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RESEARCH ARTICLE

CROP INSURANCE: A STUDY WITH FARMERS' AWARENESS AND SATISFACTION

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ABSTRACT

Crop Insurance makes up the loss or damage to growing crops result in from a variety of causes such as hail or droughts, frost, flood and disease. The cultivators pay a premium and Protection is given to them on the same basis as in other insurance. Crop Insurance can play extremely important and supporting role in increasing the flow of institutional credit to the agriculture sector. Agricultural Insurance will largely solve the problem of collateral security requirement by banks while extending the loans. In case of Crop failure banks will receive the payment directly from the insurance companies. Crop insurance, thus, promotes flow of institutional credit to the agriculture sector which in turn induces farmers to adopt new technology. The agricultural sector is still untapped and is also growing significantly owing to promotional policies initiated by the government in these countries. The rural sector will offer wide scope for insurance companies particularly, to local companies which have better knowledge of realties in rural marketing.

In this context, this study is an attempt to find out the answers to the following questions:

1. What is the awareness level of the farmers about crop insurance schemes?
2. What is the satisfaction level of the farmers about crop insurance schemes?

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INTRODUCTION

Agriculture is a primary sector of the Indian economy as about 70% of the total population depends on it and its dependence continuous unabated. Food being the first and foremost basic need of the increasing population, the agriculture sector is considered to be or will continue to be the foremost concern of the Government's economic and social development plans. Agriculture all over the world is burdened with risk and insecurity. Inspite of several schemes designed for promoting and protecting the interests of cultivators, reports of suicides by several agriculturists due to loss of income for various reasons including crop failure and the after effects of globalization are appearing in the press now- a days. Agricultural Production and farm incomes in India are frequently affected by natural disasters such as drought, floods, cyclones, storms, landslides and earthquakes. Agricultural Insurance is a means of protecting the agriculturist against financial losses due to uncertainties that may arise agricultural losses arising from named or all unforeseen perils beyond their control.

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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. Agriculture insurance is not restricted to crop insurance only, although it is one of the most important and major constituents of agricultural insurance. Agricultural Insurance is much wider in scope and content and includes insurance of seed, cattle, horticulture, plantations, forestry, sericulture, aquaculture, poultry, viniculture and all such activities which are allied to agriculture. The developing countries offer ample scope for agriculture insurance in their economics.

These countries have been investing large sum of funds in agriculture to accelerate productivity in the sector. Every investment made in agriculture carries with itself certain risks and these risks can be undertaken by insurance companies. Insurance of seed crops is one of the areas offering sample opportunities to insurance companies. Similarly, another area of insurance could be indemnifying the risks emanating from professional liability of seed growers and merchants in case there is either complete failure or limited growth of crops on the farms using hybrid seed. The scope for further operation of insurance in this sector is, therefore, quite limited.

Crop insurance

Crop Insurance Scheme was introduced as a pilot scheme in 1979-80 in limited areas in 12 states. In April 1985 a Comprehensive Crop Insurance Scheme (CCIS) was launched covering all the willing states and UTS. Crop insurance is a procedure or a contract securing compensation for the loss or damage of crops on payment of premium as decided by the Government and the General Insurance Corporation of India. Crop Insurance scheme was first attempted in India in 1985. Ever since 1985, a good deal of experimentation has gone into the business of crop insurance. The successive central governments have been revising the crop insurance scheme and calling them with different names like comprehensive insurance scheme, modified crop insurance scheme, revised crop insurance scheme experimental insurance scheme etc.

Statement of the problem

Crop Insurance makes up the loss or damage to growing crops result in from a variety of causes such as hail or droughts, frost, flood and disease. The cultivators pay a premium and Protection is given to them on the same basis as in other insurance. Crop Insurance can play extremely important and supporting role in increasing the flow of institutional credit to the agriculture sector. Agricultural Insurance will largely solve the problem of collateral security requirement by banks while extending the loans. In case of Crop failure banks will receive the payment directly from the insurance companies. Crop insurance, thus, promotes flow of institutional credit to the agriculture sector which in turn induces farmers to adopt new technology. The agricultural sector is still untapped and is also growing significantly owing to promotional policies initiated by the government in these countries. The rural sector will offer wide scope for insurance companies particularly to local companies which have better knowledge of realties in rural marketing. In this context, this study is an attempt to find outr answers to the following questions.

