

Challenges of dealing with plurality

A process evaluation of the Nature Outlook of the PBL Netherlands Environmental Assessment Agency

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Introduction

Uncertainty and complexity are facts of life. They need to be lived with. Environmental expertise institutes deal with uncertainty and complexity to inform policy-making on complex sustainability issues. In order to understand complex and uncertain problems, inclusive and responsive types of research are promoted since the early 1990s. Academics formulated concepts, strategies and methods for new ways of knowledge production. Integrated assessment is promoted for the systemic analysis of dynamic interactions between natural and social systems (Rotmans 1998). Inter-, and transdisciplinary working (de Boer, de Gier et al. 2006; Pohl and Hirsch Hadorn 2007), extended peer review (Funtowicz and Ravetz 1993) and analytic-deliberative approaches (Stern and Fineberg 1996) are proposed to engage the diversity in scientific and practitioners' perceptions and knowledge claims in processes of scientific assessment. The assumption is that the more different viewpoints are taken on board and the more critical mass is organized to test the scientific endeavor, the more socially robust the end product, be it knowledge, be it (e.g. policy) action, will be (Keune 2012). Despite these academic concepts and efforts, capacities essential for coping with uncertainty and complexity are changing very slowly in expert practices (Dror 2006).

In this paper I explore the dynamics of a policy-oriented foresight study that is conducted within an environmental expertise institute to explore how uncertainty and complexity are accommodated in the knowledge production process. To capture the dynamics of a policy-oriented foresight, it is relevant to take the perspective of policy impact or effectiveness. I explore the dynamics of the Nature Outlook 2010-2040 (PBL 2012). In this study, researchers of the PBL Netherlands Environmental Assessment Agency applied innovative, systematic and interactive approaches to develop scenarios on normative grounds regarding the views and future images of nature and the function of the Dutch government and other actors in nature conservation management for the purpose of supporting strategic policy-making. I tracked the characteristic evolution of the process of knowledge production in the Nature Outlook to offer insight into the way developments at the sociopolitical level and the organizational/institutional setting influenced the dynamics of the knowledge production process (Arrow, McGrath et al. 2000). I illustrate and discuss the internal dynamics – such as the process management in the research team –

and the boundary dynamics - such as the various roles enacted by the researchers in policy processes - to explain how uncertainty and complexity are accommodated in the knowledge production process.

The paper is structured as follows: First, I introduce the characteristics of policy-oriented foresight and the opportunities and barriers for conducting a foresight with policy implications. Second, I introduce the case study and present an overview of the impact of sociopolitical developments and the organizational setting on the process of knowledge production in the Nature Outlook 2010-2040 based on literature about policy-oriented foresight and earlier publications about the Nature Outlook and the functioning of the PBL at the science-policy interface. An analysis of the implications on the dynamics of the study is based on case findings from a process evaluation of the Nature Outlook 2010-2040. I conducted the process evaluation in the period from April – September 2012 together with another PBL researcher. Both of us have not been involved in the production of the Nature Outlook. Hereto, we were able to take an insider/outsider perspective to the process. The evaluation consisted of 22 interviews and several internal discussions with PBL researchers. The interviews firstly included the seven PBL researchers who conducted the foresight. Four members of the management board and the executive director of the PBL were also interviewed. Moreover, 10 stakeholders including members of government departments and the regional government, as well as societal actors were interviewed. In the discussion and conclusion, I offer some suggestions for the management of internal and boundary dynamics in policy-oriented foresight.

Policy-oriented foresight in support of evidence-based policy

An important expert practice where uncertainty and complexity is explicitly attended to is foresight. Foresight studies that are produced within a policy context and are oriented towards policy makers are known as policy-oriented foresight (Van Asselt, Van 't Klooster et al. 2010). Foresight in the realm of public policy often aims to foster a shared understanding within multi-stakeholder settings by bringing a broad diversity of interests to the table (European Environment Agency 2009). They serve to support policy development and decision making by policy makers (Van 't Klooster 2007). Policy-oriented foresight is based on the assumption that governments have the capacity to (at least partly) influence the future (Fobé and Brans 2012). Policy-oriented foresight has been the topic of research in the Netherlands and abroad from the perspective of experts in action (Van 't Klooster 2007; Van Asselt, Van 't Klooster et al. 2010) and the perspective of strategic policy making (Dammers 2000; In 't Veld 2001; Van der Duin, van Oirschot et al. 2008), but the dynamics of the production process of policy-oriented foresight have not yet been systematically investigated. Dobbinga (2001) describes the internal dynamics of an organizational foresight study from the perspective of organisational learning. To capture the dynamics of a policy-oriented foresight, it is relevant to take the perspective of policy impact or effectiveness.

