

How Participatory Climate Information Services Assist Farmers to Uptake Rice Disease Forecasts and Manage Diseases in Advance: Evidence from Coastal Bangladesh

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Abstract : Rice yield reduction due to climate change-induced disease occurrence is becoming a great concern for coastal farmers of Bangladesh. The development of participatory climate information services (CIS) based on farmers' needs could implicitly facilitate farmers to get disease forecasts and make better decisions to manage diseases. Therefore, this study aimed to investigate how participatory climate information services assist coastal rice farmers to take up rice disease forecasts and better manage rice diseases by improving their informed decision-making. Through participatory approaches, we developed a tailor-made agrometeorological service through the DROP app to forecast rice diseases and manage them in advance. During farmers field schools (FFS) we communicated 7-day disease forecasts during face-to-face weekly meetings using printed paper and, messenger app derived from DROP app. Results show that the majority of the farmers understand disease forecasts through visualization, symbols, and text. The majority of them use disease forecast information directly from the DROP app followed by face-to-face meetings, messenger app, and printed paper. Farmers participation and engagement during capacity building training at FFS also assist them in making more informed decisions and improved management of diseases using both preventive measures and chemical measures throughout the rice cultivation period. We conclude that the development of participatory CIS and the associated capacity-building and training of farmers has increased farmers' understanding and uptake of disease forecasts to better manage of rice diseases. Participatory services such as the DROP app offer great potential as an adaptation option for climate-smart rice production under changing climatic conditions.

Keywords : participatory climate service, disease forecast, disease management, informed decision making, coastal Bangladesh

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