1. What is the awareness level of the farmers about crop insurance schemes?
2. What is the satisfaction level of the farmers about crop insurance schemes?

Review of literature

In any social study like this, it is necessary to review the available previous studies and literature to frame objectives, hypotheses and methodology. By considering this, the following are brief details about the reviews relating to the present study. Binswanger (1980), after studying the risk in agricultural investments, risk averting tendencies of the farmers and available strategies for shifting risk. Concluded that farmers own mechanisms for loss management or risk diffusion are very expensive in arid and semi-arid regions. Ahsan Syed, (1982) found that the philosophy of Insurance market is based on large numbers where the incidence of risk is distributed over individual. Insurance, by offering the possibility of shifting risks, enables individuals to engage in risky activities which they would not undertake otherwise. Pomareda (1986) conducted a study on, Crop insurance protects farmers' investment in crop production and thus improves their risk bearing capacity crop insurance facilitates adopting of improved technologies, encourage higher investment resulting in higher agricultural production. Hazell (1986) identified that the risk is distributed across space and time. The losses suffered by farmers in a particular locality are borne by farmers in other areas or the reserves accumulated through premiums in good years can be used to pay the indemnities. Crop insurance brings in security and stability in farm income". Mishra (1994) conducted a study and found that the impact of a credit linked comprehensive crop insurance scheme (CCIS) on crop loans, especially to small farmers in Gujarat. It is observed that CCIS had a collateral effect as reflected through the increased loan amount per borrower and reduction in the proportion of non-borrowers among small farmers. Morduch (2004) identified several practical challenges that can limit the success of micro insurance: the need for reinsurance, the need for data on which to base premiums, and the need to limit transaction costs. Rainfall insurance ful.lls all of these criteria, and is gaining commercial acceptance throughout India. Whether it will grow into a mature product remains to be seen. Expanding into areas where no weather station exists (perhaps 2/3 of the area of India) is not as simple as installing a new weather station, as insurers and reinsurers will require historical data to price policies.

Bhede (2005) conducted a study on, Found that income of the farm households from semi-arid tropics engaged predominantly in rain-fed farming was positively associated with the level of risk. Hence, the availability of formal instrument for diffusion of risk like crop insurance will facilitate farmers to adopt risky but remunerative technology and farm activities resulting in increased income. In some extreme cases, these unfavourable events become one of the factors leading to farmers' suicides which are now assuring serious proportions. Agriculture Insurance Corporation (2008) conducted a study on, "Agriculture insurance is a means of protecting the agriculturist against financial losses due to uncertainties that may arise agricultural losses arising from named or all unforeseen perils beyond their control". On the basis of above review, it is clear that the present study is differing from other studies in the aspect of scope, objectives and area.

Scope of the study

In the present study, an attempt is made to analyse the awareness and satisfactory level of the farmers about crop insurance schemes.

Objectives of the study

The present study is undertaken with the following specific objectives.

1. To assess the level of awareness of farmers about crop insurance schemes.
2. To examine the satisfaction level of farmers towards crop insurance schemes.

Hypotheses of the study

The following hypotheses are formulated by considering the objectives of the study, the researchers' theoretical knowledge

discussions and deliberations with field expert and from other research studies these hypotheses are subjected to appropriate statistical tests.

H_{o1}: There is no significant association between socio-economic characteristics of sample respondents (age, sex, marital status, educational status, size of the family, farm experience, annual expenditure and annual income) and the awareness level of farmers about crop insurance schemes.

H_{o2}: There is no significant association between socio-economic characteristics of sample respondents (age, sex, marital status, educational status, size of the family, farm experience, annual expenditure and annual income) and the satisfaction level about crop insurance schemes.

The statistical significance of these hypotheses has been tested with the help of chi-square test (χ^2) at 5% level of significance.

Period of the study

The period of the study for the primary data collected through a survey made on farmer is related to the year. Sample respondents are interviewed during the months of November 2009 to February 2010.

