

Lost in Translation – Following the Ecosystem Approach from Malawi to the Barents Sea

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Abstract

New ideas are constantly being produced as a changing world demands solutions to new problems. International environmental regimes often present ideas to reduce negative human effects on the environment. Implementation of ideas has often been studied through diffusion theory, where ideas are expected to be implemented in their original version. Translation theory from New Scandinavian Institutionalism allows for an analysis of how ideas invented to solve problems change from introduction to implementation. Ideas heralded through UN processes may face a very long route from introduction to local implementation, during which the idea can become radically changed. Through a thorough study of documents, this article follows the trajectories of the idea of Ecosystem Approach (EA), from its first limited practical application in the US during the 1980s and 90s, during its travels in different United Nations fora, and ending up implemented locally through the 2006 Norwegian Barents Sea Management Plan. The novelty of this study is that the analyses cover a long timeframe combined with a focus on all the different steps of translation combined. This also allows for possible drivers of change to be identified. The results show that there are changes made to the idea to such an extent that what is finally implemented is something quite different from the original idea, and more like “business as usual”. According to the theory, discrepancies do not necessarily mean the idea has not been successful; on the contrary, ideas that can be changed may be more likely to become institutionalized.

Keywords: *Ecosystem Approach, translation, organizational change, international environmental regimes, CBD, Barents Sea Management Plan*

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1 Introduction

International environmental agreements commit nations to implementing changes based on new sustainability ideas. The implementation of new strategies can be regarded as processes of diffusion where new ideas are applied without amendment and dilution.¹ This paper argues that there is a long journey from ratification to implementation, and that this process changes the original idea.

As environmental problems cut across established jurisdictions or link discontinuous regions, they challenge political boundaries.² This has demanded a rescaling of global environmental politics, where scales are regarded as the various ecological and social levels at which societal efforts to address environmental problems occur. In this rescaling, international organizations, nongovernmental organizations, substate government, scientists and multinational corporations play major roles, making environmental governance “an ever more complex and interconnected phenomenon.”³

Loss in biodiversity is a threat to ecosystems and can lead to a diminishment in ecosystem productivity.⁴ The idea of the ecosystem approach (EA) was therefore enrolled as a strategy in the 1992 Convention on Biological Diversity (CBD). The EA was controversial as it was applied in practical American environmental management during the 1980s and 90s. While “traditional” management had focused on a top-down, single species or resource approach, this novel idea entailed a bottom-up strategy, management across sectors, and devolving management to the lowest possible level.⁵ Public participation was regarded as pivotal, as were scientific cumulative impact assessment (CIA) and cooperation across federal boundaries.⁶ After being enrolled into the CBD process, the EA went through several steps of translation, before being locally implemented in different areas. In 2006, the EA was reembedded as a local, Norwegian management plan for the Barents Sea.

Translation theory from New Scandinavian Institutionalism allows an analysis of how ideas change as they travel from concept to practical application.⁷ As ideas travel between different scales, they modify, and even core elements may be altered. Sometimes new strategies can even revert to “business as usual.”⁸

This paper contributes to studies on international relations that deal with intergovernmental organizations and global environmental politics, the complexity of ecosystem interdependence, local implementation, and the role of science in policy. Findings from this study will contribute to the literature on how the multiscale nature of global environmental governance leads to increased complexity.⁹ This increase in complexity has consequences for the implementation of environmental policies and ideas. One such consequence may be that ideas and concepts such as the EA become confusing, lack clear delineation and manifest in various interpretations.¹⁰ This consequence may benefit from closer consideration, since in the worst case it can lead to less ambitious or inadequate outcomes.¹¹ This paper, therefore, sheds light on the following question: How did the idea of the ecosystem approach change during the different stages of translation, and what are the possible drivers?

This will be operationalized by following the trajectories of the idea of the EA from practical land-based application in the USA during the 1980s and 1990s, to marine and fisheries management in UN processes and forums, and finally is implemented in a Management Plan for the Norwegian part of the Barents Sea in 2006.

2 Theory

Scandinavian Institutionalism applies the concept of translation to the study of institutional change.¹² Translation theory within organizational studies deals with how ideas travel and become incorporated into organizational practice.¹³ The focus of this article is the EA. Fashion is a driver of change since organizations want to copy what is perceived to be superior or in fashion.¹⁴ Ideas may or may not become institutionalized.¹⁵ Some “idea-carrying organizations,” such as the UN, are highly influential regarding which ideas become translated.¹⁶

Ideas often appear as potential solutions to problems. In this case the EA is a potential solution to the problem of ecosystem degradation. The success of the idea depends on the match between public perceptions of a problem and the attributes of the idea and solution it offers. These are negotiated or imposed during the collective translation process.¹⁷ Discussions in different UN fora presented here, are examples of such negotiations. Ideas that have been subject to decision-making rituals (such as meetings, conferences or conventions) without being rejected, are regarded as more legitimate. Different actors with different sense-making contribute to the alterations of ideas, something that makes this process random.¹⁸ The lowest common denominator decision-making process, which is a well-known strategy for international environmental conferences, may therefore have unexpected consequences, such as stretching, as may have been the case with the EA in certain UN fora.

