The Regional Advisory Councils: What is Their Potential to Incorporate Stakeholder Knowledge into Fisheries Governance?

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The Regional Advisory Councils: What is their potential to incorporate stakeholder knowledge into fisheries governance?

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Abstract

The protection of the Baltic Sea ecosystem is exacerbated by the social, environmental and economic complexities of governing European fisheries. Increased stakeholder participation and knowledge integration are suggested to improve the EU's *Common Fisheries Policy* (CFP), suffering from legitimacy, credibility and compliance problems. As a result, the CFP was revised in 2002 to involve fisheries representatives, NGOs and other stakeholders through so called *Regional Advisory Councils* (RACs) in the policy process. We address the RAC's task to incorporate stakeholder knowledge into the EU's fisheries governance system in empirical and theoretical perspectives. Drawing on a four-stage governance concept we subsequently suggest that a basic problem is a mismatch between participation purpose (knowledge inclusion) and the governance stage at which RACs are formally positioned (evaluation of management proposals). We conclude that, if the aim is to broaden the knowledge base of fisheries management, stakeholders need to be included earlier in the governance process.

Keywords:

Fisheries Management, Common Fisheries Policy, European Union, Stakeholder Participation, Governance

Introduction

The impact of fisheries is seen as one of the major threats for the entire Baltic Sea ecosystem. Developing a sustainable management system for fisheries within the EU framework is therefore a cornerstone of this special issue.

The fishing waters of the European Union (EU) reach from the Gulf of Bothnia in the Baltic Sea to the Canaries in the south, from the Azores in the west to the Turkish border in the eastern Mediterranean. The management of fishing, in this highly diverse marine territory, is done centrally by the Directorate for Maritime Affairs and Fisheries of the European Commission from Brussels through the *Common Fisheries Policy* (CFP; see Symes 1997; Sissenwine and Symes 2007). The CFP was established in 1983 primarily as a conservation policy to counter the problem of increased overfishing, which had become a threat to most EU fish stocks and the marine environment. Today the CFP is regarded as "perhaps the most science-dependent sector in the EU" (Griffin 2009: 563; see also Hegland 2006). However, while the CFP is a political and institutional success, its aim to manage fish stocks sustainably has not been achieved (Holden 1994; Daw and Gray 2005). From the

1980s onwards, most European fish stocks have declined dramatically despite tremendous political efforts to control overfishing and to reduce the enormous overcapacity of the European fishing fleet. Due to recent estimates, 88 percent of European fish stocks are overfished and 30 percent of these stocks are outside safe biological limits, implying that they may not be able to replenish (CEC 2009). Accordingly, the trends in Europe prove to be even worse than the intimidating developments in other fishing systems worldwide (FAO 2009).

As a response to the failure in reaching sustainable fishing in the EU, the CFP was revised thoroughly in 2001 recognising a need for increasing stakeholder participation in fisheries management in order to better address conflicts, increase legitimacy and create a 'socially robust' knowledge base for sustainable fishing advice and its implementation. A "more effective and participatory decision-making" was identified as a way to cope with "shortcomings and internal systemic weaknesses of the CFP such as poor enforcement, lack of multi-annual management perspectives, fleet over-capacity and insufficient stakeholder involvement" (EC 2002a). The new CFP should be guided by the principles of "good governance", including a "broad involvement of stakeholders at all stages of the policy from conception to implementation" (EC 2002b).

One of the most significant outcomes of this CFP reform, coming into force January 1, 2003, was the implementation of a new institution called *Regional Advisory Councils* (RACs) as a forum for stakeholder interaction and policy advice from regional levels.[1] The RACs were created to achieving the objective that the new CFP "shall ensure exploitation of living aquatic resources that provides sustainable economic, environmental and social conditions" (EC 2002a). As enshrined in the legislation establishing the RACs in 2004, they are set up to "ensure that they include all the interests affected by the CFP" while recognising a "primacy of the fishing interests given the effects on them of management decisions and policies" (COM 2004: 17). This has resulted in a 2:1 allocation ratio of interest representation in the RACs, where two thirds of the seats are allotted to representatives from the fisheries sector and one third to representatives of "other interests groups affected by the CFP". The most important and dominating actor of the one third group are environmental NGOs, which form a strong, in some cases highly conflicting counterpart to the fisheries interests groups. RACs consist of a General Assembly, an Executive Committee with 24 seats making the decisions, and various working groups for particular types of fisheries (e.g. demersal, pelagic and salmon in the case of the Baltic Sea RAC). While the RACs should serve as the main forum for interaction between science and other stakeholders, fisheries scientists and policy-makers do not participate directly as 'stakeholders' but as 'expert observers' in the RACs (Fig. 1).

