

## **EDITORIAL**

### **The Public-Private Divide in Flood Management**

There is an urgent need for re-thinking flood management strategies and institutions in many regions across the globe. The main reasons for that are climate change and the high rate of flood plain occupancy. Climate change causes sea-level rise and an increase of peak discharges in many river basins. Hence, the probability of flooding in many coastal areas and floodplains is increasing. In the past decade, flood management has gained a prominent place on the political agenda in many countries. River floods in the European rivers Rhine, Meuse, Elbe, Danube, Oder and Moldau have raised awareness of the vulnerability of the often densely populated areas along these rivers. In the United States, the Mississippi floods and the devastating hurricane Katrina have shown the urgent need for better flood management policies. During the making of this special issue, dramatic river floods occurred in Great Britain, underlying the societal relevance of our joint research endeavour. Equally important to the increased probability of flooding is the increase in flood exposure due to the rapid development of flood prone areas over the past decades. Both climate change and flood plain occupancy increase flood risks. Water experts have developed various new strategies to cope with this challenge, both in terms of new technologies and new policies. This special issue focuses on the latter, e.g. policies aimed at creating more space for the water, and risk based policies.

This special issue addresses these substantive and institutional changes within the flood policy domain, but focuses specifically on the public -private divide in flood management. A key issue in flood management is the divide between public and private responsibilities. The public -private divide differs from country to country. A brief comparison between three countries may illustrate this point. In the UK and the USA, for example, flood insurance is an important instrument in flood management, implying a substantial role for private parties. Inhabitants take out an insurance policy with a private insurance company. So, two private parties find solutions for the damage that inhabitants may have suffered from flooding. However, in the Netherlands flood management is the unique responsibility of government. Until now, it has not been possible to have private insurance policies for the impact of flooding.

The public -private divide is country specific, but that is not to state that these lines within nations are settled for once and for all. On the contrary. In previous centuries, the responsibilities between private and public actors have shifted continuously, but at present we observe a debate on the public -private divide that goes beyond the gradual changes that we have seen in the past. Many countries feel that their flood management is in need of review because of the many floods in the past decade and the foreseen impacts of climate change. The Dutch, for example, used to make use of the concept of 'probability of flooding', but now they are on the verge of a paradigm shift towards 'risk' as central notion. 'Risk' is defined as  $\text{Probability} \times \text{Impact}$ . This shift has important implications for the public-private divide. In the Probability-approach, the protection against floods is conceptualized as a pure collective good. In the definition of a pure collective good, no one can be excluded from its benefits. Applied to the case of 'protection against flooding', once there is protection, everyone will benefit from the protection. However, in the Risk approach, compartmentalization and differentiation in risks is discussed. This approach is dominated by questions such as: should we protect a settlement of three houses as firmly as a city of 300 000 inhabitants? Should we compartmentalize certain areas behind the dykes in such a way that some areas are better protected than other areas? With these choices, the 'protection against floods' is no longer a pure collective good. After all, individuals can be excluded from

protection (by compartmentalization, by different levels of protection). Instead, it has become a club good.

This issue will explore the public-private divide in flood management in different countries that have faced floods in the past decade. The guiding research questions are:

- (1) What is the division between public and private responsibilities in flood management in these countries?
- (2) What is the current debate on the public-private divide in flood management in these countries?
- (3) What lessons can be drawn from the experiences gained with the division between public and private responsibilities in flood management in these countries?

Both editors are involved in research on institutions for managing water resources and flood protection. Willemijn Dicke wrote her PhD thesis on the public-private divide in water management in the Netherlands, Wales and England and was programme leader of the research programme 'Public Values' within the Next Generation Infrastructures Foundation ([www.nginfra.nl](http://www.nginfra.nl)), based at Delft University of Technology. Recently she worked for the Scientific Council for Government Policy as project coordinator on an advice to the national government on liberalization and privatization in infrastructures, including dykes. Sander Meijerink has participated as post-doctoral researcher in a research project on long-term institutional change in Dutch flood policies, which was funded by the NWO-LOICZ (Land-Ocean Interactions in the Coastal Zone)-programme of the Dutch National Science Foundation. Among other things, he is participating in a research project on the capability of the Dutch institutional infrastructure to adapt to climate change now, which is part of the government-funded research programme 'Climate Changes Spatial Planning'. The division of public and private responsibilities in climate adaptation is one of the topics addressed in that research project.

This special issue presents in depth analyses of the public-private divide in flood risk management in Australia, England, the Netherlands and the United States and a quick scan of insurance issues in various OECD countries. The first contribution, written by the editors, discusses recent trends in flood management and presents a conceptualization of the public-private divide in flood management, which is based on the dimensions of collectivity and visibility. Moreover, this first contribution tries to relate to each other various insights that are offered by the other contributing authors. After this conceptual introduction, three papers follow describing the public-private divide in England, Australia and the United States respectively. Clare Johnson and Sally Priest discuss the impact of the new space for the water policies on the division between public and private responsibilities in English flood management. One of their conclusions is that the division between public and private responsibilities has never been stable and is not defined very clearly, nor should it be. John Handmer, analyzing recent developments in Australian flood plain management, points to the tension between private sector land development interests and their allies who create the risk, and the public sector, households and small business, who bear the main consequences. The present institutional framework in Australia causes an escalating value of the real estate exposed to flooding. Pete Loucks et al., in their critical account of US flood management, notice a very similar pattern of flood plain occupancy. They try to explain why 'people continue to gamble' by pointing to the enormous economic benefits of flood plain occupancy. The next two papers focus on aspects of the public-private divide in Dutch flood management. Terpstra and Gutteling, in their research on flood risk perception and disaster preparedness in a flood prone region in the Netherlands, found that respondents generally held low perceptions of flood risk. This seems to reflect Dutch flood policies, which are almost exclusively aimed at flood prevention so far. Interestingly enough, about half of the respondents viewed disaster preparedness as an equal responsibility between themselves and the government, which suggests that large parts of the population are open to the

suggestion that they should undertake some personal action to prepare for flood disaster. Jeroen Warner presents an in-depth analysis of decision making on the designation of an area for emergency river storage in the Ooij polder. He uses this case study to develop a typology of participatory disaster governance. Finally, David Crichton, using examples from various OECD countries, points to the various ways in which the insurance industry may contribute to flood risk management.

The editors are most grateful to each contributing author for accepting the invitation to contribute to this special issue, and hope their analyses and ideas will contribute to the ongoing debate on the renewal of institutional arrangements for flood risk management.

*Willemijn Dicke and Sander Meijerink*