Ideas change during their migration as they are subject to editing along the way.¹⁹ The application of ideas into different organizational contexts, will result in a variety of outcomes.²⁰ Often only certain features of an idea are copied, instead of the whole idea with all its processes.²¹ The rescaling of global environmental politics that we have seen in recent decades has led to an increase in stakeholder organizations and actors, and therefore also more opportunities for editing.

During implementation, conventionality competes with new ideas, and ideas and current practices are adjusted to accommodate each other, leading to inconsistencies.²² This is illustrated by local implementation of the EA in the form of the Barents Sea Management Plan. Such inconsistencies are often dealt with through organizational hypocrisy. This implies a decoupling of organizational discourse from decision-making and action.²³ In other words, there is a lot of initial discussion of change, but as measures materialize at a later point in time, they have been adjusted to fit well established practices and institutions.²⁴ Erlingsdottir and Lindberg refer to this timed, conceptualized heterogenization of practice as isonymism, as opposed to isopraxis, which is the homogenization between idea and practice.²⁵

Ideas need to be abstracted, simplified, embodied, and recorded to travel, a process termed disembedding.²⁶ This implies that an idea is taken from its institutional surroundings and packed into an object. Some ideas become popular because of how they are packaged, formulated, and timed, and who supports and transports them.²⁷ This may well be the case for the EA. The EA was first embedded in the Malawi Principles for the Ecosystem Approach. Later an abstracted version of the idea continued further along its “travels” in CBD and FAO processes. An embedded idea travels in time and space and is then unpacked to fit a new context. Finally, the idea is translated locally into a new practice and as such is reembedded.²⁸ Sometimes a set of actions is already called for locally, and a new idea has to be adjusted to the actions called for, in a new, unique combination.²⁹ That ideas change before implementation contrasts with the theory of diffusion, where ideas are expected to spread in their pure form in linear models of implementation.³⁰

If new ideas succeed in traveling to an end destination, they can become black boxed, meaning institutionalized, “taken for granted,” and no longer needing to be studied or questioned.³¹

3 Method

Empirical data for this paper were collected through documentary studies, with a particular emphasis on meeting reports and public communications. The travel of ideas happens through communication between people. Such communication typically takes place during meetings and conferences. Tracing repeated communication may give us an indication as to how ideas change and where they travel.³² The application of ideas into new and different organizational contexts, will result in a variety of outcomes.³³ Key documentation (Appendix 1) has been selected because they represent new organizational contexts with processes of communication and new decision-making concerning the idea. The analysis was guided by three stages: 1. Following the trajectories of the concept; 2. Applying the theory of translation, allowing for the tracking of changes to the idea in UN processes, and where they took place (Appendix 1); and 3. Searching for research that could point to possible drivers of change.

The first stage was conducted with an eclectic approach, using several search engines such as “Google Scholar”, “Web of Science” and “JSTOR”. This was the most challenging phase due to two factors: the massive number of publications and the unclear and confusing use of names. A search in “Google Scholar” for “ecosystem approach” provides just under 3.5 million hits, “Ecosystem management” provides just under 3.6 million hits. A cross-search “ecosystem approach, ecosystem management” gives 4.34 million results, and the opposite, “Ecosystem management, ecosystem approach” gives 4.21 million hits. One of the greatest challenges in trying to sort out this concept is the many versions of its name or terminology applied, such as: ecosystem management,^{34,35} ecosystem approach,³⁶ ecosystem-based management,³⁷ ecosystem approaches, ecosystem considerations, integrated ecosystem management

and so on and so forth. It is easy to get confused, especially when on some occasions two or even several of these terms are applied in one and the same source of literature on the same idea.³⁸ Also, articles may use one term, but refer to other articles that use other terms for the same concept. For instance, Rice (2005)³⁹ writes about ecosystem approach and refers in this context to Pikitch et al. (2004)⁴⁰ who writes about ecosystem-based fisheries management. Already in 1997 Brunner and Clark wrote this about ecosystem management: “confusion and uncertainty persist over how ecosystem management should be defined and what it means in practice. An avalanche of published material centres on eliminating this confusion and uncertainty.”⁴¹ Long stated eighteen years later, in 2015, that EBM implementation was taking place with various combinations of principles and in many different forms.⁴²

In a study from 2019, Kirkfeldt found that despite a lot of confusion and overlap, there were some differences in how practitioners of Marine Spatial Planning perceive the three different terms: Ecosystem based management, Ecosystem based approach and Ecosystem approach, while there were also many similarities. The main difference is that the EBM is *perceived* to have stronger emphasis on co-existence and natural resource management than EA. De Lucia made the distinction that EA applies more often to sector-oriented approaches, while EBM may represent the holistic, integrated version.⁴³ This is supported by Kirkfeldt’s findings, where EBM is seen to be more focused on achieving co-existence than EA. In 2021 Dong and Guo made the following comment about the publication:

Trine Skovgaard Kirkfeldt found out that although the main perceptions among EAF, ecosystem-based management (EBM), and the ecosystem approach (EA) are overlapping, there are still huge disagreements on how these concepts are related. A lack of clear understanding of these concepts raises confusion.

