Co-creation of Flood Mitigation Technologies in Bangladesh to Strengthen Community Resilience

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Abstract

Most of the small- to medium-scale flood mitigation technologies in Bangladesh are planned, designed, and constructed in a top-down approach, ignoring the actual needs of the vulnerable communities and the appropriateness of the technology in the local context. This non-inclusive approach does not create ownership of the technology by the local communities and stakeholders, and undermines the sustainability of the technological solution. This paper presents the co-creation process and preliminary performance monitoring results of a few small-scale flood mitigation technologies implemented as pilots in the peri-urban area of Sirajganj, Bangladesh. Local communities, policy actors, and stakeholders were involved at various stages of planning, design, construction, management, and monitoring of these pilots. Sustainability scores of the technologies in their technical, economic, social, and environmental dimensions are assessed through a set of indicators. A comparative sustainability analysis of these technologies is performed based on the user experiences and expert opinions. It is concluded that successful technical performance and functional effectiveness, along with reasonable and fair costs, are the primary requirements for the sustainability of a flood mitigation technology to improve community resilience. This study also provides key policy recommendations for building community resilience in urban/peri-urban areas of Bangladesh to deal with flood risks.

Keywords

Flood mitigation, community resilience, technology, co-creation, sustainable development