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POLICYMIX - Assessing the role of economic instruments in policy mixes for biodiversity conservation and ecosystem services provision



POLICYMIX WP 6 Best practice guidelines on the role of multi-level governance institutions in policy

Eva Primmer
Jukka Similä
David N. Barton
Christoph Schröter-Schlaack

policymix.nina.no



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About POLICYMIX. POLICYMIX focuses on the role of economic instruments for biodiversity conservation and ecosystem services provided by forest ecosystems. POLICYMIX evaluates the cost-effectiveness and benefits of a range of economic versus regulatory instruments in a variety of European and Latin American case studies.

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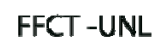
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Primmer, Eeva, Finnish Environment Institute - SYKE

Similä, Jukka, Finnish Environment Institute – SYKE

David N. Barton, Norwegian Institute for Nature Research - NINA

Christoph Schröter-Schlaack, HelmholtzCentre for Environmental Research - UFZ



Introduction

The Polycymix guidelines for analyzing multi-level governance and institutions conditioning the design and implementation of policy instruments are part of a set of guidelines for examining the role of economic instruments in policy mixes for biodiversity conservation and ecosystem services provision. Other guidelines produced under the Polycymix project cover ecological effectiveness, valuation and social aspects.

Institutions play a crucial role in defining what new policy instruments are feasible at different levels of governance. For example, the pre-existing rights that land-owners have as to managing their land, and the responsibilities that go with property rights, will have a direct effect on how a new instrument can be designed to encourage conservation. Similarly, the formal division of roles between different authorities with accredited rights and responsibilities can influence how the new instrument is integrated in the existing mix of instruments, i.e. how it is implemented and what impact it can generate. Moreover, long established informal institutions, e.g. administrative norms, cultural-cognitive framings and customary access rules; can influence the implementation of conservation instruments, even though they may not be formally recognized. Hence, the analysis of policy instruments and instrument mixes aimed at biodiversity conservation must explicitly analyze the formal and informal institutions that condition the design and implementation of policy.

What are Institutions?

Institutions can be understood as norms or rules regarding a particular a set of activities (Ostrom, 1990; Furubotn and Richter, 1990). Institutions, rules and norms are terms that are actually often used interchangeably. In North's often cited definition (1990), an institution consists of informal constraints and formal rules as well as their enforcement mechanisms. Formal rules include the stated rights and obligations (e.g. in legislation), while the layers of informal rules define in a much less explicit fashion what is considered right or appropriate, wrong or inappropriate (North, 1990; Ostrom, 1990; Scott 2001). Both formal and informal rules assign behavior, and are backed up by monitoring and enforcement mechanisms. Rules stabilize behavior and advance predictability (North, 1991). They might even generate rigidity and inertia, so that desired

change is hindered by institutions (DiMaggio and Powell, 1986).

Institutions shape the ways nature and the environment are perceived and managed. The different rationales that influence human behavior and the pressure it places on the natural environment are often analyzed under the rubric of institutions (Young, 2002; Bromley, 2004; Vatn, 2005; Paavola, 2007; Primmer, 2011). Similarly, institutional analysis of environmental policy captures the interests and socially constructed beliefs about environment and environmental problems (Funtowicz and Ravetz, 1993; Paavola, 2007; Vatn, 2009; Primmer et al., 2013a). Vatn (2006) summarizes these different angles to institutions concisely: "Institutions are the conventions, norms and formally sanctioned rules of a society. They provide expectations,

stability and meaning essential to human existence and coordination. Institutions regularize life, support values and produce and protect interests."

Institutions can be divided into 1) the basic institutions of a society (economic, political, social institutions, such as property rights, markets, political system or governance system) and 2) specific institutions; issue specific regimes concerning a particular policy area, e.g., legal regulations and informational norms on biodiversity conservation. Other institutions surrounding the specific regime can be called the institutional landscape. Although the design and development of institutions (Ostrom, 2005) overlaps somewhat with the design of new policy instruments, institutions tend to evolve slowly over time (North, 1990; Scott, 2001). For this reason, the analysis of institutions generally pays attention to the history and sequence of policies.

