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The flood risk management plan: towards spatial water governance

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Abstract

The flood risk management plan challenges both water engineers and spatial planners. It calls for a new mode of governance for flood risk management. This contribution analyses how this mode of governance distinguishes from prevalent approaches. Spatial planning and water management in Europe are explored in terms of their actor relation, their institutional context, and their approach to the object. These three characteristics of the modes of governance are compared with the governance requirements that flood risk management demands. It is concluded that the governance of flood risk management in Europe should strike a balance between comprehensive and hierarchical planning on the one hand, and interactive planning on the other hand, leading to a spatial water governance.

Modes of governance and the flood risk management plan

The flood risk management plan required under the European Union (EU) Floods Directive comes along with two major challenges: first, its demand to regard whole river basin districts; second, its suggestion to incorporate extreme scenarios into deliberations on flood risk management, which opens a discourse on protection levels and risk absorption (Directive 2007/60/EC). While the first challenge is the usual working paradigm of water engineers, who traditionally try to keep the water out of the flood plains (Wiering and Immink, 2006), the second forces spatial planners to reconsider their approach to flood risks – water engineers are no longer providing 'lines of defence' against the water. Thus, water engineers are virtually encroaching upon the arena of spatial planning; spatial planners need to be able to read and interpret water engineering data. This raises the question of how the flood risk management plan affects contemporary thinking and action in both fields. In other words, which mode of governance is required for the flood risk management plan?

Water is managed by water managers, and spatial planning determines the use of land. This distinction and the clear separation of responsibilities are quite strong in most European countries (Moss, 2004; Spit and Zoete, 2009). In Germany, for example, this institutional divide between spatial planning and water management is very entrenched (Moss, 2009); also, in the Netherlands, where the ministry responsible for spatial planning has recently been merged with the water ministry (Spit and Zoete, 2009), land and water are governed differently.

The flood risk management plan challenges the distinction between land governance and water governance, and asks for a common governance of both (Reese, 2011). The new plan, namely, interweaves water policies and spatial planning in a way that nurtures 'spatial water governance'. This describes a process of interaction between spatial planning and water management entities that ultimately aims to integrate the spatial dimension of land use issues and water issues to achieve a more sustainable and viable management of land and water. We identify features of the new mode of governance by juxtaposing it with prevalent forms of governance in water management and spatial planning.

Analysing modes of governance

Modes of governance describe how public and private actors collaborate in order to realise collective goals (Benz, 2005). A mode of governance is understood as a particular arrangement of (public and private) actors, institutions, and content (Driessen *et al.*, 2012). Hence, the different modes are distinct in their actor relation, institutional framing, and approach to the content. The 'actor relation' describes the actor configurations and processes that frame issues according to certain principles, following certain routines (Driessen *et al.*, 2012). The 'institutional setting' frames the context where the interactions between the actors take place (for instance, formal and informal rules). The

'approach to the object' uncovers the relation with the governance object itself and consists of a distinct set of goals and specific policy instruments. These features of modes of governance facilitate the analysis of the approaches (Spit and Bertolini, 1998; Spit and Zoete, 2009).

Water management, spatial planning, and the requirements of the flood risk management plan differ. Admittedly, because of the specifics in the different member states of the EU, it is a Herculean task to sum up the working paradigms and do justice to the fine differences in the systems. From a meta-perspective, however, it is at least possible to sketch typical characteristics and differences between modes of governance in European water management and spatial planning. In the following three sections, the characteristics of modes of governance are described: actor relations, the institutional context, and the approach to the governance object (building on the analytical scheme developed by Driessen *et al.*, 2012). These three characteristics are described separately for spatial planning, water management, and the flood risk management plan. Within each section, the overall and generalised modes of governance of spatial planning and water management are compared with each other, and juxtaposed with the claims for the mode of governance that the European Floods Directive demands.

