

A Methodology for Evaluating the Ecosystem Approach in National Laws and Policies

By: Lena Schøning

Matter commented on: A theoretical perspective, criteria, and methods for evaluating the ecosystem approach in national laws and policies.

1 Introduction

The ecosystem approach has been part of international environmental law since the 90s. Since then, the [Conference of Parties to the Convention on Biodiversity](#) has called upon nation states to implement the approach locally, nationally, and regionally. How has the ecosystem approach been implemented nationally? This blog post suggests and sketches a theoretical perspective, criteria, and methods for evaluating the ecosystem approach in national laws and policies concerning activities. Developing and instigating a discussion on methods for such evaluation could lead to more and improved evaluations, which could further lead to improved uses of the ecosystem approach in laws and policies. The criteria could further be used to operationalize the ecosystem approach.

The ecosystem approach is a key concept of environmental governance and environmental law and it “has come to feature particularly strongly in the context of marine management” ([Langlet and Rayfuse, 2019](#)). The [Convention on Biodiversity](#) introduced a definition of an ecosystem, subsequent to which the conference of parties of the convention adopted [decisions](#) that defined and gave content to the ecosystem approach. One of the classic definitions of the ecosystem approach stem from one of these decisions, which states that an ecosystem approach is “a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way” ([UNEP/CBD/COP/DEC/VII/11](#)). Yet, a definition is only one facet of the multifaceted concept of the ecosystem approach, which is extensively articulated by institutions and scholars, and rich with purposes, principles, and tools. Extensive literature exist on the concept of the ecosystem approach (a few examples are [Langlet and Rayfuse 2019](#), [De Lucia 2019](#), [Kirkfeldt 2019](#)) and this blogpost does not aim to provide an analysis of the concept beyond this very brief introduction.

Rather, this blog post aims to suggest and sketch ways of evaluating the implementation or translation of the ecosystem approach in laws and policies. Inevitably, these ways will interpret, specify, and, perhaps, clarify the content of the ecosystem approach. As a logical consequence, some elements will be in focus while others will be excluded. The methodology focuses on the environmental objective of the ecosystem approach, which entails an exclusion of economic and social objectives, in clear contrast to that the ecosystem approach was adopted for the implementation of “[the three objectives of the Convention](#) [on Biological Diversity]” ([UNEP/CBD/COP/DEC/VII/11](#)).

Another distinct focus of the methodology is the focus on regulation of activities in marine space. Regulation of activities (*e.g.*, petroleum exploitation, fisheries, shipping, aquaculture) normally define conditions of use of resources and areas and the tolerable environmental impacts of each type of activity. Regulation of activities is typically tailored to each activity type or sector-specific yet supplemented by cross-sectoral regulation targeting, for example, particular impacts (such as pollution), particular resources (such as water), particular actors (for example, private limited companies), or overall planning. Since activities regulation involves legal rights and obligations, it

often takes the form of law. Nonetheless, the laws coexist with complementary policies, strategies, and plans.

The methodology for evaluation of the ecosystem approach involves suggesting whether translation theory, in contrast to implementation, could be a useful lens in which to frame the evaluation of the ecosystem approach in laws and policies (section 2). Further, the methodology identifies a set of evaluation criteria, referred to as the EA+ criteria (section 3), and briefly suggests where (section 4) and how (section 5) to investigate for the EA+ criteria. Then, the blog post comments on how the investigation of the EA+ criteria may shed light on the science-policy interface (section 6). Finally, some potential research findings are indicated (section 7).

2 Implementation or translation?

Implementation of the ecosystem approach could refer to inclusion of key elements of the ecosystem approach in laws and policies, whether implicitly or explicitly. Moreover, these laws and policies on paper shall be put to practice administratively, such as by reflected in detailed regulations and strategic decisions, operation licenses or emission permits, assessments and measures, or other ways in which to operationalize new connections or ideas such as the ecosystem approach. One often implicit assumption of implementation is that it is uniformly carried out by different implementors assuming that the object of implementation is clear, unambiguous, non-contradictory, and not asking the impossible. However, the ecosystem approach is at least ambiguous, thus leaving open more choices or providing a wide margin of appreciation to those drafting and adopting the laws and policies and related administrative practices.