MATERIALS AND METHODS

This study is an empirical research based on the survey method. In Erode district, there are five taluks viz., Erode, Gobichettipalayam, Sathyamangalam, Bhavani, Perundurai. Of them, by considering the area of agriculture, Gobichettipalayam and Perundurai Taluk have been selected purposively. The study is based on primary data collected by interviewing the sample respondents personally. A detailed questionnaire embracing the objectives laid down was designed and canvassed to the sample respondents personally. The first hand information collected from the sample respondents with the help of an interview schedule prepared.

Sampling design

Universe of the present study is infinite. Hence it is decided to use convenient sampling method. Originally, it was planned and collected the data from 120 sample respondents. Due to incompletion and contradictory information it was possible to have only 100 sample respondents as final sample size. The sample chosen consisted of 100 sample respondents representing farmers.

Collection of data

The present study is carried out by adopting the formal interview technique. Both primary and secondary data are used. The present study is largely based on the primary data. Because, the information relating to the study is extremely scant. Required primary data are collected in the course of interview with the farmers through survey method collected data are tabulated to make it suitable for further statistical analysis.

Awareness level of the farmers about crop insurance

Agricultural Insurance Company (AIC) is also making concerted efforts through publicity and awareness programs to educate the farmers about the schemes being operated by it and the benefits of having insurance cover for their crops. A substantial portion of crop credit does not have insurance at present. AIC is in the process of establishing the Kisan Bima Sans than to make farmers aware of the advantages of insuring his crop and to bring in so far uncovered. Crop insurance activity in India will, to a larger extent than would be intended, continue to depend on Government Policy and its financial support in some form or the other. The Government Policies have so far remained broad-based, farmer friendly, supportive of crop insurance that aimed at ensuring a stable growth of the agricultural sector, which are likely to persist in the future too. In fact creation of AIC reflects this commitment. In spite of the realization that crop insurance may not appear to be viable at present or in the near future, this support is likely to continue as long it serves the interests of farmers as the farmers risk management continues to be primary concern of the Government. The crop insurance awareness level among the Indian farming community is low. Only 4 per cent of farmers households had ever insured their crops and 57% of such households did not even know that crops could be insured according to a report based on the survey carried about by the National Sample Survey Organization (NSSO).

Quantification of data to measure the awareness level

A comprehensive interview schedule is designed to collect the data from the sample respondents. Rensis Likert's method of summated, ratings is applied to find out the aggregate awareness level of the farmers. To measure the awareness level of farmers a list of 15 statements is prepared. The sample respondents are called to respond to each statement relating to the crop insurance schemes, using 3 point rating scale ranging from well aware to less aware. Likert's type 3 point rating scale that ranges from 3, 2 and 1 are used. If a respondent is well aware with the statement, a scale value of 3 is assigned, scale value of 2 is assigned, if respondent response is moderate and a scale value of 1 is assigned if respondent response is less aware. A total score for each respondent from all the 15 statements are calculated by Likert's 3 point rating scale technique. The maximum score of the each respondent can get from all the 15 statement are 45 and minimum score is 15. The respondents are grouped on the basis of score into three Viz., High aware, Moderate and low aware. Those who have score above 35 are classified as high aware those who scored 30-35 are classified as moderate and those who scored between15-29 are classified as less aware. Based on this procedure, out of 100 sample respondents' awareness score of 62 (62%) sample respondents is below the averages score while the score of 38(38%) sample respondents is 30 and above.

Findings relating to awareness about crop Insurance are shown in Table 1. It reveals that a high percentage (44%) of the sample respondents is having low level awareness about crop insurance.

Table 1. Distribution of respondents by awareness level

Awareness Level	Number & %
High (35-40)	18
Moderate (30-35)	38
Low (15-29)	44
Total	100

Association between socio - economic characteristics and awareness level

It is expected that socio-economic characteristics of the sample respondents would influence the awareness level about crop Insurance. To examine the association between awareness level and socio-economic characteristics the following null hypothesis has been framed on the basis of knowledge gained during study and review of the various relevant studies, the present study aims to test the following null hypothesis.

H_o**:** There is no significant association between socio-economic characteristics of the sample respondents (age. sex, marital status, educational status, size of the family, Nature of the family, farm experience, annual income and annual expenditure) and the awareness level of the farmers about crop insurance. The statistical significance of this hypothesis has been tested with a help of chi-square test (χ^2) at 5% level of significance.

