



Abstract

## Negotiating Land for Flood Using an Environmental Citizenship Approach †

Rares Halbac-Cotoara-Zamfir 1,\*, Andreas Hadjichambis 2 and Demetra Paraskeva-Hadjichambi 2

- <sup>1</sup> Faculty of Civil Engineering, Politehnica University of Timisoara, 300006 Timisoara, Romania
- <sup>2</sup> Cyprus Centre for Environmental Research and Education, Ministry of Education and Culture, 3304 Lemesos, Cyprus; a.chadjihambi@cytanet.com.cy (A.H.); demhad@ucy.ac.cy (D.P.-H.)
- \* Correspondence: raresh\_81@yahoo.com
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Abstract: Flooding is a wide-range natural hazard that noticeably damages property, people, and the environment. In the context of climate change, the integration of spatial planning with floodrisk management has gained prominence as an approach to mitigating the risks of flooding. Land use is regulated through various mixes of top-down laws, regulations and governance structures and sets of locally based practices that can vary widely across localities and contexts. These underresearched aspects can often make the difference between success and failure in implementing new insights and proposals for better nature-based and diverse technological solutions for flood storage. Generally, water management has first dealt with technical and hydrological issues before addressing land management, and then found implementation to be hampered by the lack of land management approaches. Land owners/users are often regarded as mere recipients of water management, not as key stakeholders. Most existing research initiatives on water-related risks focus on technical or hydrological aspects, forecasting, disaster management, or institutional governance aspects. Approaches for collaborating with private land users to realize mitigation and adaptation measures on private land are lacking both in theory and practice. The absence of dialogue tools and collaborative approaches, lack of access to integrated and high-quality information and technologies and tools to use information, are among the factors that impede this integration. Limited research has been conducted to develop a framework and to investigate the interplay between involvement, information and technologies in this integration. These shortcomings could be resolved through an integrated approach which can be based on the features and characteristics of an environmental citizenship. Based on the definition provided by ENEC, an environmental citizen has the necessary knowledge, skills, values, and beliefs to effective public participation and stakeholders' engagement in solving controversial environmental problems and therefore to negotiate land for flood within a sustainable context. Starting from the definitions of environmental citizen and environmental citizenship, this paper will try to provide an approach for smoothening the process of negotiating land for flood as a key tool for mitigating the risk of flooding through sustainable cooperation with land users.

Keywords: negotiate; dialogue; environmental citizenship; water management

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