Røvik differentiates between the implementation and translation theories. Implementation theory reflects the dominant hierarchal top-down doctrine where ideas to be implemented are understood as fixed, physical phenomena that are implemented as technical rational instalments and those implementing are viewed as passive receivers ([Røvik 2014](#), [Røvik 2016](#)). Translation theory provides an “alternative doctrine for implementation” ([Røvik 2014](#), p. 411). Translation theory involves a transformation of practices/ideas/elements that happens when various actors try to transfer and implement them. Often, more than one translator is involved, meaning that more translations could combine to chains of translations (Røvik 2014). The author is not aware of any legal literature using Røvik’s translation theory, but the theory is used in other disciplines.

Thus, from a translation theory perspective, the ecosystem approach is first translated into laws and policies, then translated to associated administrative practices. Accordingly, this blog post suggests whether translation theory could be a useful lens in which to frame investigations and evaluations of the ecosystem approach in laws and policies. Using the translation theory frame to evaluate the ecosystem approach in laws and policies may beg for open questions (how do you/how does this text perceive the ecosystem approach) and for a wide range of criteria (translations) in which only some may be embedded in a text or recognized by a single person, as multiple different translations of the ecosystem approach may coexist. In contrast, taking an implementation perspective may imply a few predetermined and fixed criteria reflecting a set perception of the ecosystem.

3 The EA+ Criteria

This section first identifies criteria reflecting key elements of an (environmentally focused) ecosystem approach, inspired by, for example, [Fauchald 2020](#) and [Kirkfeldt 2019](#). The EA criteria are:

1. Identifying and delimiting relevant ecosystems (including humans)

2. Identifying the environmental status of the ecosystems
3. Identifying threats to the ecosystems
4. Assessment of environmental impact of planned activities
5. Assessment of collective or cumulative impacts on the relevant ecosystems
6. Assessment of cross-sectoral references whether to facilitate considering cumulative impacts or conflicting interests
7. Any reference to the precautionary principle
8. Any reference to relevant ecosystem services

In addition to these eight criteria, some supplementary criteria are identified. The supplementary criteria emerges from questioning which elements are crucial to the understanding of ecosystems, environmental problems and the impacts of activities on these. The articulation of these is a result of a functional approach and the combination of the environmental focus and the activities focus of the methodology. Some criteria are inspired by [Schøning 2021](#), others by work in progress. These criteria intend to supplement the aforementioned eight, but they may to some extent overlap in being included in some interpretations or articulations of the ecosystem approach. The point is not to differentiate the supplementary criteria from those that more clearly reflect key elements of the ecosystem approach, but to ensure that a range of different elements including those crucial for ecosystems, environmental problems and the impacts of activities on these is identified and specified. The supplementary criteria are:

9. Assessing the negative environmental impact or footprint of an activity, throughout the activity's value chain or life cycle, regardless of the ecosystems it impacts on and regardless of whether the impact is measurable
10. Any reference to the need for improvement of negative environmental impacts over time
11. Assessing any positive (meaning beyond-zero) contribution to the environment, such as carbon sink capacity
12. Any reference to how activities interfere with earth system processes and contribute to global scale environmental problems
13. The scales and impacts included and excluded in assessments of environmental status and of collective or cumulative impacts
14. Any reference to substitutable activities, resources, or behaviours with lower environmental impacts
15. Any reference to the phase-in of activities with lower environmental impacts or the phase-out of activities with high environmental impacts
16. Any reference to other circular economic principles, such as, whereby the value of products, materials, and other resources is maintained as long as possible ([EU 2020](#)) (*e.g.* effective resource use; use of renewable energy; product or installation standards requiring circularity; facilitation of repairs and reduction of consumption), or, for example, considering the roles of different actors as producers of goods and services, consumers of input, materials, and energy, and recipients of residual raw materials and other recirculated product
17. In the balancing of environmental concerns vs. socio-economic concerns: which environmental concerns or which ecosystems are selected/mentioned and which are excluded

Using these seventeen EA+ criteria for evaluation of national laws and policies may reveal the understanding of ecosystems, environmental problems and the impacts of activities on these and

how these are regulated in laws and policies. Further, investigators could apply a deductive-inductive method, meaning that in addition to the predefined EA+ criteria, investigators could let them be complemented and refined by criteria that may emerge from investigating the data.