Fobé, Brans et al. (2012) describe how ongoing trends of professionalization and interactiveness are accommodated in policy-oriented foresight to better support a more complex, dynamic and uncertain policy process. Interactiveness is inspired by democratic considerations. It is suggested that a stronger support for policies can be realized via a closer involvement of citizens or stakeholder groups in policy-making. In policy-oriented foresight, involvement of multiple actors is motivated by knowledge quality arguments as well: to obtain valid input, test the findings for robustness and gain legitimate support (Hage and Leroy 2008; Hage, Leroy et al. 2010; Fobé and Brans 2012). The trend of professionalization

aims to improve the policies' effectiveness through a better identification and formulation of policy goals and instruments by policy analysts in order to motivate evidence-based policy making (Davies, Nutley et al. 1999) or evidence informed policy (Bowen and Zwi 2005). Garrett (1999) illustrates how a foresight study can identify multi-level, multi-sector and multi-actor dimensions and herewith address the complexity of matters. Drivers and underlying causes in trends and interactions characterise the complexity and interwovenness of societal problems (Van Asselt, Van 't Klooster et al. 2010). By making use of a combination of data and methods for collection and analyses, foresight tries to capture a complete (as possible) picture of the problem.

Opportunities and barriers for effective policy-oriented foresight are identified by Fobé and Brans (2011). They selected the set beneath based on an analysis of studies on the influence of foresight on policy (Dammers 2000; Glenn, Gordon et al. 2001; In 't Veld 2001; European Commission 2006; Van der Duin, van Oirschot et al. 2008; Fuerth 2009). The opportunities and barriers relate to aspects of the foresight process, to characteristics of the foresight as a product, and to elements of the political context in which the foresight takes place (Fobé and Brans 2011):

- *Involvement of policy-makers* is needed to limit the distance between the foresight and the policy-process. It can be achieved before, during or after the foresight process. Involvement of policy-makers can be highly intensive in nature (actors providing input and interacting with foresight practitioners) or much less intensive (policy-makers being presented with results and receiving information on the process).
- *Stakeholder support* is expected to positively affect the influence of the foresight. It shows policymakers at which the foresight is aimed at that there is a (broad) societal consensus on its results.
- *Quality* refers to analytical rigor, reliability and objectivity. These elements may increase the usefulness of a foresight for policy-making.
- *Facilitation of diffusion* by certain actors. These actors are able to 'translate' (and promote) the technical, often specialist, language in a foresight to relevant knowledge and insights for policy-makers. This bridging function strengthens the opportunity of a foresight to influence the strategic policy process.
- *Timing of the results* can have an impact on the influence of the foresight on the policy-making process. A well timed report is a report that is diffused when strategic decisions yet have to be decided upon.
- *Time horizon* in the foresight is long-term, which may pose some difficulties with regard to its influence on short-term oriented policy-making.
- *Openness of policy-makers* refers to the way policy-makers perceive the results of the foresight, i.e. whether they regard the study as relevant in a policy-making context.
- *Absence of advice competition* in the strategic policy-making process can affect the influence of foresight. The absence of other sources of policy advice provides opportunities for a foresight to influence the strategic policy process, while high advice competition limits this opportunity.

