Policy Forums, State Intervention and Forum Outputs

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INTRODUCTION

Policy forums[1] are lightly institutionalized and stable forms of governance networks which include state authorities, interest groups, stakeholders and scientists and deal with policy problems in a given issue area (Fischer and Leifeld 2013). Especially new complex issues in domains such as climate change or energy policy are supposed to be better governed in a horizontal, informal and inclusive way within policy forums, as compared to the traditional hierarchical forms of political decision-making let by the state administration (Feiock and Scholz 2010; Hahn *et al.* 2006). Policy forums are not supposed to take hard decisions in the form of laws and regulations, but can produce different outputs that range from the mere organization of meetings or the distribution of newsletters to the production of information campaigns or joint position papers and recommendations (Börzel and Risse 2010; Mayntz and

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[1] Concepts like bridging organization (Crona and Parker 2012; Hahn *et al.* 2006), boundary organization (Carr and Wilkinson 2005; Crona and Parker 2011), collaborative institution (Lubell *et al.* 2010) or partnership (Leach *et al.* 2002; Leach *et al.* 2014; Selsky and Parker 2005) are used in the literature and are similar to "policy forum".

Scharpf 1995; Ostrom 1990; Sörensen and Torfing 2009). We refer to the organization of meetings and distribution of newsletters as *soft* forum outputs, and to the production of information campaigns or joint position papers as *hard* forum outputs. Especially the latter type of policy forum outputs can be important for the preparation of formal decision-making processes and the elaboration of policy measures (Mayntz and Scharpf 1995).

Yet, little is known on the factors that influence the capability of policy forums to produce hard outputs. This is however important to examine, as not all policy forums are able to produce hard outputs. Instead, just as in legislative processes, the opportunistic behavior by actors might block the generation of hard outputs also within policy forums, due to insufficient sanctioning options and lack of transparency of policy forums. Additionally, the existence of policy forums raises issues of legitimacy and accountability (Sandström *et al.* 2014). On the one hand, forums can be seen as intransparent bodies that might give a structural advantage to some actors. On the other hand, they can be seen as flexible constructs that are able to adapt and therefore deal with modern political complexity better than formal institutions (Hahn 2011; Klijn and Skelcher 2007; Papadopoulos 2003).

Against this background, our paper asks which factors contribute to the capability of policy forums to produce hard outputs. It takes into account two sets of factors. On the one hand, we focus on two factors which are expected to hinder the production of hard outputs as they increase actors' transaction costs of negotiations within a forum. Both a large number of participating actors and a high heterogeneity of forum participants should complicate the production of hard outputs. On the other hand, we argue that state actors can play a leading role in policy forums and increase the capability of policy forums to produce hard outputs. Founding a policy forum, acting as a formal member, or formulating a mandate are three types of state intervention that are supposed to decrease transaction costs of negotiations within policy forums, increase the quality of the interactions, and build trust among actors.

Both types of factors are expected to influence forum outputs as a result of causal complexity (Provan and Milward 2001).

The remainder of this paper is structured as follows. In a first theoretical part, we define policy forums and their potential outputs. We then elaborate on the two opposing types of factors, i.e. complicating and facilitating factors, and present the five conditions expected to influence forum outputs. Empirically, compare 21 policy forums in the domain of the Swiss environmental sector. For the comparison, we rely on a Qualitative Comparative Analysis (QCA) and on data gathered from documentary sources as well as from a survey among forum managers. After presenting our cases, data and method, we present results of the comparative analysis and discuss them. In the last part, we formulate some conclusions from our study.

THEORY

Policy forums in the political system

Complex governance systems tend to self-organize in governance networks (Leach *et al.* 2014; Mayntz and Scharpf 1995; Ostrom 2010; Pahl-Wostl *et al.* 2010). Policy forums are lightly institutionalized and stable forms of governance networks which include state authorities, interest groups, stakeholders and scientists and deal with policy problems in a given issue area (Fischer and Leifeld 2013). The importance of policy forums and their outputs in modern, complex governance systems can be attributed to several parallel phenomena: A coordination deficit provoked by the general decline of hierarchical decision-making, the existence of overlapping policy sectors and the need for coordination among them, the increased need for scientific knowledge with respect to given policy problems, and the need to design stable and long-term policy solutions for complex problems such as, for example, climate change. Though policy forums do also exist in other policy domains, such as corporatist arrangements in economic governance (Culpepper 2011), they seem to be most

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prominent in the environmental sector (Crona and Parker 2012; Lubell *et al.* 2002; Scholz and Stiftel 2005). Environmental issues are often highly complex, concern different levels of the state (i.e. local, national, international), and imply common goods tragedies and collective action problems (Ostrom 1990). Successful environmental politics therefore requires the broad inclusion of different types of actors and expertise, and policy forums are one way to achieve this (Fischer and Leifeld 2013; Ostrom 1990). As in other types of governance structures, the main purpose of policy forums is to lead different types of political actors to interact with respect to a given political issue, and to coordinate and negotiate with respect to this issue.

