



A citizen-oriented understanding of nature-based innovations: A case study in Dublin, Ireland

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Hydro-meteorological hazards such as floods have been a long-standing challenge for urban planners. A substantial increase in urbanization has undeniably pressurized the existing drainage network which has increased the flood proneness. The OPERANDUM project (H2020, grant agreement No 776848) has proposed a unique methodology for handling urban flooding by setting up open-air laboratories (OALs). As a pilot study of open-air laboratory Ireland (OAL-IE), an interdisciplinary methodology is adapted. Flood modeling techniques are identified for better flood risk assessment and flood management. Nature-based innovations are proposed to help identify and improve the existing urban drainage systems. The adaptability of nature-based systems and their efficacy as a supplemental tool to better flood management is a predominant and significant question. The awareness of citizens on their experience, challenges, and narratives are an equally reliable parameter to examine whether the spatio-temporal viability of new flood management techniques through nature-based innovations is a promising path for sustainable urban management. The intermittent relationship of flood hazard and the citizen access to infrastructure such as schools, childcare, old age homes, offices, transportation network holds a place of relevancy. The dynamics of “lived experiences” can help urban planners to pull out the traditional and formal strategies to be implemented for better liveability of citizens. Moreover, the willingness of citizens to maintain and share activities for co-deployment as a successful participatory process for innovative nature-based solutions support the social purpose of the OPERANDUM project. This research focuses on understanding the social background, cognitive thinking, and ideology that holds unique opportunities to OAL-IE for potential retrospective interpretation of nature-based innovations. A detailed survey with the stakeholders is aimed to understand their perspective on flooding, to identify how and where nature-based innovations can assist the city council to develop an efficient sustainable flood management system. This information on how citizens perceived and attributed the delivery of nature-based innovation can provide guidelines for developing better flood management and mitigation policies in Dublin.