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Do forest policy actors learn through forward-thinking? Conflict and cooperation relating to the past, present and futures of sustainable forest management in Germany

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ABSTRACT

Collaborative participatory policy approaches based on foresight methodology have recently been proposed as promising governance tools to achieve sustainability in general, and address and manage challenges of integrating competing demands on forest land use (e.g., timber production, nature protection, recreation) in particular. Their main argument is that participatory processes will bring policy actors together. Based on long- and short-term future-oriented thinking and actions, they will overcome their previous value-laden and interest-based conflicts through informed communication, deliberation, policy learning and mutual cooperation. But do policy actors learn when they are thinking, debating and shaping the 'forest futures' they want to achieve or avoid? To what extent are current beliefs, values, worldviews, and conflict structures projected onto the future? What are their impacts on policy learning today?

This paper addresses these research questions from a knowledge-based perspective of relevant policy learning theories. We trace changes and stability in beliefs, values (perception) and behavior (cooperation/conflict) among the involved policy actors. We assess to what extent future-oriented thinking and discussions contribute to, or inhibit, policy learning today.

Empirically, the paper is informed by three case studies of regional 'forest futures' processes in Germany. They include forest landscapes in Upper Palatinate and South of Munich in Bavaria, and the Black Forest National Park in Baden-Württemberg. They represent different cases in terms of levels of stakeholder conflicts, integrative/segregative forest land use approaches, and the rural/urban divide. The paper is based on a qualitative analysis of interviews and documents about past and future forest land use, and observation of participatory scenario-building and back-casting workshops during 2011–2014.

In our analysis, we found that forest policy actors adhered to their pre-existing beliefs and remained divided in terms of present and future aspects of sustainable forest management. That is, we observed no substantial or only strategic policy learning among the involved policy actors. We explain these findings in terms of competing actors' belief systems and worldviews that lead to competing understandings and expectations of 'forest futures'. We discuss our research against the theoretical propositions and in view of the state-of-the art. We draw conclusions relevant for scholars and policymakers interested in collaborative policy learning processes, and suggest possible topics for further research.

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1. Introduction

Sustainable forest management (SFM) has been institutionalized as a core policy paradigm that should steer decision-making in forest policy and practice in Europe (Glück, 1987). It encompasses two defining features. First, forest management should integrate timber production, biodiversity conservation, soil and water protection, carbon sequestration, recreation, non-timber forest products, and other forest land-

uses. Second, forest management should be governed in a long-term perspective to simultaneously deliver, now and in the future, multiple forest ecosystem goods and services (ES) to meet a variety of often competing societal demands. Therefore, SFM refers to a core belief within the forest sector in the possibility of achieving sustainable development through integrated and future-oriented forest management (Sotirov et al., 2013, 2014).

Achieving SFM in a future perspective remains not only a challenge in decision-making in forest policy and practice (Hoogstra, 2008), but it can also become a "heated" forest policy controversy today (Winkel et al., 2011). According to the literature, this is due to several barriers as summarized below.

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First, fundamental tensions exist between long and short time horizons in SFM that are manifested in uncertainty and contestation. Forestry is one of the few land use sectors that involve very long time periods in commodity production. Decision-makers in forest policy and practice have to make long-term choices that impact on the provision of ES only after years, decades and generations (Zivnuska, 1949; Price, 1989). Time lags severely limit the possibility to learn from success or failure of past decisions. Forestry actors also operate in shorter time horizons. Whereas traditional forest management planning covers 10 years ahead, foresters change plans and practices on a regular basis: 15 years were reported to be the most distant horizon forest managers refer to (Hoogstra and Schanz, 2009). Forest policy actors are also constrained in their ability to anticipate and shape the unknown future. Traditional forest policy and management approaches are usually based on past experience and extrapolation (Hoogstra and Schanz, 2008b). With progressing climate change, shifting societal demands for ES and co-evolving transformations in policy and market framework conditions (Sotirov et al., 2014), the present and past don't provide evidence for what lies ahead (Hoogstra and Schanz, 2008a; Schraml and Detten, 2010).

Second, SFM is a 'wicked' problem that is characterized by substantive goal conflicts and technical disputes (Wang, 2002). This is as multiple forest policy actors from several levels of governance have competing understandings of SFM. These are driven by actors' values, beliefs, and interests. SFM understandings range from 'sustained yield' forestry (economic primacy of timber production) and 'multi-purpose forestry' (economic primacy of timber production and other ES) to 'ecosystem management' (primacy of biodiversity conservation), 'social forestry' (primacy of local communities' well-being), or 'carbon forestry' (primacy of climate mitigation and adaptation) (Glück, 1994; Wiersum, 1995; Sotirov, 2010).

