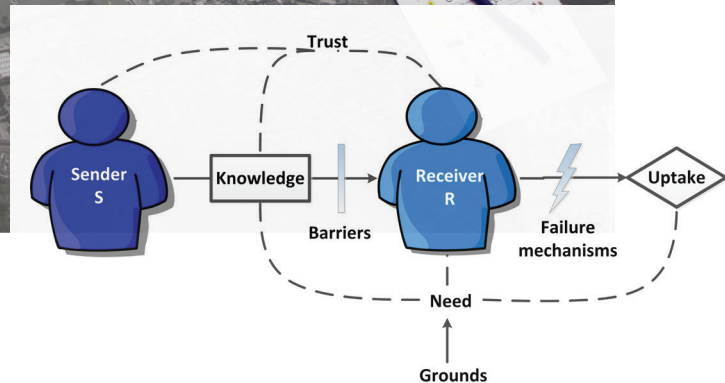


Participatory approaches in water management have their limitations, despite their potential to overcome challenges related to power, uncertainty, and misunderstanding. The research topic of Ellen Tromp’s PhD is the improvement of knowledge transfer and uptake in the design process for flood defences. She observes, diagnoses and intervenes in processes of knowledge transfer and uptake using the lens of a fine-grained sender-receiver framework.

The sender-receiver framework was tested and validated in the case study of Kinderdijk in the west of the Netherlands. Process evaluation after the completion of the redesign process of the dike between Kinderdijk and Schoonhovenseveer showed that organisational learning is required in order to benefit from the creative capacity of contractors. The regional water authority Rivierenland tested two innovative techniques, hoping that the experience would justify full-scale application to dikes needing reconstruction. Rivierenland opted for a Design-and-Construct variant in this project. During project implementation, the authority learned that widening the scope for dike reconstruction projects can help to identify synergies between dikes and their surroundings. In addition, it is important to select the right type of contract if the aim is to create opportunities for innovation. Public participation can also help improve the overall quality of an area and provide opportunities to develop more sustainable solutions.

On the basis of these experiences, Rivierenland is continuing its organisational learning efforts and that is leading to different contracting and public engagement approaches in their current projects. One of these projects is the redesign of the dike between Gorinchem and Waardenburg, where Rivierenland opted for stakeholder engagement in the visioning phase for the redesign of the flood defence. They facilitated several working groups in which local residents developed their views about the flood defence. The communicative interactions ensured that the local residents acquired an adequate understanding of how flood defences are designed and how



Local residents participate in the redesign of the dike between Gorinchem and Waardenburg, the Netherlands

they can be integrated in the surroundings. Repeated iterations through a plan-act-reflect-re-plan cycle allowed us to assess whether our sender-receiver framework facilitates action-oriented support in ‘live’ situations. We analysed the diagnosis of problems, the ability to make real-time adjustments, and design/re-design interventions that enhanced knowledge transfer and uptake.

Several cognitive and institutional barriers hampered knowledge transfer. Specific words had different meanings for the various stakeholders, and this led to misunderstandings. The importance of trust in a person or in knowledge was also highlighted. Several successful interventions were undertaken to enhance knowledge uptake. An example is the crash course ‘how to design a flood defence’, which was designed specifically for residents.

A serious game was developed that aimed to raise awareness of the importance of sharing and using the available knowledge to solve social challenges. The game, which was played successfully by several regional water authorities and researchers, generated more insights into how knowledge transfer can be designed. The next step will be to develop a ‘toolbox’ that provides hands-on insights for field practitioners, making it easier for them to adapt the framework to their own specific situations

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Further reading:
Tromp & Bots (2016) Knowledge Transfer and Uptake in Design Process of Flood Defences: Case of Kinderdijk – Schoonhovenseveer. Available on <https://www.deltares.nl/en/publications/>