Within a political system, various institutions guide the interactions of political actors and the production of outputs (Lubell *et al.* 2010; Ostrom 2005). In such a system of institutional complexity, policy forums can first be parallel institutions in that they increase redundancy and stability and are an inclusive and flexible governance element parallel to formal institutions (instrumentality and complementarity, Klijn and Skelcher 2007; Landau 1969). Second, forums can replace existing institutions by taking over if another institution fails, i.e. as they are better able to deal with specific problems (Klijn and Skelcher 2007). Third, forums can also be inefficient and "useless" parts of the political decision-making system, or are even counter-productive as they favor specific private interests and advocacy (Landau 1969). One piece of the puzzle of understanding the role policy forums play within political systems is given by examining the outputs such forums produce.

Outputs of policy forums

Quite paradoxically, whereas modern governance structures such as policy forums were conceived as a way for governments to deal with complex problems and be able to produce viable policy outputs, the capability of policy forums to actually produce policy outputs has been questioned (Börzel and Risse 2010). Most importantly, it has been argued that traditional

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forms of control are no longer functioning within the context of negotiations in policy forums (Papadopoulos 2010). A lack of accountability with respect to forum outputs, a lack of transparency with respect to the negotiation process within forums, and a lack of sanction possibilities to counter egoistic behavior within forums could lead actors to behave in a selfish way (Börzel 2008; Scharpf 2000). This complicates the production of hard outputs as these kind of outputs can be achieved only when actors show a high propensity to collaborate and self-organize within policy forums (Mayntz and Scharpf 1995; Ostrom 2007).

Outputs of policy forums are not, like in formal decision-making processes, laws and policy instruments such as incentives or prohibitions (Vedung 1998). Policy forums produce outputs in a broader and softer sense, i.e. collective goods such as joint position papers, expert reports and recommendations, interpretations of policy issues, or definitions of policy problems (Börzel and Risse 2010; Mayntz and Scharpf 1995; Ostrom 1990; Sörensen and Torfing 2009). These outputs can be evaluated by the service they provide to society and the common good (Provan and Milward 2001). Given that they present a picture of the different preferences of actors and feasible solutions to given problems, outputs of policy forums are often important for the preparation of formal decision-making processes and the ongoing elaboration of policy measures (Mayntz and Scharpf 1995). The more concrete and binding these outputs are, the more likely they are to influence formal policy-making and – as a consequence – the capability of society to successfully tackle environmental problems. Therefore, it is decisive to assess whether forums are able to produce hard outputs. The stronger the commitment of actors towards an output, the more likely this output is an important contribution for the political process and the political system itself. A hard output implies a certain degree of agreement among actors. In such situations, potential veto-players are less likely, at a later point in the process, to activate veto-points and block the political process (Tsebelis 2002). What is more, hard outputs help also when it comes to policy

implementation, as the existence of hard policy forum outputs points towards a broad acceptance of the output.

More concretely, the two types of outputs we distinguish are the following. On the one hand, soft outputs are given by the mere organization of yearly meetings or expert conferences or the publication of newsletters. In order to be able to organize meetings or the distribution of newsletters, actors in a forum only need to agree on the need to exchange information and their opinions with respect to a given issue. On the other hand, hard outputs are defined as publications including joint interpretations of a problem and the presentation of joint positions and recommendations on a given issue. In addition to the requirements of actors agreeing on what issues are important and their willingness to invest resources in joint work, this type of output needs agreement on what actions to recommend or take to tackle a given problem, and to a certain degree agreement on positions and preferences on how to deal with an issue.

Factors influencing policy forum outputs

Different types of factors complicate or facilitate the elaboration of hard policy forum outputs, respectively. Concerning the first, forums most importantly differ with respect to the number and diversity of participants (Crona and Parker 2012; Feiock 2013). First, the size of the policy forum influences the function it can adopt: whereas a broad group can develop networks and share information effectively, narrow groups can take positions on issues and act in ways broader groups cannot (Koontz and Johnson 2004). In general, the capability of self-governance quickly deteriorates with group size and anonymity (Olson 1965). The larger the set of actors in a forum, the less the forum is expected being able to produce hard outcomes (Meerkerk *et al.* 2014; Turrini *et al.* 2010).

Second, policy forums can include a diversity of participants. Potential participants are either individuals, or—more likely—representatives of collective actors such as state agencies

(at different levels), interest groups, political parties, private firms, local stakeholders or scientific organizations (Hardy and Koontz 2009). If a policy forum includes a heterogeneous set of actors, this increases the transaction costs of negotiation within a forum. Different types of participants have different definitions of and perspectives on problems, as well as different preferences with respect to how a problem should be dealt with. A forum including a high diversity of participants complicates the elaboration of joint problem definitions and hard outputs (Meerkerk *et al.* 2014). Therefore, there is a likely trade-off between size of a forum and heterogeneity of participants: a forum with a high number of diverse participants increases transaction costs and thus lowers welfare for everybody (Krause and Douglas 2012).

