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Dynamics of Demand for National Agricultural Insurance Scheme with Special Reference to Erode District of Tamil Nadu

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Abstract

The demand for crop insurance stems from two 'risky' situations that often erode farmers' income and make them vulnerable to economic distress. These include unpredictable weather and volatile prices. Although vulnerability of Indian agriculture to weather-related events such as floods and draught has always been the case, in the recent past, natural hazards such as hailstorm, cyclone, high-speed winds, heat waves, frosts, etc, have also started hitting agricultural production. In some pockets of the country, this has become a regular phenomenon. Such events are turning quite intense at the micro level. Additionally, price volatility has emerged as a serious challenge causing fluctuations in farm income. In fact, the effect of fall in prices on farm income is much stronger and widespread as compared to the effect of natural hazards. With shifts in acreages towards cash crops, increased market orientation of output, and a rise in the cost of purchased inputs and hired labour, farmers find it hard to absorb both price shocks and production shocks involved in crop production. Thus, emerges a demand for mechanism for safeguarding farmers against production risk and price risk, both of which are raising and spreading.

Keywords: Agriculture, Agricultural Production, Crop Insurance Scheme, Farmers

1. Introduction

Agriculture plays a vital role in India's economy and also backbone of the nation, as majority of the rural households depend on agriculture and its allied activity. Planning for agricultural development in India is therefore necessary, not simply for agriculture's contribution to the growth of the larger economy but because agriculture provides the basic sustenance to a large section of farmers who operate on small holdings and they still experience considerable uncertainty in respect of the farm output. Risk in agriculture stands in the way of progressiveness and inhibits financial inclusiveness. Worst risk makes the small farmers vulnerable to impoverishment, debt traps and destitution. Among all the instruments for agricultural development, crop insurance has been one that possibly aroused the most skepticism. India's National Agricultural Insurance Scheme (NAIS) has been much criticized but it is one programme that can yield much learning and experience about risk and insurance in agriculture especially in India.

2. Crop Insurance in India

The need for crop insurance has increased in recent days because of heavy loss due to various reasons of natural calamities. The state-supported crop insurance schemes are:

- First Individual Approach Scheme 1972-1978.
- Pilot Crop Insurance Scheme (PCIS) 1979-1984.
- Comprehensive Crop Insurance Scheme (CCIS) 1985-99.
- Experimental Crop Insurance Scheme (ECIS) 1997-98.
- National Agricultural Insurance Scheme (NAIS) 1999-till date.

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In addition, there were many schemes introduced by the Indian Government which has exclusively covered Particular Crops or Weather Based Crop Insurance/Rainfall Insurance, etc[1]. The central aim of these policies is to protect the farmers from unexpected losses. Therefore, government should come forward to make the insurance scheme compulsory to all borrowing farmers or for a specific section of the borrowing farmers irrespective of the crops.

Agriculture is more risky than any other economic activity. It is completely dependent upon weather condition, rain fall, wages and climatic conditions. Further, cultivating new crops or specific crops makes all the more risky because market price does not support adequately. An incorrect decision can either cause a disaster or make the farmers suffer severe crisis. Apart from these methods farmers needs a strong protection so in order to protect the farmers from their unexpected loss and also against their livelihood investments, the crop insurance is an urgent need for them.

3. Issues in Crop Insurance

Crop insurance presents a bundle of unresolved issues. Is crop insurance at all needed or do other methods suffice? Can crop insurance be left to the market? Is government subsidies to crop insurance justified? Should crop insurance be compulsory and what perils need to be covered for best results? How should premium rates be decided ideally? These are some of the questions that never cease to baffle the minds of the academicians and the policy makers in the field. For this purpose, the present study attempts to explore the current situation in Erode District. But in past studies, widely quoted collection given by three scholars of repute jointly with the International Food Policy Research Institute (Hazell et al.,)[2] had cast serious doubt on the relevance of crop insurance as an instrument that was proving to be expensive to most of the countries in which it was employed as a policy. The argument for a policy of providing insurance is based on the inadequacy of existing and private risk sharing arrangements among farmers and the public measures that indirectly help risk management. Crop diversification is a dominant strategy in risk prevention that substitutes less risky though possibly less remunerative crops for the ones that would normally be sown in the absence of risk.

4. Objectives of the Study

The performance of crop insurance scheme can be accessed directly and at a superficial level by its progress and acceptance in the study area. The objectives of the study are as follows:

- To study the socio-economic conditions of the farmers in the study area.
- To analyze the demand for National Agricultural Insurance Scheme in the study area.

