Measuring & Enhancing Flood Resilience

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The introduction of resilience into flood risk management holds promise for a better management of floods, beyond the structural engineering solutions, and this in a truly multi-disciplinary way. Yet, the concept is not sufficiently developed to inform practical flood risk management, nor adequately conveyed to authorities and lay people. This paper presents the many opportunities, and bottlenecks, of making resilience a tangible instrument for improving flood risk management practice.

The paper evolves around three components of resilience: institutional aspects, flood management (tools) and risk communication (strategies). These three components are brought together in a framework for measurement and enhancement of community resilience. The framework is completed by insights gained from extensive interviews with representatives from flood risk management organisations and authorities with responsibilities in disaster planning, response during flood events and river basin management. The paper explores how resilience research can inform the coordinated efforts to implement the EU Water Framework Directive (WFD) and the Flood Risk Directive (FRD).

Paying a greater attention to resilience in the context of flood risk management is practical and valuable. It has the potential to improve cost-efficiency and effectiveness of flood risk management approaches, by reducing flood damage more than structural measures do, and by improving the performance of flood response and recovery. The resilience concept bases on a multi-disciplinary approach and represent a shift to 'living with risk' attitude and culture of risk prevention. The establishment of flood resilient communities promises effective means for adaptive management of disasters in a changing world. Yet to make this shift happen remains a challenge to be addressed in this paper.