Besides factors which complicate the interaction within policy forums and, as a consequence, the production of hard outputs, there are also factors facilitating forum interaction. In general, external incentives can reduce selfish behavior and free-riding of political actors in policy forums, and increase their willingness to cooperate (Klijn *et al.* 2010; Meerkerk *et al.* 2014; Sandström *et al.* 2014; Sörensen and Torfing 2009). State actors can partly influence this institutional context and thereby help governance structures such as policy forums to produce outputs (Jessop 2002; Kickert *et al.* 1997; Klijn *et al.* 1995; Sörensen 2005). They can "manage" policy forums by regulating and restricting the autonomy of forum participants, defining basic rules of interaction, providing organizational resources to forums, defining potential outputs, or resolving conflicts within policy forums (Jessop 2002; Klijn and Koppenjan 2000). Network management by the state within policy forums aims at positively influencing forum outputs by increasing the willingness to cooperate of forum participants (Sandström *et al.* 2014; Sörensen 2005; Sörensen and Torfing 2009). Increased and facilitated cooperation within a forum would then lead to higher probabilities that a forum is able to produce hard outputs.

Following Klijn et al. (1995), Klijn and Koppenjan (2000), and Klijn et al. (2010), we focus on three elements of so-called constitution intervention. As opposed to weaker network

intervention aiming at influencing forum interactions, constitution intervention describes different types of state intervention which affect the very nature of the forum. First, the way a forum emerged can have important effects on its functioning (top-down, bottom-up, from outside, see Folke *et al.* 2005: 461). We distinguish between forums that were founded at the initiative of scientific or societal actors, and forums founded by the state. As a founder of a policy forum, state actors do not only bear the financial responsibility, but are also able to influence which actors should participate in the forum. Second, we distinguish whether state actors are not involved in the policy forum or only contribute to the operational management of the forum (i.e. doing administrative work for the forum, attributing a part-time secretariat, etc.) and state actors being a formal member of the forum in a leadership position (i.e. forum manager). As a formal member, state actors have the possibility to influence rules of interaction within forums and to contribute to the definition of the issues a forum is supposed to address. Third, we distinguish take into account strategic intervention of state actors. Low strategic intervention is given when the state has a consultation role with respect to the functioning of the forum, at maximum. High strategic intervention is given when the state formulates a performance mandate to the forum. When formulating a performance mandate, state actors define the functions of and the issues with which a forum deals. On the contrary, the intervention in terms of adopting a consultation role simply aims at enhancing the quality of interaction within a policy forum.

To sum up, we expect the five factors presented above to be able to explain a big part of which policy forums are able to produce hard outputs, and which are not. Given that we assume these factors to interact in patterns of causal complexity, we refrain from formulating explicit hypotheses. Still, we expect large size and diversity of policy forums to contribute to the inability of policy forums to produce hard outputs, whereas all three types of network management by state actors are expected to positively contribute to the capability to produce hard outputs.

DATA AND METHODS

Selection of policy forum

This paper focuses on policy forums at a national level and dealing with issues in a general way, i.e. not dealing with a specific local problem (such as, for example, the coordination of resource users in watershed management units). Further, policy forums are bringing together actors within a national context, but not on an international level. Within the same institutional context of Switzerland, we compare forums dealing with an environmental issue, or an issue in neighboring policy domains such as infrastructure, traffic or energy (Rieder and Mauch 2007). In a pre-study, we have identified 29 forums in the Swiss environmental policy sector. The exploratory research started on the website of the Federal Office For Environment (BAFU). From the set of forums identified on this website, we systematically explored the websites of these forums in order to identify additional forums. This exploratory research resulted in a list of 29 policy forums, which are called, for example, "Water Agenda 21", "Energy Switzerland", "Knowledge Transfer Forest Switzerland", "Forum Biodiversity", "National Forum for Natural Disasters" or "Information Service for Public Transport" (the full list of forums is presented in Appendix 1). We then gathered data on these forum based on two sources. On the one hand, we collected information from the forum websites and other official documents. On the other hand, we sent out a written survey to the respective forum managers. From the 29 forums identified in our exploratory research, we include 21 in the present analysis. We had to drop 8 forums because of missing information from the survey (6) or missing documents (2) (see appendix).

