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# Collaborative governance and rare floods in urban regions – Dealing with uncertainty and surprise



#### Gérard Hutter

Leibniz Institute of Ecological Urban and Regional Development (IOER), Weberplatz 1, 01217 Dresden, Germany

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#### ABSTRACT

Rare floods in urban regions like the Dresden region triggered significant changes in public policy and research. However, how actors are able to deal with uncertainty and surprise related to rare floods in the future is still open to many questions and debates in flood risk management research and practice. From an interpretative and agency-oriented perspective, the paper asks how dealing with uncertainty and surprise may be enhanced through processes of collaborative governance for rare floods in urban regions. The paper follows a conceptual purpose based on a series of completed projects and publications on flood risk management in the urban region of Dresden. Conceptual analysis highlights two strategic options for focusing collaboration of public and private actors: planning for flood risk reduction and searching for resilience. Both options are based on assumptions of collaborators about the predictability of the specific flood risk management problem at stake, especially with regard to analyzing surprise in retrospect. The paper elucidates on implications in the context of collaboration, participation, and governance.

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#### 1. Introduction

Rare floods in urban regions in European Member States triggered significant public investments to reduce flood risk to a tolerable level. For example, in the Dresden region in the Free State of Saxony, Germany, after the Elbe River flood in August 2002, dykes were rebuilt, new dykes and water retention basins constructed, and new planning regulations enacted, to mention only some measures (for an overview of the measures of the Free State of Saxony see Müller, 2013). Changes in 'material' assets for protecting against floods were accompanied by intensive debates about new management approaches based on the 'lessons learnt' from the 'flood catastrophe' (Müller, 2013). For instance, some practitioners and researchers argued for more inclusion of private actors into processes of flood risk management. Somehow, the Floods Directive of the EU summarizes an emerging consensus on 'good' flood risk management in European Members States.

Rare floods, so it seems, triggered important improvements in flood risk management. However, this paper begins its argumentation with the assumption that improvements are still rather limited with regard to the challenge of considering uncertainty and surprise in the context of the full range of possible flood events, especially

rare events (Kuhlicke and Kruse, 2009). Uncertainty and surprise are related to actors' limited knowledge. Limitations may be due to ignorance of an actor or to system dynamics that no actor can fully understand and foresee (McDaniel et al., 2003). In contrast, actors with complete valid knowledge about future actions, consequences, and preferences, like 'homo economicus', would neither experience uncertainty nor surprise (Lampel and Shapira, 2001).

Weick and Sutcliffe (2001, 2007) propose that dealing with uncertainty and surprise requires specific cognitive and social processes by which actors jointly analyze experiences, build expectations and learn lessons when expectations 'fail' and surprises follow. These ideas may be helpful for managing flood risk in urban regions. However, they have to be carefully contextualized to consider the specific features of flood risk management. To do this, the paper asks how dealing with uncertainty and surprise in the context of rare flood events may be enhanced through processes of collaborative governance (Ansell and Gash, 2008). Through collaboration, public and private actors may reach agreement on how they understand uncertainty and surprise in the context of rare floods, how to prioritize problems and specific aims for managing flood risk, and how to jointly implement agreements in practice (Schanze, 2006; Provan and Kenis, 2008; Ansell and Torfing, 2014).

Against this background, the paper follows a conceptual purpose. It seeks to explicate a set of issues that are important

for dealing with uncertainty and surprise in collaborative governance for rare floods in urban regions. The paper is written from an agency perspective (Emirbayer and Mische, 1998) on flood risk management. This stresses the assumption that public and private actors are able to 'make a difference' through processes of collaborative governance – in the face of complex and dynamic constraints of policy making and implementation for managing flood risk in urban regions. The paper is based on a series of research projects and publications on flood risk management that refer to the urban region of Dresden (Hutter, 2007, 2011, 2013, 2014).

The structure of the paper is as follows: Section 2 clarifies the meaning of the concept 'collaborative governance' (Ansell and Gash, 2008), and refers to the challenge of dealing with uncertainty and surprise. Section 3 presents the main argument of the paper: collaborative governance for dealing with uncertainty and surprise in the context of rare floods in urban regions is characterized by specific assumptions of public and private actors, aims for collaboration and options of decision making. Section 4 concludes the paper.

## 2. Collaborative governance for dealing with uncertainty and surprise

There is no shortage of concepts for analyzing flood risk management in urban regions (e.g. 'Learning from rare events', Lampel et al., 2009, 'Metagovernance', Jessop, 2011). The stock of concepts, theories, and methods is growing (e.g. governance network theory, Sørensen and Torfing, 2007, multi-level analysis, Poole and Van de Ven, 2004) while the 'reality' of social relations and processes changes and differentiates further. Section 2 argues that the concept of 'collaborative governance' (Ansell and Gash, 2008) is especially useful to analyze collaboration between public and private actors with regard to uncertainty and surprise. Section 2 frames the conceptual analysis in Section 3 of strategic options for collaborative governance in the context of rare floods.

