# A Study on Awareness, Purchase Benefits and Satisfaction Level Towards Crop Insurance

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**Abstract**

Agriculture is classified as a primary sector and is assigned a significant role for providing employment, income and fulfillment of hunger needs and principal source of livelihood for more than 58% of the population of this country. The agricultural production is dependent largely on the weather and is severely impacted by its vagaries as also by attack of pests and diseases. These unpredictable and uncontrollable extraneous perils render Indian agriculture an extremely risky enterprise.

In view of this, the need for protecting farmers from the various risks and hazards was recognized by the Government of India and insurance providers. Various insurance schemes/products are designed and offered to cover risks in farming. The success of these schemes is dependent not only on government policies and administrative machinery but also on farmers. Since it is important to evaluate awareness and benefits of the insurance, from time to time, both researchers and policy makers have evinced interest in evaluating them.

The present study is an attempt in that direction to study the extent of crop insurance awareness, purchase benefits and satisfaction among 360 farmers in two leading villages in paddy (notified crop) cultivation- Kunichampet and Mannadipet in Puducherry district. The study findings revealed that there were constraints like less benefits and dissatisfaction towards claim settlement of crop insurance. Steps are necessary from Government and insurance delivery agents to promote insurance to counter problems like low benefits and dissatisfaction.

**Keywords:**

Crop insurance, Awareness, Benefits and Satisfaction.

## Introduction

Indian economy is large and diverse with a number of major sectors that include manufacturing, agriculture, and services (Chaugule, 2012). Agriculture is classified as a primary sector and is assigned a significant role for providing employment, income and fulfillment of

hunger needs and principal source of livelihood for more than 58% of the population of this country. Further the agro-industries and agri-based industries in general and rural based industries in particular depend heavily on the growth of agriculture. In this respect the farmers and their activities are to be given importance and protection against both market risks and non-market risks results in rural development.

Farmers engaged in agriculture are exposed to various risks. In India, agricultural risks are exacerbated by a variety of factors, such as climate variability, frequent natural disasters, yield and price uncertainties, weak rural infrastructure, imperfect markets and lack of financial services including limited span and design of risk mitigation instruments such as credit and insurance (Planning Commission, Govt. of India, 2012).

To help the farmers to cope with the variety of risks, Government of India has developed several mechanisms; credit and insurance are among them. They are expected to finance agricultural operations and protect farmers from a variety of risks. The success of these mechanisms is dependent not only on government policies and administrative machinery but also on farmers. Since it is important to evaluate awareness and benefits of the credit and insurance instruments, from time to time, both researchers and policy makers have evinced interest in evaluating them. The present study is an attempt in that direction to study the extent of crop insurance awareness, purchase benefits and satisfaction in Puducherry region.

**Objectives of the Study**

1. To find out the extent of awareness of among the farmers (both insured and non-insured) about crop insurance.
2. To evaluate the benefits of crop insurance to the farmers holding insurance.
3. To know whether insured farmers are satisfied with the insurance.

**Hypothesis of the Study**

Ho: There is no significant relationship between benefits and age, education and size of land holding of the insured farmers.

Ho: There is no significant relationship between satisfaction and age, education and size of land holding of the insured farmers.

**Review of Literature**

Crop insurance is a financial protection or cover purchased by agricultural producers, and others in agricultural value chain, to protect themselves against either loss of their crops due to natural disasters such as hail, drought, and floods or loss of revenue due to declines in the prices of agricultural commodities (Livata, 2009).

**Smithers (1998)** identified the role of crop insurance in soybean production in managing weather-related risks in Ontario. The study sample comprised 79 farmers chosen from a master list of soybean producers in Middlesex County. The finding of the study was the farmers used crop insurance as a short term risk management strategy not as a long term management strategy in the study area.

**Rachele Pierro (2008)** analyzed Christian Aid interest in crop/weather micro insurance (MI) as well as "involvement in micro insurance related products and Services". The study found the majority of people interviewed (85%) believed that crop/weather insurance would help poor farmers in managing weather risks.