Qualitative Comparative Analysis

We rely on a Qualitative Comparative Analysis (QCA, e.g. Ragin 1987; Rihoux and Ragin 2009; for applications in public policy, see Schlager and Heikkila 2009) to compare the 29

policy forums. QCA allows for the systematic comparison of usually a medium (5-50) number of cases and is based on set-theory and Boolean algebra. Cases are described by fuzzy-set values for both the causal conditions and the outcome to be explained. Fuzzy-set values lie between 0 and 1 and indicate to what degree a case is a member of a given set, for example the set of policy forums that produce hard outputs (Ragin 2008; Rihoux and Ragin 2009). Whereas a value of 1 indicates full membership of a case in the set of policy forums producing hard outputs, soft outputs are represented by a fuzzy-set value of 0, i.e. full non-membership in the set of policy forums producing hard outputs.[1] A truth table is the basis of the analysis and presents all observed configurations of conditions. For each configuration of conditions (corresponding to a row in the truth table), the researcher then assesses the degree to which it is empirically related to the outcome. The assessment of this relation is based on the fuzzy-set values of all cases and is indicated by a consistency score.[2] Configurations that are consistently related to the outcome are included in the analysis.[3] The method then reduces the configuration of conditions that are related to the outcome by eliminating redundant conditions and finally identifies necessary and sufficient conditions related to an outcome.

Calibration of outcome and conditions

The outcome variable of this analysis is given by the type of forum outputs. Measuring policy outputs is a difficult task because of the many elements a policy comprises (Howlett and Cashore 2009) and a general lack of agreement on how to evaluate them (Meerkerk *et al.* 2014; Provan *et al.* 2009). We rely on a survey among policy forum managers to measure whether a forum produces soft or hard outputs. In the survey, managers of policy forums were asked to indicate which ones, among six options, were the results of the work done within the given forum. They could indicate any of a) organization of meetings with members, b) organization of meetings or conferences with external actors, c) publication of newsletters and information material, d) organization of public information campaigns, e) publication of

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position papers, and f) elaboration of policy measures and implementation plans. Table 1 below gives a summary on the outputs that forum managers indicated. For the present analysis, we focus on two types of hard outputs, i.e. the organization of public information campaigns and the publication of position papers. From the 21 forums included in our analysis, 14 forums organize public information campaigns, and 16 forums is able to produce joint position papers. In the respective analyses, the outcome variable for these forums is coded as 1. The outcome variable for the other forums is coded as 0.

As complicating factors, we take into account two conditions, which refer to the size and the composition of policy forums. First, we code the number of actors which are active within a policy forum. This number ranges from a maximum of 64 actors ("Forum Biomasse") to a minimum of 5 actors ("Kompost Forum" and "Forum Früherkennung Biodiversität und Landschaft"). We transform this measure into fuzzy-sets by simply calculating the relative size of forums as compared to the maximum observed value of 64 plus 1 (65). Second, the heterogeneity of the set of forum participants is taken into account by an indicator counting the proportion of interest group representatives among the forum participants and is expressed as a fuzzy-set value, too. It ranges from a maximum of 0.73 ("CIPRA") to a minimum of 0 (five different forums).

In order to understand which factors facilitate the production of hard policy forum outputs, we include three types of state intervention in order to understand the output performance of policy forums. First, the information whether a forum was founded by the state or by other actors (societal or scientific) stems from our survey. We asked forum managers to indicate whether their forum was founded by state actors, scientific actors, or societal actors directly affected by the problem. Forums founded by state actors are coded as 1, others as 0. Only a minority, i.e. 5 out of 21 forums under study were founded by the state. Second, the information on the formal membership of a state actor in a forum stems from official documents, i.e. official lists of forum participants available on the forums' websites. If

state actors are formal members and in a leading position, the forum is coded as 1, otherwise as 0. State actors are members in 11 out of our 21 forums. Third, whether state actors formulate mandates to forums is also coded from documentary information (1 if yes, 0 if no). 6 out of 21 forums work along a mandate given to them by the state. All three factors related to the role of the state within the policy forum are expressed as dichotomies, 1 meaning that the state takes a strong role (i.e. founder, formal member, or formulating a mandate), whereas 0 stands for the state not occupying the respective role.

Analysis and discussion

Descriptive summary of policy forum outputs

Table 1 presents the different outputs of policy forums. According to the results of our survey, forums produce different types of outputs to a different degree. Organizing meetings with members and conferences with external actors are supposed to be soft outputs, given our theoretical reasoning above. Only about half of the forums (48%) do have regular meetings with their members, and 76% percent of them organize conferences and meetings with external actors. Publishing newsletters and information material seems to be a normal policy forum activity, as practically all forums indicated this output (95%). There is more variance with respect to the two hard forum outputs we focus on in this paper. 67% of forum managers indicated that their forum organizes public information campaigns, and 76% of forums publish position papers. The last output, the elaboration of policy measures and implementation plans, is certainly the hardest output with respect to the commitment it asks from forum members. However, only 3 out of the 21 policy forums indicated producing this kind of outputs. We therefore refrain from including this output in the comparative analysis below.