Case study: the Nature Outlook embedded in a dynamic context

The Nature Outlook 2010-2040 aims to offer a source of inspiration on the basis of which the Dutch Cabinet and the Dutch Parliament can take their political responsibility for long-term

nature policy (PBL 2012). The production process was organized in a project setting and conducted from the end of 2008 until the beginning of 2012. The long-term perspective of foresight offers the possibility to identify desirable futures or anticipate to improbable futures, which enables policy makers to take a strategic perspective without concern for the political problems of today (Garrett 1999). The Nature Outlook serves to support strategic policy making. Policy-makers are challenged to think in a more strategic way about nature conservation policy. Hereto, the Nature Outlook systematically explores the future for nature policy based on a set of values and perspectives on nature (Wit and Hajer 2011; PBL 2012).

The Nature Outlook is a structural product of the PBL. The frequency of this product is four-yearly. The primary clients for the Nature Outlook are the Dutch ministries of economic affairs, agriculture and innovation (EL&I) and of infrastructure and environment (I&M), but politicians, regional governments and other actors such as nature, - and agricultural organisations should be able to make use of the Nature Outlook as well.

Outlook studies of the PBL have to be societally relevant, which primarily implies that social issues of importance to environmental, ecological and spatial quality are identified, explored and raised to improving the quality of political and administrative decision-making (PBL 2012). A lesson learned from experiences of PBL researchers with previous Nature Outlook studies is the need for a closer alignment with present-day policy problems in order to be able to produce policy relevant information (Vader, Smits et al. 2004). Openness of policy-makers is essential to produce a policy-oriented foresight with policy impact (Fobé and Brans 2011). Since a specific policy need or relevant policy process was lacking at the start of the trajectory for the production of the Nature Outlook 2010-2040, the responsible unit head and the projectleaders took an active role to engage with policy-makers during the production of the Nature Outlook to limit the distance between the foresight and the policy-process.

In the Nature Outlook, three innovative strategies were implemented (van Eerdt and Kunseler 2012). We briefly discuss them here in terms of *why* and *how* they were implemented:

- Formulation of normative policy scenarios to capture the multiple framings of the problems and solutions for nature conservation policy.
Why: A normative scenario approach enables for a systematic and inclusive exploration of the diversity of values regarding the societal dimensions of a problem.
How: Integration of different values and knowledges by triangulation of data from literature, modeling, workshops and interviews,
- Organisation of interaction with stakeholders
Why: Stakeholder interaction is important to include the knowledge of all relevant actors, and test the validity of their claims.
How: Iteration across 'backoffice' analytical modeling, literature study and other forms of analysis, and several rounds of stakeholder deliberation to obtain new insights and conduct extended peer review.
- Interplay with policy and politics
Why: Improving the effectiveness of the Nature Outlook: its usability and relevance
How: Continuous coordination and demarcation of knowledge input in ongoing policy processes.

Developments in the sociopolitical context

The Nature Outlook is conducted in the period from 2008-2012 at a time of changing sociopolitical circumstances such as economic recession, increasing societal resistance against stricter technocratic EU regulations such as the EU biodiversity agreements, parliamentary elections and new cabinet formation. The changing circumstances have considerable implications for the nature policy domain where administrative struggles over budget allocation and responsibility structures for nature policy raise high political attention. How did the developments in the sociopolitical context inform the line of approach in the Nature Outlook?

External developments in the sociopolitical sphere

The politicization of nature policy manifested itself during the production process of the Nature Outlook. At the start of the Nature Outlook (end of 2008), some policy tensions were noticeable. The nature policy arena was confronted with a decreasing level of societal support and an increasing number of policy implementation problems. These tensions are due to the increasing gap between the policy orientation and the societal preferences in the past few years. The European and Dutch nature policies are mainly focused on the intrinsic value of biodiversity, and technocratic procedures are developed to realize this in practice. Local governments, business and societal organizations see nature as a functional, recreational and economic value as well. The technocratic procedures hardly give room for acting upon these alternative values of nature. In response to the increasing gap and in the context of the economic recession, the Dutch government started to work on the reform of nature policy (2008-2009), which was enforced by the new Cabinet from Autumn 2010 onwards. These developments motivated the PBL researchers to make use of the long-term perspective of the Nature Outlook to confront the policy targets of nature conservation management with the alternative views on nature. Accordingly, these normative aspects were taken as a starting point for the formulation of four alternative policy scenarios in the Nature Outlook 2010-2040 (Wit and Hajer 2011). The basic idea of the Nature Outlook was to confront the 'default value' of intrinsic quality of nature and its technocratic representation in nature policy with 'new' functional and user-oriented values and more integrated policy approaches. In foresight literature, this line of approach is known as critical futures: pluralistic futures (Sardar 1999) or alternative futures are identified based on the various normative perspectives that exist. Alternatives can be identified as possible, probable or preferable futures (Bell 2009) on predictive, explorative or normative perspectives towards the future (Borjeson, Hojer et al. 2006). In a contested sociopolitical situation, as is the case for the politicized setting of the Nature Outlook, preferable futures on normative grounds are considered to be particularly relevant (Bell 2009).