Age and awareness level

The age is most important factor which determines the awareness level of sample respondents. The present study is an attempt to study the relationship between age and awareness level. It is found that the sample respondents' age ranges from 30 years to 45 years. In the present study, sample respondents are three categories. Viz., young (respondents who is upto 30 years) middle age (respondents who is in between 31 and 45 years) and old (respondent who is above 45 years). The Table 2 shows the distribution of sample respondents on the basis of age and awareness level. This Table reveals that the more number of old sample respondents (50%) are having low level awareness than other two groups about crop insurance. The calculated value of chi-square (4.0148) is less than Table value (9.488). Hence the hypothesis is accepted. Therefore, it can be concluded that there is no significant association between age and awareness level of the sample respondents about crop insurance.

Table 2. Age and awareness level

Age Group	Awareness Level			Total
	High	Moderate	Low	
Young	4(33.33)	4(33.34)	4(33.33)	12(100)
Middle	10(20.83)	18(37.5)	20(41.67)	48(100)
Old	4(10)	16(40)	20(50)	40(100)
Total	18(18)	38(38)	44(44)	100(100)

Figures in Parentheses indicate Percentage D/F=4; χ^2= 4.0148.

Sex and awareness level

Generally, awareness level will change on sex basis. Hence it is decided to analyse the awareness level of farmers on sex basis. The Table 3 shows the distribution of sample respondents on the basis of sex and awareness level. This Table reveals that the more number of female respondents (44.44%) are having low level awareness about crop insurance, than male respondents. The Calculated value of chi-square (2.1002) is less than the Table value (5.991). Hence, the hypothesis is accepted. Thus it can be concluded that there is no significant association between sex and awareness level of the sample respondents about crop insurance.

Table 3. Sex and awareness level

Sex	Awareness Level			Total
	High	Moderate	Low	
Male	14(21.87)	22(34.34)	28(43.75)	64(100)
Female	4(11.12)	16(44.44)	16(44.44)	36(100)
Total	18(18)	38(38)	44(44)	100(100)

D/F=2; χ^2= 2.1002

Marital status and awareness level

A person's like and dislikes will change on the basis of marital status. In the present study is an attempt to analyse the association between marital status of the sample respondents and their awareness level. For which sample respondents are grouped into two categories viz., married and unmarried. The Table 4 exhibits the distribution of sample respondents on the basis of marital status and awareness level. This Table shows that the more number of married respondents (50%) are having low level awareness about crop insurance than unmarried sample respondents. The Calculated value of chi-square (4.6472) is less than the Table value. Hence the null hypothesis is accepted and statistically it can be concluded that there is no significant association between marital status and awareness level of the sample respondents.

Table 4. Marital status and awareness level

Marital status	Awareness level			Total
	High	Moderate	Low	
Married	12(15.79)	26(34.21)	38(50)	76(100)
Unmarried	6(25)	12(50)	6(25)	24(100)
Total	18(18)	38(38)	44(44)	100(100)

D/F=2; χ^2= 4.6472

Educational status and awareness level

It is hope that awareness level of the sample respondents will vary according to their educational level. Hence it is an attempt to examine the association between educational qualification and awareness level. For which the sample respondents are classified into three groups viz., Illiterate, school level and college level. The Table 5 exhibits the distribution of sample respondents on the basis of educational status and awareness level. This Table indicates that the number of school level respondents (61.90%) is having low level awareness about crop insurance than other two groups viz., Illiterate and college level. The calculated value of chi-square (19.7266) is more than the Table value (9.488). Hence the hypothesis is not accepted. So it can be concluded that there is a significant association between educational status and awareness level of the sample respondents about crop insurance.

Table 5. Educational status and awareness level

Educational Status	Awareness level			Total
	High	Moderate	Low	
Illiterate	2(11.11)	10(77.78)	2(11.11)	18(100)
School level	8(19.05)	8(19.05)	26(61.90)	42(100)
College level	8(20)	16(40)	16(40)	40(100)
Total	18(18)	38(38)	44(44)	100(100)

D/F=4; χ^2= 19.7266.

Size of the family and awareness level

In the presents study sample respondents are grouped into three categories viz., small family (upto3) Middle family (between 4 and 6) and large family above 6. The Table 6 shows the distribution of sample respondent on the basis of size of the family and awareness level. This Table reveals that the more number of small family and middle family sample respondents (50%) are having low level awareness about crop insurance than large family. The calculated value of Chi-square (7.0531) is less than the Table value. Hence, the hypothesis is accepted. Thus it can be concluded that there is no significant association between size of the family and awareness level of the sample respondents about crop insurance.