Table 1. Descriptive summary of policy forum outputs

Type of policy forum output	N of forums	% of forums
Meetings with members	10	48
Conferences with external actors	16	76
Newsletters and information material	20	95
Public information campaigns	**14**	**67**
Publication of position papers	**16**	**76**
Policy measures and implementation plans	3	14

Sufficient conditions for hard forum outputs

In order to assess which forums produce hard outputs, and how we can understand their capability to do so, we proceed to a QCA. We include the five factors discussed above and aim at explaining both types of hard outputs, i.e. the capability of forums to organize public information campaigns and their capability to publish position papers.[4]

The combination of five conditions results in 25 possible configurations. Both truth tables include the 10 combinations that are empirically observed. HETERO represents the set of forums with a heterogeneous set of members, SIZE the forums of large size. Further, FOUND stands for forums founded by the state, MEMBER represents the set of forums wherein a state actor is a formal member, MAND stands for forums working along a state mandate. Finally, HARD represents the outcome of the QCA and defines the forums producing hard outcomes. 15 possible combinations of conditions do not appear in the table, these are the so-called logical remainders.[5] The consistency scores indicate to what extent the empirical observations support the postulate that the combination of conditions in a row is sufficient for the emergence of the outcome. Rows of the truth table with a consistency value of at least 0.75 are coded with the value 1, the others are coded 0 (Schneider and Wagemann

2010).[6] For the reduction of the solution term, we focus on the intermediate solution. The intermediate solution is derived by allowing the algorithm to make assumptions about non-observed combinations of conditions (logical remainders). Yet, it allows only so-called "easy" simplifying assumptions, i.e. the ones in accordance with prior theoretical knowledge (Ragin 2008).[7] Assumptions are made according to our expectations formulated at the end of the theoretical part, i.e. heterogeneity and size are supposed to complicate the production of hard outputs, whereas all three types of state intervention are expected to facilitate hard forum outputs. The analyses are conducted with the computer program fsQCA (Ragin *et al.* 2009).

Table 2. Truth table for the outcome "information campaigns"

HETERO	SIZE	FOUND	MEMBER	MAND	Consistency	HARD	N
1	0	0	0	0	1.00	1	1
1	1	1	0	1	1.00	1	1
0	1	0	0	0	1.00	1	2
0	0	0	0	0	1.00	1	4
1	0	0	1	0	0.78	1	2
0	0	0	1	1	0.71	0	1
0	1	0	1	1	0.64	0	2
0	0	0	1	0	0.42	0	4
0	0	1	1	0	0.37	0	2
0	0	1	0	1	0.04	0	2

Table 3. Intermediate solution for the outcome "information campaigns"

	Consistency	Raw coverage	Unique coverage
HETERO*size	0.90	0.27	0.15
HETERO*FOUND*MAND	1.00	0.05	0.05
hetero*member*mand	1.00	0.36	0.24
Solution:	**HETERO*(size + FOUND*MAND) + hetero*member*mand**		
Total consistency	0.95		
Total coverage	0.65		

Table 2 presents the truth table for the outcome "information campaigns". 9 of 14 policy forums producing hard outputs and one forum producing soft outputs are included in

the solution. Five different combinations of conditions appear to be sufficient for forums to produce information campaigns. The intermediate solution is presented in table 3. It contains three different paths to the outcome. The consistency and coverage scores express to what extent statements about set-theoretic relations between conditions and an outcome enjoy empirical support.[8] A consistency value of 0.95 means that the solution formula is almost perfectly consistent with empirical evidence. A coverage value of 0.65 means that 65% of the outcome values are covered by the solution formula. First, forums with a small, but heterogeneous set of members are able to produce information campaigns. Second, forums with a heterogeneous set of actors are also able to produce information campaigns, but only if they have a mandate by the state and state actors as formal members. Third, information campaigns can also be produced by forums without a formal mandate and with no state actor as a member, but only if they are composed of a homogenous set of actors.

Overall, both complicating (i.e., size and heterogeneity) as well as facilitating (i.e., the type of state intervention) factors appear important if we are to understand which policy forums are able to organize information campaigns. Organizing information campaigns in policy forums with a heterogeneous set of members is possible if the forum is either small in size or if the forum is founded by state actors and has a mandate from the state. In the first case, the complicating factor of a heterogeneous set of actors is compensated for by the fact that there are not too many actors in the forum. If a forum has 32 or less members, these actors are still able to find enough agreement in their internal negotiations in order to organize information campaigns, even if it contains a large part of interest groups – and thereby potentially a large amount of different opinions. Forums covered by this solution path are "CIPRA" and "eco.ch". As an example, "eco.ch" describes itself as the "Swiss Froum for Sustainability" and is composed of environmental associations and institutions from many different sub-issues concerned by sustainability questions, such as bird protection, public transport or sustainable production of agricultural products in developing countries. Yet, it

involves a relatively low number of 28 individuals representing these association, which certainly increases the forum's capability to produce hard outputs.