The paper is based on an interpretative and agency-oriented perspective on collaboration. The following briefly elucidates on such a research perspective. Firstly, in principle, multiple evaluation criteria are important for analyzing manifestations of collaborative governance – e.g. criteria of effectiveness and of democracy (Sørensen and Torfing, 2007, 2009). This paper focuses on questions of effectiveness of collaboration, whereas issues of democratic governance remain in the background. This is so for pragmatic reasons, and does not imply that the effectiveness of governance is more important than the democratic quality of collaboration in the 'public realm'. In contrast to evaluation studies (Van de Ven, 2007), the paper does not seek to analyze and assess the 'true' effectiveness of collaboration, but focuses conceptually on the question of how collaborators themselves perceive and interpret processes of collaborative governance.

Secondly, the term 'interpretation' refers to processes of interpreting data based on cognitive frames (or 'schemes') of reference (Weick, 1995). Data may be interpreted by both individual persons and collectivities. In interpretation, categories are used to classify data, to formulate inferences, and to argue in social contexts, thereby creating meaning. An interpretative perspective highlights specific dimensions of collaborative governance (e.g. interpretation of data based on assumptions of persons, teams, organizations, Daft and Weick, 1984). Different collaborators may interpret similar data differently and decide and act differently. Daft and Weick (1984) show in a seminal article on 'organizations as interpretation systems' that interpretation is an important 'predictor' of patterns of decisions and actions. Such analysis can be extended to further social levels of flood risk management in urban regions (Hutter, 2007), for instance, through

the analysis of how organizations understand each other in interorganizational relationships (Vlaar et al., 2006). Traditionally, an interpretative perspective has been contrasted with theoretical perspectives like transaction cost economics (TCE), neo-institutional theory and population ecology. Increasingly, there are attempts to combine arguments from multiple perspectives (Scott, 2008).

Thirdly, an interpretative perspective on collaboration is especially useful for analyzing how collaborators try to manage 'the future' or 'possible futures'". In line with the concept of 'agency' as synthesized by Emirbayer and Mische (1998, see also Scott, 2008), collaborators simultaneously are highly involved in applying routines shaped in the past in specific spheres of responsibility and competence, in imagining possible futures, and in considering contingencies of the specific situation to achieve 'practical solutions' in the present. These temporally diverse involvements are characterized by more or less complex interpretation processes, especially when it comes to collaboration by public and private actors to jointly develop public policy ('collaborative governance').

#### 2.1. The concept of collaborative governance

Cumulative knowledge development in research on collaboration has been a difficult endeavor. Fortunately, based on a meta-analysis of over 100 case studies, Ansell and Gash (2008) provide a conceptual model of collaborative governance that is widely used for further conceptual and empirical research (e.g. Johnston et al., 2010). Collaborative governance may broadly refer to any collaborative relationships between two or more organizations that seek to realize a common purpose (Huxham, 2000). The term may also be more narrowly understood in the sense of Ansell and Gash (2008, 544), who define it as a "governing arrangement where one or more public agencies directly engage non-state stakeholders in a collective decision-making process that is formal, consensus-oriented, and deliberative and that aims to make or implement public policy or manage public programs or assets."

Based on this definition of collaborative governance, Ansell and Gash (2008) are interested in understanding under which conditions collaboration leads to (perceived) success or failure ("contingency model of collaborative governance", Johnston et al., 2010, 701). They are also interested in understanding trade-offs and dilemmas of collaboration. To simplify, their contingency model of collaboration encompasses four main 'building blocks':

- Starting conditions: These conditions refer to the temporal dimension of governance because 'the start' (as well as 'the end') of collaboration can only be defined through using temporal references. Ansell and Gash (2008) assume that collaborative processes are best understood as cycles (or iterations) and that the 'shadow of the future' enhances the prospects of collaboration. Starting conditions encompass conditions like power and resource imbalances between actors, incentives to participate, and the prehistory of relationships.
- Institutional design: Design issues refer to "the basic protocols and ground rules for collaboration which are critical for the procedural legitimacy of the collaborative process. Access to the collaborative process itself is perhaps the most fundamental design issue" (Ansell and Gash, 2008, 555). In principle, inclusive access rules are at the core of collaborative governance (e.g. Johnston et al., 2010). However, early inclusion of many heterogeneous stakeholders may be too ambitious for effective collaboration (e.g. Provan and Kenis, 2008; Johnston et al., 2010). German planning researchers often assume that 'broad participation', especially 'citizen participation', at regional level is unlikely or restricted to specific planning problems (e.g. Wiechmann, 2008).

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