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## **A communicative turnaround: Shifting the burden of proof in European fisheries governance**

*Sebastian Linke & Svein Jentoft*

### **Abstract**

Current and prospective changes in European fisheries governance suggest not only a ‘communicative turn’ but a complete turnaround in the relationships between government, science, and the fishing industry. At the heart of these changes are the so-called *Regional Advisory Councils* (RACs) and the idea of partially replacing the burden of proof on the resource users (fishing industry). This change entails new forms of interaction between fishers’ representatives, other stakeholders (e.g. NGOs), policy-makers and scientists. By drawing on experiences from the Baltic Sea RAC, the analysis focuses on two aspects of fisheries governance: *institutional design* and the *process* of negotiation and decision-making. It is concluded that to allow for a partial shift in the burden of proof, stakeholder organisations such as RACs need to adapt both institutionally as well as process-wise to enable a more constructive and responsible fisheries governance system.

**Keywords:** reversed burden of proof, Common Fisheries Policy, Regional Advisory Councils, interactive governance, knowledge interaction

### **1. Introduction**

Recent reforms of the European Unions (EU) *Common Fisheries Policy* (CFP) suggest a paradigm shift in fisheries governance that entails a turnaround in the communicative relationships between various stakeholders and fisheries management. The current CFP builds upon a highly centralised, top-down and almost exclusively science-based governing process. Recent changes in this governance structure to allow for more stakeholder participation via the so-called *Regional Advisory Councils* (RACs) and proposals of a ‘reversed burden of proof’ (RBP) on the resource users (the fishing industry), would involve new ways of interaction, including how knowledge is communicated and verified among the involved parties: scientists, fishers and other stakeholders (e.g. non-governmental organisations – NGOs).

The concept of an RBP in fisheries governance under the CFP has been put forth in the recent Green Paper [1]. According to this model, it is the responsibility of the industry and not national or international governing agencies to demonstrate that fisheries operate responsibly in return for fishing access. An RBP therefore entails a substantial shift in the way that fisheries are governed: instead of agencies such as the European Commission or national governments having to prove that a fishing plan (e.g. a catch quota) does irreversible harm to the ecosystem, it is up to the resource users (the fishing industry) to demonstrate in advance that such activity is not likely to inflict serious damage. This shift in management responsibility imposes various challenges and risks but also new opportunities for a more sustainable governance of the seas. It is still unclear to what extent and how an RBP, coupling rights and

responsibilities to the industry will be introduced and implemented in European fisheries governance. However, because this topic has been addressed in various policy and academic circles as a promising way forward [2-6], particularly in the advent of the next CFP reform, this article explores the possible consequences of an RBP by focusing on the EU fisheries system.

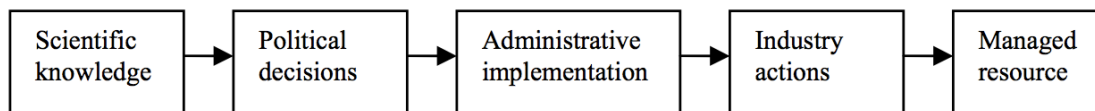
The article follows two recent CFP reform processes (2002 and 2012) and addresses the changing role of stakeholders under the shift from a traditionally linear science-policy interface towards a more interactive governance system that involves actors beyond scientists and policy-makers: fishers, NGOs and other interest groups. Two aspects of reforming fisheries governance under the CFP are considered: *institutional design* and the *process* of deliberation, negotiation and decision-making, drawing on experiences from the Baltic Sea RAC. Although the RACs were initially created to give the industry greater influence over the fisheries management, they are not intended to fulfil the role of reversing the burden of proof. However, in the current EU system, they are the only stakeholder-led organisations that can assume such a role.

Drawing upon lessons from the Baltic RAC, this article discusses the potential role of the RACs under an RBP. It asks whether and how the former (design), the latter (process), or both must be reformed to undertake such a responsibility. Aside from institutional design, the processes of communicative interactions between the different stakeholder groups, and especially between fishers and scientists, seem to account for the most serious obstacles to a new governance system with an RBP. Overall, this fact might be a crucial hindrance for shifting the burden in practice: if proposals for an RBP were implemented, stakeholders from fisheries and NGOs would be heavily dependent on fruitful communication and cooperation not only among their own particular constituency but especially with other stakeholder groups, such as scientists. To prove a specific management strategy workable, the fishing industry would need to cooperate more directly with scientists. This arrangement would also be necessary for policy-makers and management agencies that would require the science system's assistance in evaluating proposals advanced by the industry. Under an RBP, the scientific community would thus have to serve more than one master (i.e. the government). This task would perhaps not be achievable through a single scientific institutional instrument such as the *International Council for the Exploration of the Seas* (ICES). Instead, the science system would need one means to communicate directly with the industry and another means to interact with government agencies, the EU and other interest groups (see below).

