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Drivers of collaboration to mitigate climate change: An illustration of Swiss climate policy over 15 years

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ABSTRACT

Climate change mitigation policy is driven by scientific knowledge and involves actors from the international, national and local decision-making levels. This multi-level and cross-sectoral context requires collaborative management when designing mitigation solutions over time and space. But collaboration in general policymaking settings, and particularly in the complex domain of climate mitigation, is not an easy task. This paper addresses the question of what drives collaboration among collective actors involved in climate mitigation policy. We wish to investigate whether common beliefs or power structures influence collaboration among actors. We adopt a longitudinal approach to grasp differences between the early and more advanced stages of mitigation policy design. We use survey data to investigate actors' collaboration, beliefs and power, and apply a Stochastic Actor-oriented Model for network dynamics to three subsequent networks in Swiss climate policy between 1995 and 2012. Results show that common beliefs among actors, as well as formal power structures, have a higher impact on collaboration relations than perceived power structures. Furthermore, those effects hold true for decision-making about initial mitigation strategies, but less so for the implementation of those measures.

1. Introduction

In order to be able to influence policy outputs, collective political actors need to join forces and coordinate their strategies (Schneider et al., 2003; Weible and Sabatier, 2005). This particularly holds true for policymaking in complex domains such as climate change mitigation, where formal hierarchies are increasingly less central: the horizontal and vertical interplay across state levels and between public and non-public actors makes coordination an important issue. This interplay further challenges the production of effective and efficient policy outputs (Newig and Fritsch, 2009; Paavola et al., 2009). For at least the last two decades, it has become clear that action is needed to mitigate climate change and stabilize GHG emissions and temperature rises (Vaughan et al., 2009). In such a context, we need to ask: what are the drivers of collaboration among actors trying to impact policy outputs in general, and climate change mitigation in particular?

Against this background, the aim of this paper is to identify factors that impact upon collaboration in policymaking. Drawing from existing literature, we investigate whether power structures or policy beliefs are more important drivers for collaboration in climate mitigation policymaking. This question is not trivial: even though important scientific knowledge regarding climate change has accumulated during recent decades, the sources and effects of climate change are still characterized by much uncertainty, and the design of concrete policy measures is still a challenge (Jones, 2011). When deciding under uncertainty, actors tend to rely on their core beliefs and ideologies (Sabatier and Jenkins-Smith, 1993) and shape their actions accordingly.

To study the development of collaboration among collective actors over time, we take the case of Swiss climate policy and investigate three periods covering two decades (1995–2012). Such a longitudinal perspective is particularly relevant in the policy domain of climate change, which only emerged twenty years ago. More concretely, we distinguish between decision-making in climate policy mitigation in early and more advanced stages, and then investigate the implementation of climate mitigation measures.

We adopt a network perspective to study collaborative relations as the dependent variable of our research (see Bodin and Crona, 2009). There is an important body of literature emerging in natural resource management adopting such a perspective in order to understand complex collaborative settings (Bodin et al., 2006; Crona and Bodin, 2006; Newman and Dale, 2005; Tompkins and Adger, 2004); and to explain the design of environmental policy outputs (Lubell and Fulton, 2007; Newig and

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Fritsch, 2009; Prell et al., 2009) or the structure of public debate (see also Fisher et al., 2013). We contribute to that literature, particularly pointing out what factors are relevant in shaping collaboration in environmental governance arrangements. Therefore, we apply Social Network Analysis (Wasserman and Faust, 1994) and a Stochastic Actor-oriented Model for network dynamics (Snijders et al., 2010). We then adopt two different approaches for the conceptualization and operationalization of our independent variables: besides formal measures, we also opt for an approach based on actors' perceptions, asking them how they evaluate power and conflict structures in the policy domain under investigation.

This article is structured as follows. Section 2 elaborates on theoretical arguments about the importance of collaboration and the drivers that explain why two actors would collaborate. From this, we deduce our hypotheses. Section 3 presents the case of the Swiss climate mitigation policy, data and methods. The empirical results are presented and discussed in Sections 4 and 5. Section 6 concludes this article by pointing to the relevance of how to design future climate mitigation policies.

