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How does climate information services (CIS) affect farmers' adaptation strategies? A systematic review

With the help of the systematic review method of 118 papers, we challenge the common assumption regarding the climate information services (CIS) design and features and its role in adaptation response. The review highlights the key consideration and recommendations for future researchers, particularly CIS applicability in adaptation. (1) Most research concentrated on transmitting daily, monthly, and seasonal predictions instead of forecast visualization and co-production. It might make the difference between seasonal and near-term projections unclear to farmers and researchers; (2) The forecast's probabilistic nature is not the only source of uncertainty; studies have neglected to elicit other factors, such as the social and physiological effects of incorrect forecasts, the lack of data on various factors influencing extreme weather events, farmers' inability to decipher the information, and variations in the local language; (3) Considerable research is on forecast accuracy, skills, and the lead time but side-lined the association of these variables with different types of forecasts at different farming cycles; (4) There is limited reporting on the accessibility of climate services according to socio-demographic variables and forecast values; (5) More research highlights the impact of CIS on adaptation activity at various timelines and crop seasons, but limited ex-ante evaluations cannot uncover deficiencies in agricultural practices and information transmission. The investigations were predominately ex-post evaluations, but there was little proof of how much decisions differed between experimental and control groups.

Keywords: Forecast Accuracy and inaccuracy Adaptation Climate services

Biography

Madhuri's research interests lie at the intersection of vulnerability to climate change and measures for adaptation and resilience. Her work relates to conceptualizing and measuring vulnerability and adaptive capacity to natural hazards and climate risk. In recent years she has investigated how farmers perceive climate change. She also explored the quality of climate information services and the role of Information and Communication Technology (ICTs) and agro-met advisories in farmer's decision-making

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