

Awareness and impact of Crop insurance on small Farmers

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ABSTRACT

Farmers' income depends upon the yield of the land which in turn it depends on various risks like uneven rainfall, pests and diseases etc., most of the area in Karnataka state belongs to drought prone region which affect farmer's income as well as food security. Hence, there is a need to reduce agriculture risks with a proper mechanism. The Government of India with the co-operation of state governments has introduced the crop insurance as a risk reducing tool for agriculture in 1972. Since the introduction of crop insurance, the government has frequently changing the models of crop insurance and introduced 10 models. In last 10 years around 5 models have been in force in the country. Therefore, there is a need to understand how those models have been acting as risk mechanism tool and how far they have benefited the farmers in last 10 years. The purpose of the study the crop insurance schemes such as National Agricultural Insurance Scheme, Modified National Agricultural Insurance Scheme, Weather Based Crop Insurance Scheme, Pradhan 6 Mantri Fasal Bima Yojana and Restructured Weather Based Insurance Scheme have been selected.

Keywords : *crop, insurance, analysis, t-test, hypothesis, awareness*

INTRODUCTION

India is a developing country where majority of the people depend on agriculture for their livelihood. Indian agriculture is playing a vital role in socio- economic development of the country, contributing 14 percent towards the Gross Domestic Product (GDP), 8 percent in the countries total export and providing food security to the country. By 2032 India's population would increase to 153 crores, demanding 337 million tons of food grains and 361 million tons of vegetables as compared to 257 tons of food grains and 182 million tons of vegetables of 2017-18 (W.G. Report of Niti aayog 2018). On the other hand, Indian agriculture is depending heavily on rainfall with more than 65 percent of rain fed area are exposed to various risks like irregular rainfall, damage of land and crop due to pest and diseases (Ghosh 2009), hailstorm, cyclone, floods, landslide and drought etc. These risks lead to crop failure which negatively impact on the development of the economy. On the other hand the crop failure leads to loss of investment for the farmers which results in the reduction of purchasing power of the farmers as well as discontinuation of the agricultural practices which negatively impact on food security of the country. To overcome these risks, farmers have practiced various techniques traditionally such as mixed cropping, share cropping and crop rotation etc, but it has not changed much in the agriculture field. Since agriculture is one of the largest sources of employment in the nation, the government has been compelled to place a greater emphasis on the sector ever since the country gained its independence.



Agriculture has been given major emphasis in the government of India's five-year plans in order to boost the country's overall production of food grains, which will both help the nation's farmers and ensure the nation's continued access to sufficient food supplies. In addition, the federal government, in coordination with state and local governments, has implemented a number of different policies designed to foster the growth of agriculture. These policies include the provision of subsidies for agricultural inputs such as fertilizers and pesticides, free supply of power, and reductions in land taxes, amongst other things. The Central Government additionally paid a substantial sum for the expansion of irrigation facilities and also conducted research for the creation of new varieties of crops in order to minimize the strain that was placed on the farmers.

seeds and plants, for the purpose of creating new ways for the control of insects and illnesses, as well as for the purpose of innovating superior farming practices for the growth of agriculture. It also presented the idea of a Minimum Support Price (MSP) for the purpose of mitigating price risk; however, this idea has not been put into practice in the majority of states and for the vast majority of agricultural products. To implement modern agricultural practices and to encourage more people to engage in agricultural field, the Union Government also allocated a huge amount of funds to provide institutional credit to the farmers through banks and financial institutions. However, all of these measures have not contributed more towards the reduction of the agriculture risks of the farmer, which has negatively affected the farming community and resulted in farmers committing suicide in India. On the other side, banks were also confronted with the issue of non-payment of agricultural loans, which led to a rise in the amount of assets that were classified as "non-performing." As a result, the Government of India established crop insurance in 1972 so that they could guarantee the financial stability of the country's banks and help alleviate the difficulties faced by India's farmers. The general insurance division of the Life Insurance Corporation was the one to launch the process of providing crop insurance policies in the beginning. This was done to safeguard farmers from the risks associated with agriculture. In later years, the General Insurance Corporation assumed responsibility for the situation.