The decentralization of nature policy is ongoing and it was for the argument of legitimacy that the PBL researchers considered the involvement of a broad group of actors to be necessary (Wit and Hajer 2011). In light of the nature policy reform and budgetary rearrangements, the decentralization trend was enforced during the period of the production of the Nature Outlook. Illustrative for this trend is the Nature Agreement that was proposed by the Dutch government at the end of 2011 to further transfer administrative responsibility for the implementation of nature policy to the regional governmental levels. In the Nature Outlook, several workshops and meetings were organized with the various actors involved in the nature policy arena to obtain insight into the plurality of views on nature and to bring together the diverse sources of argumentation and creativity for the creation of distinct images for the

future of nature and nature policy in the Netherlands. The involvement of a representative group of stakeholders in policy-oriented foresight is considered necessary for various reasons: to obtain valid input, test the findings for robustness and gain legitimate support (Hage and Leroy 2008; Fobé and Brans 2012).

The organizational setting

The organizational context is assumed to be highly responsible for the effectiveness of assessments (Clark, Mitchell et al. 2006). How did the organizational context inform the line of approach in the Nature Outlook?

The organizational setting of the PBL

The Nature Outlook is produced in an expert setting: the case is conducted at the PBL Netherlands Environmental Assessment Agency. Characteristic of the organizational setting of this environmental expertise institute is its interface position between science and policy. The PBL is established as a planning agency in the bureaucratic discourse (Halffman and Hoppe 2005; Halffman 2009). The fundamental idea of this discourse is that policy makers should be able to get the best available knowledge for policy making in house or from institutes that are officially independent but who carry out research commissioned by and for policy makers. The PBL is part of what Jasanoff (1990) calls ‘regulatory science’. Represented in public debate as a practice of neutral calculation, assessing policy outcomes in a neutral and unpartisan way, the PBL is a powerful institute that disciplines policy makers into rational policy making (Halffman 2009).

For policy assessments on complex and uncertain social issues, the PBL increasingly recognises that the interaction with policy makers and societal actors needs to be strengthened in order to grasp the plurality of perspectives on societal problems and identify its implications for the policy process. This tendency is visible in other policy advising settings as well. Environmental policy advising bodies have to increase their accountability in a pluralistic knowledge society (Heinrichs 2005). At the conceptual and methodological level of environmental knowledge production ‘new’ – deliberative, inclusive and responsive – approaches are proposed, such as problem framing to capture the multiple framings of a problem and corresponding plurality of solutions, uncertainty assessment to identify and characterize the types of uncertainties and stakeholder participation to produce knowledge in iteration and dialogue with stakeholders (Hessels and van Lente 2008). Guidance documents provide PBL researchers with methods and techniques to put these approaches in practice (Janssen, Petersen et al. 2003; Hage and Leroy 2008; Hage, Leroy et al. 2010).

In practice, however, environmental experts encounter methodological difficulties and they experience epistemological and institutional barriers in implementing these methods and techniques (Regeer 2010; Petersen, Cath et al. 2011). The institutionalization of regulatory science cannot be changed overnight (Van den Bogaard 2002). Dual processes of exploitation of existing practices and exploration of new practices are needed for the adaptation of an organization to changing circumstances (March 1991). The process of the Nature Outlook is characterized by experimentation with innovative strategies: normative policy scenarios, interaction with stakeholders, interplay with policy and politics. The assessment part of the project was nevertheless based on existing practices that represent the PBL’s core business: impact modeling. Other parts had to be completed by external input since in-house a lack of experiential capacity was identified. For the interaction with stakeholders the input was of

high quality, but for other trajectories, such as the governance analysis, the input was less successful. A right balance between exploitation and experimentation is difficult to find. Pesch, Huitema et al. (2012) illustrate this as well with respect to two earlier case analyses at the PBL.

