



Shifting public-private responsibilities in Flemish flood risk management. Towards a co-evolutionary approach



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ABSTRACT

Similar to several other countries in Europe, a policy debate has emerged in Flanders (Belgium) arguing that flood risks should no longer be tackled by water managers alone but should become a shared responsibility between water managers, other governmental actors and citizens. Hence, a form of 'co-production' is advocated, whereby both governmental and non-governmental actors participate in bringing flood risk management into practice. This new approach represents a remarkable break with the past, since flood management in Flanders is traditionally based on flood probability reduction through engineering practices. The intended shift in private-public responsibilities can thus be expected to challenge the existing flood policy arrangement. Based on quantitative and qualitative research, this paper compares the attitudes towards individual responsibilities in flood protection among public officials and residents of flood-affected areas in the flood-prone basin of the river Dender. We find that whereas most public officials are in favour of sharing flood risk responsibilities between authorities and citizens, the majority of residents consider flood protection as an almost exclusive government responsibility. We discuss the challenges this discourse gap presents for the pursuit of a co-produced flood risk management and how these can be addressed. It is argued that a policy of co-production should embrace a co-evolutionary approach in which input, output and throughput legitimacy become intertwined.

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1. Introduction

In the last decade, various authors have described a shift from a flood management based on resistance towards a risk-based approach (Meijerink and Dicke, 2008; Johnson and Priest, 2008; Hildén et al., 2012; Bubeck et al., 2013). According to the latter perspective, flood risk not only stems from a natural hazard but also from societal processes and responses to it. Flood risk management (FRM) assumes that interactions between water and land influence the risk of flooding (Tempels and Hartmann, 2014). Whereas traditional flood management aims to prevent flooding by interventions in the water system only, FRM recognizes that these do not sufficiently prevent flood damage and that complementary measures to reduce the vulnerability of land use in flood-prone areas are needed. By addressing the water and the socio-spatial system simultane-

ously, water and land use policy thus become intertwined. In this paper, the term flood risk management refers to the actions taken by governmental and non-governmental actors, with the purpose of preventing and mitigating flood damage.

With the Floods Directive of 2007, the European Union endorsed the FRM approach by mandating each EU member state to draft a Flood Risk Management Plan (FRMP), which takes into account measures of prevention (i.e. spatial planning), protection (i.e. structural defence) and preparedness (i.e. emergency planning). In Flanders (Belgium), this has recently been anchored in the concept of multi-layer water safety (MLWS) (Flemish Government, 2013). MLWS implies that flood risk is no longer an exclusive task of the water management sector, but should become a shared responsibility between water managers, spatial planners, emergency planners, the insurance sector, the building sector and citizens. This new approach represents a remarkable break with the past, because flood management in Flanders is traditionally considered to be the exclusive responsibility of governmental water managers (Mees et al., 2016). Experience of flood events and the anticipated increase of flood risk in the future, however, have led these managers to conclude that they can no longer deal with floods alone. As a first step to

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bring MLWS into practice, the Flemish government commissioned a so-called 'Flood Risk Management Plan (FRMP) Study'. The FRMP study determined an optimal set of prevention, protection and preparation measures for the majority of Flemish watercourses, based on a cost-benefit analysis (VMM, 2014). The study compared the measures' costs and benefits, regardless of whether they are to be financed by public or private actors. As a result, some of the recommended actions belong to the private investment sphere, e.g. flood-proof building. Who exactly should implement and finance these measures has not yet been determined, but considering the MLWS discourse of the Flemish government administration, one can expect that greater involvement of citizens will be requested in the future. Hence, a form of 'co-production' will need to be introduced, whereby both governmental and non-governmental actors participate in bringing FRM into practice.

The precise form this intended co-production will take is not clear at this stage but it does nonetheless raise questions as to the feasibility of the new approach. Although preventing flood events is not a state responsibility by law in Flanders, the development of governmental water management organizations has created expectations among the public that the government will protect them from flooding (Mees et al., 2016). Over the course of time, state-society relationships have co-evolved towards a situation in which FRM has been placed entirely in the hands of governmental institutions. Public flood awareness and citizen involvement in FRM are low, both in decision-making and implementation (Van Rossen, 2003; Mees et al., 2016). But in a changing flood risk environment, due to climate change and urbanisation, this co-evolution has resulted in a suboptimal lock-in of the current flood risk policy. A so-called 'levee effect' (Baan and Klijn, 2004; Bubeck et al., 2013) can be witnessed, whereby investments in defence infrastructures have enabled citizens to build on floodplains, which require continuous further investment in terms of flood defences. Policymakers acknowledge that a redistribution of flood risk responsibilities and competences is needed in order to face the challenges ahead, but it is questionable whether this is possible in the current governance context. In this paper, we investigate to what extent flood-prone residents in Flanders are open to adopt greater private responsibilities in FRM and which changes in the current state-society relationship are needed to enable a shift to public-private responsibilities in FRM.