The following section of this article discusses the theoretical context of an RBP, i.e. the issue of science versus other areas of expertise and how they interact in policy-making processes. The subsequent two sections present the major changes in the European governance system resulting from the 2002 CFP reform with the RACs and the 2012 reform with the proposed RBP. In the discussion section, issues pertaining to institutional design and the process implications of a shifting burden of proof are addressed. This latter section questions what such a shift towards an incremental establishment of an RBP can possibly involve for the relationship between science and other stakeholders and how the science system as well as other stakeholder organisations, such as RACs, would need to adapt to these changes. The conclusion section summarises the conditions for the success or failure of an RBP within the current (2012) CFP.

## 2. Theoretical context

The role of science in fisheries governance has traditionally followed a linear model. It builds upon the optimistic assumption that natural science can be directly applied to political decision-making (Figure 1). Despite insights from the social sciences as well as from the practical experiences in various domains of policy-making about the inappropriateness of such an “ideal causal chain” of science’s advice in management [7], this model continues to play a predominant role in the policy framework of the current CFP. One consequence is that economic and social perspectives have largely been ignored in fisheries governance [8,9].



**Fig. 1.** The ideal causal chain of fisheries management, building on a line of coordinated events (taken from [7]).

During the second half of the 20<sup>th</sup> century, fishers’ knowledge was dismissed as of local character, anecdotal, and interest-driven and therefore unreliable for policy-making. To the contrary, scientific knowledge in general was regarded as politically unbiased, trustworthy, universally applicable and therefore more legitimate as the basis of governance [10]. After the 2002 reform and the “preliminary skirmish” over an RBP [11] in the context of the new reform process for 2012, the introduction of stakeholder involvement in EU fisheries with the RACs deviates from the linear model.

Over the last two decades, the “lay-expert divide” in the use of knowledge has become a major focus in social science research and particularly the field of *Science and Technology Studies* (STS) [12-16]. In recent years, it has also become an important topic of fisheries social research reflecting upon the preeminent epistemology of science in fisheries governance [17,18]. The so-called ‘modern model’, which builds upon the idea that science can ‘speak truth to power’ by providing value-free, objective input to politics [19], has resulted in a strict demarcation between the institutions of science and those of politics in most science-dependent domains of Western politics. With respect to fisheries, Holm and Nielsen [20] provide a revealing analysis of how this artificial demarcation has shaped an institutional division of labour between science (ICES’ annual fish stock assessments) and politics (annual quotas as regulation measures) in European fisheries governance under the founding period of the CFP. Yet, the idea of separating science from policy-making is now increasingly brought into question. For instance, Bäckstrand [21, p. 650] calls for a rethinking of “the notion of the expert, the boundaries between local and global knowledge, the implications of radical uncertainty, the scope for public participation in science, and the relationship between democratic politics and specialized expertise”.

The move towards an RBP by involving the industry and other stakeholders more actively and responsibly in fisheries governance does require such a fundamental rethinking of the role of science and other knowledge cultures along with their integration into policy-making. An RBP requires the science system to substantially change from giving advice to politics ‘from the top’, i.e. as the sole

purveyor of objective knowledge, towards a role that implies multiple, more horizontally aligned tasks for science and scientists. This change not only calls for the science system to consider more seriously the socio-economic aspects of fisheries and to set standards for regional objectives in the preparation of fishing plans. It would also mean that science becomes a mediator for knowledge communication and information in cases of arbitration or litigation [11]. Therefore, new arenas and channels for communication and mediation need to be established between science and other stakeholders, such as the RACs. This shift is crucial in addressing questions of knowledge validation and legitimation from the different perspectives, e.g. of authorities, researchers, environmentalists and the resource users (fisher groups).

The institutional pathways provided at present for the communication between these different parties all connect via the EU Commission as the central organisation of the CFP and are far from sufficient for an RBP. To create a new and more devolved system (or even a partial RBP), new avenues for more direct communication and interactive learning processes must be developed, most of all between the stakeholder/user groups (e.g. in the RACs) and scientists (mainly from ICES). Stakeholders in the RACs, for example, have frequently addressed this issue, arguing that the current working mode of approaching the Commission to seek assistance from scientists is inadequate, and they urge for opportunities to address science and scientists more directly (Linke pers. observation).

New approaches for communication and learning between fishers and scientists remain challenging, as both parties employ different avenues for knowledge production and work within distinct epistemic frameworks. This situation creates problems of interpreting and communicating different observations and information, e.g. concerning the status of fish stocks. Fishers use their experiences of catch rates per unit of fishing effort (CPUE), whereas scientists use models for estimating actual stock sizes to assess the amount of fish [22]. The crucial question is thus how and which types of “boundary objects” [23] could be deployed to bridge and mediate the different epistemic cultures of fishers and scientists.<sup>1</sup>

A more direct communication will still rely heavily on expert input but entails adapting and contextualising science in response to a new relationship between science and the ecological knowledge of fishers [24-26]. Thus, the science system needs to be radically “democratised” [12] to adjust to new interactions between authorities, scientists, fishers and society at large. It also implies the necessity of finding a *common language* that entails clearly defined, agreed upon and *trusted* sources of information. While such a challenge seems daunting from a distance, at the micro-level, many initiatives have already been launched, such as roundtables and other forums practicing the communicative interactions between scientists and fishers. Besides various local initiatives, ICES has, since 2007, developed a programme that involves young fishers at the ICES’ Annual Science Conferences [27]. Furthermore, ICES has held so-called Dialogue Meetings since the 1980s that aim to “facilitate and exchange” information and knowledge “between industry representatives, managers and scientists” [28]. Finally, the idea of the RACs is to provide a transnational institutional platform for knowledge exchange. However, the process is time

