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CROP INSURANCE SCHEME: PROBLEMS AND SUGGESTIONS PERCEIVED BY FARM HOUSEHOLDS IN AGRO-CLIMATIC ZONE – V OF RAJASTHAN

Shivraj Kumawat^{1*}, P.S. Shekhawat¹, Sheela Kharkwal¹, L.R. Yadav², M.K. Sharma³ and I.M. Khan⁴

¹Department of Agricultural Economics, Sri Karan Narendra Agriculture University, Jobner, Jaipur-303 329, Rajasthan, India.

²Department of Agronomy, Sri Karan Narendra Agriculture University, Jobner, Jaipur-303 329, Rajasthan, India.

³Department of Agricultural Statistics, Sri Karan Narendra Agriculture University, Jobner, Jaipur-303 329, Rajasthan, India.

⁴Department of Agricultural Extension Education, Sri Karan Narendra Agriculture University, Jobner, Jaipur-303 329, Rajasthan, India.

*Corresponding author E-mail : kumawatshivraj79@gmail.com; ORCID: 0009-0009-6016-9549

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ABSTRACT

The present study was conducted to identify the major problems associated with crop insurance scheme adoption in Zone-V with special reference to Jhalawar district of Rajasthan. Data were collected from 120 farm households, which included 60 crop insurance adopters and non-adopters. Primary data was gathered through personal interviews using a pre-tested-structured questionnaire during the year 2024-25 period to identify all the possible problems pertaining to the crop insurance scheme adoption in the study area. The rankings given by all the stakeholders to the problems were then analyzed using Rank-Based Quotient method. The findings indicated that major problems faced by adopter were delayed claim settlement (RBQ 89.78) with rank first, followed by no compensation even if loss is happening due to crop failure (RBQ 86.56), Farmers are not involved at the assessment stage, ranked third with a score of 81.44, while concerns about lack of loss assessment knowledge came fourth with a score of 74.89. Least problems were ignorance about crops covered under the scheme, poor access to credit facility and local government disinterest was also noted. Problems perceived by the non-adopter farm household were delayed claims payments in past received the highest RBQ score of 88.18, ranking first, insufficient crop insurance awareness and benefits, which ranked second with a score of 85.76, Lack of documents in the name of cultivar was third major problem with a score 79.39 and high premium rates for horticulture crops, with a score of 71.21, while least problems were farmers need to make several visits to the department from enrolment to claim, less compensation and sum insured amounts, limited expert contact and last ranked problem was social stigma in getting crop insurance. It may suggest that for wide adoption of scheme, there should be a national campaign to enhance awareness of agriculture insurance amongst the farmers and making claims payment fast and transparent.

Key words : Crop insurance, Problems, RBQ, Radar plot, Rajasthan.

Introduction

Agriculture is the backbone of Indian economy. As per the Population Census (2011), agriculture provided employment and livelihood to over 620 million people, accounting for 54.6 per cent of the workforce. Globally, over the last 30 years, an estimated \$3.8 trillion worth of crops and livestock production has been lost due to disaster events, corresponding to an average loss of \$123 billion per year or 5 per cent of annual global agricultural gross

domestic product (GDP) (FAO, 2023). Between 1991 and 2023, disasters wiped out 4.6 billion tonnes of cereals, 2.8 billion tonnes of fruits and vegetables and 900 million tonnes of meat and dairy. These losses translate to a daily per capita reduction of 320 kilocalories which are 13–16 per cent of average energy needs. Asia accounts for the largest share of global losses of 47 per cent i.e. \$1.53 trillion, reflecting both the scale of agricultural production and the region's high exposure to floods,

storms and droughts.

India has been suffering from significant impacts of climate change, from high temperatures to flooding rains. According to the Centre for Science and Environment, New Delhi, in India extreme weather events have occurred on about 90 per cent of days from January to September in the last few years. During year 2024, 3.2 million hectares of land with crops were affected by these events and nearly 10,000 livestock were killed in India (Climate India Report, 2024). In India, the cropped area affected was highest in 2019-20, with 114.30 lakh hectares damaged and in recent years 2022-23 it was 18.42 lakh hectares due to disaster natural events (Envistat-India, MOPSI, GOI, 2024-25).