In any case, EA gained popularity over EBM after the CBD chose to use the concept and produced a guideline for its implementation.⁴⁴ Kirkfeldt’s paper is recommended for further elaboration on this topic.

For the second stage of analysis, a guiding element was to investigate reports from meetings from areas where the idea has traveled, as these meetings involved new members and fresh decision-making. This phase was characterized by document “snowballing,” as one document led me to the next in a chain of events. This stage was guided by two aspects:

- a. the theory of “Translation” as presented in the field of New Scandinavian Institutionalism. The theory rejects the notion that ideas are copied from one place to another without changes, as is taken for granted in, for instance, the theory of diffusion. Translation theory encourages us to look at the process that evolves from the time an idea is presented to the world, until it is implemented. Identifying this journey, or each step of the process, provides us with an opportunity to unravel small alterations to the original idea. The EA was presented to the world through a highly influential idea carrying organization, the UN, an organization that is instrumental in enabling ideas to make the journey from inception to implementation.

- b. Ensure that the events analyzed are relevant to the implementation of the Barents Sea Management Plan. This can be supported by this extract from page 12 in the 2006 “Barents Sea Management Plan”:

The “ecosystem approach” has been developed and incorporated in several international agreements over the past ten years and has an important place in the follow-up to the Convention on Biological Diversity. Under this Convention, general criteria have been developed for the implementation of the ecosystem approach to the management of human activities (the Malawi Principles), which Norway has adopted. Under the auspices of the Food and Agriculture Organization of the United Nations (FAO), a Code of Conduct for Responsible Fisheries was drawn up in 1995. It includes guidelines for ecosystem-based management of fisheries resources.

The chain of events that link the Barents Sea Management Plan to the processes described in this paper, is described in more detail in Bianchi et al.⁴⁵ The chain of events combined with the theoretical instructions resulted in the list of key documentation (Appendix 1).

The third stage of analysis implied searching for literature on the current process or meeting that was described (for instance meeting in the SBBTA of the COP to the CBD, or the seventh meeting of the UNICPOLOS in 2006) for possible explanations in the literature for why the idea may have been altered. The following is a presentation of the findings from the documentary studies and analysis.

4 Travel and development of the EA concept

4.1 Presenting the idea: the concept of ecosystem approach

The concept of the EA may be traced to 1957 as a development in the teaching of ecology as a discipline,⁴⁶ where the focus was to change from piecemeal research on single elements in nature to a systems approach. Many scientists supported and assisted in the application of the EA to land-based management in various areas of the United States during the 1980s and 90s.⁴⁷

The EA represented a paradigm shift in management technique.⁴⁸ First, it took a systems approach that requires holistic and integrated science, and management that recognizes the interconnectedness of ecosystem variables across large spaces, and over a long timeframe.⁴⁹ This implied consideration of cumulative impacts of different sectors.⁵⁰

Second, by placing humans inside the ecosystem that they depend on, they were expected to make more sustainable decisions.⁵¹ This made human conduct part of the assessments for making management decisions,⁵² and implied that goals should be defined socially, by stakeholders.⁵³

Third, adaptive management would remedy the problem of uncertainty in scientific assessments.⁵⁴ While traditional management agencies had focused on stable, linear, balanced, and predictable notions of nature, new knowledge would have to embrace nature as nonlinear, unstable, and full of surprises.⁵⁵ This called for environmental assessments that combined cumulative effects from different impacts,

CIAAs.⁵⁶ There was, however, at this point a realization that such science is extremely complex, and that this complexity is amplified with increased scale.⁵⁷ Construction of ecosystem models able to predict impacts of human activities turned out to be much more difficult than first expected.⁵⁸

Finally, EA moved away from centralized, top-down, expert driven policy towards decentralized, participatory, and collaborative decision-making.⁵⁹ This would increase mutual knowledge and trust and be more efficient in solving environmental problems than top-down approaches.⁶⁰

The Interagency Ecosystem Management Task Force of the USA presented the EA as a tool to resolve land-based area conflicts where vulnerable species and land is sacrificed on behalf of human expansion. The report states that: “The ecosystem approach is intended to address both environmental and economic concerns to increase the opportunity for state, tribal and local cooperation, and to enhance involvement by other stakeholders and the public in agency decision.”⁶¹

This explains some of the ideational background underlying why many American land-management projects based on the EA were launched during the 1980s and 90s.⁶²

