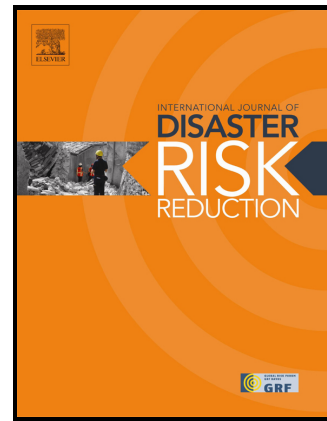


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Community Responses to Flood Early Warning System: Case Study in Kaijuri Union, Bangladesh

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Abstract

Early warning is a key element of disaster risk reduction. In recent decades, there have been major advancements in medium-range and seasonal forecasting. Babel et al. (2013) developed an experimental medium-range (1-10 days) probabilistic flood-forecasting model for Bangladesh. This progress provides a great opportunity to improve flood warnings, and therefore, reduce vulnerability to disasters. This paper describes an integrated system on medium-range flood forecasts based on agricultural users' needs in order to reduce the farming community's flood impacts. For example, 1- to 10-day forecasts may provide farmers a range of decision options such as changing cropping patterns or planting times. The methodology included risk and vulnerability assessments conducted through community consultation. The study involved developing a flood risk map and response options to flood risk probabilistic forecasts based on farmers' needs for early warning. Understanding the use of probabilistic forecasts is still very limited, and operational forecasters are often skeptical about the ability of forecast recipients to understand the ensembles prediction system. This study showcases the ability to use probabilistic forecasts for operational decision-making purposes. The forecast lead-time requirement, impacts, and management options for crops and livestock were identified through focus group discussions, informal interviews, and surveys. The results included flood risk mapping according to the vulnerability of the communities in the study area and the early warning impacts during and after the flood events.

Key words: medium-range flood forecasts, agriculture risk, early warning, and community response.

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