**Selvaraj (2010)** studied the awareness level and the satisfaction level of crop insurance schemes of 100 farmers of Gobichettipalayam and Perundurai blocks of Erode district, Tamil Nadu. The study found 44% of the sample respondents were having low level awareness about crop insurance, 86% of the insured sample respondents were dissatisfied with the existing crop insurance schemes and there is no significant association between age, sex, marital status, education, size of the family , nature of the family, farm experience, annual income, annual expenditure and satisfaction level.

**Surjit Singh and Jogi (2011)** investigated 187 farmers to find the effectiveness of weather insurance of A.I.C of India. The study finding revealed that there is low awareness among the small and marginal farmers and high awareness among large farmers.

**Gaurav, *et al.,* (2011)** conducted a field experiment to test whether education and marketing can increase purchase of rainfall insurance among 600 small-scale farmers in three districts of Gujarat, India. The study found that financially literate farmers were more willing to purchase insurance than non-educated farmers.

**Kakumanu, *et al.,* (2012)** randomly interviewed 240 paddy farmers during Rabi 2010 from the head, middle and tail ends of Nagarjuna Sagar Project right canal area in Guntur district covering six villages from three mandals (blocks), in Andhra Pradesh, India. The study concludes that the major constraint in adoption of crop insurance was the view 'insurance scheme does not compensate farmers even if they suffer loss from adverse natural event'.

**Sishirendu Das and Ray (2012),** organized a survey of 300 farmers in three district of Assam viz., Cachar, Karimganj, Haila-kandi.to collect useful information on various aspects like preference for farm insurance and main reason for crop

damage, investment of the farmers, constraints in adopting crop insurance and so on and concluded that covering market risk and giving more advertisements to popularize as well as helping the farmers in getting more information regarding crop insurance scheme holds the key to enhance the acceptance of crop insurance program.

**Mani, *et al.*, (2012)** analyzed the awareness and adoption of crop insurance and identified constrains on the way of crop insurance adoption in Nagapatinam, Vellore and Madurai districts of Tamil Nadu. They randomly selected 30 farmers from each district covered under NAIS and 30 farmers of Nagapatinam district covered under Varsha Bima in 2005-06. They found the farmers were not sure about their participation in crop insurance schemes and compensation amount deposited in their bank account because of communication gap between farmers and insurance providers.

**Narayanan and Saravanan (2011)** conducted a study among 120 farmers in and around Erode rural namely Arachalur, Bhavani, NanjaiUthukuli, Nasiyanur and Vellode. The findings of the study were about 29.4% of the respondents have felt that TV media is more effective media to know about agriculture insurance and 82.4% of the respondents have been motivated by other farmers. Further 30.8 % of the respondents are not willing to go for the insurance

**Ravi kumar (2013)** measured awareness level, and identified farmer's perception and farmer's willingness in paying for crop insurance in Nuzvid, Krishna District, Andhra Pradesh. He chose 140 respondents based on convenience sampling method. The findings revealed that 62 % of respondents perceive that current form of crop insurance is not a risk management instrument by sharing financial losses. 61.8 % of respondents show their negative sign towards risk sharing of crop insurance and only few farmers agrees that crop insurance bare the 0-50% of risks.

**Uvaneswaran and Mohanapriya (2014)** conducted a study among 150 farmers to find the the awareness and perception about crop insurance in Bhavani, Anthiyur, Sivagiri and Arachalur of Erode District. The findings revealed that majority (30%) of the farmers is dissatisfied about the crop insurance schemes and 27 % are highly dissatisfied. Small portions (15%) of the farmers are highly satisfied about the crop insurance schemes.

From the reviews it was observed that the lack of awareness among farmers, less benefits from crop insurance and high dissatisfaction among insured farmers.

**Research Methodology**

Puducherry U.T. has four different climatic zones. Paddy is the major food crop and Sugarcane is the major commercial crop cultivated in Puducherry U.T. The paddy is chosen by the insurer as notified crop in Puducherry U.T. So the primary data was collected from paddy farmers who have taken crop insurance and who haven't taken. The Puducherry district of the union territory of Puducherry was purposively selected from the four districts namely Puducherry, Karaikal, Mahe and Yanam.