Risk in agriculture refers to the possibility of an adverse outcome resulting from unpredictable events or conditions that impact farming operations, production, markets, or income (Komarek *et al.*, 2020). Farmers mainly faced two types of risks yield and price risk in India (Gulati *et al.*, 2018; BIRTHAL and Hazrana, 2019). These risks may arise from various factors, such as weather variability, pests, market fluctuations or regulatory changes. Agricultural risks differ from those in other sectors because of the inherent dependency on external, uncontrollable factors.

Crop insurance is expected to be a game changer in addressing the prevailing challenges in risk mitigation and offset income loss. The Government of India launched the Pradhan Mantri Fasal Bima Yojana (PMFBY) in the *Kharif* season of 2016. This scheme has improved features like one season one premium rate policy, use of mobiles, GPS and Remote Sensing Technology for accurate measurement of crop yields and losses, smart Crop Cutting Experiments (CCEs) to facilitate timely and transparent claim assessments, which facilitates faster payment of claims. During financial year 2023, the scheme registered 1,455 lakh farmer applications, covering 620 lakh hectares of agricultural land with sum insured amounting to ₹ 2,79,389 crore. During financial year 2024, these figures had increased to 1,521 lakh applications, 626 lakh hectares covered and sum insured value of ₹ 2,83,895 crore, indicating a positive trend in farmer participation and insurance coverage. In Rajasthan during 2024, the Pradhan Mantri Fasal Bima Yojana (PMFBY) registered a total of 372 lakh farmer applications. The scheme covered an insured area of 104 lakh hectares, with a total sum insured of ₹ 49,574 crore. Correspondingly, ₹ 4,820 crore was collected as premium during the same period.

However, crop insurance non-adoption is emerging

to be a major issue in Indian agriculture today. Despite its various inherent benefits, the marked unpopularity and least priority of insurance among farmers continue to question the benefits of the scheme. As climate change and variability pose a danger to the existence of farming, the non-adoption of crop insurance will only put the livelihood of farmers, especially the marginal and small, at risk. By identifying barriers to adoption and areas for improvement, the findings will support the development of more accessible, affordable, and farmer-friendly crop insurance mechanisms. Thus, primary objective of the scheme is to strengthen agricultural resilience, protect farmer from mentally and physically loss, and support the economic advancement of farmers in Rajasthan.

Materials and Methods

Rajasthan have 10 agro-climatic zones, out of which, one agro-climatic zones, namely, humid south-eastern zone (Zone – V) were selected due to the second highest temperature (Up to 42.0°C) and highest rainfall among all zones. Jhalawar district in zone-V was selected due to purposively on the basis of highest area insured of crop insurance scheme *i.e.*, 164.00 thousand hectares during 2024. Jhalawar district consists of 12, two *tehsils* namely; Khanpur (26,109.67 ha) and Pachpahad (25,250.66 ha) were selected purposively on the basis of maximum area insured of crop insurance for investigation. Two girdawar circles namely; Khanpur, Khandi from Khanpur tehsil and Anwali Kalan, Pachpahad from Pachpahad tehsil were selected purposively on the basis of maximum area insured of crop insurance. Two villages namely; Golana, Dunda, Jagdishpura, Piplaj, Khandi, Matwasa, Kanwalda, Dediya and Alawa, Chor kheri, Ghatod, Ramnivas, Deoriya, Bambori, Mokhampura, sarod from Khanpur tehsil's and Pachpahad tehsil's girdawar circles were selected purposively on the maximum area insured of crop insurance. Thirty households (*i.e.*; 15 adopters and 15 non-adopters of scheme) were selected randomly from each village. Finally, 120 respondents were selected for detailed investigation. Primary data was gathered through personal interviews using a pre-tested-structured questionnaire during the 2024-25 period. The opinions about the problems being faced by adopters and non-adopters of crop insurance scheme in adoption of scheme and suggestions prescribed by them for promoting the adoption of crop insurance scheme in the selected area of Rajasthan were recorded. These problems and suggestions were analyzed and ranked utilizing rank-based quotient (RBQ) by using following formula:

$$RBQ = \sum F_i [(n+1) - i] N \times n \times 100$$

Where,

“ F_i ” is the frequency of respondents for the i^{th} ranked problems and suggestion; “ N ” is the number of respondents; “ n ” is the number of problems and suggestions identified; and “ i ” refers to the rank given to the problem and suggestion.

Based on the mean scores, all the problems and suggestions were arranged in ascending order and the most important was ranked first, followed by others based on their mean scores.

Results and Discussion

The problems faced by crop insurance adopter and non-adopter in Zone – V (Jhalawar District) of crop insurance scheme were included problems related to economic, administrative, educational and operational aspects of crop insurance scheme as detailed below.

Various problems faced by adopter farmers as related to claim, knowledge level of loss assessment, crop insurance scheme procedures and expert shortage during the loss assessment and some financial problems etc. The problems faced by adopter farmers of crop insurance scheme, along with RBQ scores and ranks indicating their severity in the study area, have been presented in Table 1 and Fig. 1.

Problems faced by crop insurance adopter in Zone – V (Jhalawar District)

The table depicts that the highest-ranked problem, with a RBQ score of 89.78, was delayed claim settlement, followed by no compensation even if loss is happening due to crop failure, which had a score of 86.56. This finding aligns with Darshan *et al.* (2021), who noted that delayed payments can significantly undermine farmers’ trust in insurance schemes and their effectiveness. Timely claim settlements are crucial for providing financial relief to farmers and delays can impact their decision to participate in future insurance programs. Farmers are not involved at the assessment stage, ranked third with a score of 81.44, while concerns about lack of loss assessment knowledge came fourth with a score of 74.89. This issue emphasized the need for better training and resources to ensure accurate reporting and assessment of losses. Ambiguities/discrepancies in loss assessment and claims settlement ranked fifth, insufficient compensation and sum insured amounts ranked sixth, unavailability/shortage of experts during crop loss assessment ranked seventh, tedious and time-consuming documentations procedures ranked eighth, and lack of

Table 1 : Problems faced by adopter farmers of crop insurance scheme.

Code No.	Problem Statements	RBQ	Rank
C1	Delayed claim settlement	89.78	I
C2	No compensation even loss is happening due to crop failure	86.56	II
C3	Farmers are not involved at the assessment stage	81.44	III
C4	Lack of loss assessment knowledge	74.89	IV
C5	Ambiguities/discrepancies in loss assessment and claims settlement	70.33	V
C6	Insufficient compensation and sum insured amounts	63.22	VI
C7	Unavailability/shortage of experts during crop loss assessment	59.22	VII
C8	Tedious and time-consuming documentations procedures	57.78	VIII
C9	Lack of awareness of the benefits of crop insurance scheme	46.33	IX
C10	Inadequate extension services	44.00	X
C11	Lack of source for doubt clarification	35.78	XI
C12	High premiums rate of crop insurance	30.33	XII
C13	Ignorance about crops covered under the scheme	22.44	XIII
C14	Poor access to credit facility	20.11	XIV
C15	Local government authority disinterest	17.78	XV

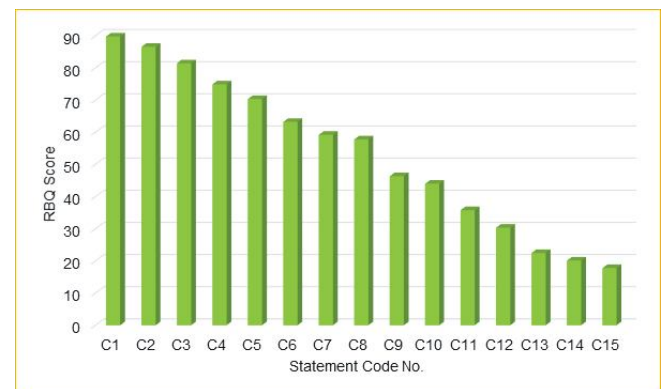


Fig. 1 : Problems faced by adopter farmers of crop insurance scheme.