In the second configuration of conditions, the complicating factor of a heterogeneous set of actors is compensated for by two types of intervention of state actors. Given a heterogeneous set of actors, a forum needs to be founded by state actors and have an official mandate by the state in order to be able to produce information campaigns. The case covered by this solution is the forum "agridea". This forum deals with a sustainable and effective agricultural domain and involves about 60 different interests such as agricultural associations of given regions, vine producers' associations, or food engineers. It has however a mandate from the Federal Office of Agriculture (BLW) as well as from cantons, which makes up for a large part of its budget and at least partly pre-defines the forum outputs.

A third solution path combines the absence of complicating factors and the absence of facilitating factors. If both the state is no formal member in a leading position, and there is no state mandate, then a homogeneous set of forum members is needed in order for the forum to be able to organize information campaigns. Six cases are explained by this solution path, i.e. "EnergieTrialog", "Info Flora", "Stiftung Landschaftsschutz", "LITRA", "sens eRecycling" and "Kompost Forum". As an example, "Info Flora" has no official state mandate, and the Federal Office for the Environment (BAFU) has only an observer status membership without the voting rights. Still, the forum involves a homogenous set of mostly research institutions, museums and botanic gardens, and is therefore able to produce information campaigns on the very specific issue of wild plants.

Table 4 shows the truth table with the combinations of factors which allow policy forums to produce position papers. Five different combinations of conditions can be regarded as sufficient for forums to produce position papers. These five combinations of conditions cover 13 out of 16 forums which are strong members in the outcome set, i.e. forums which produce position papers. Under the assumptions formulated in the theoretical part, the

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intermediate solution presented in table 5 can be produced. A consistency score of 0.89 is still acceptable, as the theoretical claims of the solution are to 89% consistent with empirical evidence. Further, the solution covers a considerable part of the outcome to be explained (69%). Three different combinations of conditions appear to be sufficient for a policy forum to be able to produce hard outputs. First, forums of small size, a homogenous set of participants and not founded by state actors are able to produce hard outputs. Second, forums of small size, a homogenous set of participants, and whose work is guided by a mandate from the state are also able to produce hard outputs. Third, forums with a homogenous set of members, guided by a mandate from the state, and including state actors as formal members do produce hard policy forum outputs.

Table 4. Truth table for outcome "position papers"

HETERO	SIZE	FOUND	MEMBER	MAND	Consistency	HARD	N
0	0	0	1	1	1.00	1	1
0	1	0	1	1	1.00	1	2
0	0	1	0	1	0.96	1	2
0	0	0	1	0	0.88	1	4
0	0	0	0	0	0.79	1	4
0	1	0	0	0	0.74	0	2
1	0	0	1	0	0.70	0	2
1	0	0	0	0	0.45	0	1
0	0	1	1	0	0.37	0	2
1	1	1	0	1	0.00	0	1

Again, both complicating (i.e., size and heterogeneity) as well as facilitating (i.e., the type of state intervention) factors seem to matter for policy forums to be able to produce the second type of hard outputs, i.e. position papers. The overall solution suggests that in order for forums to be able to publish position papers, one factor is always needed. The factor of a homogeneous set of forum members is a part of all three alternative solution terms and can therefore be considered as a necessary part of the sufficient condition. In two of the solution paths, homogeneity of forum members needs to be combined with small forum size. Said

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differently, the absence of both complicating factors is needed for a forum to be able to produce hard outputs. Further, there must be either a mandate from the state, or the forum needs to be founded by society or science. Besides the absence of both complicating factors, the first of these solution paths thus suggests that such a situation needs to be combined with an additional facilitating factor, i.e. a state mandate. This solution covers three forums, i.e. "Kommission Luft", "ProClim" and "Planat". As an example, "Planat" involves a rather low number of 18 individuals representing a rather homogeneous set of state and research actors in the domain of spatial planning and risk assessment. The forum has a specific mandate from the state administration to elaborate strategies on natural disaster mitigation and adaptation. This combination of factors allows the forum to produce hard forum outputs in the form of position papers.

Table 5. Intermediate solution for the outcome „position papers"

	Consistency	Raw coverage	Unique coverage
hetero*size*MAND	0.98	0.17	0.09
hetero*size*found	0.86	0.46	0.39
hetero*MAND*FORM	1.00	0.18	0.11
Solution:	**hetero*(size*MAND + size*found + MAND*FORM)**		
Total consistency	0.89		
Total coverage	0.67		