The choice was influenced by as it is more prone to natural calamities and it is facing gradual reduction in number of famers, agricultural land and production. Puduchery district consists of five commune panchayats– Ariankuppam, Villianur, Mannadipet, Bahour and Nettapakkam. From the five communes, the Mannadipet commune was chosen because it has more number of villages (19 villages) than others for crop insurance notification. The crop insurance is delivered only to the farmers who cultivate notified crops in notified area. The notified crops by the Insurer in Puducherry district are Paddy I and Paddy II. So Paddy crop was chosen for the study. In the 19 villages, the number of hectares cultivated for paddy crop was in the range of 40.5 to 80. The leading ones are Kunichampet with 80 hectares and Mannadipet with 76.5 hectares. These two leading villages were chosen for the study.

A random sample of respondents was chosen from the list of farmers who registered in the Market committee to sell their paddy from December, 2013 and Januray, 2014 was obtained from Market Committee located in Thirukanur of Mannadipet commune. The list had 730 farmers from Mannadipet and 772 farmers from Kunichampet villages. Of the 1502 farmers 385 were picked up on a random basis using lottery method proportionately from two villages. The questionnaires were distributed to the 385 selected farmers. About 380 could be obtained but only 360 of them were complete in all respects. So the final sample size came to 360. Upon classification it was found that 282 were taken up crop insurance and 78 were not insured.

**Results and Discussions**

**Profile of Respondents**

The study has two categories of respondents those farmers who have purchased crop insurance and those who did not. Among the 360 farmers 78.3% (282) purchased insurance and the remaining 21.7 % (78) of farmers were non-insured. The average age of non-insured was 52 years and that of insured was 54 years. The average of all the respondents is 53 years. Around 60 per cent of them were aged above 50 years. Another 33 per cent belonged the age group of 26-50 years and the number of youngsters was found as low at 30 out of 360 (8.3%).

The literacy rate was relatively more among the insured farmers (84.4%) compared to that of non- insured (80.6%). About 60 percent of selected farmers had secondary

education followed by 14.4 percent of farmers with primary education. Among the insured 22 were graduates (7.8%) and among the non-insured it was only two out of 78 (2.5%). It can be said that literates prefer to have insurance. The insured were distributed across different categories of land holding. About 34.7 per cent of the insured were marginal farmers, 6.2 per cent were small farm holders and the remaining 29.1 per cent were large farmers. Most of the non-insured, are marginal and small farmers. Together they constitute 72.8 per cent of the total non-insured. Relatively, a large proportion of large farmers were insured while more number of marginal farmers were not insured. The details are given table 1

**Table 1 Profile of respondent farmers**

| | Categories | Insured (n=282) | | Non-insured (n=78) | | All (N=360) | |
|---|---|---|---|---|---|---|---|
| | | F | % | F | % | F | % |
| Age (Years) | Less than 25 | 18 | 6.4 | 12 | 15.4 | 30 | 8.3 |
| | 26-50 | 95 | 33.7 | 23 | 29.4 | 118 | 32.8 |
| | 51 and above | 169 | 59.9 | 43 | 55.2 | 212 | 58.9 |
| | Average (years) | 54 | | 52 | | 53 | |
| Education | Illiterate | 44 | 15.6 | 26 | 33.3 | 70 | 19.4 |
| | Primary education | 42 | 14.9 | 10 | 13.0 | 52 | 14.4 |
| | Higher secondary | 174 | 61.7 | 40 | 51.2 | 214 | 59.5 |
| | Graduation | 22 | 7.8 | 2 | 2.5 | 24 | 6.7 |
| Size of land holdings of farmers | Marginal (0-2.5 acres) | 98 | 34.7 | 38 | 48.7 | 136 | 36.7 |
| | Small ( 2.6-5 acres) | 102 | 36.2 | 28 | 35.9 | 130 | 36.1 |
| | Large (5.1 and above acres) | 82 | 29.1 | 12 | 15.4 | 94 | 27.2 |

## Awareness

Table 2 shows information about awareness of insurance. While all those insured are evidently aware of insurance, among the non-insured, only 53.8% of the respondent farmers are aware. Very few of them (9.6%) known about both the crop and cattle insurance scheme. Among 324 awaked respondents, 66% of respondents know about crop insurance scheme through PACS, 15.8% of respondents through commercial banks and remaining 18.2% of respondents from RRBs.