4.2 Disembedded – EA is adopted by the UN, abstracted, and packed into the Malawi Principles for the Ecosystem Approach

In 1992 the Convention on Biological Diversity (CBD) was adopted at the UN Conference on Environment and Development (UNCED) in Rio de Janeiro. This is a legally binding framework agreement, enjoining negotiation and development by the parties over a period.⁶³ The Conference of the Parties (COP) is regarded as the Convention’s decision-making body. A Subsidiary Body of Scientific, Technical and Technological Advice (SBSTTA) was appointed to have preparatory scientific discussions and fulfill the need for a science-policy interface to provide objectivity and legitimacy.⁶⁴ The CBD does not mention the EA specifically but includes several relevant aspects such as integration (6b), promotion of the protection of ecosystems and populations therein (8d) and use of indigenous knowledge, and (8j) emphasis on equitable sharing of benefits.⁶⁵

At its second meeting in 1995, the COP adopted the EA as the primary framework for action.⁶⁶ The COP and the SBSTTA were given the task of elaborating on the concept.⁶⁷ In 1998 a CBD workshop was held in Malawi, where 12 principles that constitute the ecosystem approach were constructed. These principles are as follows:

- Principle 1: The objectives of management of land, water and living resources are a matter of societal choice.
- Principle 2: Management should be decentralized to the lowest appropriate level.
- Principle 3: Ecosystem managers should consider the effects (actual or potential) of their activities on adjacent and other ecosystems.
- Principle 4: Recognizing potential gains from management, there is usually a need to understand and manage the ecosystem in an economic context.

- Principle 5: Conservation of ecosystem structure and functioning, in order to maintain ecosystem services, should be a priority target of the ecosystem approach.
- Principle 6: Ecosystems must be managed within the limits of their functioning.
- Principle 7: The ecosystem approach should be undertaken at the appropriate spatial and temporal scales.
- Principle 8: Recognizing the varying temporal scales and lag-effects that characterize ecosystem processes, objectives for ecosystem management should be set for the long term.
- Principle 9: Management must recognize that change is inevitable.
- Principle 10: The ecosystem approach should seek the appropriate balance between, and integration of, conservation and use of biological diversity.
- Principle 11: The ecosystem approach should consider all forms of relevant information, including scientific and indigenous and local knowledge, innovations and practices.
- Principle 12: The ecosystem approach should involve all relevant sectors of society and scientific disciplines.^{68,69}

The EA had now been embedded and packed into these 12 principles. In 2000 the SBSTTA and the COP, at the 5th conference, also produced “Decision V/6” that in combination with the Malawi Principles aims to provide guidance for the ecosystem approach. Some aspects, such as decentralization, the importance of local involvement and knowledge, adaptive and dynamic management, have been retained, along with balancing conservation and socioeconomic considerations. Decision V/6 defines EA as: “a strategy for the integrated management of land, water, and living resources that promotes conservation and sustainable use in an equitable way.”⁷⁰

Discussion: The definition of EA in Decision V/6 is vague and lacks both the collaborative nature and the ecosystem delimitation that was originally present.⁷¹ The principles and explanations are vaguely formulated, sometimes difficult to interpret, and are presented more as “wish-lists” than clear guidance for operational application.⁷² After Decision V/6, the EA was subject to a lot of confusion, which resulted in a plethora of scientific publications, all attempting to explain the model.^{73,74} Szaro et al. suggest that EA is synonymous with sustainable development, sustainable management, sustainable forestry, and several other terms.⁷⁵ Maltby suggests that countries should share their experiences in implementing *what they perceive* to be EA.⁷⁶

One explanation for the diluted and vague embedding of the EA concept may lie in the fact that the SBSTTA was originally intended to be a scientific body, but developed rapidly into what has later been referred to as a “mini-COP”.⁷⁷ Nations whose delegates were scientists were outmatched by skilled negotiators from other nations, and stopped sending scientists to the meetings. Only some 7% of the delegates were directly from academic or research institutions. The majority were politicians, bureaucrats, and non-governmental organization (NGO) representatives. In addition, consensus agreements made between nations with highly different requirements most likely led to decisions that met the lowest common denominator requirements.⁷⁸

Caldwell claimed that environmental treaties in general are vague and difficult to grasp.⁷⁹ This may be a requirement since it is important to get, and keep, as many members as possible. Hoel indicated that the imprecise and loose wording of framework environmental treaties tends to give room for widely diverging interpretations.⁸⁰ In 2008, Hoel even suggested that the CBD was too weak to provide a practical regulatory framework. A diluted and confusing idea may, on the other hand, possess the characteristics needed to survive lowest-common denominator decision-making, as a more delineated idea might result in decision collapse. The EA may have become popular exactly due to its abstract packaging, vague formulations, and timing of the embedding, as well as the fact that the UN was the “idea-carrying organization”.⁸¹