Farmers may be protected against the unpredictability of crop output that arises from almost all natural causes that are beyond their control via the use of a product known as crop insurance (Sharma and Meena 2015). In other words, it is a technique that shields farmers from the financial losses that result from crop failure due to erratic rainfall, drought, flooding, pests and diseases, and other such factors. It was originally intended that crop insurance would stabilize farmers' incomes by encouraging them to continue farming even if their operations had suffered a loss, but it has now evolved into a vital instrument for shielding farmers from the dangers of agricultural risk.

CROP INSURANCE IN INDIA

India is one of the fastest growing economies in terms of GDP in the world with significant contribution (14 percent) from the agriculture sector. In India majority of people depend upon agriculture for employment which in turn depends upon the various weather conditions. The share of agriculture to GDP was gradually reducing since independence but the overall developments of the economy significantly depend upon the agricultural development. Therefore, the Government of India has given more importance to the development of the agriculture and initiated various measures including crop insurance.

Crop insurance in India was conceptualized as far back as 1920 where J S Chakravarthi of Mysore state



proposed Agricultural Insurance to protect the farmers from severe drought, based on the rainfall approach (Vyash and Singh 2006) but the idea was not realized in the country. Later soon after the independence, the issue was taken by the Ministry of Food and Agriculture. The Ministry has appointed Dr G S Priolker, as a special officer to recommend the possibilities of implementation of crop insurance. Based on the recommendation of the Dr G S Priolker, Ministry of Food and Agriculture has given instructions to all the State Governments to introduce the crop insurance scheme but no state accepted to introduce crop insurance due to financial and administrative limitations. In 1972, with initiation by the General insurance section of life Insurance Corporation First Ever Crop Insurance Schemes was introduced for H4 cotton in Gujarat on the basis of individual approach. Later the scheme extended to all the states for food crops. Since then more than 10 crop insurance schemes including First Ever Insurance Scheme (1972-79), Pilot Crop Insurance Scheme (1979-1984), Comprehensive Crop Insurance Scheme (1985- 1999), Experimental Crop Insurance Scheme in the year 1997-98, National Agriculture Insurance Scheme(1999-2015), Modified National Agriculture Insurance Scheme (2013-2015) Weather Based Crop Insurance Scheme (2007- 2015) and National Crop Insurance Programme in the year 2014-15 have been introduced in India and various changes have been made in all the aspects of the crop insurance with an objective of reaching more farmers. In 2016, Central Government has implemented the new crop insurance schemes called Pradhan Mantri Fasal Bima Yojana and Restructured Weather Based Crop Insurance Scheme, replaced all other schemes and setup National Portal of Insurance for effective implementation and monitoring of crop insurance schemes.

HYPOTHESES FOR THESTUDY:

The hypotheses formulated for the study are asfollows:

Main hypothesis 1

H₀: Awareness level of crop insurance not significantly vary among farmers **H₁:** Awareness level of crop insurance significantly vary among farmers **Sub hypothesis**

H₀: Awareness level of crop insurance schemes not significantly vary between male and female farmers

H₁: Awareness level of crop insurance schemes significantly vary between male and female farmers

H₀: Awareness level of crop insurance schemes not significantly vary among various age group of the farmers

H₁: Awareness level of crop insurance schemes significantly vary among various age group of the farmers

RESULTS AND ANALYSIS

Awareness about Crop Insurance Schemes

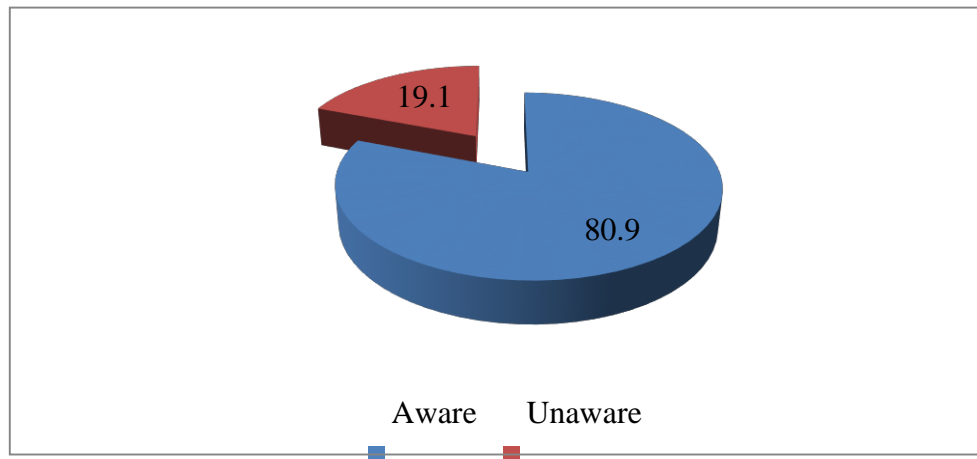
Distribution of the farmers based on their awareness of crop insurance schemes is given in the tablebelow:

Table – 1 Awareness of Crop Insurance Schemes

Crop insurance Schemes	No. of Farmers	Percent
Aware	1011	80.9
Unaware	239	19.1

Total	1250	100
Source: Primary data		

Figure – 1 Awareness of Crop Insurance Schemes (in %)



It is evident from the Table 4.32 that out of 1250 sample farmers taken for the study 1011 (80.9%) have awareness of crop insurance schemes and 239 (19.1%) do not have.

It is concluded that more than 8/10th of the farmers are aware of crop insurance schemes.

Gender and Awareness of Crop Insurance Schemes

Ho: There is no significant association between gender of the farmers and their awareness of crop insurance schemes.

Table – 2 Gender-wise Awareness of Crop Insurance Schemes

Gender		Awareness of Crop Insurance Schemes		Total
		Aware	Unaware	
Male	No. of Farmers	745	130	875
	Percent	85.1	14.9	100
Female	No. of Farmers	266	109	375
	Percent	70.9	29.1	100
$\chi^2 = 34.274^{**}$; df = 1; T.V = 6.64				
Source: Primary data				

Table 2 shows that 745 (85.1%) out of 875 male farmers are aware of the crop insurance schemes and 266 (70.9%) out of 375 female farmers are aware of the crop insurance schemes but the remaining are not.

Moreover, it is observed from the Table 4.33 that the calculated value of χ^2 between gender of the farmers and



their awareness is 34.274 which is greater than the table value 6.64 at one percent significant level. Therefore, null hypothesis is rejected. It is reported that there is a significant association between gender of the farmers and their awareness of crop insurance schemes.

Age – group and Awareness of Crop Insurance Schemes

Ho: There is no significant association between age group of the farmers and their awareness of crop insurance schemes.

Table – 3 Age group-wise Awareness of Crop Insurance Schemes

Age group (in years)		Awareness of Crop Insurance Schemes		Total
		Aware	Unaware	
Upto 25	No. of Farmers	66	70	136
	Percent	48.5	51.5	100
26-40	No. of Farmers	628	110	738
	Percent	85.1	14.9	100
41-50	No. of Farmers	229	59	288
	Percent	79.5%	20.5%	100
Above 50	No. of Farmers	88	0	88
	Percent	100	0	100
$\chi^2 = 121.668^{**}$; df = 3; T.V = 11.35				
Source: Primary data				

Table 3 shows that 66 (48.5%) out of 136 farmers are in the age group upto twenty five, are aware of the crop insurance schemes, 628 (85.1%) out of 738 farmers who are in the age group 26 – 40 years, 229 (79.5%) out of 288 farmers in the age group of 41 – 50 years and 88 (100%) out of 88 farmers in the age group of above fifty years, have awareness of the crop insurance schemes but the remaining farmers do not. In addition, Table 4.34 shows that the calculated value of χ^2 between age group of the farmers and their awareness is 121.688 which is greater than the table value 11.35 at one percent significant level. Hence, null hypothesis is rejected and it is concluded that there is a significant association between age group of the farmers and their awareness of crop insurance schemes.

Educational Qualification and Awareness of Crop Insurance Schemes

Ho: There is no significant association between educational qualification of the farmers and their awareness of crop insurance schemes.

