured which needs a significant backup, long say in short, their crop needs insurance.
- The awareness regarding insuring respective crops have definitely shown a virtuous level in the Malwa region of Madhya Pradesh but can improve further.
- The limitation of the study was it was only limited to a specific district and not the entire country.
- The work has been only done for understanding the awareness of the farmers regarding insuring their farm yields and did not further discuss about risk coping mechanisms and schemes available for them to insure their crops.

- We can conclude saying that there are certain important factors which majorly influences the awareness of farmers regarding crop insurance.
- The factors and respondents were randomly selected keeping in mind the respective conditions of our countries agricultural workers.
- Among the demographics the factors found to influence the awareness of the farmers were age, education, size of family, farm ownership, annual income and farm size.
- The factors, which do not influence the awareness of the farmers regarding crop insurance, was caste, family type and type of house respectively.
- The most important piece of information was 80% of the farmers were aware of crop insurance and 20% was not. More schemes should come up to boost the awareness level of the farmers regarding crop insurance not only in Malwa region of Madhya Pradesh, but in entire country.

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