The descriptions derive largely from an extensive literature study on the working paradigms of the two institutions, supplemented with empirical research on various aspects of governing land and water conducted predominantly in Germany and in the Netherlands over the past couple of years (Driessen and de Gier 1999; Wiering and Driessen, 2001; Hartmann, 2009a, 2011a, b). However, 'there is no universal culture of planning' (Hillier, 2010, p. 16). Accordingly, owing to the generalisation and the comparative approach, outstanding and exceptional cases where the described modes of governance do not fully reflect the actual specific situation are disregarded.

Actor relation

Spatial planning: Multiple stakeholders

Spatial planning is a multidisciplinary (Parker and Doak, 2012) form of comprehensive planning that coordinates and integrates different sector activities (Stüer, 2004; Moss, 2009; Spit and Zoete, 2009): 'spatial planning is, literally, the spatial planning of all government policy, including health, education, defence, etc., not only that policy for land use change and physical development' (Taylor, 2010, p. 205). Therefore, spatial planners are in-between diverse stakeholders dealing with complex issues (Forester, 2004; Parker and Doak, 2012). Planning theory even attests that planners have an inherent bias to collaborative planning (Hajer *et al.*, 2010; Klemme and Selle, 2010), which is sometimes described as an advantage and special feature of spatial planning. Although the trend from traditional government to other forms of governance can be questioned from the standpoint of contemporary environmental and societal challenges (Wegener, 2012), the stakeholders' position in spatial planning can actually be described as network-oriented; the competing positions and interests are subject to fair balancing of power relations (Lambgrets and Janssen-Jansen, 2008).

This also applies to the question of who initiates actions and specifies the policy interests. According to most planning laws, planners are responsible for planning procedures (see, e.g., the Dutch Wro or the German BauGB), but when it comes to a plan's content, quite often the spatial planner cannot be considered as the initiator of a plan – at least not alone. In the early post-World War II period, planners considered themselves as engineers of space (Albers, 1969; Rittel and Webber, 1973); more recent reflections on the planner's role, however, acknowledge that the planner has changed from the specialist to the manager of space (Albers, 1969) with highly complex decision structures (Wagner, 1970). In these structures, planners can even be seen as players inter alia (Stein, 1995; Parker and Doak, 2012), or merely as 'advisors who operate like everybody else, in a complex world where there are no "answers", only diverse and indeterminate options' (Allmendinger and Tewdwr-Jones, 2002, p. 88). Nowadays, multiple actors – for instance, sectoral planning, private actors, citizens, or nongovernmental organisations – initiate spatial planning (Fürst, 2010; Wegener, 2012).

Particularly in more market-oriented planning systems, as for example in the Netherlands, real estate developers and market players play a crucial role. In a broad analysis of Dutch land use plans, Buitelaar found that 53% of the Dutch land use plans were indeed initiated by development initiatives; in only 8% of the cases, the planner initiated a development – the rest were conservation plans (Buitelaar, 2012). In addition, spatial planning often just reacts to spatial, environmental, or societal trends instead of initiating them. Good examples can be found in the Ruhr area, where the recent spatial developments took place related to the initiative Cultural Capital 2010, the Soccer World Cup 2006, or the International Building Exhibition in 1994. None of these events were initiated by spatial planning (Wegener, 1999). So spatial planning can be characterised in juxtaposition to water management as dependent on multiple stakeholders; relations with actors outside the original field of spatial planning are decisive for the realisation of spatial plans.

Water management: Clear responsibilities in nested-bounded structures

Water management pursues a top-down stance to control and regulate the water sector, usually by an engineering-led approach (Brown and Damery, 2002; Moss and Monstadt,

2008; Moss, 2009). Particularly, flood protection is seen as an engineering challenge designated to make land in flood plains usable (Assmann, 2001). An engineering approach is characterised by a technical solution (for instance, building higher dykes) that is implemented by a responsible authority itself (without the strong dependency on other stakeholders as in spatial planning). Flood protection is often 'a "command and control" approach, based on engineering works' (Roth and Warner, 2007, p. 519). Between the dykes, this arrangement works well. Nevertheless, responsibilities in water management are highly complex. In England and Wales alone, in 2002, more than 700 authorities held responsibilities for flood alleviation (Fleming, 2002; Schneider, 2005). But still, in most countries, including England and Wales, one central authority holds an overall strategic responsibility for flood (risk) management (Brown and Damery, 2002). 'Water authorities accustomed to operating with regulatory instruments along vertical paths of the administrative hierarchy will in the future need to cultivate more intensively forms of horizontal cooperation' (Moss, 2004, p. 90).