4.3 Travel through organizational processes to the field of international marine management

In 1982 a long process aimed at codifying a law of the sea had ended, as the United Nations Convention on the Law of the Sea (LOSC III) was concluded.⁸² The treaty entered into force in 1994.⁸³ It is a legally binding international agreement featuring many provisions for ocean management and the regulation of maritime activities.⁸⁴ The United Nations Open Ended Informal Consultative Process on Ocean and the Law of the Sea (UNICPOLOS) and the UN General Assembly (UNGA) are important fora at which new issues regarding the Law of the Sea are debated and addressed on an annual basis.⁸⁵

The seventh meeting of the UNICPOLOS in 2006 focused on “ecosystem approaches and oceans” and brought together over 400 representatives from governments, intergovernmental organizations (IGOs), NGOs, and academic institutions. The meeting report recommends that *existing* governance bodies and guidance documents be used for implementation of the EA.⁸⁶ Knowledge gaps could now be filled by new *sectoral* information together with assessments of available data, and data on overall ecological pressure be based on this combined information.⁸⁷ Delegates concluded that it was *not* necessary to agree on a definition of the EA, nor how much information regarding ecosystem structure and function was needed to pursue the approach.⁸⁸ At this point scientists were coming to terms with the significant difficulties involved in successfully modelling an ecosystem,⁸⁹ something that is still the case. Indeed, the EA was regarded by some as too complex to comprehend with “hard sciences” only.⁹⁰

Another aspect underscored during the 7th UNICPOLOS meeting was the need to preserve the primacy of the 1982 UNCLOS, and full implementation of its provisions,⁹¹ implying that an EA could not interfere with provisions in the “Law of the Sea”. It was suggested that the Large Marine Ecosystem (LME) approach was equivalent to the EA and pointed out that it was already reflected or defined in various international instruments such as the 1982 UNCLOS, the “UN Fish Stocks Agreement”, the CBD, the FAO Code of Conduct for Responsible Fisheries, the

Reykjavik Declaration on Responsible Fisheries in the Marine Ecosystem and the Convention for the Conservation of Antarctic Marine Living Resources.⁹²

A list of elements of what an ecosystem approach should include in the marine context, was also included in the report. In this list collaborative, decentralized and bottom-up management has disappeared, and the precautionary approach⁹³ was included as a part of an EA.⁹⁴ Also, the concept had become even less concrete. A plethora of scientific publications trying to clarify the EA in the marine environment resulted.⁹⁵ Examples include Arkema et al, who produced seventeen criteria used to characterize EBM,⁹⁶ Barnes and McFadden,⁹⁷ who emphasized goals and indicators as most important for successful EBM, Murawski,⁹⁸ who discussed ten myths or critiques of the EA that he claimed are propagated primarily to maintain the *status quo* among sectoral interests, and Curtin and Prellezo, who provided a literature review presenting different views of the EA from different scientists.⁹⁹

Discussion: The theory states that often only certain features of an idea are copied, as organizations translate ideas into something that fits their own sense-making and context.¹⁰⁰ There may be several reasons for why this happened here. Watson-Wright¹⁰¹ addresses how major policy initiatives, often begin with science pointing at problems and possible solutions, a so called “science push”. When policy interest in a science issue grows quickly, so many international symposia are proposed that science has difficulty producing results fast enough to support them. This constitutes a change from a “science push” to a “policy pull”.¹⁰² This may help explain the return to sectoral knowledge and solutions. As ecological systems are interrelated and highly complex,¹⁰³ ecosystem science was proving an imprecise tool.¹⁰⁴ This mismatch may have led to a return to existing tools.

The EA is at this point on its journey subject to a substantial amount of institutional interplay. Young notes how an increase in regime density requires institutional interactions in the international system.¹⁰⁵ Stokke refers to regime interplay as situations arising when the effectiveness of one institution is significantly affected by another, either synergistically or obstructively, regarding the problem they are attempting to solve.¹⁰⁶ According to Hoel, interplay can affect the way problems are defined, the range of solutions considered, and which actors are considered legitimate in problem formulation and resolution.¹⁰⁷ Analysis at this point indicates that the idea of the EA is plastic enough to endure translation to new management fields with a high degree of institutional interplay. The changes to the idea may have made it less radical, and therefore less challenging. This allowed for the idea to travel to international fisheries management, a field with more sector management and sector institutions.