[1] Seven RACs have been established, of which five cover different geographical regions of EU waters and two specific types of fisheries (pelagic and high seas/long distance fleet; see http://ec.europa.eu/fisheries/partners/regional_advisory_councils/index_en.htm).

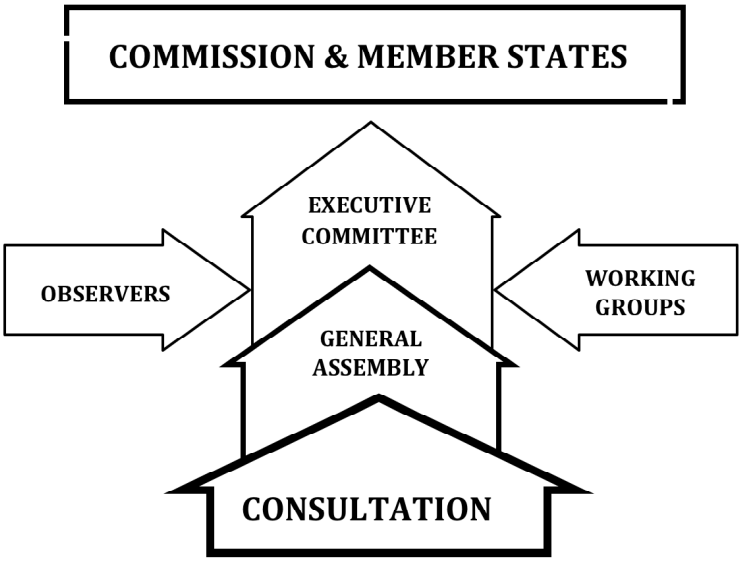

Figure 1: Decision making structure of the RACs (from NS RAC 2004)

Out of their own knowledge and experiences, coupled with the input from science provided by the *International Council for the Exploration of the Seas* (ICES), RACs are obliged to strive for presenting their advice to the European Commission and the Member States in a consensus report, rather than in disparate voices in order to have an impact on the decision-making process (COM 2004; Astorkiza et al. 2006; Degnbol and Wilson 2008). The introduction of this new setting is meant to replace a previous situation of EU fisheries politics, which was characterised by deep dissents between fishermen, scientists and environmental groups. The prospect of reaching consensus in RACs is, following Griffin (2007: 481) "heralded as a Holy Grail in EU decision-making" because "decisions arrived at in consensual environments are widely perceived as more legitimate than those arrived at hierarchically".
From a governance perspective, RACs pose a number of intriguing questions, for example whether (and how) they succeed or fail to meet their expectations, if they enhance or reduce the "governability" of EU fisheries and how they might contribute to implement the principles of "good governance" (cf. Jentoft 2008). Following the original enactment to establish RACs, they should "enable the *Common Fisheries Policy* to benefit from the knowledge and experience of the fishermen concerned and of other stakeholders and take into account the diverse conditions throughout Community waters" (EC 2002a: 4).

In this paper we assess the potential of RACs as a new and innovative governance mechanism to meet this objective. In a first step we introduce the policy context and the rationale of the RACs' establishment. Taking the Baltic Sea RAC (BSRAC) as an example, we show that stakeholder exchange includes heated disputes over the validity of the basis of scientific advice. In a next step we will reflect on the BSRAC's experiences by drawing on a four-stage governance framework developed in the risk

research field. We conclude that, if the aim is to broaden the knowledge base of fisheries management, stakeholders need to be included (possibly via RACs) at an earlier point in the governance process. They need to take part also in the processes of knowledge generation and analysis before the advice informed by the output of this processes is translated into management proposals.

A new emphasis on stakeholders' knowledge

Given the controversial history of fisheries management with the conflicting interests of fishermen and environmental groups, the task of RACs to harmonise and incorporate stakeholders knowledge into policy and management, presents a highly ambitious enterprise. The introduction of RACs as mentioned above bears at least two drastic implications of this new stakeholder institution. First, in a practical perspective, RACs present a unique type of forum, where diverse stakeholders such as industry and NGOs work together in a deliberate and devolved way oriented towards a joint output. The previous era of the CFP shows rather the contrary, where fishers' knowledge and expertise have for a long time been disregarded as purely interest-driven, of local character and useless for the management context whereas they have been confronted with an overregulated sector and in some respects a chaotic bureaucracy (Symes 1997; Symes and Sissenwine 2007; Hegland and Raakjær 2008). The new arena with RACs therefore represents a fundamental departure from previous arrangements in Europe, which are far behind other developed countries when it comes to participatory governance in fisheries.[2]