The provision of flood protection has always been the responsibility of water management in particular (Reinhardt, 2008b). Water managers derive a predominant position from this responsibility. Accordingly, stakeholders' positioning is framed by clear responsibilities in nested-bounded structures, as Barraque elaborates in his contribution to this special issue. Another very prominent example of such a strong institution is the Dutch Directorate-General 'Rijkswaterstaat'. It is the most important central institution for water management in the Netherlands; it has a long-lasting tradition, and it centrally governs and initiates all water-related issues with a 'hegemony of the state' (Wiering and Crabbé, 2006, p. 99).

An interesting experiment started in 2011 in the UK: funding for structural flood protection measures fundamentally changed from a traditional government-led financing system towards a co-financing system, or 'partnership funding' (British Environment Agency, 2012). According to this scheme, organisations and communities that have an interest in improving structural measures co-finance the measure in order to receive governmental money. There is not much academic debate on this scheme, but it is an interesting experiment from different perspectives: first, it is an attempt to internalise costs of flood risk, which might lead to more risk awareness and adaptive behaviour. This is relevant for the debate on risk perception (Renn, 2008). Further, such a scheme introduces more market-based approaches and probably even competitive schemes in flood risk management, as discussed earlier in theory (Agthe *et al.*, 2000; Hartmann, 2011c). With respect to the flood risk management plan, it will be interesting how such projects – which may be initiated by stakeholders that want to enter such 'partnership funding' – will be integrated into a comprehensive flood risk management plan. Also, such a scheme might also change the actor relations of water managers with stakeholders. It might not necessarily diminish the independency [the public water authority still makes final decisions on the public (co-)funding], but it might lead to a more co-evolutionary approach to flood risk management.

In sum, the actor relations in water management naturally vary between different countries, but as an overall notion it can be stated that actor relations in water management essentially differ from those in spatial planning. Water management in general is much more self-reliant and independent, although there are increasing attempts to change water management, such as in the UK.

The flood risk management plan: Balance interactive and central governance

Such traditional sector-planning institutions are increasingly challenged by EU politics; they demand a more comprehensive and integrative planning with broader spatial and other sectoral contexts (Spit and Zoete, 2009). This also came to the fore in the INTERREG IIIb project 'Freude am Fluss' (see also http://www.freudeamflussfilm.eu).[1] The Floods Directive asks for a cross-sectoral integration of the flood issue in sectors like 'soil and water management, spatial planning, land use, nature conservation, navigation and port infrastructure' (Directive 2007/60/EC: VII.3).

The EU pursues a cross-sectoral perspective, with planning processes coordinated at the level of river basin districts (Directive 2007/60/EC: VII.1). All interested parties shall be 'actively involved' (Directive 2007/60/EC: IX.3). According to the directive, this shall be achieved on the one side by 'solidarity' and mutual 'agreements' (Directive 2007/60/EC: VII.4), but on the other side by strong institutions. The EU demands that flood risk management plans shall be initiated by 'competent authorities' (Directive 2007/60/EC: III.2), which may be appointed by the member states, and that flood risk management plans shall be 'coordinated at the level of the international sub-basins' (Directive 2007/60/EC: VIII.4). Already the Water Framework Directive of 2000 demanded such competent authorities for its implementation. Some states have implemented river basis institutions; others pursued the approach of coordinating different existing authorities (Louka, 2008). The contribution by Johann and Leismann on the implementation in North Rhine-Westphalia illustrates how the flood risk management plans push the administrative capacities to their limits. Organising such planning processes lead to a 'consultation marathon'

[1]Although the project encompasses French and Dutch partners, the German title was not translated. At best, it would mean something like pleasure or joy with rivers. The project strived for new ways to make space for the rivers and live with the water.

that can almost paralyse the water management agency (see contribution by Johann and Leismann in this issue). Also, other experiences from projects like ELLA (Elbe-Labe) or FLOW MS (see contribution by Cassel *et al.* in this special issue) show how flood risk management increasingly needs to be considered in terms of mediating between stakeholders and finding new forms of collaboration. In ELLA, forms of cooperation between spatial planning and water management have been explored (Jüpner, 2005); in FLOW MS, voluntary flood partnerships are promoted as an approach to yielding viable actor and process relations for flood risk management.