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<sup>1</sup> Lidskog and Sundqvist [63, p. 92] describe boundary objects as “tools for integrating different groups, for example, scientists and policy-makers. Such objects create science and policy, while at the same time helping to create consensual attitudes and knowledge”.

consuming and perhaps most importantly requires mutual trust among the involved parties who have long been suspicious of one another.<sup>2</sup>

Nonetheless, these initiatives raise the basic question of whether science is ready for or can survive a radical democratisation. In other words, can science still define and uphold its boundaries if it attempts to make fully transparent its very methods of knowledge production - not only to fellow scientists, but also to society at large? Or, is the concept of scientific knowledge diluted to an indefinable entity through such a process?<sup>3</sup> Wilson [18] concludes that the effort to make fisheries science fully participatory results in the “paradoxes of transparency”. This concept implies that science works as a discrete “communicative system” that cannot by its very definition be opened to negotiation concerning the status and content of scientific knowledge outside of its own realm. Wilson argues that science is a distinct communication system that can only be questioned by scientists in their own language and not by fishers or other ‘outsiders’.

How such a systems-theoretical deadlock might be overcome has been a major concern within STS, a research field focusing on how ‘boundary work’ is continuously deployed to define legitimate knowledge within a particular governance dispute [29,30]. An important research issue in STS is how science and policy are “co-produced” and mutually embedded in society instead of being perceived as separate entities with their internal *modi operandi* [31-33]. Similar to Wynne’s [34] famous example about scientists’ ignorance of valuable and valid non-expert knowledge from sheep farmers after the Chernobyl fallout in West Cumbria, fishers’ expertise can also be understood as a relevant input to the overall governance process instead of being dismissed as local, anecdotal and interest-driven. The different ways of knowing (or ‘situated knowledges’) can potentially play an active and supportive role in policy-making and thus help to advance the governability of social and ecological systems such as fisheries [35]. As Irwin [33, p. 595] suggests, “lay understandings may not be so different from scientifically validated knowledge”.

### 3. The Common Fisheries Policy

In general, EU fisheries are governed vertically via the *Common Fisheries Policy* (CFP) under the EU Commission. The CFP was established in 1983 primarily as a conservation measure to counter the accelerating problem of overfishing, which arose with the increase in technical fishing efficiency after WW II. Since its establishment, however, the CFP has not achieved this goal of managing fishing sustainably and is therefore often considered a failure (e.g. [36-38]) or described as a “system in crisis” that is worsening year by year [39].

The situation is not unique to Europe; in fact, such governance failures can be seen in marine ecosystems around the world (cf. [40,41]). This result has also been interpreted as a failure of the science system and the way in which it’s advice informs

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<sup>2</sup> One of the most advanced collaborations between science and fisheries is the so-called Reference Fleet in Norway, established “as a new trust-based cooperation between fishers and scientists” [64, p. 16], see <http://www.imr.no/temasider/referanseflaten/referanseflaten/en>.

<sup>3</sup> Gieryn has most prominently described this problem of scientific credibility: “[Science is] nothing but a space that acquires its authority precisely from and through episodic negotiations of its flexible and contextually contingent borders and territories. Science is a kind of spatial ‘marker’ ... empty until its insides get filled and its borders drawn amidst negotiations over who and what is ‘scientific’” [65, p. 405].

policy-making and governance [42,18]. Because the EU's fisheries governance has always been based on science, the specific role of science and its communication, credibility and legitimacy have become key issues in the search for solutions. As a consequence of these failures, an entire research field on marine policy has been established to pursue the question, "Why has the best available scientific advice apparently been ignored in the regulation and implementation of fisheries policy in Europe?" [37, p. 191]. Could it be that the basic problem is the top-down governance approach based on a linear understanding of the role of science in political decision-making (cf. Figure 1)?

A first serious shift away from this hierarchical mode of governance occurred approximately ten years ago with the reform of the CFP. The reform proposal recognised the problem of relying exclusively on science as the sole knowledge provider and addressed the need to involve stakeholders from fisheries and NGOs to build a more socially robust body of knowledge that "must maintain an open channel to fishermen's own knowledge" [43, p. 40]. A "more effective and participatory decision-making" was emphasised as a key mechanism to cope with "shortcomings and internal systemic weaknesses of the CFP" [44, p. 4]. These shortcomings were identified "as poor enforcement, lack of multi-annual management perspectives, fleet overcapacity and insufficient stakeholder involvement" (ibid). The new CFP (after 2002) set out to be guided by the principles of "good governance", including a "broad involvement of stakeholders at all stages of the policy from conception to implementation" [45, p. 6]. The most conspicuous outcome of this reform was the establishment of the RACs as new institutional forums for stakeholder participation, integration and knowledge contribution. The RACs were set up to "ensure that they include all the interests affected by the CFP" while recognising "the primacy of the fishing interests given the effects on them of management decisions and policies" [46, p. 17]. This reform resulted in an institutional design that included a 2:1 allocation ratio of interest representation within the RACs, where two-thirds of the seats are allotted to representatives from the fishing industry and one-third to other interest groups.

