EDITORIAL

# The flood risk management plan between spatial planning and water engineering

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In response to the extreme flood events of recent decades, the European Floods Directive (2007/60/EC) requires Member States of the European Union to develop Flood Risk Management Plans (Dworak & Görlach 2005). These plans need to be in place by 2015 and set 'appropriate objectives for the management of flood risk and [reduce] potential adverse consequences of flooding for human health, the environment, cultural heritage and economic activity' (Floods Directive 2007: Article 7 II). They are based on river basin districts. This special issue addresses the new plan instrument that is unique in terms of its governance since it formally changes flood risk management from being predominantly the responsibility of water engineering, to incorporate spatial planning in the management process.

The idea that spatial planning and water engineering need to collaborate in the field of flood risk management is established and generally accepted (Mueller 2013; Patt & Juepner 2013; Juepner 2005; Begum *et al*. 2007; Klijn *et al*. 2008; Warner *et al*. 2012). Also, it is clear that contemporary flood protection is changing towards flood risk management. In that regard, the European Flood Risk Management Plan is not a revolutionary instrument. But the formal character of the plan stipulates and requires reconsidering entrenched modes of governance of water engineering and spatial planning and it launches a new discourse on flood risk.

The modes of governance of spatial planning and water engineering differ. Spatial planning is understood here as encompassing municipal land use planning as well as differing levels of regional planning. Water engineering is usually responsible for the provision of flood protection facilities based on modelled flood scenarios e.g a hundred-year-flood. Spatial planning is comprehensive and meta-disciplinary; water management is specific and sectoral (Moss, 2009, p. 60). Whereas water engineers aim at controlling and regulating the water sector, spatial planning aims at the coordination and integration of many different sector activities (Hartmann 2011).

The relationship between spatial planning and water engineering is conflicting but well-rehearsed (Moss 2009). Two features characterize this relationship. First, Water Management usually provides 'lines of defence', boundaries that separate wet and dry areas. The lines result from accurate calculations of water engineers on design levels such as centennial floods. Often this separation is done with technical construction such as dikes. These lines enable planners to draw land-use plans on dry land. Second, between the dikes (the lines of defence), water comes first in the same manner as in natural floodplains. Water engineers are the most important stakeholder along water bodies.

Two requirements of the flood risk management plan challenge the relationship described above. First, it is required that different scenarios need to be taken into consideration in the development of flood risk management plans instead of just one design level. This means that spatial planners don't get one line of defence but rather various lines. This has crucial consequences for the allocation of land-use since it requires balancing flood risk on a much more differentiated level. Questions like the following arise: Might a commercial area, for example, be inundated more often than a residential area; or what is the right level of protection for cultural heritage buildings and other infrastructures? The other requirement is that the flood risk management plans shall cover the entire river basin district. Flood risk management becomes spatial since areas behind the dikes must be explicitly taken into account. This is an unusual governance arena for water engineers, who are used to the paradigm of 'water comes first'. In spatial planning 'project design does not take place in a top-down fashion instead (. . .) many interests are involved in a consensual process of negotiation' (Roth & Warner 2007: 520–521). In spatial planning, no clear hierarchy of institutions, sectoral and spatial planning is recognizable (Stüer 2004), but rather a confusing system of municipal land use planning, environmental planning, heritage protection, transport planning, economic development agencies, and other competing interests struggle for solutions in a more horizontal and network-oriented governance style (Wegener 2012). Spatial planning tries to coordinate and balance all these interests (Moss 2009). This idea does not conform to the working paradigm of water engineering, a field traditionally more centralized and top-down (Hartmann & Spit 2012).

The Flood Risk Management Plan we propose here intensifies the collaboration between spatial planning and water management (Hartmann & Juepner 2014). Therefore, it has the potential of bringing the topic of flood risk to the agenda in nearly all kinds of spatial activities. However, the flood risk management plan comes with many theoretical and practical challenges. These are addressed and discussed in

 

the contributions from various disciplines and different countries in this special issue.

The paper by Jong & van den Brink offers insight in the embedding of the new instrument in the institutional context in the Netherlands. Johann & Leismann and Cassel *et al*. discuss different approaches of how the Flood Risk Management Plan is realized in practice – such as the 'consultation marathon' in the case of the Seeseke in the Ruhr, or the voluntary flood partnerships along the Moselle. These two papers are more practically pitched, whereas the next two contributions by Barraque and Green elucidate more from an overall governance perspective on how France and Great Britain are coping with the 'new' approach to flood risk management that the Directive is imposing. Finally, Hartmann & Driessen complete this special issue with a reflection on the governance challenges and frictions due to the new instrument.

Remarkably, while preparing this special issue, many extreme flood events at various rivers and streams in central Europe, including areas in Austria and Germany, have generated some of the highest water levels of history. It is expected that many areas in central Europe will suffer major damage from these floods. It remains to be seen what effect these events will have on the governance debates around the Flood Risk Management Plan.

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