To sum up, the flood risk management plan seems to have landed water management 'in an unknown arena where project design does not take place in a top-down fashion, but many interests are involved in a consensual process of negotiation' (Roth and Warner, 2007, pp. 520–521). But this arena also incorporates elements of the traditional water management governance approach. In addition, the new European instrument faces spatial planning with another type of water managers, who are less clear in their spatial and institutional boundaries. Barraque (contribution in this special issue) illustrates that this is a particular issue in France, where the current implementation strategy for the flood risk management plans created a very complex multilevel governance system.

The flood risk management plan requires a mode of governance that mixes up elements of the spatial planners' governance and water managers' governance, combining central steering by competent authorities with interactive elements to involve all stakeholders.

Institutional context

Spatial planning: Justification by public interest

Spatial planning needs to balance and bargain between different and competing spatial demands (Gunder and Hillier, 2009; Moss, 2009). It is expected to achieve sustainable urban development, including all social, economic, and environmental aspects, and intergenerational justice; further, it is supposed to consider a socially fair land use and a liveable and healthy human environment while also respecting the natural resources – to name just a few of the aspects. Planning decisions, thus, essentially and inevitably discriminate between land uses, and hence also between land users. Sometimes, this causes difficulties and produces conflicts (Davy, 1999; Bromley, 2000; Hong, 2007) as spatial planning decisions can make people poorer or richer (Needham, 2006). Spatial planning, therefore, needs to be justified.

This justification is merely provided by the institutional context. In most European countries, spatial planning is not a very powerful institution (Moss, 2004); at the same time, planning laws in most European countries leave considerable scope for decisions to be made by executive planners (Durner and Ludwig, 2008). Decisions need to be supported by stakeholders, and they have to be justified by the public interest (Alexander, 2002; Davy, 2012). A general public interest, however, can be difficult to identify because the public does not act as an entity (Needham, 2007). Neither the methods that try to define a generally accepted public interest nor those methods that pursue the idea of establishing fair procedures to find the public interest necessarily lead to agreement (Alexander, 2002; Moroni, 2004). Thus, planners need to justify a sound and rational balancing process. This balancing also needs to be consistent within the system of programmes and plans (Breuer, 2007).

This means that spatial planning decisions are less determined by rigid rules and procedures than by sound argumentation. The resulting mode of governance in the institutional context of spatial planning, thus, leads to a form of planning that relies on 'mediation of space' (Gunder and Hillier, 2009, p. 4). Finally, spatial planning needs procedures to warrant the democratic quality of the planning process, but more than in water management, planning receives its justification from the support of the general public (respectively the assumed general public interest).

Water management: Justification by procedural preciseness

In water management, rules and regulations, including standards on safety and water quality, are more at the core of institutional behaviour. In water management, steering by determination is still the prevalent approach. This leads to a water management approach that works autonomously and in isolation, not by primarily considering claims of other policy fields (Adams *et al.*, 2003; Wiering and Crabbé, 2006); also, decision making and funding are usually in the hands of the national government (Wesselink *et al.*, 2007). Hence, for water engineers, the support of the general public is less of an issue. Rather, the legitimisation is important in order to implement certain measures in a Hobbesian style. The Hobbesian government (named after Thomas Hobbes' *Leviathan*) restricts the individuals' liberty and seizes all power so that, even if individuals are no longer free, they are safe (Davy, 2012). In this vein, water management justifies its actions as a legitimate act.

