



Stakeholder involvement in strategic adaptation planning: Transdisciplinarity and co-production at stake?



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ARTICLE INFO

Keywords:

Adaptation plan
Adaptation strategy
Participatory governance
Collaborative governance
Co-production
Intervention research
Distributed risk governance
Policy integration

ABSTRACT

To address increasing climatic variability and extremes, cities are gradually forced to develop climate change adaptation strategies that can ensure a continuous and transformative adaptation process. There is widespread consensus that the sustainable establishment of such strategies requires transdisciplinary approaches, that is, the involvement of internal and external stakeholders (state, civil society and market actors) to become part of the change and find innovative ways to unite their efforts and capacities. However, there is little research and hardly any empirical evidence on the process of stakeholder involvement and co-production in the development of municipal adaptation strategies. Against this background, this paper examines the factors that influence how and why different stakeholders are involved (or excluded) during the processes of developing adaptation strategies, and how this gets reflected in process outcomes. Based on applied participatory analysis of two pioneering municipalities in Germany and Sweden, the paper identifies and contrasts existing patterns to feed back into both theory and practice. Synergies, mismatches, barriers and driving forces for adaptation co-production are identified and contrasted with current adaptation discourses. The results highlight how the level of internal and external stakeholder involvement is conditional on (changes in) the broader governance context, and the associated power constellations in which stakeholders act (e.g., standing of departments, proximity to the decision-making body, changes in [or constellations of] political parties, contractual arrangements for staff, individual champions, progress in mainstreaming). On this basis, conclusions are drawn regarding how to foster sustainable and transformative adaptation through increased stakeholder involvement. The results and conclusions are crucial to advance theory on adaptation co-production, providing a basis for further analyses, research and action. They inform how existing theory, policies and/or guidelines for strategic adaptation planning need to be revisited to support change across current risk governance.

1. Introduction

In Europe and worldwide, cities are gradually putting in place climate change adaptation strategies to address increasing climatic variability and extremes such as heatwaves and heavy rain, and ultimately reduce risk (EC, 2011; IPCC, 2014; Perks, 2011). Such strategies take various forms, and include so-called ‘hard’ or ‘grey’ infrastructure measures (such as levees, technical shading), ‘green’ measures that provide ecosystem services in the form of green and blue urban spaces, and ‘soft’ measures to encourage adaptive behavior (e.g., information and incentives) (EC, 2009; EEA, 2012; Noble et al., 2014).

There is a widespread consensus that the establishment and implementation of adaptation strategies requires the involvement of different stakeholders and innovative ways to unite their efforts,

commitments and knowledge so that each can contribute—in their own way—to the process (Conde and Lonsdale, 2015; IPCC, 2007, 2014; ISpra, 2014; UNISDR, 2015). Such distributed risk governance is defined or characterized by multi-level interactions among, but not limited to, three main actors, the state, the market, and civil society. Within such ‘systems of governing risk’ (Wamsler, 2014:64), stakeholders interact with one another in both formal and informal ways to formulate and implement policies (bound by rules, procedures, processes, and widely-accepted behavior) to achieve sustainable development (Conde and Lonsdale, 2015; UNISDR, 2015). The aim is to exploit existing synergies and create win–win conditions for all partners, who contribute their respective capacities and resources at all steps in the process, and to address a problem that municipal authorities (or another stakeholder) alone would not be able to solve (ISpra, 2014).

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<http://dx.doi.org/10.1016/j.envsci.2017.03.016>

Received 15 February 2017; Received in revised form 28 March 2017; Accepted 29 March 2017

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While it is clear that the success of such an interdisciplinary approach relies on the authorities' ability to get the community to take part, and be part of the change (Fiorino, 1990; ISPRA, 2014; Webler et al., 1995), there is little research and hardly any empirical evidence regarding the process of stakeholder involvement in the development of adaptation strategies (Acompab et al., 2013). In fact, while there is an increase in theoretical descriptions and discourse on the importance of stakeholder involvement in strategic adaptation planning at different levels (Gardner et al., 2009; Knieling, 2016), there is a lack of empirical case studies that analyze related processes and outcomes during the development of municipal adaptation strategies, and which can feed back into both theoretical knowledge and practical implementation (Acompab et al., 2013; IPCC, 2014).¹

Against this background, the purpose of this paper is to contribute to knowledge on stakeholder engagement and co-production² in strategic adaptation planning. More specifically, it examines the factors that influence how and why different stakeholders are involved (or excluded) in the process of developing municipal adaptation strategies, and how this is reflected in process outcomes. Based on a literature review and exploratory analyses of two pioneering municipalities in Germany and Sweden, the paper identifies and contrasts existing patterns. After the presentation of the analytical framework (Section 2) and methods (Section 3), the results are presented (Section 4). Finally, synergies, mismatches, barriers and driving forces for adaptation co-production are identified (Section 5) and conclusions are drawn regarding how to foster continuous and transformative adaptation processes through stakeholder involvement (future research and policy recommendations).