awareness of the benefits of crop insurance scheme ranked ninth with RBQ scores 70.33, 63.22, 59.22, 57.78 and 46.33, respectively. This indicated that farmers had a limited understanding of the scheme’s processes and requirements, insufficient training provided to farmers regarding the insurance application and claims process.

Punia *et al.* (2021) emphasized that low compensation amounts, and high premium costs deter farmers from participating in insurance schemes, limiting their protective reach.

Furthermore, Inadequate extension services were ranked tenth with a RBQ score of 44.00. This problem pointed to the need for more effective extension services to provide ongoing support and education to farmers regarding the crop insurance scheme. The eleventh major problem was the lack of doubt clarification sources, scoring 35.78, without adequate support for clarifying doubts, farmers may struggle to navigate the scheme's complexities, potentially leading to misunderstandings or errors in the application process. High premiums rate of crop insurance was ranked twelfth, scoring 30.33, this indicates that the cost of the premiums was a significant barrier, preventing many farmers from participating in the scheme, reflecting the farmers' lack of confidence in the timely disbursement of funds.

Lastly, the ignorance about crops covered under the scheme ranked thirteenth with a score of 22.44 and poor access to credit facility were ranked fourteenth with score 20.11 and local government disinterest was also noted, with a RBQ Score of 17.78, placing it in last position. Jiragal *et al.* (2023) also observed similar hurdles, noting that bureaucratic complexities deterred effective participation.

Problems faced by non-adopter farmers of crop insurance scheme in Zone – V (Jhalawar District)

Farmers who did not buy the insurance might have perceived certain problems related to the crop insurance, influencing their decision not to participate in the scheme. These perceived problems were related to economic, administrative, educational and operational problems, each with different indicators compared to those of adopter farmers, as detailed below.

Eleven problems, as given in Table 2 and Fig. 2; were identified as a barrier to adopting the crop insurance scheme. Sampled farmers were asked to rank these problems based on the severity of their impact on the decision not to buy insurance.

Reviewing the table shows that delayed claims payments in past received the highest RBQ score of 88.18, ranking first. Reflecting the farmers' lack of confidence in the timely disbursement of funds. Additionally, the concerns over insufficient crop insurance awareness and benefits, which ranked second with a score of 85.76, this finding aligns with Nagesh *et al.* (2022), who emphasized the necessity of effective communication strategies for encouraging insurance purchases. Lack of

Table 2 : Problems faced by non-adopter farmers of crop insurance scheme.

Code No.	Problem Statements	RBQ	Rank
C1	Delayed claims payments in past	88.18	I
C2	Insufficient crop insurance awareness and benefits	85.76	II
C3	Lack of documents in the name of cultivar	79.39	III
C4	High premium rates for horticulture crops	71.21	IV
C5	Complicated enrolment and claim procedures	63.18	V
C6	Issues with the cut-off date for submitting applications and paying the premium	57.42	VI
C7	Lack of timeline information	45.15	VII
C8	Farmers need to make several visits to the department from enrolment to claim	37.88	VIII
C9	Less compensation and sum insured amounts	29.70	IX
C10	Limited expert contact	22.88	X
C11	Social stigma in getting crop insurance	19.24	XI