In the case of conflict, such an administration would look to the regulations – for example, safety standards or processes – to resolve it. In water management, the facts of a case are usually comprehensively regulated and are subject to judicial control (Albrecht, 2007; Breuer, 2007). Consequently, the administration is not used to maintain a relatively free and broad scope of decision making. This means

that water management tends to be an administration that adheres to the 'if . . ., then . . .' conditions, albeit with discretion. Water managers are used to act within the system of the law and expect the law to determine in detail what to do and when.

The flood risk management plan: Result-oriented and less procedural

Whereas earlier European directives on environmental issues focused on the determination of technical standards and procedures, recent European regulations tend to focus on a regulation's ends instead of its means (Albrecht, 2007; Breuer, 2007; Durner and Ludwig, 2008). This shall strengthen the integrative character of environmental policies and overcome sectoral institutionalism (Durner and Ludwig, 2008). A prominent example of such types of regulation (also performance-based regulation) is the Water Framework Directive of 2000 (Albrecht and Wendler, 2009). Accordingly, the Floods Directive determines that the plans shall reduce 'potential adverse consequences of flooding for human health, the environment, cultural heritage and economic activity, and, if considered appropriate . . . on the reduction of the likelihood' (Directive 2007/60/EC: AVII.2). But with respect to procedural aspects, the directive is relatively imprecise (Reinhardt, 2008a). The burden of interpreting and specifying the regulation, Reinhardt denotes, relies on the executive and judicative (Reinhardt, 2008a). Two remarkable features of the directive are remarkable in this context.

First, the flood risk management plan clearly demands participative approaches: 'Member States shall encourage active involvement of interested parties in the production, review and updating of the flood risk management plans' (Directive 2007/60/EC: X.2). This is a development towards a participative approach as it has been developed in recent decades in spatial planning (Innes and Booher, 2000). Water managers are not used to balancing diverging issues like spatial planning customarily does (Durner and Ludwig, 2008). The participative turn in flood risk management requests more direct consent between stakeholders, which to some extent contradicts the justification of action as water management agencies are used to doing, namely as a legitimate act, determined by law.

The second feature is that the directive prescribes comprehensive plans. This idea is pursued almost par excellence in the Water Framework Directive (Durner and Ludwig, 2008). Regulating an issue with a comprehensive plan crucially differs from the approach of regulating an issue by determining procedures. This requires thinking and arguing as spatial planning does (see above). Some countries are better prepared than others to perform this kind of water planning. The Dutch water law, for example, already combines various subjects of water management in comprehensive plans; meanwhile, German water law still pursues a sectoral approach (prescribing separate plans for water quality and flood protection).

The first feature moves away from the traditional mode of governance of water management; the second moves towards the mode of governance of spatial planning. Finally, the flood risk management plans asks for a new type of administration – less procedural, more result-oriented; or in other words, it asks for water management that acts more as spatial planning would.

Approach to the object

Spatial planning: Socially constructed truths

Around the 1970s, spatial planning underwent a major paradigm shift in its approach to the object. Before, planning had been considered as engineering of space, providing blueprints for spatial development (Hajer *et al.*, 2010), derived from prevalent biases of efficiency and analysis (Baum, 1977). Planning theorists then started to reject this rationalism (Baum, 1977) and positivism (Allmendinger, 2002) as the prevalent paradigms, acknowledging that planning problems are no longer 'definable, understandable and consensual' (Rittel and Webber, 1973, p. 156), but that identification of the causes of a situation in a complex spaces rather goes beyond rationalist reasoning (Gunder and Hillier, 2009; de Roo and Silva, 2010). Planning problems became 'wicked', as Rittel and Webber phrased it (1973, p. 160);[2] this means that uncertainty, complexity, and normativity are inherent features of contemporary spatial planning (Gunder and Hillier, 2009; de Roo, 2010; Hillier 2010; Hartmann, 2012a). Different stakeholders have different answers because they perceive the world through different lenses (Baum, 1977; Schönwandt and Voigt, 2005). The planning object is currently recognised as 'situated "in between" conflicting or at least disputing parties' (Forester, 2004, p. 246), where facts and values are inseparably mixed up in planning processes (Forester, 1982; Allmendinger, 2002; Bertolini, 2010).