4.4 Further migration and editing of the EA: travel to international fisheries

Within the UN it is the UN Food and Agriculture Organization (FAO) that has the mandate for fisheries management.¹⁰⁸ The FAO was formed in 1945 and its 197

members meet biannually for a conference. In 1965 The Committee on Fisheries (COFI) was established as a subsidiary body of the FAO council. In 1995 COFI published a Code of Conduct for Responsible Fisheries, as a response to urgent recommendations for new, environmentally friendly fisheries management.¹⁰⁹ It provides a basic framework for sustainable exploitation of natural aquatic resources.¹¹⁰ This failed in curtailing undesirable fisheries practice,¹¹¹ and something else was called for.¹¹² At the 24th Session of COFI in 2001, it was decided to hold a conference to address matters related to ecosystem-based fisheries management (EBFM).¹¹³

This led to a COFI Conference on Responsible Fisheries in Iceland¹¹⁴ with 400 participants from FAO member states, other UN member states, industry, inter- and nongovernmental organizations, UN agencies and scientific institutions.¹¹⁵ At this conference the 45 participating countries signed “The Reykjavik Declaration on Responsible Fisheries” and pledged to incorporate *ecosystem considerations* into fisheries management.¹¹⁶ The Declaration presents the ecosystem approach to fisheries (EAF) as a form of fisheries governance that takes its operational instruments and conceptual principles from both conventional fisheries and ecosystem management.¹¹⁷

The Plan of Implementation of the 2002 WSSD committed members to implementing an EAF by 2010.¹¹⁸ An Expert Consultation was held in Reykjavik the same year to elaborate on FAO technical guidelines for an EAF. The report from the consultation stated that the purpose of an EAF was: “... to plan, develop and manage fisheries in a manner that addresses the multiplicity of societal needs and desires, without jeopardizing the options for future generations to benefit from a full range of goods and services provided by marine ecosystems”.¹¹⁹ This definition is very similar to that of sustainable development,¹²⁰ albeit specified for one sector.

In 2003 the FAO launched technical guidelines presenting the EAF as a merger, combining fisheries management with human wellbeing and ecosystem management, focusing mostly on ecosystem wellbeing. The term EAF is: regarded as a convenient parallel to “precautionary approach”; prescribed as a means of implementing the provisions of the Code of Conduct; and expected to develop as an incremental extension of current fisheries management practice.¹²¹

A follow up conference was arranged in Norway in 2006, attended by some 170 representatives from 38 countries, including fisheries management and conservation practitioners, scientists, fishery industry representatives, NGOs and other interested parties. According to the conference report, EAF is essential to implementation of the CBD, and that its principles are embodied in the Code of Conduct and in binding treaty law such as the 1995 UN Fish Stocks Agreement. It was decided not to use the term ecosystem-based fisheries management, due to a fear that the former would give pre-eminence to science over industry. Another point that was made, was to refer to EAF as a ‘vertical approach’, and to the EA as ‘horizontal’, and that both could be implemented jointly.¹²²

Discussion: According to De Lucia¹²³ the above is a preferment of the anthropocentric articulation of the EA as opposed to a biocentric or ecocentric understanding.¹²⁴ The actors at the meeting may have perceived the problem as practical, managerial and economic, not as a global environmental problem. The success of an idea depends on how well it fits with the problem to be solved.¹²⁵ If the problem to be solved changes over time or across space, a moldable idea may adjust to new formulations of the problem.

Above all, this section shows that an idea that is holistic and integrated, with an ecosystem focus, can be adjusted to one sector exclusively. This implies a high degree of editing of the EA that may be explained by conventionality winning territory as ideas and current practice adjust to each other.¹²⁶ Only certain features are copied, instead of the whole idea with all its processes. This may help explain the introduction of a vertical and a horizontal version of EA.¹²⁷

Fashion is a driver of change,¹²⁸ but changes may also be regarded as threats towards existing institutions. The Total Allowable Catch (TAC) system is the main fisheries management instrument in the North Atlantic. It involves tight knit collaboration between science and policy, with strong traditions.¹²⁹ The holistic EA may initially have been perceived as a threat to the TAC system, but the plasticity of the EA that allowed for it to split, made it functional within this sector.¹³⁰ Hoel indicated that in general, international environmentalism often results in political uncertainties for fisheries management, since it legitimates the entry of new actors and new concerns regarding the issue of fisheries.¹³¹ Nevertheless, despite, or maybe due to, the isonymisms becoming quite substantial, the EA continued its journey to Norway and the Barents Sea.

4.5 Reembedded: Translation into new local practices, the 2006 Barents Sea Ecosystem based management plan

In 2006 the “Integrated Management of the Marine Environment of the Barents Sea and the Sea Areas off the Lofoten Islands” was launched as a Norwegian white paper. On page 12 the Malawi Principles are addressed as criteria for implementation. The establishment of the plan was announced in the 2002 Norwegian white paper “Protecting the Riches of the Seas”. This report also refers to the Malawi Principles for elaboration of the concept of the EA.¹³²

