

Societal transformation and adaptation necessary to manage dynamics in flood hazard and risk mitigation (TRANS-ADAPT)

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INTRODUCTION

Losses from extreme hydrological events, such as recently experienced in Europe have focused the attention of policymakers as well as researchers on vulnerability to natural hazards, leading to an increasing discussion on dynamics beyond vulnerability and flood risk. In parallel, the context of changing flood risks under climate change is driving transformation in the role of the state in responsibility sharing and individual responsibilities for risk management and precaution. Emerging flood risk strategies place the lead responsibility on local organisations to determine local strategies to manage local risks which demand societal transformation in vulnerability reduction. The main reasons for this shift from centralised to decentralised organisation is that local scale are more efficient in dealing with those tasks relating to risk and emergency management. This project understands and conceptualises societal transformations as specific local governance initiatives instigated by local governments, residents, NGOs or private parties with the aim of complementing conventional flood policies.

METHODS

Facing these challenges, TRANS-ADAPT aims to analyse and to evaluate the multiple use of flood alleviation schemes with respect to social transformation in communities exposed to flood hazards in Europe. The overall goals are: (1) the identification of indicators and parameters necessary for strategies to increase societal resilience, (2) an analysis of the institutional settings needed for societal transformation, and (3) perspectives of changing divisions of responsibilities between public and private actors necessary to arrive at more resilient societies.

RESULTS AND IMPLEMENTATION

Within the project it will be explicitly studied how technical mitigation can be implemented focusing on possible other utilization than just protecting exposed societies from the adverse impact of the hazard. The focus is on community-based initiatives for flood risk management that are clearly different or niche relative to mainstream solutions of flood risk management. Examples include best-practice from the partner countries, such as dikes and other flood control structures, and will be assessed according to necessary frameworks for implementation. TRANS-ADAPT assesses societal transformations from the perspective of changing divisions of responsibilities between public and private actors necessary to arrive at more resilient societies. Yet each risk mitigation measure is built on a narrative of exchanges and relations between people and therefore may condition the outputs. As such, governance is done by people interacting and defining risk mitigation measures as well as climate change adaptation are therefore simultaneously both outcomes of, and productive to, public and private responsibilities. Building off current knowledge this project will focus on different dimensions of adaptation and mitigation strategies based on social, economic and institutional incentives and settings, centering on the linkages between these different dimensions and complementing existing flood risk governance arrangements. The policy dimension of adaptation, predominantly decisions on the societal admissible level of vulnerability and risk, will be evaluated by a human-environment interaction approach using multiple methods and the assessment of social capacities of stakeholders across scales. As such, the challenges of adaptation to flood risk will be tackled by con-

verting scientific frameworks into practical assessment and policy advice. Therefore, the collaboration with stakeholders is foreseen, and the institutions shown in Tab. 1 actively participate in the project. In addressing the relationship between the dimensions of adaptation on different temporal and spatial scales, this project is both scientifically innovative and policy relevant, thereby supporting

climate policy needs in Europe towards a concept of risk governance.

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Table 1: Test sites, institutional level and stakeholders involved

Country	Institutional level	Stakeholder
Austria	Governmental	Federal Ministry of Agriculture, Forestry, Environment and Water Management (IV/5)
		Federal Ministry of Agriculture, Forestry, Environment and Water Management (VII/5)
	Research and Professional Association	Interpraevent Society
	Company	Austrian Federal Railway
The Netherlands	Local authorities	Community of Dordrecht
		City of Rotterdam
	Companies	KWR Water BV
		DeltaSync BV
Ireland	Governmental	Office of Public Works
	Citizen groups	Clontarf Resident's Association

KEYWORDS

Climate change adaptation; transformation; flood risk management; resilience; vulnerability

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