Identification and quantification of risks associated with rice-based production system: an empirical evidence from Odisha, India

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In this study, we identify and quantify various types of risks associated with the rice-based production system in Odisha using both secondary and primary data. The data was collected from 240 farmers selected from East and South Eastern Coastal Plains zones of Odisha, where rice cultivation and climatic-related hazards are widespread. Results showed that farmers faced many adverse climatic environments, such as floods, drought, cyclones, and infestation of pests and diseases, which pose severe threats to crop cultivation practices and farmers' income levels in the study area.

Keywords: Farm-gate price, minimum support price, rice production, risk.

RISK and uncertainties are inherent to Indian agriculture over time. Risk management depends on the degree of awareness of the risk and its components[5]. Various management tools are employed for risk mitigation, including crop insurance schemes. Crop insurance is a compensation policy that protects farmers against unexpected loss of anticipated crop yields from various unforeseen events[6]. Crop insurance schemes were developed to deal with climate change[7] and favour modernization of agriculture[8]. The Pradhan Mantri Fasal Bima Yojana (PMFBY) intends to deliver inclusive insurance protection to the farmer, covered a larger area under paddy crops in Odisha; in addition, it had the highest number of farmers insured (41.26% in 2017) and the highest coverage of area as a percentage of total cultivated area (22.12% in 2019)[6]. The PMFBY functions on an area-approach basis, i.e. well-defined regions for every notified crop for prevalent calamities[9,10]