Between 2004 and 2008, seven RACs were established, representing a significant step towards addressing fisheries management in Europe in a new, more inclusive and interactive mode of governance. In their broad representation from the fishing industry and various other parties, such as environmental organisations, consumers, recreational fishery and aquaculture, the RACs have unique features as consultative bodies [47]. As "grass roots" organisations, the RACs are "the first formal attempt to generate a network of multi-national, multi-interest advisory organisations with a strong regional focus" [48, p. 66]. The Commission views the overall functioning of the RACs as successful: "Despite the difficulties encountered in the start-up phase", they have "already made a positive contribution to the development of the CFP" [49, p. 11].<sup>4</sup>

However, from a more critical perspective, the positioning of the RACs can be seen as a mismatch between the overtly stated participatory purpose (inclusion of stakeholders' knowledge and experience) and the stage in the governance process at which they are actually located (the evaluation of management proposals, cf. [50]).

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<sup>4</sup> The UK House of Lords Select Committee holds a similar view of "the establishment of the RACs as the most positive development to flow from the reform of the CFP in 2002" quoted in Long [47, p. 296]. Report available at: <http://www.publications.parliament.uk/pa/ld200708/ldselect/ldcom/146/146.pdf>.

They tend to be consulted too late in the policy process to have an effective impact on decision-making. In a similar vein, Long concludes that while the RACs are “a solid legal basis for the establishment of stakeholder consultative bodies...the impact so far of the RACs on decision-making within the CFP is less striking than their organisational structure and continues to be the subject of ongoing debate” [47, p. 294].

The RACs have been working for some years now with varying degrees of success and differing internal achievements [47,50,51].<sup>5</sup> Crucial questions regard the future possibility of enhancing the RACs’ function within a real participatory co-management process under a new decision-making structure in the CFP after 2012 [52]. Expectations rest on how the RACs themselves, or any other stakeholder bodies, might serve this purpose and take a more responsible role in fisheries governance at a regional level.<sup>6</sup> One issue of interest for us here is how the RACs may work as a contributor to management within a new EU governance system under RBP.

#### **4. Reversing the burden of proof**

The EU Commission’s proposal for the new CFP reform in 2012 was presented in a Green Paper in April 2009 [1]. One of the proposal’s elements is to encourage the fishing industry to assume even more responsibility in the management and implementation of the CFP, i.e. to increase the industry’s participation beyond what RACs currently are and do. Thus, the EU expressed a renewed commitment to revising the decision-making structure within European institutions to enhance stakeholder involvement in the governance of fisheries (ibid). For the many actors in the fisheries sector who have been dissatisfied with the current CFP and the role of the RACs (e.g. see [47, p. 344; 53]), the introduction of an RBP might be seen as a step in the right direction.

A substantial shift towards stakeholder participation and devolved management responsibilities under an RBP remains hypothetical. Nevertheless, management responsibilities are likely to be reorganised in EU fisheries over the coming years, and there is a strong call for the industry to shoulder more of the burden of proof within fisheries governance. Such a move would, without a doubt, entail a substantial change in the current governance structure of the CFP, as it will reorganise the roles and divisions of labour between key stakeholders.

At present, all fisheries governance functions rest with governments, the EU Commission, the Parliament and the Council of Ministers. The RBP would change this situation, as the 2009 Green Paper states: “it [results-based management] would have to be linked to a reversal of the burden of proof: it would be up to the industry to demonstrate that it operates responsibly in return for access to fishing” [1, p. 11]. The primary benefits of what could be achieved by an RBP are a more sustainable fishing management and an increased culture of compliance of the fishing sector with EU regulations as, according to Lassen et al. [11], the RBP would

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<sup>5</sup> There are also experiences of different RACs where the Commission has not followed the advice carefully prepared by the RACs because of inconsistencies with broader conservation objectives [47, p. 294-5]; [66, p. 592].

<sup>6</sup> For a substantial discussion on this issue, see the report of the Inter-RAC conference “Decision-Making within the Reform of the Common Fisheries Policy”, Edinburgh, 3-4 November 2009 (<http://www.nsrac.org/wp-content/uploads/2009/09/Edinburgh-CFP-Conf-Report.pdf>).



- create greater *clarity* and *transparency* in the management process,
- *(re)place responsibility* closer to those directly involved, who will ultimately carry the burden of proof (fishing industry),
- move towards *collective responsibility* (for actions of the fishing industry), and
- develop a *more positive, proactive approach* based on seeking the *best opportunities for fisheries* rather than evoke reactive responses to a top-down micro-management approach.

The most significant difference under an RBP is the change from the current situation that permits fishing activity *until* there is evidence that it causes irreversible damage to the ecosystem (or harms the sustainability of a fish stock) towards one in which the industry is required to *demonstrate ahead* of the fishing activity that it does not cause damage. Fishing activity would thus require “prior consent” from government, unlike the present situation in which demonstration of fishing’s impact occurs largely after the event [11]. The RBP would imply that a precautionary principle is applied in a strong sense [6].