Secondly, promoting a plurality of knowledge claims by establishing these advisory bodies can also in a theoretical perspective be seen as a radical disengagement with the traditional conception of science-policy relationships. The concept of the so-called "modern model" is based on the assumption that (only) science can 'speak truth to power' by producing value free, objective and reliable knowledge (Funtowicz and Strand 2007: 263). This concept has today been challenged both by normative arguments as well as by the complexities of governing transnational environmental problems. For instance, Bäckstrand (2004: 650) calls us in this context "to rethink 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 specialised expertise." In this sense RACs can be understood as constituting an institutionalised form of various social science discourses emphasizing a turn to the "democratisation of science" (Lidskog 2008), new perspectives on "scientific governance" (Irwin 2008) and a shift in fisheries politics "from management to governance" (Jentoft 2006).[3]

[2] For example in the US, so called *Regional Fishery Management Councils* (RFMC) have been established for similar purposes under the *Magnuson Fishery Conservation Act* already in 1977 (Eagle et al. 2003, Hanna 2006).

[3] Governance is defined here as "the broader concept, inviting a more reflexive, deliberative and value-rational methodology than the instrumental, means-end oriented management concept"Jentoft (2006: 671).

The Baltic Sea RAC: contesting science rather than mere exchange with science

The BSRAC declared operational March 1, 2006 by the Commission and was founded officially on March 15 in Copenhagen with its first General Assembly meeting. Compared to other RACs like the Pelagic or the North Sea one, the BSRAC so far exhibits a rather complicated history regarding its task to find consensus and present unanimous recommendations to the Commission most of all on annual fishing quotas (Total Allowable annual Catches, TACs). Bearing in mind, that the RACs are obliged to strive for unanimous recommendations to the EC in order to have an impact on policy decisions (Astorkiza et al. 2006; Degnbol and Wilson 2008), we will look at how the BSRAC handled this most contested of its issues – the recommendations on TACs.

With regard to the TACs for the main Baltic species, cod (*Gadus morhua*), herring (*Clupea harengus*), sprat (*Sprattus sprattus*) and salmon (*Salmo salar*), the BSRAC seems to have developed rather a 'culture of not agreeing' than of finding consensus over the years of its existence. In its first year of existence for example, the BSRAC "saw no constructive outcome of discussions about the level of TACs for demersal species" and referred to that "no consensus of opinion was possible between the group" with regard to the cod-quota in 2007 (BSRAC 2006).[4] This way of disagreeing became common in the BSRAC over the following years, as expressed through majority and minority statements in the RAC recommendations on TACs from 2007 onwards. The recommendation for the eastern Baltic cod quota in 2008 for example stated that "The BS RAC recommends a TAC of 50945 tonnes (+15%) based on ICES's interpretation of the proposed Multi-annual plan for cod stocks in the Baltic Sea" while "A minority of the RAC members [the environmental NGOs[5]] recommends a decrease of the TAC by 15% based on the fact that the stock is still below the limit reference point of the spawning stock biomass". The interesting observation here is, while both parties refer to the same scientific knowledge base, they interpret the facts differently to support their diverging, actually opposing positions for the cod quota in 2008.

This non-consensual way of formulating recommendations on fishing advice (TACs) became a central feature of the BSRAC and has been applied also to the other species of sprat, herring and salmon over the years. Environmental NGOs like WWF complain that fisheries interests are often overrepresented and dominate the RAC proposals (WWF 2009). Negotiations in 2007 nevertheless still came to a majority recommendation of the BSRAC to *decrease* the TACs for herring and salmon in 2008 (with 15%) with a minority statement from fishery organisations opposing this statement.[6] However, this arrangement of votes has been reversed ever since with a majority of the RAC members recommending *higher* TACs than the minority of environmental NGOs. This straightforwardly expressed heterogeneity in the TAC proposals from the BSRAC indicates its inability to overcome the self-interested positions of the different stakeholder groups for the collective good of reaching a consensus and giving unanimous recommendations to the Commission, hence having the chance to influence policy-decisions in European fisheries management.