**Table 2 Aware of insurance (N=360)**

| Particulars | Response | Insured (n=282) | | Non-insured (n=78) | | All (N=360) | |
|---|---|---|---|---|---|---|---|
| | | F | % | F | % | F | % |
| Awareness | Yes | 282 | 100 | 42 | 53.8 | 324 | 90.0 |
| | No | 0 | 0 | 36 | 46.2 | 36 | 10.0 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Types of Awareness** | Crop insurance | 265 | 94.0 | 28 | 66.6 | 293 | 90.4 |
| | Both crop and cattle insurance | 17 | 6.0 | 14 | 33.4 | 31 | 9.6 |
| **Sources** | PACS | 196 | 69.5 | 18 | 42.8 | 214 | 66.0 |
| | RRBs | 45 | 15.9 | 14 | 33.4 | 59 | 18.2 |
| | Commercial banks | 41 | 14.6 | 10 | 23.8 | 51 | 15.8 |

**Awareness across demographic factors**

The extent of awareness of respondents select demographics towards crop insurance is presented in table 3.

**Table 3 Awareness across select demographic factors**

| Variable | Categories | Aware of insurance | |
|---|---|---|---|
| | | F | % |
| Age (years) | Less than 25 | 24 | 7.4 |
| | 26-50 | 108 | 33.3 |
| | 51 and above | 192 | 59.3 |
| Education | Illiterate | 55 | 16.9 |
| | Primary education | 50 | 15.5 |
| | Higher secondary | 195 | 60.2 |
| | Graduation | 24 | 7.4 |
| Size of farm land holdings | Marginal (0-2.5 acres) | 109 | 33.6 |
| | Small ( 2.6-5 acres) | 125 | 38.6 |
| | Large (5.1 and above acres) | 90 | 27.8 |

Lack of awareness due to lack of proper information about the scheme to the farmers were reported by Selvaraj, 2010; Surjit Singh and Jogi, 2011. The present study findings revealed that awareness was high among famers in the study area and there is lack of information on crop insurance design among farmers was found, pointing out the need for increasing information about crop insurance by the distributing banks among the farmers awareness levels.

**Benefits secured from crop insurance**

According to table 4 only 4.2% of the respondents felt more confident in farming with crop insurance. Around 6.1 per cent of respondents felt that they took risks in farming and adopted new farming methods with the crop insurance scheme. About 21.9% of the farmers stated that they have earned higher incomes and 11.4 per cent felt that they are able to continue farming.

**Table 4 Benefits of crop insurance (N=282)**

| S.No | Benefits | F | % |
|---|---|---|---|
| 1 | Felt more confident in farming decisions. | 12 | 4.2 |
| 2 | Took risks in farming and adopted new farming methods | 17 | 6.1 |
| 3 | Earned higher incomes. | 62 | 21.9 |
| 4 | Able to continue farming | 32 | 11.4 |
| 5 | No change | 159 | 56.4 |

Multiple responses. Totals do not add up to hundred percent

The current form of crop insurance is not a risk management instrument in sharing crop loses (Ravi kumar, 2013 and Kakumanu, et al., (2012) found that farmers are of the view that insurance scheme does not adequately compensate loss from adverse natural event. The similar findings were found in the present study, as 56.4% of the respondents stated that they did not find any benefits from insurance and farmers do not perceive insurance as a beneficial investment.

**Benefits across age, education and size of land holding.**

Ho: There is no significant relationship between benefits and age, education and size of land holding.

Table 5 examines the relationship between benefits and three variables (age, education and land holding of the farmers). ANOVA is conducted to test the significance at 0.01 level. There is a significant relationship between benefits and the three variables (age, education and land holding of the farmers).

**Table 5 Benefits – Age, education and size of land holding**

| Variable | | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Age of respondent | Between Groups | 28.344 | 4 | 7.086 | 17.901 | .000* |
| | Within Groups | 132.609 | 277 | .396 | | |
| | Total | 160.953 | 281 | | | |
| Education of the respondent | Between Groups | 152.065 | 4 | 38.016 | 54.276 | .000* |
| | Within Groups | 234.641 | 277 | .700 | | |
| | Total | 386.706 | 281 | | | |
| Land holding | Between Groups | 9834.959 | 4 | 2458.740 | 277.292 | .000* |
| | Within Groups | 2970.438 | 277 | 8.867 | | |
| | Total | 12805.397 | 281 | | | |

*Significant at 0.05 level.