2. Analytical framework

In recent years, an increasing number of articles and guidelines have been published that aim to assist local governments in the process of developing municipal adaptation strategies or plans. Their development has been spurred by both climate change impacts (IPCC, 2014) and the adoption of regional and national adaptation policies (e.g., EU, 2013; Federal Government, 2008; Regeringskansliet, 2008; cf. Mimura et al., 2014). They have been drawn up by a variety of stakeholders, including the European Union (e.g., EC, 2011, 2016), governmental authorities (e.g., Prutsch et al., 2014), international organizations (e.g., The World Bank, 2011), global networks (e.g., ICLEI, 2010), as well as research institutions and members of national and international research projects (e.g., ISPRA, 2014; NORDREGIO, 2009).

The themes that emerge from the literature for developing and assessing adaptation strategies in general, and related stakeholder involvement in particular, can be divided into six strategic activities or steps:

1. Set-up and starting point of the process.
2. Assessing existing knowledge and the risk context.
3. Identifying potential adaptation options.
4. Selecting adaptation options.

¹ Note that while there is a growing body of knowledge and empirical analyses of stakeholder engagement in adaptation planning in general (e.g., Archer et al., 2014; Chu 2017; Moloney and Fuenfgeld, 2015; Rotter et al., 2013; Rumore et al., 2016; Susskind et al., 2015), their focus is not on analyzing the process of developing formalized municipal adaptation strategies, but rather on general risk assessment or implementation processes, informal planning approaches, general mainstreaming, and/or higher-level interactions (regional, national, international). The few exceptions are generally recent and/or from the non-European context (Chu et al., 2016; Taylor 2016; Ziervogel et al., 2016).

² In the context of climate change adaptation, co-production is an approach that assumes that both government and community participants contribute their knowledge and capacities, and are involved in the planning and implementation of related service delivery and/or measures. It thus supports transdisciplinarity as an approach that is required for both the effectiveness of science and democracy (Section 2).

5. Designing the implementation.
6. Designing monitoring, evaluation and learning.

The set-up can be seen as the official starting point in the development of an adaptation strategy, triggered by context-specific internal and external factors. It is characterized by issues such as municipal or departmental mandates, goals, responsibilities and resources. The following steps (2–6) are characterized (or determined) by the strategic approaches, timeframes, criteria, drivers and barriers used for the identification, selection, implementation, monitoring and evaluation of adaptation measures, as well as related strategies for mainstreaming and learning (Fig. 1).

The analytical framework developed for this study encompasses and consolidates the different steps and associated aspects for assessing and comparing the processes of developing adaptation strategies and their outcomes with respect to the issue of collaborative governance arrangements (Figs. 1–2). Various theories can be applied to collaborative governance arrangements that take different groups' and individuals' involvement in adaptation into account, such as co-production or co-creation (e.g., Bason, 2010; Bremer, 2015), collaborative planning (e.g. Healey, 1997/2006), collaborative, inclusive or participatory governance (e.g., Ansell and Gash, 2008; Newig and Fritsch, 2009; O'Brien et al., 2009; Renn and Schweizer, 2009) or adaptive governance (Baird et al., 2014; Folke et al., 2005).³ The concept of co-production has become particularly popular in the adaptation literature. Originating in urban planning literature (e.g., Susskind and Elliott, 1976) and science and technology research (e.g., Jasanoff, 2004), it has gradually been adopted by scholars in sustainability, environmental governance and development and, more recently, in climate sciences and climate change adaptation (e.g. Visbeck, 2008; Ziervogel et al., 2016). In the context of climate change adaptation, and particularly the process of developing adaptation strategies, co-production can be seen as a new approach, which presumes that both government and community participants contribute their knowledge and capacities, and are involved in the planning and implementation of related service delivery or measures. It supports the understanding of transdisciplinarity as an approach required for both the effectiveness of science (Funtowicz and Ravetz, 1993) and democracy (i.e., a shared responsibility for democratic social change; cf. Brydon-Miller et al., 2003; Lang et al., 2012). The co-production approach includes (science–policy) knowledge production but differs from the (public–private) partnership approach due to the explicit involvement of individual citizens in the provision of climate governance (ISPRA, 2014; Sarzynski, 2015). Its aim is to overcome traditional collaboration and participation structures to support transformative adaptation, as incremental change is insufficient to achieve system-wide changes that foster sustainability (IPCC, 2014; Kates et al., 2012; Pelling et al., 2015).

The adaptation interface between city authorities and other stakeholders can be described, and thus assessed, on the basis of several characteristics, such as: the division of adaptation responsibilities between the parties; the practices employed, and their underlying motivation and processes, such as top-down vs. bottom-up initiatives (Newig and Fritsch, 2009); individual vs. collective involvement (Hargreaves, 2011); and outcomes and driving forces in terms of transformative adaptation, including the prospect of shared learning (cf. Baird et al., 2014; Folke et al., 2005; Plummer, 2013; Renn and Schweizer, 2009) (Fig. 1). The latter is also associated with adaptation mainstreaming, i.e., the inclusion of adaptation considerations into sector policy and practice in order to reduce climate risk (Wamsler and Pauleit, 2016; Wamsler et al., 2017). It involves the institutionalization of adaptation so that its integration at local level becomes standard procedure, which includes the creation of mechanisms and structures for monitoring and learning (Wamsler et al., 2017).

³ See also the conceptual framework described in Wamsler (2016).

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