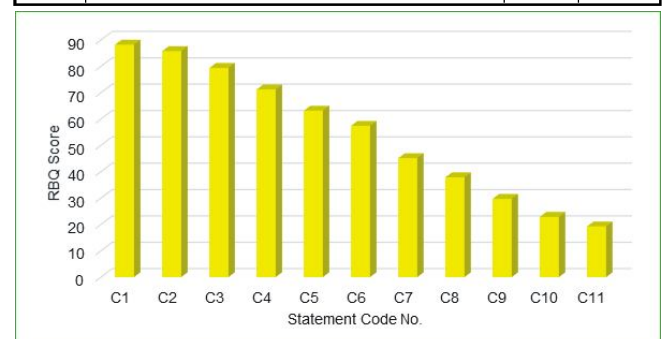


Fig. 2 : Problems faced by non-adopter farmers of crop insurance scheme.

documents in the name of cultivar was third major problem with a score 79.39, these showed land tenant restriction to not buy crop insurance. High premium rates for horticulture crops, with a score of 71.21, were a fourth major concern, this indicates that the cost of the premiums was major financial barrier, preventing many farmers from participating in the scheme, reflecting the farmers' lack of confidence in the timely disbursement of funds. These findings align with Devi *et al.* (2020) and Nagesh *et al.* (2022), who identified high premium rates as a significant barrier for small and marginal farmers. Complicated enrolment and claim procedures and issues with the cut-

off date for submitting applications and paying the premium were problems, ranking fifth and sixth, scoring 63.18 and 57.42, respectively, pointed to issues related to the poor or less adopting the schemes.

The seventh problem, with a score of 45.15, was the lack of timeline information, emphasizing the need for clear and timely details about the scheme's operations and deadlines. Farmers need to make several visits to the department from enrolment to claim, less compensation and sum insured amounts, limited expert contact ranked eighth, ninth and tenth with scoring 37.88, 29.70 and 22.88, respectively. The last ranked problem was social stigma in getting crop insurance, with a score of 19.24, underscoring that insufficient understanding of the scheme's functioning also hindered participation. Similar results are also found by Arikrishnan and Kalaiselvi (2024), Darshan *et al.* (2023).

Suggestions perceived for improvement of Crop insurance scheme by the farmers in Zone – V (Jhalawar District)

The results of the RBQ analysis for the suggestions received from the respondents towards voluntary adoption of crop insurance by farmers in zone-V region are presented in Table 3.

The findings further indicated a clear prioritization of respondents' suggestions for enhancing voluntary crop insurance (CI) adoption. Quick claim settlement emerged as the most pressing and significant intervention, recording the highest RBQ score (94.17). This highlighted the prevailing dissatisfaction with delays in claim disbursement and highlighted farmers' expectations for prompt and reliable settlement as a core element of an effective insurance mechanism. The other major suggestions given by the respondents needed transparency in claims settlement (92.50) and the created awareness about the benefits available (80.23). These two suggestions revealed a strong demand for financial fairness and created awareness about related benefits. Non-profit involvement may help bridge the trust deficit and reduce perceived biases or profit motives associated with private players.

Additionally, reducing premium rate and individual farm as unit of assessment instead of village/village panchayat level were also key suggestions with RBQ scores of 78.56 and 63.64, respectively, indicating that affordability and decentralization in claim assessment are vital to improving accessibility and reliability. Respondents also suggested Public-grievance settlement mechanism at local level in setting crop insurance premiums (RBQ: 50.23), pointing out to the need for contextualization and region-specific policy design. Other suggestions like

Table 3 : Suggestions perceived by the farmers in wide adoption of crop insurance scheme in Zone - V.

S. No.	Suggestions perceived by the farmers	RBQ	Rank
1.	Quick settlement of claims	94.17	I
2.	Need for transparency in settlement of claims	92.50	II
3.	Create awareness about the benefits available	80.23	III
4.	Reduce premium rate	78.56	IV
5.	Individual farm as unit of assessment instead of village/village panchayat level	63.64	V
6.	Public-grievance settlement mechanism at local level	50.23	VI
7.	Insurance service at your doorstep/ at village level	49.77	VII
8.	Inform farmers before deducting premium	35.30	VIII
9.	Separate desk for crop insurance in banks / cooperatives	24.39	IX
10.	Make the website user friendly for online application	20.76	X
11.	Increase the number of extension agents	18.79	XI