Table 6. Size of the family and awareness level

Size of family	Awareness level			Total
	High	Moderate	Low	
Small family	4(13.13)	11(36.67)	15(50)	30(100)
Middle family	10(20.84)	14(29.16)	24(50)	48(100)
Large family	4(18.18)	13(59.09)	5(22.73)	22(100)
Total	18(18)	38(38)	44(44)	100(100)

D/F=4; χ^2= 7.0531

Nature of the family and awareness level

The nature of the family is another important factor, which also determines the sample respondents and their awareness level. The requirement of the individual family will differ from joint family. Therefore, nature of the family is considered as another essential factor to assess the awareness level. For this purpose it is grouped into two categories such as individual family and joint family. The Table 7 shows the distribution of sample respondents on the basis of nature of the family and awareness level. This Table shows that the more number of joint family sample respondents (50%) are having low level awareness about crop insurance than individual family. The calculated value of chi-square (1.8162) is less than the Table value.

Table 7. Nature of family and awareness level

Nature of family	Awareness level			Total
	High	Moderate	Low	
Joint Family	8(20)	12(30)	20(50)	40(100)
Individual family	10(16.67)	26(43.33)	24(40)	60(100)
Total	18(18)	38(38)	44(44)	100(100)

D/F = 2 ;χ^2 = 1.8162.

Hence the hypothesis is accepted. Therefore, it can be concluded that there is no significant association between nature of family and awareness level of sample respondents about crop insurance.

Farm experience and awareness level

Apart from analysis of farm experience and farmer's opinion it is relevant to examine the role played by crop insurance of sample farmers in the farming. In the present study the sample respondents are classified into three categories viz., Low experience (below 10 years) moderate experience (10 and 20 years) and more experience (Above 20 years). The Table 8 indicates that the more number of moderate experience sample respondents (52%) are having low level awareness than other two groups about crop insurance. The calculated value of chi-square (7.3422) is less than the Table value. Hence the hypothesis is accepted therefore it can be concluded that there is no significant association between farm experience and their awareness level.

Table 8. Farm experience and awareness level

Experience level	Awareness level			Total
	High	Moderate	Low	
Low	6(15)	20(50)	14(35)	40(100)
Moderate	8(16)	16(32)	26(52)	50(100)
High	4(40)	2(20)	4(40)	10(100)
Total	18(18)	38(38)	44(44)	100(100)

D/F = 4 ; χ^2 = 7.3422

Annual income and awareness level

The sample respondents are classified into three groups low, middle and high income according the person who earns less than Rs.1,00,000 per annum are classified as low income group, who earns Rs.1,00,000 to 1,50,000 per annum are classified as middle income groups and who earns more than Rs.1,50,000 are classified as high income group. The Table 9 exhibits the distribution of sample respondents on the basis of annual income and awareness level. The Table 9 reveals that the more number of moderate group of sample respondents (52.38%) are having low level awareness than other two groups about crop insurance. The calculated value of chi-square (7.0987) is less than the Table value. Hence, the hypothesis is accepted. Therefore it can be concluded that there is no significant association between annual income of the sample respondents about crop insurance.

Table 9. Annual income and awareness level

Income level	Awareness level			Total
	High	Moderate	Low	
Low	4(10.53)	19(50)	15(39.47)	38(100)
Moderate	10(23.81)	10(23.81)	22(52.38)	42(100)
High	4(20)	9(45)	7(35)	20(100)
Total	18(18)	38(38)	44(44)	100(100)

D/F = 4 ; χ^2 = 7.0987

Annual expenditure and awareness level

It is known fact that spending nature on expenditure of an individual depends on his/ her personal character. In the present study the sample respondents are grouped into three categories viz., low expenditure middle expenditure and high expenditure. Accordingly a person who spend below Rs.50,000 are classified as low expenditure and who spends of Rs.50,000 to Rs.1,00,000 are classified as middle expenditure and who spend more than 100000 are classified as high expenditure.