Analysis: the implications of the sociopolitical developments and the organizational setting for the dynamics of the Nature Outlook

The implications of sociopolitical developments for the dynamics of the Nature Outlook

The implications of sociopolitical developments for the dynamics of the Nature Outlook can be analysed against two opportunities and barriers for conducting effective policy-oriented foresight: openness of policy-makers and timing.

The findings of the process evaluation (van Eerd and Kunseler 2012) demonstrate that openness of policy-makers to the findings of a policy-oriented foresight is facilitated by the sociopolitical circumstances and triggered by the efforts of PBL researchers to closely align to the ongoing policy processes. The administrative policy discussions on the reform of nature conservation policy were in need of assessments of impacts and effects of alternative policy options. The PBL was requested to produce a number of assessment reports. Policy clients indicated that they appreciated the input of the PBL, both in content as in their close alignment and interaction. Since the PBL actively contributed to the administrative policy discussions, the saliency and receiving capacity of the Nature Outlook may have been improved: the PBL researchers consistently expressed their concern for a long-term and integrated approach for nature conservation policy, which they illustrated with the ideas of the Nature Outlook. Accordingly, policy-makers got acquainted with the ideas and the terminology of the Nature Outlook.

The findings from the process evaluation illustrate that appropriate timing required openness and high flexibility from the researchers, which consequently made project management a real challenge. The communication strategy of the PBL is focused on adaptation to developments in policy processes in order to set the appropriate moment for publication. In the previous paragraph it is illustrated how policy requests for assessment reports were welcomed and external developments were anticipated upon in the knowledge production process of the Nature Outlook. Even when they did not initially serve the purpose of the Nature Outlook. The implications for the progress were considerable; causing time delays in the production of the Nature Outlook and shifting task allocations for several project members. These implications have not been explicitly discussed within the project team. The project members responded differently. Some project members responded by focusing merely on their own task. Others tried to keep up but did not manage to find the coherence out of the various interfering activities. In response several project members took the initiative to draft a work plan to get a grip on the project structure and progress.

The implications of the organizational setting for the dynamics of the Nature Outlook

A number of the opportunities and barriers for conducting effective policy-oriented foresight are useful for the analysis of the implications of the organisational setting. These are: involvement of policymakers, organizing stakeholder support and quality control.

The Nature Outlook serves a strategic function. At the moment of writing, it is unclear whether the strategic policy level will make use of the Nature Outlook to produce a new strategy for nature conservation policy. Engagement with policy-makers and alignment to administrative policy processes throughout the production process of the Nature Outlook may have increased the likelihood for actual impact. Findings from the process evaluation demonstrate that although the administrative setting deviated from the strategic orientation of policy-oriented foresight, it offered room and entrance for more strategic oriented remarks and conversation in line with the key message of the Nature Outlook: broaden perspectives on nature policy and find new coalitions for long term nature policy.

Involvement of stakeholders in the production of the Nature Outlook was considered necessary to obtain valid input, test findings for their robustness and gain legitimate support. In the process evaluation, the actors involved in the workshops indicated their high appreciation towards the efforts of the PBL to structure and facilitate the debate on nature policy. Moreover, the stakeholders considered the networking advantages and knowledge exchange as the principal value of their involvement. They suggested the PBL to take up the role of knowledge broker more often for the purpose of improving the societal relevance of PBL studies.

In internal discussions about the findings of the process evaluation, it was questioned whether the four policy scenario alternatives of the Nature Outlook were socially robust. This was considered problematic in the light of the role of the PBL as a neutral arbiter. Several of stakeholders active in business sectors or the regional government posed critical comments regarding their own representativeness: they are much more nature-minded than their counterparts. To ensure the quality of the alternative policy scenarios, it was recognized by the PBL management board that a systematic approach and set of criteria have to be developed for this type of studies. Moreover, it was pointed out that the PBL has to carefully capture all perspectives and position itself in the middle in order to legitimize its status as neutral arbiter and avoid being seen as advocate for particular preferences.