2. Drivers for collaboration

Climate change creates socioeconomic disparities and raises the question of how to jointly engage in action crossing borders and sectors (Glasbergen, 2010; Shonkoff et al., 2011; Vaughan et al., 2009). Collaboration among different sectors and actors seems to be crucial for the production of long-term and efficient solutions to mitigate climate change, whereas formal political hierarchies are increasingly less crucial. The existing literature widely agrees that understanding policymaking through the traditional iron triangle – composed of state actors, administrative agencies and interest groups – is unrealistic and too simplistic (Howlett, 2002). Furthermore, technical, financial and political resources are fragmented, and no single actor has sufficient resources to unilaterally influence policymaking in a domain as complex as climate change mitigation. As such, horizontal collaboration arrangements with other stakeholders becomes necessary (Berardo and Scholz, 2010; Henry, 2011). Over time, actors can establish new collaborative relationships, and strengthen or drop old ones in order to increase the likelihood of favorable outcomes. They are constrained by formal authority and existing relations, costs and uncertainties, and limitations imposed by limited resources and capacities (Scholz et al., 2008; Snijders et al., 2010). Below, we build upon different elements, such as formal and perceived power and shared policy beliefs, in order to explain collaboration in the complex policy domain of climate mitigation.

2.1. Shared beliefs

In their seminal work, Sabatier and Jenkins-Smith (1993) state that the major drivers for coordination among actors are shared beliefs. In the Advocacy Coalition Framework, policy beliefs serve as the primary perceptual filter for actors in a policy subsystem to determine interaction (Weible and Sabatier, 2005). An advocacy coalition is defined as the set of actors who share a belief in the first stage, and then coordinate action to impact policy outcomes and, finally, translate their beliefs into policy (Sabatier and Jenkins-Smith, 1988). Apart from the Advocacy Coalition Framework, other frameworks and models have also convincingly shown that joint preferences (classified as the translation of core beliefs into instrumental decisions; Sabatier and Jenkins-Smith, 1993) are the core of policy coordination (Bouwen, 1993).

The discussion about climate change and how to solve it has evolved during the last few decades. However, major conflict still exists among actors: in the early stages, actors were divided between acknowledgment vs. ignorance of anthropogenic climate change; whereas more recently the debate has focused on whether and how to mitigate and adapt to climate change, particularly in relation to the usefulness of market-based instruments (Andresen and Agrawala, 2002; Bürgenmeier et al., 2006). Our first hypothesis thus argues that joint policy beliefs are major drivers for collaboration in political processes.

H1. Actors with similar policy beliefs tend to collaborate.

2.2. Power structures

For decades, policy analysis was driven by power investigation and the assessment of hierarchical structures (Saaty and Forman, 1992; Schumpeter, 1943). Even though the policy process and governance literature, as well as empirical evidence on climate change policymaking, broke with this hierarchical view on policy processes (Benz, 2004; Bernauer and Gampfer, 2013; Bodin and Crona, 2009; Hall, 1993; Heclo, 1978; Mayntz and Scharpf, 1995; Weiss et al., 2012), having formal decision-making power still attracts the attention of other actors involved in policymaking. Some scholars argue that political decisions are more effective (Jänicke and Jörgens, 2006) or better accepted (Papadopoulos, 2010) when state actors with formal decision-making power are strongly involved in their design. Agrawal et al. (2013) also show that organizations shape decisions in common-pool management according to formal rules and hierarchies. We assume that formal decision-making power impacts upon collaborative arrangements in two ways. On the one hand, state actors are expected to be particularly active in creating relations with each other (Österblom and Bodin, 2012) and with other actors. Particularly in the presence of international obligations to act – as in the case under study – state actors have strong incentives to actively look for support from non-state actors (Fischer and Sciarini, 2013). On the other hand, we suggest that state actors attract collaborative ties from other actors that try to influence decision-making by lobbying the state actors that hold formal decision-making power (Stokman and Bos, 1992).

H2a. State actors tend to be more active in the collaboration network than other actors.

Besides formal power, another source of power in political processes relates to the resources an actor holds (Stokman and Zeggelink, 1996). Several studies in natural resource management (Österblom and Bodin, 2012; Renn and Schweizer, 2009) therefore point to the relevance of adopting a perception-based approach: asking actors who they perceive as important captures a broader range of resources and seems crucial when explaining the influence of actors in a network (Heaney, 2006; Henry, 2011; Ingold, 2011; Laumann and Knoke, 1987). We thus state that the perceived power of actors, additionally to formal power, impacts upon the collaborative setting in a policy process.

H2b. Actors perceived as powerful tend to be more active in the collaboration network than other actors.

2.3. Differentiating between decision-making and implementation

Even though some scholars argue that the differentiation between stages in policy processes is useless for the explanation of political outputs, and that actors bargain and defend their policy preferences throughout the whole political process (Lester and Goggin, 1998; Nakamura, 1987), there is still some evidence that the power game and translation from beliefs into policy seems more crucial in decision-making than in implementation (Torenvlied and Thomson, 2003). Although the same actors may be