The Table 10 reveals that the distribution of sample respondents on the basis of annual expenditure and awareness level. The Table 10 shows that the more number of middle expenditure sample respondents (46.67%) are having low level awareness about crop insurance. The calculated value of chi-square (6.2669) is less than the Table value. Hence the hypothesis is accepted. Therefore it can be concluded that there is no significant association between Annual Expenditure and their awareness level.

Table 10. Annual expenditure and awareness level

Expenditure level	Awareness level			Total
	High	Moderate	Low	
Low	6(10.73)	24(42.84)	26(46.43)	56(100)
Moderate	8(26.66)	8(26.67)	14(46.67)	30(100)
High	4(28.57)	6(42.86)	4(28.57)	14(100)
Total	18(18)	38(38)	44(44)	100(100)

D/F = 4 ; χ^2 = 6.2669

Farmers' satisfaction about crop insurance

To measure the level of satisfaction of the farmers about crop insurance, on the following statements have been given in the interview schedule: Coverage of farmers, Crops covered, Premium Rate, Area Approach, Indemnity level, Claim procedure, Sum Assured, Premium Subsidy Allowed, Nature of coverage, Documentation, Facilities available at financial institutions, Loss Assessment and Role of Government. A comprehensive interview schedule is designed to collect the data from the sample respondents Likert's 5 point rating scale is applied. A total score for each respondent from all the 13 statements are calculated by using the Likert's 5 point rating scale technique. The maximum score a respondent can get from all the 13 statements are 65 and the minimum score is 13. The respondents are grouped on the basis of score into two viz., satisfied and dissatisfied. Those who have scored above 39 are classified as satisfied and those who scored upto 39 are classified as dissatisfied. The Table 11 shows the distribution of the total sample respondents by their level of satisfaction about crop insurance and this Table reveals that a high percentage (86%) of sample respondents are not satisfied with crop insurance.

Table 11. Distribution of respondents by satisfaction level

Satisfaction level	No. of Respondents	Percentage
Satisfied (score > = 39)	14	14
Dissatisfied (score < 39)	86	86
Total	100	100

Association between socio - economic characteristics and satisfaction level

It is expected that socio-economic characteristics of the sample respondents would influence the level of satisfaction about crop insurance. To examine the association between satisfaction level and socio – economic characteristics, the following hypotheses has been framed on the basis of knowledge gained during the study and review of the various relevant studies, the present study aims to test the following null hypothesis.

H_0: There is no significant association between Socio – economic characteristics of the sample respondents (age, sex, marital status, educational status, size of the family, farm experience, annual income and annual expenditure) and the level of satisfaction with crop insurance.

The statistical significance of this hypothesis has been tested with the help of chi-square test (χ^2) at 5% level of significance.

Age and satisfaction level

This has been illustrated in Table 12. This shows that there is a relationship between age of the sample respondents and their satisfaction about crop insurance. It is found that 91.67% of middle age sample respondents are dissatisfied. The calculated value of chi-square (5.0385) is less than the Table value. Hence, the hypothesis is accepted. Thus, it can the concluded that there is no significant association between age and satisfaction level of the sample respondents about crop insurance.

Table 12. Age and satisfaction level

Age Group	Satisfaction level		Total
	Satisfied	Dissatisfied	
Young	4 (33.33)	8 (66.67)	12 (100)
Middle	4 (8.33)	44 (91.67)	48 (100)
Old	6 (15)	34 (85)	40 (100)
Total	14 (14)	86 (86)	100 (100)

Figures in parentheses indicate percentage D/F = 2; $\chi 2$ = 5.0385.

Sex and satisfaction level

The Table 13 shows the distribution of sample respondents on the basis of sex and satisfaction level. This Table reveals that there is a relationship between sex of the sample respondents and their satisfaction about crop insurance. It is found that 90.625% of male sample respondents are dissatisfied. The calculated value of chi-square (3.1583) is less than the Table value (3.841). Hence, the hypothesis is accepted. So, it can be concluded that there is no significant association between sex and satisfaction level of the sample respondents about crop insurance.