Discussion

Boundary dynamics

The findings of the process evaluation demonstrate that the interaction with policy-makers in the Nature Outlook was highly dynamic. This is captured under the heading of boundary dynamics. Throughout the Nature Outlook two principal strategies were enacted to accommodate these dynamics: adaptation to external developments and role shifting.

External developments such as the economic recession, new elections and budgetary rearrangements were highly influential for the nature policy arena. This paper illustrated how these developments triggered the politicization and the decentralization of nature policy and informed the line of approach in the Nature Outlook. The controversies in the sociopolitical sphere offered a window of opportunity for discussing alternative normative grounds for nature conservation policy in interaction with policy makers and other actors within the field. Throughout the Nature Outlook, emerging developments in the nature policy arena were acted upon, even when they did not necessarily coincide with the scope and activities of the Nature Outlook. This required high flexibility of the researchers and appropriate timing of

publications. Whereas adaptive behavior had positive implications for the saliency of the study, it had negative implications as well, particularly with respect to the internal dynamics. The PBL researchers experienced difficulties in finding the right balance between the strategic knowledge orientation of the Nature Outlook and the administrative knowledge orientation of the policy arena.

Within the highly dynamic policy setting the PBL managed to explicitly position itself in several ways: as a neutral arbiter in a contested sociopolitical situation, as a strategic policy adviser in the policy arena and as a knowledge broker in the societal debate. These roles were considerably acted upon by the PBL, for example in the disseminating event where the PBL had invited speakers who represented the various angles towards nature and nature policy, and the PBL positioned itself as neutral actor in the middle. Due to the contested setting, the PBL could legitimately attend to normative accounts towards nature and take up the role of knowledge broker to systematically analyse and structure them in order to support strategic policy-making and societal debate.

Internal dynamics

An explicit ambition of the Nature Outlook was to produce policy relevant information. The findings of the process evaluation demonstrate the tension between policy alignment and the internal progress of the study at the PBL. Several of the PBL researchers reported how they experienced difficulties with the complicated process and slow progress of the Nature Outlook. Since the interaction with policy required capacity and time and was given priority over the continuation of the project, the Nature Outlook did not proceed according time schedule. Moreover, a clear focus in the progress of the Nature Outlook was lacking. Although a standstill in the progress of a policy-oriented foresight can sometimes be considered essential in order to give way to more urgent (and often: short term oriented) policy actions, for a project team it requires high flexibility to continuously adapt to changes during the project. Internal dynamics should be carefully managed.

Conclusions: Management of the internal and boundary dynamics

In this paper, I analysed the production of a policy-oriented foresight based on reported experiences of the researchers and stakeholders involved. The researchers formulated and analysed a set of alternative futures, based on societal preferences for normative perspectives towards nature and nature policy in the Netherlands. Based on the findings of a process evaluation, I conclude that adaptation to boundary dynamics and management of internal dynamics are essential for the accommodation of uncertainty and complexity in knowledge production processes. The former is related to adaptation to sociopolitical developments, which urges for close interaction with policy makers, a normative orientation in policy-oriented foresight and a knowledge broker role of the PBL in the societal debate. Due to gradually increasing openness of policy makers and stakeholders for a way out of the administrative discussion on nature conservation policy, this role was highly appreciated and did not seem to conflict with the traditional neutral arbiter role of the PBL. Yet, internal discussions about the social robustness of the alternative policy scenarios demonstrate how maintenance of the position of the PBL as a neutral arbiter in the tradition of expert assessment and rational policy making is a real concern. With respect to the internal dynamics, the conclusion is that a close policy alignment has had positive implications for the saliency of the policy-oriented foresight, but negative consequences for the progress of and

available capacity within the study. In order to manage these internal dynamics, there is a need for decisive, selective and open choices regarding focus, content and process of the foresight.

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