Hereto, current discourses prevailing among public officials and citizens in the Dender basin are analysed. The Dender basin is highly susceptible to flooding due to its hydro-morphological characteristics and the urbanisation of its floodplains. Based on semi-structured interviews with public officials and a survey among residents of the Dender basin, we analyse how these actors perceive private and public responsibilities towards FRM and to what extent citizens in flood-prone areas are willing to contribute to FRM and are already doing so. In the discussion, we will reflect on the following questions: (1) are the discourses of public officials and residents in agreement, (2) if not, what challenges does this pose for the government's pursuit of FRM co-production and (3) which changes in governance are needed in order to enable this co-production?

By answering these research questions, the paper contributes both to scientific and societal debate on public-private flood risk responsibilities. The pursuit of a risk-based flood management has induced policymakers in many countries to advocate a greater involvement of citizens and communities in FRM (Bubeck et al., 2013; Kievik and Gutteling, 2011; Walters, 2015). Since this trend is relatively new in most countries, the barriers to and opportunities for citizen co-production in FRM remain underexplored. This article provides insights into the barriers to co-production and proposes a co-evolutionary approach in order to overcome them.

2. The public-private divide in flood risk management, theories and concepts

For a long time, flood management has been considered a prime example of a pure collective good (Meijerink and Dicke, 2008). In several Western European countries and in the United States, however, there is an increasing trend towards individual responsibilities in FRM, turning it partially into a club or private good (e.g. Meijerink and Dicke, 2008; Bubeck et al., 2013; Geaves and Penning-Rowell, 2016).

Mees et al. (2012) underline that a particular set of public-private responsibilities is driven by a certain rationale among its stakeholders. This rationale can take a juridical, economic and/or political perspective, which leads respectively to considerations of fairness, effectiveness, efficiency and legitimacy. First, the distribution of responsibilities should be well defined and lead to a reasonable share of risks, costs and benefits between and among generations (fairness). Secondly, the distribution should lead to an effective and efficient adaptation policy. Lastly, the policy needs to be approved by those directly involved or affected (legitimacy). Often, the different criteria are conflicting, depending on the specific context. Individual flood risk protection in rural areas is in some cases most efficient, but poses questions of fairness in comparison to others living in collectively protected areas, if these measures are to be financed and implemented by households themselves (Leichenko and O'Brien, 2006; Johnson and Priest, 2008; Walker and Burningham, 2011). This problem could be solved through governmental subsidies, which might in turn lead to the question why taxes should be spent on citizens who choose to live on floodplains. In these cases, issues of water management and land use become entangled. Distributing public and private responsibilities in FRM is consequently not a technical matter of calculating efficiency and effectiveness, but requires a political debate and broad social support.

2.1. Co-production and its limitations

In the growing debate on flood risk responsibilities, citizens are expected to co-produce FRM. Co-production is defined as 'the involvement of citizens, clients, consumers, volunteers and/or community organizations in producing public services as well as consuming or otherwise benefiting from them' (Alford, 1998). The concept has been employed within divergent disciplines. In planning theory, it is used to describe the participation of citizens in the strategic planning process (Albrechts, 2012), whereas scholars of public administration and services management link it to the involvement of citizens and civil society actors in the delivery of public services (Osborne and Stokosch, 2013). Analogue to Osborne and Stokosch (2013) and Bovaird and Loeffler (2013), we employ co-production as an umbrella term, which contains several subconcepts to describe citizen involvement in decision-making and delivery (Fig. 1), among which:

- *Co-planning*, which entails forms of public participation in the decision-making phase, i.e. in the formulation of options, adoption of decisions and in rare cases in the agenda-setting;
- *Co-delivery*, i.e. the involvement of citizens in the implementation of policy measures, and;
- *Comprehensive co-production*, where citizens are involved in the entire policy cycle (i.e. policy agenda-setting, decision-making and implementation).

Although its definition does not explicitly prescribe it, most scholars consider co-production to be initiated by governmental actors (Watson, 2014). This implies that citizens are little or not involved in defining the issue at stake (i.e. the agenda setting

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