4 Data for the evaluation

The question for this section is where to interrogate the EA+ criteria. One alternative is to study the content of documents regulating activities. Relevant documents includes documents preparing different statutory acts (whether assessments preceding legislation, documents explaining proposed legislation or white papers suggesting policy or legal reform); the text of legislation or policies; documents preceding and text of environmental provisions of a constitution; documents reflecting strategic decisions made subject to different acts (see examples in [Fauchald 2020](#)); documents involving strategic and individual environmental impact assessments conducted as per an act; and documents including regulations and individual decisions as per national legislation, such as those defining licenses and permits. In addition to document data, empirical data such as surveys, interviews, or observations could be used for the investigation.

5 Methods of evaluation

One way of using the EA+ criteria on document data is by content analysis ([Boréus and Bergström 2017](#)). A content analysis could be quantitative or qualitative. Simply put, a quantitative content analysis involves counting and measuring (for example, some formulations or key words of the EA+ criteria). A qualitative content analysis involves interpretation. Investigators could read and interpret whether a text involves some or all the criteria, whether in similar or different language. As per a qualitative content analysis, investigators could at the outset, read the texts relying on their literal meaning, arguing that these laws and policies are drafted to be read, used, and understood by a broad audience of bureaucrats, politicians, managers, and stakeholders, and these different actors must be able to rely on texts ([Schøning 2021](#)). In more voluminous texts such as documents preparing acts, policies, strategies, and plans, less effort is invested in each single formulation. Thus, compared with how one reads a section of a statutory act as per the doctrinal method, the voluminous texts may be read in a less literal manner, ensuring that the phrases, sentences, or parts of the text that one relies on do not stand out compared with the section it belongs to, the full document, or compared with other related texts. The selection of documents could be defined by one or more case studies.

If taking an empirical approach, investigators could use surveys, interviews, or observations to investigate whether some or all of the EA+ criteria were considered by certain people in certain settings, for example, as defined by a case study (see, for example, [Yin 2018](#) on case study design).

6 The science-policy interface

Science contributes to law and policy making in many ways including by informing perceptions of the environment, environmental problems, and how activities impact on these. Policy and regulatory design rely on such perceptions. When interrogating for the EA+ criteria for the purpose of evaluating laws and policies, investigators could further interrogate in texts or by questioning people which scientific knowledge they rely on relevant to the criteria (*e.g.*, taking different forms such as referring to specific reports, papers, national policy, or no such form such as in overall statements without any references/based on own memory), or of different content, for example, the existence of global ecological processes is a fact/scientific fact/well known/not known/science tells us/it is a concern/it is not relevant).

7 Potential research findings

Investigations following this methodology may result in research findings such as whether, which, and how elements of an ecosystem approach is implemented in or translated into the selected laws, policies and administrative practices. Using the translation perspective may result in supplementing elements or translations of the ecosystem approach that emerges from the data. Using the implementation perspective may result in findings indicating whether a predefined ecosystem approach is implemented or not. Using the supplementary criteria may result in findings indicating whether the ambiguous ecosystem approach is translated to functional ways of regulating activities' environmental impact or could or should be developed in this way. Another finding could be how science in various forms and content has informed different elements of the ecosystem approach. The extent to which only some of the elements are recognized in laws, may lead to further research questions such as whether a knowledge gap or lack of political will exist; whether the adaptive capacity of laws to embrace an ecosystem approach is limited; and whether the rule of law calling for stability and predictability causes such limitations ([Jakobsen, Woker, Parlov 2021](#)).

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