Apart from the huge organisational and institutional changes and challenges that would accompany a shift in the burden of proof, the turnaround addressed in this article also implies substantial alterations in the ways that various actors would interact with each other, communicate, use and negotiate their expertise, authority, and responsibility. In other words, the institutional change that the shifting burden of proof releases would also require a fundamental change in the governance process. An RBP therefore involves not only issues of (re)distributing political powers and responsibilities but also how expertise is treated and how knowledge from different stakeholders (e.g. fishers, environmentalists and scientists) is activated, negotiated and legitimated. It would also determine how the outcomes of these negotiations are used in different domains of fisheries governance and decision-making. For example, actors in the fishing industry would require the help of scientists to design a particular management strategy and prove a fishing plan workable in terms of sustainability for policy-making to present to the governing agencies. The latter, in order to audit and respond to such a plan, would require evaluation and advice from scientists. The question that arises at this point is whether a single science system would be able to serve these two (or possibly more) masters or whether the science system would need to divide into two or more groups. In the latter case, one part of the scientific community would act for the industry, shouldering a burden of proof in management, and another part would serve the agencies responsible for the overarching governance process. How this arrangement might work in practice and what role the RACs could play within such a new governing system remain open questions. Several potential scenarios are discussed in the following section.

## 5. Discussion

### 5.1 *The rationale of RBP*

The RBP principle is applied under numerous circumstances in the EU as well as in other countries, including the US, for decisions concerning drugs, pesticides, radioactive substances, genetically modified organisms (GMOs) or other issues that are potentially hazardous to nature or to human health. The logic of an RBP follows

the precautionary principle [6,54,55], which, since the 1980s, has been a central focus of environmental legislation and fisheries governance. “More concretely, the precautionary principle posits a presumption in favour of protection of the environment and public health” [56, p. 203]. “At its strongest”, Freestone explains, “it can be used to reverse the traditional burden of proof, so that in cases of scientific uncertainty as to possible effects of particular activities, the burden of proof is passed to the potential polluter, who needs to prove that his, or her, activities will not damage the environment” [6, p. 5].

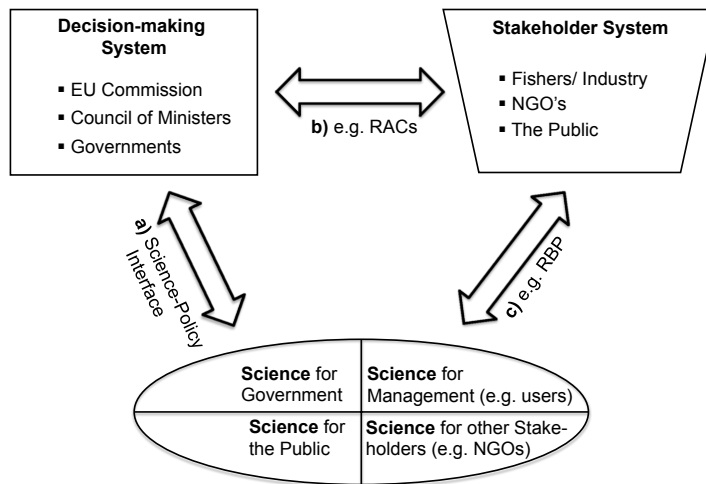
For fisheries, RBP is a new paradigm: doubt shall not only work to the benefit of the fish stocks and the marine environment, the user of the resource (the fishing industry) has to prove to the public at large, as the owner of the resource, that using (fishing) it is sustainable. This shift will have a profound effect on how fisheries governance works. Not only does an RBP alter the traditional division of labour between science, management and stakeholders, it also alters the institutional relationships and dynamics within and between the governing system and the system-to-be-governed [35]. Moreover, an RBP would affect the way that actors need to communicate and therefore the nature of the discourse itself (e.g. what information is transmitted and which knowledge is mobilised by whom and to whom). Indeed, the success of such a governance mechanism largely depends on whether the communicative process will work constructively.<sup>7</sup> It also has the potential of influencing – i.e. either increasing or decreasing – the level of trust and commitment among the involved stakeholders as within such a system, they would attain a formal role as co-producer of the fisheries governance knowledge. In the following section, the likely consequences of an RBP will be discussed. What conditions are essential for an RBP to work?

## 5.2 *An interactive governance system*

Figure 2 illustrates the ways in which the three main actor groups would interact under a shifted burden of proof in a reformed CFP system: 1) governing actors, 2) stakeholders and 3) science/scientists. Under an RBP, the science system is assigned a role as one among several knowledge providers, such as fishers, NGOs and other stakeholders. Instead of serving only the political system following the linear model, the RBP would transform the CFP into a more inclusive and interactive governing process, thus eliminating the previous two-dimensional “co-production of science and policy” [32]. The arrow a) points to the existing bi-directional science-policy interface. Within this relationship and through these interactions, a co-produced knowledge system has evolved interdependently and become firmly institutionalised, described by Holm and Nielsen [20] as the “TAC Machine”. The arrow b) represents the outcome of the 2002 CFP reform, which resulted in the RACs as a new platform for stakeholder participation and knowledge inclusion [50]. The arrow c) is the added dimension under an RBP. However, under an RBP, other relationships also change (arrows a and b in Figure 2), thereby bringing about entirely new dynamics in the governance system. This dynamic is what this article deems the “communicative turnaround”.