**Overall satisfaction towards crop insurance**

The important outcome of buying a product or service is customer satisfaction. As such the third objective of the study is:

- To know whether insured farmers are satisfied with

the insurance.

The respondents were given five choices which they have to rate on satisfaction scale with reference to crop insurance scheme. Table 6 shows the ratings. The mean score of the ratings is 2.11 indicating that the respondents are dissatisfied. About 2.9% are highly satisfied and 13.1% are satisfied. The neutrals are in the range of 27.7%. It means that 43.7% are not having negative feelings. About 56.3% are negatively disposed.

**Table 6 Satisfaction with crop insurance scheme (N=282)**

| Rating | f | % |
|---|---|---|
| Highly satisfied | 8 | 2.9 |
| Satisfied | 37 | 13.1 |
| Neutral | 78 | 27.7 |
| Dissatisfied | 106 | 37.5 |
| Highly dissatisfied | 53 | 18.8 |
| **Mean =2.11** | **SD=0.83** | |

**Satisfaction ratings of respondents with aspects of crop insurance**

Insured farmers are asked about their satisfaction level on various aspects on crop insurance. The rating contains two scale, satisfaction and dissatisfaction. Those aspects positively by more than 60 percent of the respondents are: Crops covered (68.7%), and facilities available at the financial institution (62.7%). documentation, information about schemes and sum assured are those factors which are considered satisfactory by more than 50% of the respondents. Claim settlement is rated lowest. Only 32.9% of the respondents rated it positively.

Dissatisfaction with crop insurance schemes is reported by Selvaraj (2010) and Uvaneswaran and Mohanapriya (2014). As a similar finding, that majority of the insured farmers are not satisfied with insurance is obtained in the present study. This is not a happy news at all to the insurance providers.

**Satisfaction – Across age, education and size of land holding**

Is satisfaction associated to age, education and size of holding, as found by some earlier studies? Ho: There is significant relationship between satisfaction and age, education and size of land holding.

ANOVA is conducted to test the significance at 0.01 level. Table 7 shows the results. There is significant relationship between satisfaction and age, education and land holding of the farmers.

**Table 7 Satisfaction – Across age, education and size of land holding**

| | | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Age of respondent | Between Groups | 21.213 | 3 | 7.071 | 17.002 | .000 |
| | Within Groups | 139.740 | 278 | .416 | | |
| | Total | 160.953 | 281 | | | |
| Education of the respondent | Between Groups | 116.894 | 3 | 38.965 | 48.523 | .000 |
| | Within Groups | 269.812 | 278 | .803 | | |
| | Total | 386.706 | 281 | | | |
| Land holding | Between Groups | 4843.036 | 3 | 1614.345 | 68.123 | .000 |
| | Within Groups | 7962.361 | 278 | 23.698 | | |
| | Total | 12805.397 | 281 | | | |

*Significant at 0.05 level.

**Reasons for not purchasing insurance**

The non-insured respondents were asked about their reasons for not availing crop insurance. The responses were:

- *Lack of awareness* – About 25.2 per cent of respondents said they are not aware of crop insurance schemes.
- *No use* – About 15.3 % felt there is no need for insurance.
- *Negative features*- Area approach of the scheme (29.4%), delays in claim payment (14.1%), Indemnity level (13.3%), and complex documentation (11.2%).

**Conclusion**

The government of India has been keen on promoting crop insurance through a variety of delivery models. However, it is reported that the outreach is still less than expected. Previous research has shown that crop insurance is not considered as effective in coping with farm risks. But there is a need to promote crop insurance as it is good for farmers in coping with farm risk. From this study it was found that farmers are not strongly favorable to insurance buying. There are constraints like less benefits and dissatisfaction towards claim settlement of crop insurance. Steps are necessary from Government and insurance delivery agents to promote insurance to counter problems enhance benefits and satisfaction towards crop insurance.

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