Ariunsanaa Ganbat

Nature-based solutions for flood management: Community receptiveness and willingness to participate in Ulaanbaatar's Ger Districts

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In the rapidly urbanising landscape of the Global South, cities face unprecedented challenges in managing their growth and risks from natural hazards while ensuring the well-being of their residents and the sustainability of their environments. These challenges are particularly acute in informal settlements, where the effects of climate change intersect with inadequate infrastructure and socioeconomic vulnerabilities. Ulaanbaatar, the capital of Mongolia, presents a unique case study within the context of flood management in informal settlements, grappling with the complexities of urban expansion against the backdrop of its distinctive history and culture as it pertains to its road to development and current socio-environmental dynamics. This study investigates the potential of small-scale Nature-based Solutions (NbS) for flood management in Ulaanbaatar's Ger Districts, investigating community perceptions of flooding, receptiveness to the proposed NbS, and willingness to participate in the building of flood resilience in their area through engaging in the process of cocreating, co-implementing and co-managing of interventions. Using surveys and focus group discussions with residents of the ger area, the research examines five NbS interventions: community gardens, rain gardens, permeable paving, stormwater detention, and rainwater harvesting. Results indicate a generally favourable view of NbS, particularly rainwater harvesting and stormwater detention, seen as practical and impactful. The study identifies several implementation challenges, including resource constraints, governance issues, and topography and variation in soil composition. Despite these barriers, residents demonstrate a moderate to high willingness to participate in NbS initiatives across all phases of implementation, pointing to a promising path for integrating NbS into Ulaanbaatar's flood management strategy. The research contributes to the understanding of NbS application in informal settlements, highlighting the importance of context-specific NbS design and implementation. The findings suggest that while challenges exist, NbS could play a significant role in flood management strategies for Ulaanbaatar's Ger Districts. This research contributes to the growing discourse on urban resilience, emphasising the importance of community-driven approaches in addressing environmental challenges and in building adaptable strategies in the face of climate change.