The second solution involving a homogeneous and small set of actors suggests that the third factor is given by the fact that a forum was founded by scientific actors or societal actors concerned by the problem. This solution covers 10 cases, i.e. „ProClim", „infoflora", „Hydrogeologische Kommission", „Gesellschaft für Hydrologie", „Gesellschaft für Hydro- und Limnmologie", „WasserAgenda 21", „Planat", „Runder Tisch Biologisch Abbaubare Wertstoffe", „Sens eRecycling" and „Kompost Forum". As an example, „WasserAgenda 21" works in three different, small (10-13 individuals) working groups and involves mainly

specialists in the water domain from research institutes and different levels of government. It was founded upon the initiative of scientists and practitioners concerned by the lack of coordination and information exchange in the water sector. However, the fact that the forum needs to be founded by others than state actors does not correspond to our theoretical expectations. As the example of the "WasserAgenda 21" suggests, it could be that if a forum is not founded by the state, but by actors directly concerned by the given issue, there is a stronger basic agreement among actors involved that action is needed – which would facilitate the production of hard outputs like the publication of position papers. However, this is not in line with the finding from the analysis of sufficient conditions for forums producing the other type of hard output, i.e. information campaigns, where the fact that a forum was founded by the state is part of a configuration of conditions leading to hard forum outputs. Although this earlier finding is based on one case only, the role of state actors as forum founders and its effects on forum outputs is still unclear.

A third solution path involves only a homogeneous set of actors, but no small forum size. In this case, two forms of state intervention are needed, i.e. forum need to have a mandate from the state and need to have a state actors as a formal member in a leading position. Cases covered by this solution are "Forum Biodiversität", "ProClim" and "Forum Biomasse". For example, "Forum Biomasse" involves a large set of actors (64), which is however rather homogenous, as it involves mainly private firms dealing with recycling and eco-technology. Two departments of the federal administration are members in this forum (Federal Office for the Environment, Federal Office of Energy), its president is a national Member of Parliament, and the forum is partly financed through a mandate from the state within the "EnergieSchweiz" program.

Conclusions

This paper aimed at examining the factors contributing to the capability of policy forums to produce hard outputs. Policy forums are not supposed to take decisions in the form of laws and regulations, but can produce different outputs that range from the mere organization of meetings or the distribution of newsletters to the production of information campaigns or joint position papers and recommendations (Börzel and Risse 2010; Mayntz and Scharpf 1995; Ostrom 1990; Sörensen and Torfing 2009). We refer to the organization of meetings and distribution of newsletters as *soft* forum outputs, and to the production of information campaigns or joint position papers as *hard* forum outputs. Especially the latter type of policy forum outputs can be important for the preparation of formal decision-making processes and the elaboration of policy measures (Mayntz and Scharpf 1995). It is therefore important to analyze under which conditions policy forums are able to produce hard outputs.

To do so, our analysis compared 21 policy forums in the domain of the Swiss environmental sector relying on a Qualitative Comparative Analysis (QCA) and on data gathered from documentary sources as well as from a survey among forum managers. To explain forum outputs, the study takes into account two sets of factors. On the one hand, we focus on two factors which are expected to complicate the production of hard outputs as they increase actors' transaction costs of negotiations within a forum. Both a large number of participating actors and a high heterogeneity of forum participants should complicate the production of hard outputs. Results show that the absence of these factors contributes to the capability of forums to produce hard outputs. Most importantly, a homogeneous set of forum members is an important, but not individually sufficient condition for hard forum outputs. If forum members are more heterogeneous, organizing information campaigns is still possible if the size of the forum is rather small, or if the state plays an important role. On the other hand, we argue that state actors can play a facilitating role in policy forums and increase the capability of policy forums to produce hard outputs. Founding a policy forum, acting as a

formal member, or formulating a mandate are three types of state intervention that are supposed to decrease transaction costs of negotiations within policy forums, increase the quality of the interactions, and build trust among actors. Especially forums having a specific mandate from the state are capable of producing hard forum outputs like information campaigns or the publication of position papers. Additionally, whereas the formal membership of state actors also contributes to hard policy forum outputs, the role of the state as a forum founder is less clear. This factor contributes to the capability of forums to organize information campaigns, but the contrary (i.e., forums founded by societal or scientific actors) is an important condition for them to produce position papers as hard outputs.

Both the organization of information campaigns and the publication of position papers were conceptualized as hard forum outputs, as these outputs require that actors within forums agree on problem definitions, interpretations, and possible solutions. Yet, according to the factors needed for producing such outputs, the organization of information campaigns is easier to achieve than the publication of position papers. The solution of configurations of factors sufficient for the production of information campaigns points towards compensation mechanisms between complicating and facilitating factors. If there are complicating factors, there need to be facilitating factors at the same time (or the absence of other complicating factors, as in the first solution). Alternatively, if facilitating factors are absent, complicating factors need to be absent, too. On the contrary, complicating factors need to be absent *and* facilitating factors present in order for a forum to be capable of publishing position papers.

The comparison of 21 policy forums in Swiss environmental policy showed some interesting patterns between forum outputs and complicating and facilitating factors. Still, in order to show that these patterns correspond to causal paths to understand why given forums are capable of producing hard outputs, we will need to go back to the individual cases in more detail. Also, while this analysis is based on a set of forums identified in an explorative research, there are probably more forums around which should be taken into account. Further,

the analysis could be completed by asking the opposite question, i.e. which factors lead to soft policy forum outputs? And finally, future research should not only describe the number and heterogeneity of forum members, but also focus on the quality and quantity of their interactions in order to understand what outputs a policy forum produces.