Planning decisions cannot be proven right or wrong (Rittel and Webber, 1973; Thompson, 1997) because, in planning, 'one cannot use the term "truth" without the required quotation marks' (van Eeten, 1999, p. 3). Recent planning theories agree that there is no single truth in spatial planning but rather pluralism (Hendriks, 1999; Hartmann, 2012a). This approach has various names – mostly indicated with the prefix 'post' – like 'post-positivist', 'post-industrial', 'post-Fordism', or 'post-modern' planning (Baum, 1977; Healey, 1996; Hendriks, 1999; Allmendinger, 2002). Some

[2]Rittel and Webber distinguish in their famous article 'Dilemmas in a general theory of planning' tame (easy) and wicked (divisive) problems.

authors even consider planning merely as a form of storytelling (Hajer *et al.*, 2010; Spit and Hartmann, 2012). Accordingly, planners are resolving spatial conflicts (Söfker, 2009), and try to reach consensus between conflicting parties (Healey, 1996, 2003) instead of relying on scientific data and facts. As a consequence, spatial planning deals with ideas of justice and injustice, and has become much more political in the course of time, dealing with socially constructed truths.

Water management: Engineering and scientific truth

In water management, it seems, issues are less wicked than in spatial planning; measurable data and scientific proof count more. Particularly in the nineteenth century, water managers became used to resolving problems of all kinds with technical solutions (Nisipeanu, 2008). Water management has always been an essential issue of providing living conditions for the people (Needham, 2007), which led to a very strong and long-lasting tradition of water management at the local scale, but also to an entrenched belief in water management chiefly using the technical capacities of levees and 'channel improvement' for flood plain management (Patt, 2001). Therefore, technical flood defence was and still is clearly the predominant approach in many European countries (Saurí-Pujol *et al.*, 2001; Moss and Monstadt, 2008; Warner *et al.*, 2012).

In the past 20 years, however, a paradigm shift has started: from defending against floods (resistance) towards adapting to them (resilience). The paradigm shift has largely been influenced by the debate around climate change. The paradigm shift is, thus, not yet completed, but there is a growing awareness that scientific knowledge is based on 'disputable estimates of risk' (Glasbergen and Driessen, 2002, p. 4). For a very long time, water managers regarded water as a biophysical entity (Ison *et al.*, 2007). Such traditional views of risk management stress the primacy of scientific knowledge (Brown and Damery, 2002), neglecting the social and political dimension of risk awareness and acceptance.

Although there are many examples of such resilience approaches in practice (particularly from the UK, Hungary, but also France or the Netherlands), Klijn *et al.* conclude, after analysing several European countries, that 'in many countries the risk-based approach (. . .) still in its infancy' (2008, p. 317). Water managers justify restrictions to private property use with technical needs and essential requirements for certain land uses (Schätzl and Hoffmann, 2006). Engineering and technical flood defence are still considered the main options for flood risk management (Fleming, 2002; Johnson and Priest, 2008; Moss and Monstadt, 2008). The engineering approach to floods is deeply rooted not only in cultural beliefs (Hartmann, 2012b) and in the practices of water authorities (Wesselink, 2007), but also in water laws (Hartmann, 2009b). Also, Jong and van den Brink (this special issue) see this tendency to regard technical measures as the cornerstone of contemporary flood risk management and as a problem for implementing the flood risk management plans.

The flood risk management plan: More comprehensive, not purely engineering

In recognising that 'floods are natural phenomena' but 'human activities and climate change contribute to an increase in the likelihood and adverse impacts of flood events' (Directive 2007/60/EC: Foreword), the EU argues for an integration of social sciences and water engineering. Also, the flood risk management plan calls for a more comprehensive view on the object: they shall namely pursue 'the reduction of the adverse consequences for human health, the environment, cultural heritage and economic activity associated with floods' (Directive 2007/60/EC: I), but also '[f]lood risk management plans shall address all aspects of flood risk management . . . prevention, protection, preparedness, flood forecasts, early warning systems. . . . [to] include sustainable land use practices, improvement of water retention, controlled flooding of certain areas' (Directive 2007/60/EC: VII.3).

