

International Journal of Agriculture Extension and Social Development

Volume 8; Issue 12; December 2025; Page No. 230-232

Received: 09-09-2025

Accepted: 11-10-2025

Indexed Journal

Peer Reviewed Journal

An analysis of farmer's attitudes toward crop insurance in the Birbhum District of West Bengal

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DOI: <https://www.doi.org/10.33545/26180723.2025.v8.i12d.2761>

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Abstract

In the Bolpur and Suri-I blocks of Birbhum district, West Bengal, India, this study investigates the variables affecting farmers' perceptions of crop insurance. The study looks at how farmer attitudes towards crop insurance relate to independent factors like age, education, family type, gender, net crop area, annual income, cropping intensity, insurance satisfaction, adoption motives, and mass media exposure. The survey data included 100 respondents from four villages. Regression and correlation studies show that while other factors have little to no impact on farmer perceptions, age, gender, income, and media exposure all have a significant impact. The study ends with suggestions for enhancing the uptake of crop insurance through focused awareness and educational initiatives.

Keywords: Agriculture insurance, crop insurance, insurance, PMFBY

Introduction

Droughts, floods, cyclones, fires, price crashes, and other natural and man-made disasters are among the major threats to Indian agriculture and frequently result in large financial losses that are mostly out of farmers' control. Agricultural output is extremely susceptible to weather uncertainties, such as delayed or excessive rains, which have a direct impact on sowing, crop development, and yields, because of its reliance on erratic monsoon rainfall and limited irrigation. By covering losses and encouraging investment and independence, crop insurance gives farmers financial stability. With compensation based on production losses, it works by distributing risks among farmers and across years. In addition to crop insurance programs that assist farmers in recovering from uncontrollable financial setbacks, agricultural risk is addressed through a variety of management techniques, including avoiding, preventing, sharing, transferring, and spreading risk.

The state of West Bengal in eastern India presents a unique blend of socio-cultural and ecological features that shape the living standards and behavioral patterns of its residents, especially in rural communities dependent on agriculture. This research focuses on the Bolpur and Suri-I blocks within the Birbhum district, selecting 100 farmers from four villages to understand their perspectives on crop insurance. Employing a random sampling method, the study investigates how diverse demographic, economic, and informational factors correlate with and predict attitudes toward crop insurance schemes. By analyzing variables such as age, gender, education, and media exposure using statistical tools like correlation and regression analysis, the

research aims to uncover actionable insights that can guide policymakers and practitioners in enhancing the reach and effectiveness of crop insurance programs among local farmers.

Area of Study

The area of investigation of this study is situated in the state of West Bengal located in the eastern part of India. The State of West Bengal in eastern India has a unique social, cultural and ecological background, which influence the living standard and behavioural patterns of the people in many ways. The area of investigation belongs to the Bolpur block and Suri –I block of Birbhum district.

Selection of the Respondents

Random sampling procedure was used for selection of respondents from the selected villages namely, Surul, Ruppur, Daranda, and Sukhbazar. 25 number of respondents were selected from each village. Thus, a total of 100 numbers of respondents were selected for the purpose of the study. The male head and female head were chosen for interview, this was done purposely for accurate collection of information

Variables

Variables are Age, Education, family type, gender, Net crop area, annual income, cropping intensity, satisfaction with insurance, reason for adoption of crop insurance, awareness through mass media exposure, treated as independent variables and farmer attitude towards crop Insurance treated as dependent variable.

Statistical Tools

The statistical methods include Correlation, Regression Analysis, where applicable as per the characteristics of data.

Results

Table No. 1.1: Coefficient of Correlation (r): Farmer Attitude towards Crop Insurance (y_1) with 10 Independent Variables

Sl. No.	Independent Variables	'r' Value	Remarks
1	x1 (Age)	-0.350	**
2	x2 (Education)	0.145	
3	x3 (Family Type)	0.001	
4	x4 (Gender)	-0.210	*
5	x5 (Net Crop Area in Acre)	0.130	
6	x6 (Annual Income)	0.226	*
7	x7 (Cropping Intensity)	0.000	
8	x8 (Satisfaction with Insurance)	0.182	
9	x9 (Reasons for adoption of Crop Insurance)	0.037	
10	x10 (Awareness Through Mass Media Exposure)	0.275	**

**Correlation is significant at the 0.01 level

*Correlation is significant at the 0.05 level

Relevance

The table 1.1 illustrates the relationship between farmers' attitudes toward crop insurance and ten variables. Age (-0.350) and gender (-0.210) are significantly negatively correlated, whereas annual income (0.226) and mass media exposure (0.275) are significantly positively correlated.

Education, net crop area, contentment with insurance, and motivations for adoption had weak positive but non-significant effects, whereas family type and cropping intensity have no relationship. Overall, age, gender, income, and media exposure are the most important factors determining farmer opinions.

Table 1.2: Multiple Regression Analysis: Farmer Attitude towards Crop Insurance (y_1) Vs. 10 independent Variables

Sl. No.	Variables	Reg. Coef. B	S.E. B	Beta	t Value
1	x1 (Age)	2.611	0.492	0	5.310
2	x2 (Education)	-0.011	0.004	-0.345	-2.976
3	x3 (Family Type)	-0.013	0.042	-0.035	-0.317
4	x4 (Gender)	-0.028	0.117	-0.023	-0.243
5	x5 (Net Crop Area in Acre)	-0.096	0.122	-0.082	-0.785
6	x6 (Annual Income)	0.005	0.023	0.025	0.226
7	x7 (Cropping Intensity)	2.697E-07	0.000	0.064	0.589
8	x8 (Satisfaction with Insurance)	-0.151	0.108	-0.164	-1.392
9	x9 (Reasons for adoption of Crop Insurance)	0.176	0.126	0.175	1.393
10	x10 (Awareness Through Mass Media Exposure)	-0.412	0.195	-0.231	-2.112

R square: 51.21%

The standard error of the estimate: 0.47592

Relevance

The multiple regression analysis (Table 1.2) accounts for 51.21% of the difference in farmers' opinions regarding crop insurance. Age has a strong positive and substantial effect, whereas education and mass media exposure have significant negative effects. Other factors such as family type, gender, net crop area, income, cropping intensity, contentment with insurance, and motivations for adoption had no significant impact on farmers' sentiments.

Conclusion and Recommendation

The study comes to the conclusion that a number of characteristics, including age, gender, yearly income, and awareness gained from exposure to the media, have a substantial impact on farmers' attitudes regarding crop insurance. While annual income and exposure to the media have a substantial positive link with the attitude, age and gender exhibit a significant negative correlation. There is no substantial correlation between characteristics like cropping intensity and family type, and there are weak positive but

non-significant effects from education and insurance satisfaction.

The results of the multiple regression analysis show that while education and exposure to the media have significant negative effects on farmers' attitudes, age has a big beneficial influence. Opinions on crop insurance are not significantly impacted by other factors such as family type, gender, net crop area, income, cropping intensity, insurance satisfaction, or adoption motives. 51.21% of the variation in farmers' attitudes can be explained by the model.

Recommendation

Age-related issues and gender disparities should be the focus of initiatives aimed at enhancing farmers' perceptions of crop insurance. Furthermore, raising awareness and disseminating information via the media can have a favourable impact on perceptions. Adoption rates may also be increased by customised educational initiatives that target particular farmer groups and raise satisfaction levels with insurance products.

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