

Impact of Crop Insurance Scheme on Agriculture

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ABSTRACT: The purpose of the current study, "Impact of crop insurance scheme on agriculture", is to determine the consequences of the crop insurance policy. The sampling procedure with several phases was applied. Ghumarwin and Bilaspur Sadar were the two blocks in the Bilaspur district that were selected. Two panchayats were arbitrarily selected from each block for the second phase. During the third stage, two villages were selected at random from each panchayat. In the fourth phase, five farmers from each hamlet were randomly selected to participate in the wheat crop insurance program, while the other five farmers did not. In contrast to respondents who were not recipients of crop insurance, all benefit respondents (100%) stated that they intended to use crop insurance.

Keywords: Crop insurance scheme, beneficiaries, non-beneficiaries and respondents.

INTRODUCTION

India is an agrarian economy with 70 per cent of the total farmers belonging to small and marginal farmers' category (Chadha & Srivastava 2022). Droughts, floods, cyclones, storms, landslides, and earthquakes are among the many natural catastrophes that negatively impact India's agricultural output and farm income. The occurrence of epidemics and man-made disasters like fires, the sale of phony seeds, fertilizers, and pesticides, price collapses, etc., increase agriculture's susceptibility to these calamities (Jamanal *et al.*, 2019). Pradhan Mantri Fasal Bima Yojana (PMFBY), a crop insurance program started in 2016. PMFBY has a distorted benefit pattern, insufficient governmental assistance, an unworkable subsidy scheme, and delayed claim settlement Tiwari *et al.* (2020). The notion of crop insurance originated in India in 1920, when S. Chakravarti put up a rainfall-based agricultural insurance plan (Vyas and Singh 2006). Based on the homogeneous area strategy, the General Insurance Corporation launched the Pilot Crop Insurance Scheme in 1979 in response to the Dhandekar Committee's recommendations. Varadan and Kumar (2012). Two Union Territories and twenty-one States are carrying out the plan. Data on the NAIS's performance at the national level for a total of thirteen seasons (from Rabi 1999–2000 to Rabi 2005–06). Sinha (2022) studied that seven seasons found the ratio of claims to premiums was 1:4.27. In the cases of

Jharkhand (12.59), Bihar (11.49), Tamil Nadu (6.22), Karnataka (4.86), and Himachal Pradesh (4.21), the claims to premium ratio has been quite high. According to Bhise *et al.* (2007), five states have a loss-cost ratio of ten percent or more. Contract farming and futures trading are two recent tactics that have been created in the goal of providing some direct or indirect protection against price volatility Raju and Chand 2008). "Farmers' conditions remain unstable due to natural calamities and price fluctuations, despite technological and economic advancements", according to the National Agricultural Policy of 2000. The year was 2007 Raju and Chand. Crop insurance is widely acknowledged as a fundamental tool for preserving farm income stability by advancing technology, stimulating investment, and expanding financing availability in the agricultural industry. Farmers benefit from it because it allows them to legally demand compensation in the event of crop loss, which increases their sense of independence and dignity (Chandrakanth and Rebello 1980). The major constraints faced by the farmers were not aware of crop insurance procedures and facilities available followed by poor publicity and less time given for opting insurance and time lag in distribution of compensation (Vishweshwar *et al.*, 2022). The need for innovative approaches and collaboration among stakeholders to enhance the effectiveness and reach of crop insurance in India (Mishra and Verma 2023). Today a new approach is needed in this aspect, which consists in the formation

and organization of mutual insurance societies, which are aimed at creating organizations with the participation of the state for insurance protection of agricultural entrepreneurs (Tukhvatullin *et al.*, 2019). Recent mechanisms that have gained popularity include contract farming and futures trading.

METHODOLOGY

It was decided to use the multi-stage sampling approach. Two blocks, Bilaspur Sadar and Ghumarwin, were chosen for the district of Bilaspur. Two panchayats were chosen at random from each block in the second stage. Two villages were chosen at random from each panchayat for the third stage. Ten farmers, five of whom had enrolled in the crop insurance program for wheat crops and five of whom had not, were chosen at random from each village for the fourth stage of the program. In this manner, 80 farmers from the 8 villages in the research region were chosen, 40 of whom were crop insurance beneficiaries and the remaining 40 farmers were non-beneficiaries. The farmers were personally interviewed in order to obtain the primary data on well-tested regimens using this method. The data were collected for an agriculture year 2022-23. The primary data were obtained on the following aspects:

1. Demographic and social aspects of the respondents.
2. Land and livestock inventory.
3. Farm machinery and implements.
4. Cropping pattern, production of wheat crop.
5. Source of information of the farmers.
6. Awareness of the farmers about crop insurance schemes, Mass media exposure of the farmers, Extension contacts of the farmers, Innovation proneness, impact of the crop insurance scheme, etc.
7. Adoption status of recommended scientific.
8. Existing problems and constraints etc.