Institutions apply to particular levels of governance, e.g. the formal rules of global conventions, European Union directives, national policies and local administrations, as well as cross-level practices of e.g., trade, activism or ecological monitoring. For this reason, also the spatial scale at which institutions apply is an important focus of the analysis policy instruments an (Ring et al. 2011; Barton et al., 2013).

Institutions influence the interaction between different policy instruments that are designed

and implemented at different governance levels (Young, 2002). For example, the implementation of a global carbon trading mechanism will be implemented at lower levels of governance and will need to be adjusted to the pre-existing national and local institutions (Vatn and Vedeld, 2011; May et al., 2011; Similä et al., 2012).

In the economics literature, institutions are typically considered constraints despite the recognition that they reduce the costs of human interaction by increasing predictability (North, 1990). With changes in rules and e.g. the terms of policy or contracting, the actors need to readjust their behavior, and their interaction. The frictions in adjusting behavior to changes and reduced predictability are captured under the idea of transaction costs (Williamson, 1999). Actors engaged in biodiversity conservation need to search for new information, and spend time iterating the new practices (Coggan et al., 2010). For this reason, the emerging transaction costs shift the relationship between private and public benefits (Pannell 2008).

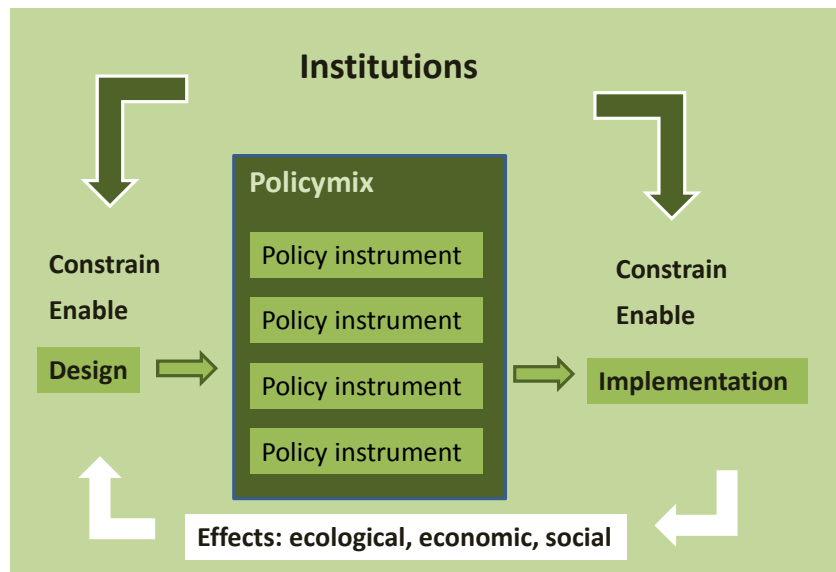


Figure 1. Institutions constrain and enable policy instrument and policymix design and implementation.

The analysis of institutions and multi-level governance of biodiversity as well as the use of different instruments must necessarily deal with both constraining and enabling institutions. Institutions impose both responsibilities and rights. Institutions can either facilitate or complicate a change, when a new policy instrument is designed, and when it is implemented (Fig. 1.).

The influence of institutions on the design and implementation of policy instruments can be considered in both ex post evaluations of established instruments and in ex ante evaluations of instruments that are being prepared or anticipated. The aim is to identify institutional constraints and opportunities for the development of economic instruments

Differentiation between policy instruments, policymixes and institutions

The notions of institutions, regimes, policy instruments, and policy instrument mixes partially overlap conceptually. However, it is useful to make distinctions when the aim is to conduct empirical analysis and focus on certain interactions between these conceptual categories. Furthermore, it is important to note that policy instruments promoting other policy goals than nature conservation and maintenance of ecosystem services are a part of the institutional context or polycscape (Ring et al., 2011).

Policy instruments are designed through deliberate activities and processes as a reaction to a socially identified problem. They are targeted and formulated to achieve a given goal (e.g. increased conservation of forest

biodiversity) through changing behavior of relevant actors.

The behavior of the implementing actors then generate the ecological, economic and social effects that can be evaluated prior to readjusting the design of new (Fig. 1). For example, a PES instrument is adopted by the authorities attracting and recruiting forest owners to enter a contract. Once the contract has been sealed, the forest-owner restrains himself from logging on a site, which in turn generates the ecological effects. The social effects of the contract depend on the contract terms, the contracting process and the social context (Grieg-Gran et al., 2011).