It seems that, like in spatial planning in the 1970s, the 'tame problems' are solved (Rittel and Webber, 1973, p. 156)[3] – dykes are built, and forecasting works relatively well. Improving flood protection today inevitably and essentially means entering an arena of distributive justice (Hartmann, 2011a). The European Floods Directive seems to acknowledge this inconvenient truth for traditional water engineers. Whereas water management is traditionally expected to formulate specific spatial demands for the particular sector, in flood risk management, there is a 'shift away from the single objective of flood defence, via control of the flood hazard (physical defence measures) towards management of flood risks proper through also influencing the vulnerability of society' (Klijn *et al.*, 2008, p. 308). Literature on risk management often refers to a chain of responses to flood risks. Inspired by those links in the risk chain, five different flood risk strategies can be identified: flood prevention, flood defence, flood mitigation, flood preparation, and flood recovery (see also http://www.starflood.eu). Apart from the category of flood mitigation, this resembles EU flood risk policies. Such management essentially incorporates discourses on appropriate flood protection levels, and thus distribution of protection measures. Cassel *et al.* describe in their contribution in this special issue how the project FLOW MS experiments with special workshops building on group model building to face different 'realities' in flood risk

[3]See Footnote 2.

Table 1 Synopsis of different modes of governance

	Spatial planning	Water management	Flood risk management plan
Actor relation	Multiple stakeholders	Clear responsibilities in nested-bounded structures	Balance interactive and central governance
Institutional context	Justification by public interest	Justification by procedural precision	Result-oriented and less procedural planning
Approach to the object	Socially constructed truths	Engineering and scientific truth	More comprehensive, not purely engineering

management by various stakeholders. Also in 'Clumsy Floodplains', Hartmann describes how opposing rationalities frame the situation in the flood plains (Hartmann, 2011a). Such approaches are vital for the success of the flood risk management plan, as they offer new perspectives on the planning object – namely, a more comprehensive view instead of a predominantly technical perspective. The flood risk management plan can probably become an institutionalisation of the above-described paradigm shift in water managers' approach to the object (namely water).

Conclusion

It remains to be seen how each EU member state finally adopts and implements the flood risk management plan. But when comparing the changes in the actor relations, the institutional contexts, and the approaches to the object that the flood risk management plan introduces with the modes of governance of spatial planning and water management, the European approach seems quite demanding in terms of governance (see Table 1).

The actor approach asks for a mix of elements from the mode of governance in spatial planning on the one hand and from water managers' idea of governance on the other hand. The institutional context also seems to mix up elements from both fields – as indicated in the synoptic table above. Also, with respect to the approach to the object, the traditional engineering approach of water management is converged with spatial planners' socially constructed truths. The flood risk management plan develops a kind of mixed mode of governance, which incorporates elements of spatial planning in water governance – spatial water governance, thus.

Admittedly, the characterisations above represent generalised statements. But this reveals the innovative potential of the flood risk management plan. The new plan challenges the future treatment of flood risk by stimulating considerations of uncertainties (i.e. future projections of flood risks), trans-boundary issues, or societal risk perceptions. This claim fits a trans-disciplinary approach, and it might even ask for a new type of flood risk manager – one who is not only able to understand the technical and engineering aspects of flooding, but one who is also able to face and conduct the discourses and challenges raised. The flood risk management plan demands and enables a new way of reflecting on flood risk. Most crucially, it can be seen as a catalyst for discourse on society's security and risk absorbance, incorporating issues like justice and the democratic aspect of flood protection. Such discourses will have to be conducted in both fields – spatial planning and water management. The flood risk management plan, namely, provides new information for spatial planners: the directive prescribes that water management elaborate upon differentiated flood risks, which need to be treated with the help of balancing processes. Whereas spatial planners are familiar with the method of conducting such balancing and discourses, the topic itself is new. For water management, on the other side, the topic is familiar, but conducting discourses and balancing on issues like flood protection are new. Both institutions are, thus, challenged to reconsider their mode of governance. This is how the flood risk management plan can lead towards comprehensive and integrated spatial water governance.

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