The secondary data were gathered from government authorities, bank and insurance representatives, and publicly unpublished sources. Its impact on the recommended scientific farming of wheat was measured. Purchasing high-quality seed, using input in nursery management, using tools in the main field, and recommended irrigation were the three impact factors. Each statistical analysis practice received a single score. In this manner, the data were presented using frequency and percentage, with a specific impact receiving a score of 2, and non-impact receiving a minimum of 1. The secondary data were gathered from government authorities, bank and insurance representatives, and publicly unpublished sources. Its impact on the recommended scientific farming of wheat was measured. The three impact factors were investing in high-quality seed and using input.

RESULT AND DISCUSSION

A. Impact of crop insurance scheme for wheat cultivation

Table 1 displays the crop insurance scheme's impact. When compared to respondents who were not beneficiaries, the majority of beneficiary respondents had a higher influence on the crop insurance plan with regard to "use of high yielding varieties", "preparatory tillage 1) add FYM or compost," "use of chemical fertilizers", "yield (qt/ha)", and "storage". Furthermore, the impact of socioeconomic factors was found to be significant among the beneficiaries' responders, with the items "testing new crops in field" ranking first according to a weighted mean score of 2.87 and "increase the allocation of resources" ranking Xth according to a weighted mean score of 1.00. High-value inputs including seed, fertilizer, and plant protection chemicals have become more popular as a result of the crop insurance program, according to Vardan and Kumar's (2012) research.

Table 1: Impact of crop insurance scheme for wheat cultivation.

Sr. No.	Particulars	Beneficiaries		Non-Beneficiaries	
		Frequency	Percentage	Frequency	Percentage
1.	Use of high yielding varieties	40	100	27	67.50
2.	Preparatory tillage 1) Add FYM or compost	40	100	31	77.50
3.	Use of chemical fertilizers	40	100	28	70
4.	Water management	20	50	7	17.50
5.	Recommended weed management	11	27.50	1	2.50
6.	Plant protection	18	45	9	22.50
7.	Harvesting a. Threshing	20	50	17	42.50
	b. Mechanical thresher	8	20	7	17.50
	c. Hand operator	37	92.50	15	37.50
8.	Yield(qt/ha)	40	100	31	77.50
9.	Winnowing a. By hand	38	95	40	100
	b. By machine	14	35	9	22.50
10.	Storage	40	100	33	82.50

B. Impact on Socio-economic factor (Beneficiaries)

Table 2 revealed that the beneficiaries' respondents' responses to the socio-economic component "testing new crops in field" and "increase the allocation of resources" were rated Xth and Yth, respectively, based on a weighted mean score of 2.87 and 1.00,

respectively. Findings showed that beneficiary farmers had a high degree of comfort with loan closures during times of unanticipated losses, as well as an improvement in savings and investment level when it came to the influence of testing new crops in the field on socioeconomic aspects.

Table 2: Impact on Socio-economic factor (Beneficiaries).

Sr. No.	Socio-economic factors	Extent of Impact			Total Weighted score	Weighted mean score	Rank
		Very high (3)	High (2)	Not so high (1)			
1.	Reduction in fear of loss	17(15)	6(12)	17(17)	80	2.00	VI
2.	Improvement in standard of living	6(18)	30(60)	4(4)	82	2.05	V
3.	Increase in the confidence level for continuing Agriculture	0(0)	35(70)	5(5)	75	1.87	VII
4.	Testing new crops in field	35(105)	5(10)	0(0)	115	2.87	I
5.	Comfort in loan closures during the time of unexpected losses	12(30)	28(70)	0(0)	92	2.30	III
6.	Bringing the new generation into farming	9(27)	9(18)	22(22)	67	1.67	VIII
7.	Reduction in migration to urban areas	0(0)	40(80)	0(0)	80	2.00	VI
8.	Increase in income level	5(15)	35(70)	0(0)	85	2.12	IV
9.	Improvement in saving and investment level	30(75)	10(25)	0(0)	110	2.75	II
10.	Improve productivity of the crop	0(0)	40(80)	0(0)	80	2.00	VI
11.	Reduction in borrowing level	0(0)	35(70)	5(5)	75	1.87	VII
12.	Increase the output	5(15)	0(0)	35(35)	50	1.25	IX
13.	Increase area and production	0(0)	40(80)	0(0)	80	2.00	VI
14.	Enrich the risk bearing capacity	0(0)	40(80)	0(0)	80	2.00	VI
15.	Increase the allocation of resources	0(0)	0(0)	40(40)	40	1.00	X
16.	Proper utilization of land	0(0)	40(80)	0(0)	80	2.00	VI
17.	Increase livelihood security of farmers	0(0)	40(80)	0(0)	80	2.00	VI
18.	Protect the farmer form crop failure	0(0)	40(80)	0(0)	80	2.00	VI

CONCLUSIONS

Farmers that received benefits from this program reported higher impact on socioeconomic parameters, such as increased savings and investment levels, comfort in loan closures during times of unanticipated losses, and ease in trying new crops in the field. The sample non-loanee farmers seek more credit for farming in order to cover the costs of cultivation and maintain their livelihoods, according to research on the factors influencing credit requirements under NAIS.

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