

Integrated Flood Risk Management through Modelling of Nature Based Solutions

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Abstract

Floods are the most common natural disasters and are annually causing severe destructions worldwide. Human activities, along with expected increased extreme precipitation patterns as a result of climate change enhance the future potential of floods. There are proven evidence that infrastructure based responses to flood disaster is no longer achieving optimum mitigation and have created a false sense of security. Nature-based solutions(NBS) is a widely accepted sustainable and efficient approach for disaster risk reduction and involves the protection, restoration, or management of natural and semi-natural ecosystems to tackle the climate and natural crisis. Adoption of NBS in decision-making, especially in developing nations is limited due to a lack of sufficient scenario-based studies, research, and technical knowledge. This study explores the knowledge gap and challenges on NBS adoption with case study of developing nation, specially for flood management, by the study of multiple scenario analysis in the context of climate, land-use change, and policies. Identification and quantification of the strength of natural ecosystems for flood resilience and water management can help to prioritize NBS in policymaking leading to sustainable measures for integrated flood management.

Keywords : Flood reduction, Climate change, Nature-based Solutions, Developing Nations.

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