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<sup>7</sup> The ICES Working Group on Maritime Systems puts forward the importance and inter-linkages of good governance and the communication of scientific advice [67].



**Fig. 2.** The three main actor systems under an RBP in the EU fisheries governance system, indicating their (altered) communicative relationships. The (interdisciplinary) science system would need to split in order to serve different clients.

In the RBP model, all actor systems are knowledge producers in an overarching interactive governance process [57]. However, as knowledge co-producers, the three systems contribute different types of knowledge, which together inform the decision-making process and final outcome in terms of rules and regulations. In broad terms, following the classic distinctions of Aristotle, whereas science produces *epistemic* ('universal') knowledge and management agencies deliver *techne*, that is, knowledge about how to convert knowledge into administrative procedures and legal rules, the contribution of the stakeholder system is basically *phronetic*, meaning a provider of practical, social and contextual knowledge [58,59]. Notably, an RBP does not guarantee that the *phronetic* knowledge will be made relevant. Such a shift will only occur insofar as a deliberate attempt is made to include such a dimension. Stakeholders will need to determine in advance what the fishing industry is required to prove, for example, that the resource use is for the benefit of society as well. In this context, the RACs, as the main stakeholders outside of science and policy, may have an important role to play. They might also open a new way to integrate more social science into fisheries governance, as the social sciences are a major producer of valid *phronetic* knowledge [59].

### 5.3 Institutional and procedural implications

To allow for a shift in the burden of proof under a reformed CFP involving the RACs, two issues must be considered. They include 1) *institutional design*, i.e. where and how the RACs or any other stakeholder organisations shouldering the burden of proof are positioned in the governance system relative to the other actors. This factor pertains to their mandate, structure, operational and constitutive rules, as well as their formal linkages within the governance system as a whole. It is essential that the institutional framework creates conditions that are conducive to the functioning of an

RBP. Issue 2) concerns the actual *governance process*, i.e. the way the actors from the three systems in Figure 2 are able to interact, communicate, learn from each other, negotiate and reach common decisions that are considered legitimate by the relevant parties. The actors must know (or learn) how to relate to and interact with each other in an amenable and constructive fashion, for example, how to approach opponents to avoid unnecessary conflicts, misunderstandings and frustrations. In other words, shifting the burden of proof requires a positive atmosphere around the negotiating table [60]. Table 1 illustrates four scenarios for a reformed governance system within which an RBP becomes the rule for knowledge production and validation and where the RACs have a potential role to play.

**Table 1:** Four scenarios for the RACs within an RBP (see text for explanation).

	<i>Process reform</i>	
<i>Institutional reform</i>	YES	NO
YES	<i>Total overhaul</i>	<i>Partial overhaul</i>
NO	<i>Partial overhaul</i>	<i>No overhaul</i>

Drawing on experiences from the Baltic Sea RAC,<sup>8</sup> it is discussed what might happen to the RACs under an RBP. Would they be able to handle this responsibility in their current state? Would they need to be reformed institutionally and process-wise in order to become effective knowledge producers - and if so, how? Or, would they become irrelevant and thus in need of replacement by some other form of organisational arrangement? As illustrated in the table, four scenarios emerge. First, neither the institutional design nor the process is suitable for RBP responsibilities. To manage their new functions, the RACs would require an overhaul of both the institutional design and the governance process. The second and third scenarios (partial overhauls) are situations in which either the institutional design or the process is dysfunctional. Whether the problem is one or the other suggests different repair measures. In one situation (inadequate institutional design), one would need to address the system of representation, distribution of power and legal mandate, which are problematic given the current interest allocation ratio. In the other situation (inadequate process), one must address the way in which the discourse evolves, for instance, how actors communicate and deliberate. This approach would also entail a focus on how the RACs operate at a practical and informal level. Are people sufficiently acquainted to develop trustful and congenial relationships? The fourth scenario is one in which both the institutional design and the process are functioning adequately for an RBP, and neither needs to be reformed.

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<sup>8</sup> In total, we attended 10 BS RAC meetings, had numerous informal communications with RAC members and attended several workshops in which the RACs were the topic of discussion.

## 5.4 *Illustrations from the Baltic Sea RAC*

### 5.4.1 *Institutional design*

The Baltic Sea RAC (BS RAC) was established by the EU Commission in 2006 and includes stakeholders from all riparian states around the Baltic except Russia. It consists of an annual General Assembly with more than 30 stakeholder groups and an Executive Committee (ExCom) that meets more frequently. Both organisations follow the 2:1 ratio of interest representation (two-thirds of the seats for fisheries and one-third from other interest groups). These interest groups include fisheries associations, producer organisations, processors, market organisations, environmental organisations, aquaculture producers, consumers, women's networks and recreational and sports fishers (see <http://bsrac.org>). Anyone who can prove that they have a stake in Baltic Sea fisheries policies can apply to become a member. The secretariat is located in Copenhagen and currently consists of one full-time and one half-time position. Scientists are not allowed to be members of the RAC but hold observer status and are frequently invited to exchange information on specific discussion topics.