Table 13. Sex and satisfaction level

Sex	Satisfaction level		Total
	Satisfied	Dissatisfied	
Male	6(9.375)	58(90.625)	64(100)
Female	8(22.22)	28(77.78)	36(100)
Total	14(14)	86(86)	100(100)

D/F = 1; χ^2 = 3.1583

Marital status and satisfaction level

The Table 14 exhibits the distribution of sample respondents on the basis of marital status and satisfaction level. The Table 14 indicates that there is a relationship between marital status of the sample respondents and their satisfaction about crop insurance. It is found that 89.47% of married sample respondents are dissatisfied. The calculated value of chi-square (3.1737) is less than the Table value. Hence, the hypothesis is accepted. Therefore, it can be concluded that there is no

significant association between marital status and satisfaction level of the sample respondents about crop insurance.

Table 14. Marital status and satisfaction level

Marital Status	Satisfaction level		Total
	Satisfied	Dissatisfied	
Married	8(10.53)	68(89.47)	76(100)
Unmarried	6(25)	18(75)	24(100)
Total	14(14)	86(86)	100(100)

D/F = 1; χ^2 = 3.1737

Educational status and satisfaction level

The Table 15 exhibits the distribution of sample respondent on the basis of educational status and satisfaction level. The Table 15 reveals that there is a relationship between educational status of the sample respondents and their satisfaction about crop insurance. It is found that 90.45% of school level sample respondents are dissatisfied. The calculated value of Chi-square (2.0198) is less than the Table value. Hence, the hypothesis is accepted. Therefore, it can be concluded that there is no significant association between educational status and their satisfaction level of the sample respondents about crop insurance.

Table 15. Educational status and satisfaction level

Educational Status	Satisfaction level		Total
	Satisfied	Dissatisfied	
Illiterate	2(11.11)	16(88.89)	18(100)
School level	4(9.52)	38(90.45)	42(100)
College level	8(20)	32(80)	40(100)
Total	14(14)	86(86)	100(100)

D/F = 2; χ^2 = 2.0198

Size of the family and satisfaction level

The Table 16 indicates the distribution of sample respondents on the basis of size of the family and satisfaction level. The Table 16 shows that there is a relationship between size of the family of sample respondents and their satisfaction level about crop insurance. It is found that 91.67% of middle family sample respondents are dissatisfied. The calculated value of Chi-square (5.7182) is less than the Table value. Hence, the hypothesis is accepted. So, it can be concluded that there is no significant association between size of the family and satisfaction level of the sample respondents about crop insurance.

Table 16. Size of the family and satisfaction level

Size of the family	Satisfaction level		Total
	Satisfied	Dissatisfied	
Small family	8(26.67)	22(73.33)	30(100)
Middle family	4(8.33)	44(91.67)	48(100)
Large family	2(9.09)	20(90.91)	22(100)
Total	14(14)	86(86)	100(100)

D/F =2 ; χ2 = 5.7182

Nature of the family and satisfaction level

The Table 17 shows the distribution of sample respondents on the basis of nature of the family and satisfaction level. The Table 17 reveals that there is a relationship between nature of the family of sample respondents and their satisfaction level about crop insurance. It is found that 86.67% of individual family sample respondents are dissatisfied. The calculated value of Chi-square (0.0552) is less than the Table value. Hence the hypothesis is accepted. Thus, it is concluded that there is no significant association between nature of the family and satisfaction level of the sample respondents about crop insurance.

Table 17. Nature of family and satisfaction level

Nature of the family	Satisfaction level		Total
	Satisfied	Dissatisfied	
Joint family	6(15	34(85)	40(100)
Individual family	8(13.33)	52(86.67)	60(100)
Total	14(14)	86(86)	100(100)

D/F = 2; χ^2 = 0.0552

Farm experience and satisfaction level

The Table 18 shows that the distribution of sample respondents on the basis of farm experience and satisfaction level. The Table 18 reveals that there is a relationship between farm experience of the sample respondents and their satisfaction level about crop insurance. It is found that 90% of low experience sample respondents are dissatisfied. The calculated value of chi-square (0.9965) is less than Table value. Hence, the hypothesis is accepted. Therefore, it can be concluded that there is no significant association between farm experience and their satisfaction level of the sample respondents about crop insurance.

Table 18. Farm experience and satisfaction level

Experience Level	Satisfaction level		Total
	Satisfied	Dissatisfied	
Low	4(10)	36(90)	40(100)
Moderate	8(16)	42(84)	50(100)
High	2(20)	8(10)	10(100)
Total	14(14)	86(86)	100(100)

D/F = 2; χ^2 = 0.9965

Annual income and satisfaction level

The Table 19 shows the distribution of sample respondents on the basis of annual income and satisfaction level. The Table 19 shows that there is a relationship between annual income group annual income group of sample respondents and their satisfaction about crop insurance.