The Barents Sea is situated north of Northwest Russia and the Norwegian mainland.¹³³ It covers 1.6 million km²,¹³⁴ and is delineated by the Norwegian Sea to the west, the Arctic Ocean to the north,¹³⁵ by the Novaya Zemlya archipelago to the east, and the Russian and Norwegian coasts to the south. It is important as a system for inflow and outflow of water to and from the Arctic Ocean.¹³⁶ There are more than 200 fish species from 66 families found in the region,¹³⁷ which also hosts approximately 3000 species of bottom invertebrates.¹³⁸ Activities in the area include petroleum, fisheries, maritime transport, and tourism.¹³⁹ The petroleum sector is

economically the most important in Norway, with fisheries and aquaculture being the third most important after land-based industry.¹⁴⁰ After 1976, the establishment of Exclusive Economic Zones divided almost the entire Barents Sea into one Russian (REZ) and one Norwegian (NEZ) part. Activity in the Barents Sea is regulated by sector laws, such as the 1996 Petroleum Act and the 2008 Oceans Resource Act. In chapter 1, section 7B of the latter, the ecosystem approach is presented as an important principle for management of wild, living marine resources, introducing it as a guiding principle of Norwegian Fisheries management.¹⁴¹ Chapter 4, section 15 states that all catches of fish shall be landed. This is in line with an EAF, where all outtakes are important, also non-commercial species.

The management plan covers the NEZ – approximately half of the Barents Sea ecosystem, plus the Lofoten area in the Norwegian Sea, and nearby Vesterålen and Senja.¹⁴² The latter is the spawning area for many of the commercially important Barents Sea fish stocks,¹⁴³ and an area of conflict because substantial oil and gas deposits that are believed to exist in the adjacent seabed. The question of conservation versus exploitation has split the Norwegian political landscape since before the turn of the century.¹⁴⁴ Expanding petroleum activity in the Barents Sea has been one of the main drivers for the establishment of the management plan.¹⁴⁵ According to Olsen et al., the plan has been a positive element for increasing the legitimacy of the complex decision of whether to allow petroleum industry access to these ecologically valuable and vulnerable areas.¹⁴⁶

Knol points out that both administrative reasoning and ecological processes guided the delimitation of authority. Administratively this delineation is a necessity since the rest of the Barents Sea falls within the REZ, and Russia has not yet implemented a management plan, although processes exist for joint data gathering for a possible future plan.¹⁴⁷ The total management area of the Management Plan is 1,000,000 km², four times the mainland area of Norway.¹⁴⁸

The plan process was predominantly a top-down approach with ministerial level steering.¹⁴⁹ The Norwegian Institute of Marine Research (IMR) and the Norwegian Polar Institute were charged with the task of creating a scientific basis for the establishment of environmental quality objectives for the Barents Sea. The task of making biophysical goals and identifying indicators was delegated mostly to scientists.¹⁵⁰ The plan process is, in other words, science driven with a focus on technical criteria and expert knowledge. The plan was based on existing knowledge, was implemented through existing sector legislation, and did not lead to change in terms of authority over important decisions.¹⁵¹

On page 114 of the plan, there is a short passage on involving stakeholders by establishing a reference group comprising industry, NGOs and Sami interests.¹⁵² This is the only section in which local or stakeholder participation is addressed.

As a contribution to development of the management plan,¹⁵³ extensive knowledge gathering of the Barents Sea ecosystem has been, and still is, conducted, involving

nine Russian and twenty Norwegian institutions.¹⁵⁴ Knowledge gaps such as the seabed and the seabird population were filled by channeling already existing projects into the plan work.¹⁵⁵ It is safe to say that significant effort has been made to integrate science.

Fisheries, regarded as one of the largest anthropogenic impacts on the Barents Sea ecosystem,¹⁵⁶ remain relatively unaffected by the management plan. This may be explained by already existing institutional structures. Fish stocks that straddle the REZ and NEZ are managed jointly through a Norwegian-Russian Fisheries Commission. Here yearly quotas are negotiated within a close science-policy structure based on the TAC system.¹⁵⁷ The Barents Sea cod stock is by far the largest in the North Atlantic because of both favourable environmental conditions and successful management,¹⁵⁸ and it supports the largest cod fishery in the world.¹⁵⁹ Still, fisheries management in the Barents Sea is target oriented and fishing is selective; the focus is on single species and MSY. There is, however, no doubt that fisheries management in the Barents Sea includes many ecosystem considerations and that this started long before the management plan came about.¹⁶⁰ For instance, since 1998 a multispecies model, combining capelin and cod, has been used to set the TAC for capelin.¹⁶¹

Discussion: The organizational nature of the management plan resembles that of “command and control,” and tends to turn questions involving fundamental human values into technical problems that may exclude the public from democratic processes.¹⁶² It has become an important tool for the oil industry, as it defines areas that are too vulnerable, and areas that are open for extraction.¹⁶³ This may indicate that the management plan was a suitable response to a call for legitimate action to deal with the increasing tension caused by oil and gas exploitation.¹⁶⁴ The EA and the set of actions called for may therefore have become adjusted to each other in a new, unique combination. The plan process may also be regarded as an example of how new ideas compete with conventionality, with ideas and current practice being adjusted to each other.¹⁶⁵

The EA ending up as an exclusive version for the fisheries sector is a substantial isonymism. This may be explained by the EA meeting well established fisheries management structures.¹⁶⁶ Hoel¹⁶⁷ argues for the necessity to view biological information on fish stocks in conjunction with socio-economic data and notes that an EA may therefore be difficult to apply to fisheries regulation.

