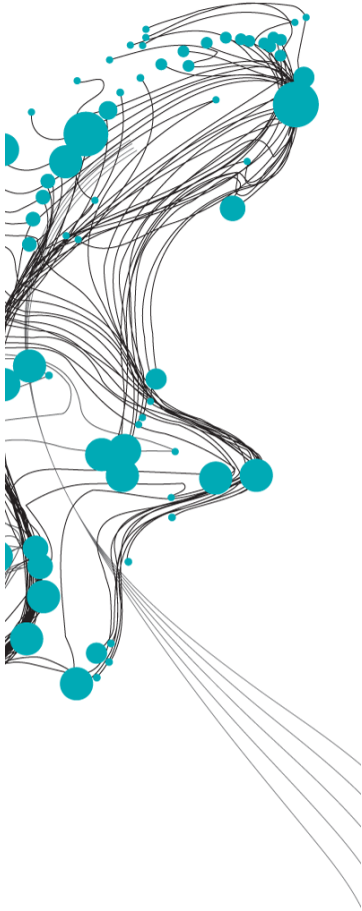


DESIGN OF A PARTICIPATORY APPROACH THAT IMPROVES COMMUNITY FLOOD RESILIENCE

THE CASE OF CULTURAL HERITAGE IN DORDRECHT



The objective of this research is to “Design a participatory approach that improves community flood resilience of citizens and the cultural heritage they are living in”. The city of Dordrecht is used as case study due to its vulnerable location to floods, i.e. between three major rivers and near the North Sea coast, and since over 800 cultural heritage buildings are present in the city centre. To achieve the main objective, a design science methodology is adopted to structure the research. This methodology consists of three phases: 1) problem investigation, 2) design phase and 3) validation phase.

The problem investigation synthesises literature on both the concepts of resilience assessments and public participation, and emphasises the importance of public participation when conducting a resilience assessment. This is done by identifying participatory goals that are linked to specific participatory methods which can be applied to reach the participatory goals. This research contributes to the current body of literature by combining arguments why participation is used in resilience assessments with participatory goals. This resulted in participatory methods that are linked to the three phases of a resilience assessment, i.e. *understand*, *measure* and *improve*, which gives guidance on the use of participatory methods when conducting a resilience assessment.

Additionally, the perspectives regarding flood risk and participation of both the Municipality of Dordrecht and the citizens living in cultural heritage are investigated via focus groups and interviews. The main outcome is that the perspective of the Municipality of Dordrecht regarding flood resilience does not differ significantly from the perspective of the citizens. Not all citizens living in Dordrecht are aware of their flood risk, affecting their flood resilience significantly. Information provided by the municipality and experience with floods contribute significantly to flood risk awareness of citizens. Regarding participation it is concluded that citizens perceive limited participation, which is in line with the fact that the municipality does not yet have a general participation strategy.

Based on the problem investigation two participatory approaches are designed, one where the municipality has a low amount of resources (e.g. staff/time) and one with high-resources. Both approaches give guidance to the use of participatory methods when conducting a resilience assessment. This is done per phase of a resilience assessment. The approach therefore contributes to community flood resilience in Dordrecht by involving citizens in *understanding* their flood resilience, *measuring* it, and lastly *improving* their flood resilience, and the flood resilience of the cultural heritage they are living in.

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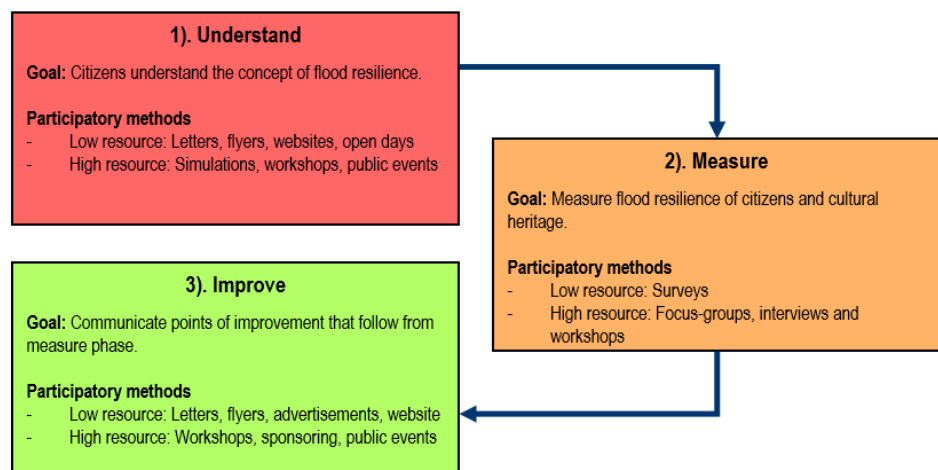


Figure 1: Simplification of participatory approach guiding the use of participatory methods in each phase of a resilience assessment, indicating methods that can contribute to the goal of the phase for a low-resource and a high-resource scenario.