The ExCom has 24 members and makes decisions on recommendations and communications to the European Commission, ICES, governments and eventually to other stakeholders. The organisation is basically reactive to requests from the Commission but in some instances puts forward proposals on various issues pertaining to fisheries. Normally, approximately 30 people are present at the meetings. The chair of the RAC is elected by the General Assembly and comes from the fisheries sector as a result of its formal majority representation. To avoid problems related to the position of the chairperson, who would naturally side with the particular group he represents, a co-chair from *World Wildlife Fund* (WWF) was installed. BS RAC members agree that the start-up phase of this new organisation has been difficult but often state informally that discussions have become more constructive over the years.<sup>9</sup> The BS RAC has three working groups: for salmon, pelagic and demersal fisheries. The chairs of each group are representatives from the fishing sector, and members vary in accordance with the issues under discussion. They meet irregularly, discuss issues of concern to the specific fishery, and draft proposals to be discussed and eventually adopted in ExCom.

The formally assigned representative ratio, with the dominant role of fisheries stakeholders, has been a matter of dispute that has proven difficult to resolve. As a consequence, the BS RAC has attempted to avoid putting decisions to a vote, as this decision-making procedure tends to frustrate the minority group. For example, on one of the most contested issues, the recommendations on annual fishing quotas, the BS RAC has often not reached a consensus, as it should for its recommendations to be seriously considered by the Commission [50]. This tendency can be seen in BS RAC documents for the EU Commission, where majority statements to increase quotas (mirroring the fisheries interests) are accompanied by minority statements to decrease

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<sup>9</sup> A cursory analysis of other RACs suggests that they differ with regard to internal mechanisms, informal decision-making procedures, atmosphere, etc. For example the Pelagic RAC, does its utmost to reach consensus and has only twice out of the more than 100 recommendations made to the Commission been unable to provide an unanimous recommendation, whereas the BS RAC has more frequently done so in terms of majority/minority statements (Jesper Raakjær pers. comm.; [50]; for information on other RACs, see, e.g. [51,68-70].

the same quotas (put forward by the one-third group). When this situation arises, the recommendations are less binding for the EU Commission [46,51,61].

#### *5.4.2 The processes of interaction*

The agenda of BS RAC meetings include topics related to proposals for long-term management plans, annual quotas (TACs), and technical measures, such as fishing gear. While the NGO representatives usually draw their arguments from research studies, agency reports, etc., fishers and their representatives refer to their own practical experiences. Discussions on these and similar issues can become heated and emotional ~~and in some instances, even hostile~~. Most of the time, the majority of the audience remains silent, and the discussions tend to occur between a few key people.

Another issue pertains to the modes of interaction between BS RAC members and scientists. When spokespersons from ICES appear at the BS RAC meetings to present the annual quota recommendations, their advice is often met with distrust from the fisheries stakeholders. The advice may at times be characterised as “flawed”, based on “silly assumptions”, resting on “insufficient data sources” and/or “inadequate models” (Linke 2011 pers. observation). For example, when a (complex) model of salmon stocks for the Baltic was presented in 2011, an analogy was drawn to H.C. Andersen’s “The Emperor’s New Clothes” – implying that the model is fantasy.

In another instance, when a person from an environmental NGO was nominated for a vacant ExCom seat, someone from the fisheries sector used the term “Taliban” to characterise this stakeholder’s stance towards environmental protection. On yet another occasion, a representative of the NGO was asked: “Haven’t our green friends anything to say, but please be brief and not repetitive.” These examples illustrate an atmosphere in the BS RAC meetings that does not always accommodate constructive discourse. In fact, as one NGO representative explained to us, he found attending the meetings to be very frustrating.

#### *5.4.3 Some lessons*

The tone and character of the BS RAC discussions can unsurprisingly be characterised as more political than academic. In the latter sphere, people ideally adhere to the aim of identifying truths, whereas in the political realm, the goal is to win the debate and thereby promote one’s vested interests. In the RACs, this approach is reflected in the way the 2:1 representations tend to unfold amidst decision-making processes. This situation is hardly conducive under a situation of RBP. As they are composed today of the opposing interests of environmental NGOs and fisheries industries, the RACs seem unfit for this task. Vested interests are difficult to overcome in order to allow for the interactive learning process and consensus that responsible governance under an RBP requires. The particular institutional design with the 2:1 ratio and the formal non-neutral role of the chairperson are not conducive for the type of process that an RBP would require. Although there is not necessarily a direct link from the institutional design to the process, the specific way in which the system is designed affects the discourse within the RAC. However, for RACs to become equipped for assuming RBP responsibilities, the process would also need to change such that the discourse is more constructive than has been the case thus far.

