

Seminar Title	: Optimizing Agricultural Risk Management: An Assessment of Risk Modelling Techniques and Pricing of Crop Insurance Contracts in India
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Abstract	: Agricultural risk management is fundamental in ensuring food security and economic stability, particularly in developing countries like India, where agriculture is vital in sustaining livelihoods. Indian agriculture faces significant risks due to weather variability, pest infestations, market fluctuations, and other uncertainties. To mitigate these uncertainties, crop insurance offers financial protection to farmers against unpredictable losses. However, India's crop insurance system raises concerns regarding its ability to effectively address risk modelling practices, resulting in insufficient coverage and compensation for farmers. To address these concerns, integrating data-driven risk modelling techniques that consider parameters of extreme events can offer more precise and regionally-tailored crop insurance coverage. The selection of advanced risk modelling techniques that accurately estimate crop loss densities across various regions and crops enables in designing of appropriate pricing strategies. An accurate premium rate, estimated by robust risk modelling techniques, facilitates diversified risk pooling and captures individual risk profiles, resulting in broader participation of farmers. To estimate an accurate premium rate, the study proposes various risk modelling techniques with extreme event parameters which capture tail probabilities more accurately. Additionally, appropriate model selection techniques will reduce model uncertainties by comparing efficiency among various models. The comprehensive assessment of risk modelling strategies helps optimise agricultural risk management and develop fair crop insurance pricing strategies.