In public policy, policy instruments are established by the government, at the national, regional or international level. However, also private actors can develop policy instrument type arrangements (e.g. a private forest certification or labeling scheme, or a private-private contract).

The institutional setting of a policy instrument may vary. Although the basic institutions of a society would be the same, a policy instrument may be associated with particular institutions, eg. a forest biodiversity conservation instrument may be a part of a biodiversity regime or in a forest regime. Decision on the selection of the institutional context – the issue specific regime - has a number of implications, including who are regulated and what kinds of activities are included, what kinds of prescriptions are made and how possible compensation mechanisms work (Primmer et al., 2013a).

Customs and norms can be considered informal institutions if they are not documented as standards that could be referred to explicitly. Informal institutions are not designed, but

emerge through more complex processes in practice (e.g. through slow evolution of administrative practices or habits), and their monitoring and enforcement is not specified but embedded for example in social control and disapproval (Scott, 2001).

When analyzing new policy instruments and institutions, it is important to note that all new instruments are embedded in pre-existing, yet evolving formal and informal institutions. The institutional evolution that allows or triggers the introduction of new instruments and their implementation should always be a part of the analysis of policy instruments.

What questions can be addressed with institutional analysis

The broad questions that institutional analysis of policy instruments and policy mixes can address, are:

- 1.1 How have existing institutions contributed to the design and implementation of current policy instrument(s) and instrument mixes? (ex post analysis)
- 1.2 How are current institutions and instruments likely to shape the introduction of new instrument(s)? (ex ante analysis)

The social-ecological context of the target of the analysis is important to recognize, and should be described in some detail. In the case of biodiversity conservation policy, these include the biodiversity conservation challenge and its recent development, the relevant actors, and the relevant economic and other drivers of biodiversity change.

How to Analyze Institutions

The analysis of institutions often includes analysis of the evolution, or sequence of changes in rules that have triggered or at least allowed the new instrument to be designed. In ex ante analysis, these types of changes should be anticipated.

The starting point is a description of the institution and the mechanisms through which it can be observed or assumed to constrain or enable the use of the policy instruments:

- 2.1 Describe the relevant institution and the mechanisms of influence by which it affects the introduction, design and implementation of the assessed policy instrument(s).
- 2.2 Provide evidence for your description (reference documents, literature about the institutional setting).
- 2.3 Collect documents and/or interview or survey data to evaluate the influence and its strength.

Step-by-step analysis of institutions

3.1 Identify, list and describe the relevant actors and describe their role in using the resource, enjoying its ecosystem services and making decisions on its use and conservation. Pay attention to actors relevant for both design and implementation.

3.2 Describe all relevant formal and informal institutions, i.e. the rights and responsibilities that can be considered to influence the design and implementation of the analyzed policy instrument(s).

3.3 Provide evidence of the rights and responsibilities and the mechanisms through which they influence policy design and implementation to the degree it is possible in your case study.

3.3.1 For formal rights and responsibilities, refer to official documents

3.3.2 For informal institutions, refer to published research or collect interview or survey data

3.4 Evaluate the influence that rights and responsibilities and proposed changes in them have had, or could have, on instrument design and/or implementation.

3.4.1 Design data collection to measure and evaluate the influence of institutions on a particular proposed policy, or historical policy change

3.4.2 Analyze the documents and possible interview or survey data

3.4.3 Make inferences from the secondary material and own analyses

3.5 Draw conclusions as to the role of institutions in constraining and enabling the design and implementation of new policy instruments.

For analyzing institutions that influence policy design and implementation, it is crucial to identify the actors that have a role in conserving biodiversity because they have a right to use the natural resource (forest), or to enjoy the ecosystem services it provides or a right to make other decisions that influence its use and protection.

Box 1. Qualitative analysis of institutional constraints and evolution.

Institutional constraints in the agri-environmental incentive scheme for afforestation in Saxony

The in-depth interviews with forestry authorities as well as a farmer survey and qualitative follow-up interviews made in the German case study revealed institutional constraints related to: 1) a complicated application procedure, 2) inflexible application times 3) lack of staff to promote the scheme, 4) lack of technical advice, and 5) shifting the responsibility of the scheme from the forest authorities to agricultural authorities, leading to a loss of interest and competence for promoting the scheme (Lienhoop et al. 2013).