4.6 Black boxed – updates to the plan

The Barents Sea plan has undergone three updates in the form of white papers in 2011, 2015 and 2020.¹⁶⁸ Prior to the first, an evaluation was conducted by scientists that revealed that the reference group, which was to represent local and other stakeholders, had suffered from low representation. Explanations for this included that information was too technical, and meetings were held after decisions had been already made.¹⁶⁹

The 2015 update included an update on the delimitation of the marginal ice zone. Petroleum exploration is prohibited north of the ice edge. This has sparked political discussions on how to define the ice-edge and which cartographic sources to use. This ice-edge is in the north-western part of the management plan area, and places, once again, the management plan in the middle of the political debate on oil and gas exploitation in Norway.¹⁷⁰

The 2020 update included amongst other things, a new definition of the ice edge. As preparatory work for the 2020 revision, a report was written on how to conduct CIA, indicating that this remains a problematic area.¹⁷¹ This means that science is still grappling with one of the main preconditions for successful application of the EA.¹⁷²

Discussion: At present, the EA has lost most of its original features, a situation which may have been dealt with through organizational hypocrisy.¹⁷³ In other words, initially there was a lot of discussion about changes, but as measures materialized, they were adjusted to fit well established practices and institutions.¹⁷⁴ The modifications to the original idea were taken stepwise, and only became visible at a later point in time. What was originally a controversial idea, aiming to challenge traditional management, ended up as modified “business as usual” in the Barents Sea Plan. The updates are an indication that the Barents Sea Plan has been “black boxed”, meaning it is taken for granted and no longer questioned.

5 Conclusions

This article has tried to shed light on how and why the idea of the EA has changed during different stages of translation. The reembedding of the EA into the Barents Sea Plan shows substantial isonymisms including: a loss of the bottom-up ethos; abandonment of stakeholder involvement in goal identification; science not undertaking CIA as originally intended through ecosystem models; abandonment of the ecosystem as the management scale; lack of holistic and integrated management; lack of adaptive and dynamic management approaches; lack of participatory decision-making (perhaps with the exception of oil and gas related decisions); a top down instead of bottom up approach; a centralized instead of decentralized structure; and the decision to build on existing structures and sector administration instead of new institutional bodies for cross sectorial decision making. This situation resembles the traditional management approaches that the EA set out to replace: problem-solving, goal setting and planning on a technical basis alone.¹⁷⁵

There are, however, also examples of isopraxisms, including: a focus on integrated science and filling knowledge gaps; a focus on defining objectives and goals and using indicators to assess success; increased cross-sectorial, and cross agency integration; and increased scientific cooperation, communication, and trust.¹⁷⁶

The rescaling of international environmental politics means increased complexity in terms of more arenas, more actors, and more drivers of change those environmental ideas must surpass. As framework environmental treaties are characterized

by imprecise and loose wording, this tends to give room for widely diverging interpretations. This, combined with lowest common denominator decision-making that often excludes scientists, may easily lead to the dilution and stretching of an idea like the EA.

The EA was also subject to a “policy pull”. As the science behind the model proved difficult to fulfill, the policy processes kept going, and there was a need to adjust the EA to the available knowledge and tools. This can explain reverting to sectoral knowledge and the EA becoming an incremental part of traditional oceans and fisheries management.

The multiscale nature of global environmental politics has also led to a plethora of international laws and soft laws. The EA has undergone a substantial amount of institutional interplay, which has led to the further dilution of, and more confusion around the EA. Institutional interplay can affect the way problems are defined. As new ideas get closer to the “real world”, they start to meet with actors that identify irrationalities and potential obstacles, and the definition of the problem changes. The moldable nature of the EA let the modified definition of the problem split it into both an EAF and an incremental part of sectoral fisheries management.

The delineation of the Barents Sea management plan, with its focus on the ice-edge and how the plan should be applied today, emphasizes how local action to deal with controversies concerning oil and gas exploitation can be a strong driver. The management plan may well be a completely new and unique combination of a modified EA and a mechanism for dealing with controversies surrounding oil and gas exploitation, possibly contributing to the many isonymisms.

A decoupling in time of talk and action, is important in the theory of organizational hypocrisy. However, this decoupling is not regarded as a strategy to lead people astray, but as a necessary and pragmatic process towards organizational change. It is a way of adjusting ideas to the available options and making them applicable and relevant in practical application. This means that the isonymisms of the management plan can be viewed as a pragmatic and practical take on application, rather than “weak” implementation. However, the fact that so much confusion regarding an understanding and definition of the ecosystem approach persists, makes the question of whether this can lead to less ambitious or inadequate outcomes still relevant.

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