Endnotes

[1] The fuzzy-value of 0.5 represents the crossover point, where there is maximum ambiguity as to whether a case is more in or more out of the respective set (Ragin 2000).

[2] The consistency score provides information on the extent to which the empirical observation supports the postulate of a perfect relationship between the conditions and the outcome, or how well the solution formula describes the cases. The coverage score (see table 3) is an indicator of the empirical importance of a relationship. It indicates what proportion of the fuzzy-membership values of the cases in the set of the outcome can be explained by the solution (Ragin 2008).

[3] The choice of thresholds for including configurations can be guided by major gaps in the observed consistency scores or by the inclusion of all strong members of the outcome set. The threshold should not be lower than 0.75 (Ragin 2008).

[4] There are no necessary conditions for either type of forum outputs (consistency threshold for necessary conditions 0.9).

[5] Logical remainders are combinations of conditions that are not observed. For most of these, it is likely that they do exist in reality. Some combinations like Europeanized cases with open venues, however, are most probably not observable in reality.

[6] Empirical applications indicate that coverage levels ranging from 0.60 to 0.70 are already relatively high (Schneider and Grofman 2006).

[7] Simplifying assumptions are assumptions on the outcome of non-observed combinations of conditions.

[8] The consistency score provides information on the extent to which the empirical observation supports the postulate of a perfect relationship between the conditions and the outcome, or how well the solution formula describes the cases. The coverage measure is an indicator of the empirical importance of a relationship. It indicates what proportion of the fuzzy-membership values of the cases in the set of the outcome can be explained by the solution (Ragin 2008). In the tables, * stands for logical "and" and + stands for logical "or". Conditions

and outcomes written with capital letters stand for their presence; those in lower-case letters indicate absence of the phenomenon.

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Appendix. List of forums.

Nr.	Policy Forum	Website	Included
1	Agridea	http://www.agridea.ch	Yes
2	Kommission Lufthygiene	http://www.ekl.admin.ch	Yes
3	Cipra	http://www.cipra.org/de	Yes
4	Forum Biodiversität	https://www.biodiversity.ch	Yes
5	Aktionsplan Biodiversität	http://www.bafu.admin.ch/aktionsplan-biodiversitaet/12608/index.html?lang=de	Yes
6	Forum Früherkennung Biodiversität und Landschaft	http://www.bafu.admin.ch/aktionsplan-biodiversitaet/12608/index.html?lang=de	Yes
7	Proclim – Forum for Climate and Global Change	http://www.proclim.ch/4DCGI/De/index.html	Yes
8	Chloronet	http://www.bafu.admin.ch/chloronet/index.html?lang=de	No, missing documents
9	Energieschweiz	http://www.bfe.admin.ch/energie/00458/index.html?lang=de	No, missing documents
10	Energietrialog	http://www.energietrialog.ch	Yes
11	Infoflora	http://www.infoflora.ch/de/	Yes
12	Arbeitsgemeinschaft für den Wald	http://www.afw-ctf.ch	No, missing survey
13	taf - Arbeitsgruppe Freizeit und Erholung im Wald	http://www.afw-ctf.ch/46132/index.html	Yes
14	Hydrologische Kommission	http://chy.scnatweb.ch/index.de.php	Yes
15	Gesellschaft für Hydrogeologie	http://www.hydrogeo.ch/de/gesellschaft	No, missing survey
16	Gesellschaft für Hydrologie & Limonolgie	http://www.sghl.ch/	Yes
17	Wasseragenda 21	http://www.wa21.ch/de/	Yes
18	Forum Landschaft	http://www.forumlandschaft.ch	No, missing survey
19	Stiftung Landschaftsschutz	http://www.sl-fp.ch/	Yes
20	Planat	http://www.planat.ch/de/home/	Yes
21	Heimatschutzkommission	http://www.enhk.admin.ch/de/index.html	No, missing survey
22	Litra	http://www.litra.ch/	Yes
23	Arbeitsgruppe Fahrzeugsicherheit	http://www.astra.admin.ch/themen/verkehrssicherheit/00616/index.html?lang=de	No, missing survey
24	Eco.ch	http://www.eco.ch/	Yes
25	Dialog Nachhaltige Entwicklung	http://www.are.admin.ch/dienstleistungen/04135/index.html?lang=de	No, missing survey
26	Forum Biomasse	http://www.biomasseschweiz.ch	Yes
27	Runder Tisch biologisch abbaubare Wertstoffe	http://www.evaluation-bioplastics.ch	Yes
28	Sens eRecycling	http://www.erecycling.ch/	Yes
29	Kompost Forum	http://www.kompost.ch/	Yes