5. Methodology

The present study exposes the prospective crop insurance in various taluks and blocks of Erode District. The primary data for the study was collected by surveying the farmers in Erode District through a pre-tested and structured questionnaire. Totally 350 respondents were included based on proportionate simple random sampling method. The respondents were contacted personally by the researcher for exploring the real facts. For this purpose, five taluks which are highly potential for the study were selected.

6. Analysis of Socio-Economic Conditions of the Respondents

The sample respondents in the study area belong to different socio-economic category. Table 1 shows the profile of the respondents based on their socio-economic background.

It can be perceived from Table 1 that a majority of 96.6% of the sample respondents are male, 59.4% belong to backward community, 57.1% hail from joint family, 51.7% earn average monthly income of Rs.1,00,001-2,00,000 and a maximum of 36.9% of them possess primary level of education only.

7. Analysis of Demand for National Agricultural Scheme

The demand for National Agricultural Insurance Scheme by the respondents is examined with the econometric model by considering premium paid as the dependent variable and annual household income of the family, social background, religion, type of family, age and level of education as predictor variables.

The results of simple linear regression analysis employed in the present study are as shown in Table 2.

It is identified from Table 2 that R value is 0.0181 and R^2 value is 0.033 with adjusted R^2 as 0.016. The overall variations have been tested by using ANOVA. The basic functions of the simple linear regression $Y = a+b_1X_1 + b_2X_2+b_3X_3+.....b_nX_n +\mu$

Table 1. Socio-economic background of the sample respondents

Gender of the Sample Respondents		
Gender	**Frequency**	**Per cent**
Male	338	96.6
Female	12	3.4
Total	350	100
Social Background of the Sample Respondents		
Social Background	**Frequency**	**Per cent**
OC	8	2.3
BC	208	59.4
MBC	110	31.4
SC/ST	24	6.9
Total	350	100
Education Level of the Sample Respondents		
Educational level	**Frequency**	**Per cent**
Uneducated	25	7.1
Primary	129	36.9
Secondary	102	29.1
Higher Secondary	74	21.1
Degree/Diploma	20	5.7
Total	350	100
Type of Family of the Sample Respondents		
Type of family	**Frequency**	**Per cent**
Joint	200	57.1
Nuclear	150	42.9
Total	350	100
Average Monthly Income of the Sample Respondents		
Level of Income (Rs.)	**Frequency**	**Per cent**
Below 50,000	2	0.6
50,001 – 1,00,000	90	25.7
1,00,001 – 2,00,000	181	51.7
2,00,001 – 3,00,000	33	9.4
3,00,001 – 4,00,000	44	12.6
Total	350	100

Table 2. Simple linear regression

Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	0.181a	0.033	0.016	51.533

Table 3 reveals that the calculated value of F is 1.935 which is significant at 5% level. The regression co-efficient has been analysed with t-test and the findings are exhibited.

Table 4 shows that the fit of the model is statistically significant at 5% level. The explanatory variables employed in this model are fit at 5% level.

8. Key Findings

The simple linear regression explains the coefficient of variation. The important factors like Age, Education and Annual income of the respondents are statistically significant at 5% level. It is concluded that age shows the experience of the sample respondents, education reveals

Table 3. Level of demand

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	30836.555	6	5139.426	1.935	.074a
Residual	910884.874	343	2655.641		
Total	941721.429	349			

Table 4. Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	190.126	24.469		7.770	.000
Age (in Years)	.561	.282	-.109	-1.988	.048
Religion of the Respondent	9.818	13.061	-.040	-.752	.453
Social Background of the sample respondent	2.127	4.218	.027	.504	.614
Level of Education	5.070	2.813	-.101	-1.802	.072
Type of Family	3.635	5.582	.035	.651	.515
Annual Household income of the family	6.382	.000	-.105	-1.934	.054

a. Dependent Variable: Premium paid so far

the utilization of crop insurance and awareness about the schemes. The annual income of the family is a highly important element to have crop insurance.

9. Conclusion

The study has disclosed the demand for crop insurance for farmers in the study area. However there should be more thrust on bringing in wide awareness about crop insurance schemes involving simple procedures at village level. Farmers must have a close association with the banking sector to avail such schemes for better penetration of crop insurance and also marketing of the products should be facilitated by linking to the credit facilities provided by the banks. The government policies should ensure that the administrative work can be integrated with the basic functions of banks to make it less expensive. The banks can play a crucial role in convincing the farmers to avail insurance while taking loans for their crops. The study recommends that the government should make the crop insurance compulsory.

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