Table 19. Annual income and satisfaction level

Income Level	Satisfaction level		Total
	Satisfied	Dissatisfied	
Low	8(21.05)	30(78.95)	38(100)
Middle	4(9.52)	38(90.48)	42(100)
High	2(10)	18(90)	20(100)
Total	14(14)	86(86)	100(100)

D/F = 2χ^2 = 2.5297

It is found that 90.48% of middle income group of sample respondents are dissatisfied. The calculated value of Chi-square (2.5297) is less than the Table value. Hence, the hypothesis is accepted. Thus, it can be concluded that there is

no significant association between annual income and satisfaction level of sample respondents about crop insurance.

Annual expenditure and satisfaction level

The Table 20 reveals that the distribution of sample respondents on the basis of annual expenditure and satisfaction level. The Table 20 reveals that there is a relationship between annual expenditure group of the sample respondents and their satisfaction about crop insurance. It is found that 92.86% of low expenditure group of sample respondents are dissatisfied. The calculate value of Chi-square (5.5529) is less than the Table value. Hence, the hypothesis is accepted. So, it can be concluded that there is no significant association between annual expenditure and satisfaction level of the sample respondents about crop insurance.

Table 20. Annual expenditure and satisfaction level

Expenditure Level	Satisfaction level		Total
	Satisfied	Dissatisfied	
Low	4(7.14)	52(92.86)	56(100)
Middle	6(20)	24(80)	30(100)
High	4(28.57)	10(71.43)	14(100)
Total	14(14)	86(86)	100(100)

D/F = 2; χ^2 = 5.5529

Conclusion and suggestions

From the foregoing analysis, that the implementation of crop insurance is the need of the hour. Despite various schemes launched from time to time in the country agricultural insurance has served very limited purpose. The coverage in terms of area, number of farmers and value of agricultural output is very small, payment of indemnity based on area approach miss affected farmers outside the compensated area, and most of the schemes are not viable. Crop insurance to be victorious requires civic support in terms of subsidy on premium, meeting administrative outflow, and reinsurance etc. Agriculture in India is not just reliant on weather conditions, but also suffers the impact of natural disasters. It will be pretty in order for crop insurance to be regarded as hold gauge in which government plays a vital role, because of the benefit it provides not purely to the insured farmers but to the intact national economy caused by the forward and backward relations with the relaxation of the economy. The principle following the appraisal of yield insurance schemes all over the world are along the lines for getting the dynamic support and finance of the Government. Integrating the assorted risk easing methods and reforming the funds not only injects liability and professionalism into the system, but also increases economic effectiveness. The Government can assist agricultural insurance in some ways. There is a need for some subsidization by the government. It can offer information on weather patterns, spots of farms and crops, history of perils and crop yields. In the light of the present findings and suggestions given by the sample respondents, the following recommendations are made for the improvement of crop insurance:

1. In the present study, it is found that 44% of the sample respondents are having low level awareness about crop insurance. Hence, it is suggested that the Insurance companies and Government should take necessary steps to improve the awareness among the farmers by taking the following measures.

- The farmers should be made aware of the various insurance schemes for which adequate publicity / extension support should be provided by the state governments.
- To introduce a comprehensive scheme and coverage so that farmers will be given the insurance cover in respect of the crops of their choice, be they cotton, sugarcane, cashew nut or chilly.
- Awareness campaign to induce non-borrowers to buy insurance covers for major / notified crops.

2. In the present study, it is found that 86% of the sample respondents are dissatisfied about the existing crop insurance schemes. Hence, it is suggested that the Insurance companies and Government should take necessary steps to improve the satisfaction level of farmers by using the following steps.

- Proper steps to be taken by the insurance companies to increase the crops coverage, area Approach, Reduce the premium rate and reduce the formalities in claim etc.

If the above suggestive measures are adopted by the Insurance Companies, it is hope that more farmers will come forward to insure their crops and in event of loss of any crops, farmers will be more benefited and undoubtedly farmers' economic condition will improved.

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