Table – 4 Education-wise Awareness of Crop Insurance Schemes

Educational Qualification		Awareness of Crop Insurance Schemes		Total
		Aware	Unaware	
Illiterate	No. of Farmers	112	66	178
	Percent	62.9	37.1	100
Primary level	No. of Farmers	383	148	531
	Percent	72.1	27.9	100
Secondary level	No. of Farmers	398	25	423
	Percent	94.1	5.9	100
PUC and equivalent	No. of Farmers	61	0	61
	Percent	100	0	100
Graduation and Above	No. of Farmers	57	0	57
	Percent	100	0	100
$\chi^2 = 139.050^{**}$; df = 4; T.V = 13.23				
Source: Primary data				

It is observed from the Table 4 that more than 3/5th of the farmers are aware of crop insurance schemes but those who do not have basic education (illiterate). They are followed by, more than 7/10th of the farmers who are aware of crop insurance schemes but their educational status is primary level. Hundred percent of farmers having awareness of crop insurance schemes those who have higher level education (PUC and Graduation) and more than 9/10th of the farmers are aware of crop insurance schemes in the secondary level education but the remaining farmers are not.

Further, Table 4 shows that the calculated value of χ^2 between educational qualification of the farmers and their awareness is 139.050 which is greater than the table value 13.23 at one percent significant level. So, null hypothesis is rejected and it is reported that there is a significant association between educational qualification of the farmers and their awareness of crop insurance schemes.

Marital Status and Awareness of Crop Insurance Schemes

Ho: There is no significant association between marital status of the farmers and their awareness of crop insurance schemes.

Table – 5 Marital Status and Awareness of Crop Insurance Schemes

Marital Status		Awareness of Crop Insurance Schemes		Total
		Aware	Unaware	
Married	No. of Farmers	866	198	1064
	Percent	81.4	18.6	100
Unmarried	No. of Farmers	145	41	186
	Percent	78	22	100
$\chi^2 = 1.207$; $df = 1$; $T.V = 3.84$				
Source: Primary data				

It is noticeable from the Table 5 that 866 (81.4%) out of 1064 married farmers have awareness of crop insurance schemes and 145 (78%) out of 186 unmarried farmers are aware of crop insurance schemes but the remaining farmers are not.

Moreover, Table 5 shows that the calculated value of χ^2 between marital status of the farmers and their awareness is 1.207 which is lesser than the table value 3.84 at five percent significant level. So, null hypothesis is accepted and it indicates that there is no significant association between marital status of the farmers and their awareness of crop insurance schemes.

Nature of Family and Awareness of Crop Insurance Schemes

Ho: There is no significant association between nature of family of the farmers and their awareness of crop insurance schemes.

Table – 6 Nature of Family and Awareness of Crop Insurance Schemes

Family type		Awareness of Crop Insurance Schemes		Total
		Aware	Unaware	
Nuclear	No. of Farmers	424	51	475
	Percent	89.3	10.7	100
Joint	No. of Farmers	587	188	775
	Percent	75.7	24.3	100
$\chi^2 = 34.817^{**}$; $df = 1$; $T.V = 6.64$				
Source: Primary data				

It is evident from the Table 6 that 424 (89.3%) out of 475 farmers are aware of the crop insurance schemes those who are living in nuclear family and 587 (75.7%) out of 775 farmers those from joint family are aware of the crop insurance schemes but the remaining farmers are not.



Additionally, Table 6 shows that the calculated value of χ^2 between nature of family of the farmers and their awareness is 34.817 which is greater than the table value 6.64 at one percent significant level. Thus, null hypothesis is rejected and it is concluded that there is a significant association between nature of family of the farmers and their awareness of crop insurance schemes.

- The study found that more than 8/10th (Table no 1 and 2) of the farmers are having awareness of crop insurance schemes.
- There is a significant association between demographic factors namely gender, age group, educational qualification, nature of family, family size, family income, farming experience, current loanee status of the farmers and their awareness of crop insurance schemes (Table no 3 to 4).
- The results revealed that female farmers have more awareness about crop insurance compared to male farmers (Table no 5)
- The study found that farmers belong to age group i.e., 50 years and above has more (100 percent awareness) compared to younger age people. (Table no 6)
- The farmers who are in high income group i.e., income of 5,00,000 and above (Table no 4) has more awareness compared to low income group
- Farmers of joint family have more awareness compared to farmers of nuclear family. (Table no1)

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