In a recent study on the role of science in the BS RAC, Stöhr and Chabay [62, p. 350] conclude that, “The scientific advice cannot overcome the conflict between the different rationalities of, for example, nature conservationists and fishery representatives.” Whether such a goal is realistic or not, it is a matter worth considering. A remaining question is how essential it is to overcome this conflict within the RAC for it to still have a role under an RBP, i.e., whether consensus or compromise is the objective. The ideal outcome of a scientific (or any other) consensus is perhaps not strictly necessary to be truly effective. A robust institution should be able to work despite conflicting rationalities, but it is essential that decisions are considered legitimate even if they work against one’s immediate interests. Members should be able to conclude, “I lost, but the institutional set-up is reasonable, the procedure was fair, and I can live with the outcome.”

## 6. Conclusion

As concepts from *Science and Technology Studies* (STS) attempt to overcome the traditional distinction of an “expert-lay” knowledge divide, an RBP similarly previews a new type of co-production of knowledge and policy in which actors outside of science are also responsible for providing management proposals.<sup>10</sup> As other cases have demonstrated, including Wynne’s [13,34] sheep-farming study, research dissemination is not necessarily the solution. Instead, a better relationship between scientists and stakeholders is required. As the experience with the RACs suggests, the latter is the great challenge for fisheries governance under an RBP, as well. If expertise from the fisheries sector were allowed to contribute actively and directly in producing knowledge and management plans for the seas, a new, mutual relationship between science and stakeholders must be developed. As Lidskog asserts, “Science needs to become more reflexive and transparent, making its own assumptions and values visible. Earlier demarcations between science and lay people should be transgressed through a democratisation of science and a scientisation of the citizenry” [12].<sup>11</sup> As mentioned above, other voices are critical about such endeavours, emphasising the underlying constraints to making science fully transparent [18].

RACs are arenas established to allow for a broader knowledge representation in a process that draws upon stakeholders’ *phronetic* knowledge in addition to the knowledge of scientists and government actors. Together, they form an interactive governance system [57] previewing a mutual learning process that would result in regulatory decisions, which are more relevant and legitimate. Whether such a development is realistic is partly a matter of institutional design. It depends on how the RACs are formed and positioned within the overall governance system. It is partly also a matter of the discursive process that is only to some extent determined by institutional roles, rules and principles.

For the new reform of the CFP in 2012, expectations rest on the RACs’ new role in the overall governance process. While many RACs declare that they are ready for new, more responsible management tasks, there are also sceptical voices. For

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<sup>10</sup> STS concepts addressing the changing role of science, other expert knowledge and society are, for example, “post-normal science” [71], “mode 2 science” [72] or “citizen science” [73].

<sup>11</sup> Such a vision has (at least partly) been achieved with the “Reference fleet” in Norway (cf. footnote 2), where commercial fishing vessels report their acoustic search data from fishing activity directly to the National Fisheries Institute in Bergen [64].

example, as Gray and Hatchard claim in an early evaluation of the 2002 reform, RACs might be “more rhetorical than real” and just another “lip-service” paid by the Commission to take up new concepts of ‘good governance’. They also state that “while to some extent the rhetoric has shifted from the discourse of authoritarianism to the discourse of democracy, the reality of its [the CFP system’s] top-down structure has not materially changed – indeed, on balance it has been reinforced” [53, p. 553].

However, when evaluating the current and potential future role of RACs, one must also ask who is accountable for judging whether the RACs are a robust institution? There is good reason to assume that the perspective on the merits of the RACs will differ among the various stakeholder groups depending on the degree to which the RACs favour their particular interests. Given the RACs’ representative bias in favour of the fishing sector, one should not be surprised if fisheries interests are more satisfied than other stakeholder groups. Still, even among fisher groups, frustration is often expressed with regard to the RACs’ role and impact on CFP decision-making processes, a sentiment frequently expressed in the BS RAC. The fisher groups often complain that their recommendations are not taken into account even as they have made serious efforts to meet the expectations for the RAC.<sup>12</sup> To require that the RACs must reach a consensus might be too much to ask, as their institutional design and work process make such demands unrealistic.

For the RACs to acquire more substantial responsibilities under an RBP, one must closely assess both the design of the RACs and the process of negotiation and decision-making procedures. Although the distinction between political discourse and knowledge production is not always clear-cut, under an RBP, it would still be important for the former not to compromise the latter. Otherwise, the evidence submitted may be dismissed or disproved by scientific authorities.

An RBP cannot be immediately instituted. Instead, implementing an RBP would require an incremental, trial-based approach, as has been the case with the RAC system itself. Overarching responsibilities, such as sustainability, control and enforcement, will still need to lie with government, while operational targets and most of the operational fishing plans could be delegated to the industry [11]. Some authors thus prefer the terminology of “sharing” over “reversing” the burden of proof [3].

The status and function of the RACs will be of crucial importance for determining whether they are able to develop into true co-management organisations shouldering RBP responsibility. The ‘communicative turnaround’ addressed in this article will therefore be an intriguing experiment in the coming years.

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<sup>12</sup> The BS RAC’s Salmon working group even suggested to cease working due to its inability of influencing policies that help Baltic salmon fisheries to survive (Linke pers. observation, May 2012). Also a recent survey study revealed the general feeling among stakeholders in the RACs that they have limited impact on EU decision-making, though this differs among RACs [69].



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