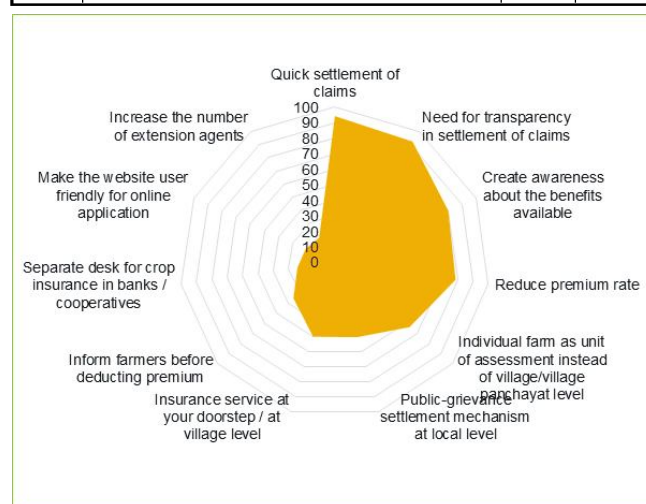


Fig. 3 : Relative strengths of suggestions to improve crop insurance adoption in Zone - V.

insurance service at your doorstep / at village level (49.77), inform farmers before deducting premium (35.30), and separate desk for crop insurance in banks / cooperatives (24.39), make the website user friendly for online application (20.76) and increase the number of extension agents (18.79) were accorded with lower RBQ scores with seven, eight, nine, tenth and eleventh ranked,

respectively. This possibly reflected either their perceived impracticality or their indirect impact on farmers compared to more immediate and visible policy changes like claim settlement and premium rebates. In a nutshell, the top-ranked suggestions clearly indicate that farmers prioritize timely, transparent, and financially just insurance practices over structural or institutional reforms. Therefore, policymakers should focus on improving operational aspects of crop insurance that may have a much stronger and immediate influence on adoption rates than broader institutional restructuring.

The relative strengths of the suggestions given by the respondents are vividly captured by Fig. 3 in the form of a radar plot, with peaks and troughs, separating the most crucial suggestions from others. The radar plot revealed a distinctly lopsided and asymmetrical pattern, highlighting major variations in perceived utility across constructs. The sharp peaks for constructs with high RBQ values such as Quick claim settlement (94.17%), need for transparency in settlement of claims (92.50%), create awareness about the benefits available (80.23%), reduce the premium rates (78.56%) and individual farm as unit of assessment instead of village/village panchayat level (63.64%) indicated a strong consensus on their importance in boosting adoption. In contrast, suggestions with low RBQ values like separate desk for crop insurance in banks / cooperatives (24.39%), make the website user friendly for online application (20.76%) and increase the number of extension agents (18.79%) form the deepest troughs, suggesting they are seen as less impactful or less urgent. This asymmetry shows that farmers strongly favor a few key measures, suggesting policy should focus on these high-impact areas rather than diluting efforts across less-supported ones. The present findings align with that of Biswal and Bahinipati (2022), who also suggested the need for timely claims, fair loss assessment and financial incentives to improve crop insurance adoption. While Biswal and Bahinipati (2022) stressed financial literacy and reforms, the present study augurs the need for the participation of ethical and supports premium rebates to farmers and higher subsidies for insurance premiums.

Conclusion

It may be concluded that the results from the study area showed that major problems in zone-IC were delayed claim settlement, no compensation even loss is happening due to crop failure, farmers are not involved at the assessment stage, and Lack of loss assessment knowledge etc. The study also showed the major suggestions perceived by the farmers were quick

settlement of claims, need for transparency in settlement of claims, create awareness about the benefits available and reduce the complexity in registration process, individual farm as unit of assessment instead of village/village panchayat level, reduce the premium rates and create good coordination between public and government so that wide adoption of crop insurance scheme.

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Conflicts of interest : There are no conflicts among authors.

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