Evolution in Finland's forest biodiversity conservation payments and the institutional constraints

The Finnish case study applied the institutional framework eliciting regulative, normative and cultural-cognitive institutions, which has been developed by Scott (2001), to analyze the evolution of a forest biodiversity PES scheme in Finland. Based on policy documents and secondary material the analysis showed how the policies that seemingly took effect through regulative institutional changes were conditioned by normative and cultural-cognitive institutions. Administrative and professional rigidities could be broken with a light policy experiment but for longer term governance development, radical institutional changes would be necessary (Primmer et al., 2013a).

Institutional analysis of payments for ecosystem services as a policymix

Utilizing the Costa Rican case study and the Institutional Analysis and Design framework (IAD) to characterize PES in terms of 'rules-in-use' that are specific to 'action situations', which vary across the landscape mosaic (Barton et al., 2013). The rules-in-use of PES were identified to have internally synergistic, complementary, redundant or conflicting functional roles in relation to conservation objectives across the landscape. An analysis of the regulatory, informational and economic instruments in Costa Rica's Forest Law, which created PES, showed how a ban on forest conversion, along with incentives could be interpreted as synergistic with PES, rather than redundant or conflicting. Examples were used to illustrate how PES in Costa Rica fulfilled a complementary functional role to other conservation policy instruments in a landscape mosaic.

After having identified these actors, identify the formal institutions, i.e. arrangements that have been designed on purpose, or evolved spontaneously or incrementally, that define the rights and responsibilities of the actors. The aim is to eventually analyze the mechanism by

which these influence the design and implementation of the instrument(s) (Box 1).

Analyze institutions that influence (constrain or enable) design, and implementation of the assessed policy instruments aimed at biodiversity conservation. These include the rights and responsibilities regarding the use

and conservation of forest resources and conservation of forest biodiversity. In addition to direct rights and responsibilities regarding the forest, like property rights, analyze rights and responsibilities to set conservation and use targets, as well as to monitor and enforce.

Start by describing and analyzing rights and responsibilities. Rights and responsibilities are defined formally in laws or other regulations or somewhat less formally in guidelines and standards, or even less formally in unwritten norms, rules, conventions and customs. Where possible, address also these informal rules and the ways in which rights and responsibilities are perceived, e.g. by defining what is appropriate. Relate to existing frameworks, such as the three pillars of institutions (Scott, 2001) or the institutional analysis framework (Ostrom, 2005; Box 1).

In cases where the case study setting and the rules are not well documented e.g. through previous research, prepare to conduct qualitative analysis (Box 1). Use documents, interviews and / or focus groups. If your case has been previously studied, and the rules and their influence mechanisms have been analyzed, attempt to conduct more quantitative analysis, e.g. with survey data (Box 2).

When interpreting and drawing conclusions, pay attention to the behavioral assumptions on which the different institutions rest. Additionally the interpretation should consider rules that influence cooperation and reciprocity, appropriateness of certain behaviors, tendency to not react to changes in market or social demand (path dependency), as well as feasibility, compatibility, transaction costs and legitimacy.

Box 2. Analyzing the dimensions of forest owner perceptions and their contribution to conservation contracting with survey data.

The Finnish case study collected survey data and analyzed responses from 86 forest owners who had a conservation contract and 101 respondents who had a valuable site on their land but had not made a conservation contract (Primmer et al. 2013b).

In addition to eliciting the respondents' perceptions about the ecosystem services they provided, their economic opportunities and welfare distribution the survey was designed to elicit the perception dimensions regarding the contract terms, normative goals and the contracting process.

The results produced with factor analyses mainly corresponded the theoretical considerations of institutions. The logistic regression tests of the influence that the perceptions had on the likelihood to contract showed that the factors that explained past behavior and intentions differed notably. Combined with other perceptions, social and moral norms decreased the likelihood to have a contract, signaling a crowding out risk.

Most consistently, perceptions about positive ecological impacts increased the likelihood to have a contract and general welfare expectations increase the likelihood to be willing to contract. Although trust in authorities influenced contracting when observed in isolation, it was superseded by other perceptions in combined models. The analysis highlighted the interconnectedness of the very broadly perceived benefits as well as the broadly distributed welfare impacts and normative justifications for PES.



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