Collaborative approaches using participatory societal deliberation and foresight methodology have been developed for managing and resolving uncertainties, barriers, wicked problems, and conflicts in natural resource policymaking (Wollenberg et al., 2000; Swart et al., 2004). Their main aim is to achieve transformative change towards enhanced sustainability. Collaborative processes are expected to provide a setting where policy actors will build trust, learn from each other, cooperate, and work with scientists in joint-fact finding to develop a shared common base (Weible and Sabatier, 2009). The main argument is that participatory processes will connect long- and short-term modes of thinking to stimulate common understanding. In a process of a joint exercise to anticipate and shape the future, participating policy actors would develop a common understanding of future visions, challenges and opportunities. These communicative actions would stimulate new identities and cooperation through trust and mutual learning that would help overcome previous conflicts.

Such arguments for increased use of participatory foresight processes in assessing and/or achieving SFM can be found in the emerging forest policy and economics literature (Hurmekoski and Hetemäki, 2013; Sotirov et al., 2013, 2014). Similar arguments had already been well advanced in a recent body of knowledge on 'sustainability' (Foxon et al., 2009; Ostrom and Cox, 2010), 'adaptive management' of socio-ecological systems (Holling, 1978; Walters, 1986; Berkes and Folke, 1998), 'transition management' of socio-technological systems (Kemp, 1994; Kemp and Rotmans, 2009), and participatory foresight approaches for sustainable management of natural resources (Raskin et al., 1998).

But do forest policy actors learn through forward-thinking? Do they change their present mindsets when they are thinking, debating and shaping the future(s) they want to achieve or avoid? To what extent do policy actors adhere to their (pre-) existing beliefs, values and interests? Are they linked to and projected onto the future? What are the impacts on policy learning today?

Little knowledge exists regarding these research questions. This is as policy learning and future perspectives in the forest sector have thus far been separately and/or sparsely addressed in the forest policy and

economics literature. For example, several scholars (Van Gossuma et al., 2008; Buttoud et al., 2011; Cheng et al., 2011; Primmer 2011; Secco et al., 2011; Winkel and Sotirov, 2011) have examined aspects of forest policy learning only in retrospect. They have focused on case studies, events, and processes that had already happened in the past and did not consider 'forest futures'. Few others (Hoogstra and Schanz, 2008a,b) have examined future orientations of forest managers neither with a systematic link to policy learning nor in "real-life" settings. Given the knowledge gaps and their relevance for achieving SFM and wider sustainability, answering these questions is important for both scholars and decision-makers in policy and practice. The main aim of this paper is hence to contribute narrowing down the knowledge gaps by addressing the aforementioned open questions.

This article proceeds in the next chapter with a theoretical synthesis of 'policy learning' and 'forward-thinking' through the lens of actors' beliefs, values, and behavior (conflict and cooperation). Chapter 3 gives an overview of the comparative research design and qualitative methods for data collection and analysis. The empirical results in three case studies in Germany are presented in Chapter 4. The main findings are discussed in Chapter 5 in the light of the theory and other studies. The last chapter draws relevant conclusions.

2. Theoretical framework

2.1. Actor beliefs and behavior

The policy literature holds that decision-making in general, and policy learning in particular, is mainly driven by actors' beliefs, values, and experience. This is as they are pivotal cognitive decision-making heuristics. This body of knowledge has theorized and empirically demonstrated that actors' belief systems comprise of core beliefs (normative beliefs and fundamental values) and secondary beliefs (instrumental aspects). Actors' core beliefs contain distinct sets of policy goals, perceptions of problems and their causes, and preferences for problem solutions. Depending on the distinct core beliefs they share, policy actors are clustered and held together in 'policy advocacy coalitions' (Sabatier, 1988), called also 'policy communities' (Hall, 1993) or 'policy networks' (Dowding, 1995).

Recent theory-driven empirical research shows that four different clusters of actors and belief systems can be found in natural resource policy (e.g., forest policy). They are constituted by four distinct myths of physical nature (Sotirov and Memmler, 2012) that are justified by and correspond to four ideologies (Sabatier, 1999) or worldviews (Jenkins-Smith et al. 2014): individualism, egalitarianism, hierarchism and fatalism. The four actors' and beliefs' clusters are briefly summarized below building on Thompson et al., (1990) (see also Coyle, 1994; Swedlow, 2002; Sotirov and Winkel, 2016).

Individualistic business interests (e.g., private forest owners, forest industries) view physical nature (forest) as robust and benign and believe that it will recover from any external shock. They consider that the managing institution should have laissez-faire attitude and enable maximum use of abundant natural resources by private entrepreneurs and individual users. In this myth of 'nature robust' (individualism), natural resources are controlled and used through skill, innovation and competition. As a free market provides the greatest scope for business activity, economic management and private property rights should not be impeded by state regulation.

Egalitarian environmental groups (e.g., civil society, NGOs) believe that physical nature (forest) is ephemeral and fragile, where the smallest shock may generate catastrophic and irreversible outcomes that will lead to its collapse. They insist that managing institutions must treat the fragile ecosystems with great care, even to refrain from any human use that might deplete nature's values. Caught in this myth of 'nature fragile' (egalitarianism), environmental groups criticize economic interests, and strive to limit them through the involvement of citizens and public control. They advocate for a reduction in

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