[4] This report states that the fishing industry representatives proposed a rollover of the quota from 2006 for both the Eastern and the Western cod stock while the environmental representatives proposed reductions of 15 percent.
[5] The Fisheries Secretariat, the WWF and the Coalition Clean Baltic (CCB) represent these NGOs here.
[6] The Latvian and Finnish Fisheries Associations proposed a roll-over of the TAC.

With respect to the knowledge used in the BSRACs negotiations, the arguments of the majority group of fisheries representatives often question the scientific assessments from ICES or relate to the uncertainties in this advice. For the sprat quota in 2009 for example, a majority of the RAC proposed a much higher TAC (-15%) than ICES advised, based on a "concern about the uncertainty in the surveys and the ICES assessment of the stock which eventually results in big annual changes in the advice from ICES" (BSRAC 2008). A minority group of environmental NGOs (Fisheries Secretariat, WWF, CCB) proposed a decrease of 40% instead, based on the ICES advice. The example illustrates what has become a common pattern in the BSRAC's negotiations and proposals: while a majority group, formed by the fisheries representatives, tends to question or ignore the scientific assessments from ICES, the minority group of environmental NGOs tries to use the scientific arguments to back up their position for a better protection of fish stocks. This pattern is confirmed by an empirical investigation of stakeholder communication in the BSRAC by Sellke and Dreyer (2010). They discern that the different framing of the issue and thus the differences in including scientific advice affect the effectiveness of the consensus finding process. Consensus building within the BSRAC might also not be equally important to all actors, as different lobbying channels are used besides the BSRAC as well, as expressed by a Finish fisheries representative:

"We try to keep the big public aware of these things, with media, reports, media and press releases. And keep the politicians aware by meeting them, talking about where are we standing right now and what's the problem and what should be done. So, that at least our ministry should be very aware of these things really. She goes to Brussels to decide about it" (Sellke and Dreyer 2010).

This and other recent research reveals various problems and obstacles in the communication of science versus other knowledge types in the BSRAC and discovered a rigorous distrust between fishermen and the fishing industry on the one side and scientists (ICES), NGOs and policy-makers on the other. This situation in the BSRAC clearly mirrors the problems of the "old era" of fisheries management mentioned above. Representatives of the environmental NGOs emphasize uncertainty within the scientific assessments and thus focus on a precautionary approach, whereas industry representatives state:

"Then we have quite a lot of discussion. Should we use this precautionary approach or not. It's too precautionary very often from the fishermen's point of view. [...]: I think, that they [NGOs] see it strictly from their point of view. If the ICES has even some advice, they read it literally. They [the NGOs] have a very narrow focus." (industry member of BSRAC; Sellke and Dreyer 2010).

Fishermen therefore blame NGOs to overuse scientific advice to argue for their conservational positions and in this way amplify the role of scientific advice in the public debate. A quote from a fishery representative of the BSRAC expresses the distrust against scientific methods in connection with the above-mentioned discussion on the sprat TAC for 2009:

"One example is the sprat. It was an advise concerning 2009 I guess. There was quite too little information, concerning the stock. But we knew that the stock is in general at quite a high level. But we do not have exact information, where this is going. And the ICES advised, that the fishing should be cut by 40%, because of the absence of this information. But anyhow we knew, that the stock is at a very high level, generally. Environmentalists, they were of the opinion, that ICES advice is okay, 40% cut. Let's deal with that. But fishermen, they knew,

even if we would fish at the present level, there wouldn't be any major reduction. Perhaps a small reduction from the present level, but not any collapse. It wasn't even near. And then there was a quite big conflict, between these two ideas" (Sellke and Dreyer 2010).

This illustrates a far-reaching problem existing not only inside the RACs but in the EU's fisheries sector in general: fishermen often do not understand scientific methods while scientists at the same time do not have very good knowledge about fishing patterns and fisher's knowledge.

Some recent initiatives try to overcome the distrust between NGOs and fishermen and to increase the understanding of ICES' advice. WWF Poland, for example, launched a regularly round table with fishermen to take up their concerns regarding the scientific advice and how ICES works. For the WWF, this pays off:

"I think this dialogue is improving. Because everyone can learn from each other. The NGOs can also facilitate to understand for example the ecosystem-based management. Or we can introduce the issues that are well known to us. Fishermen can also openly say, what their doubts are" (Sellke and Dreyer 2010).

The basic challenge of integrating different types of knowledge

RACs have, at least partly, been set up to counter the problems connected with the understanding and communication across the different knowledge cultures involved in fisheries. However as most internal and external RAC evaluations as well as the Commission's documents reveal, this enterprise has not yet been very successful. With regard to the interaction of different knowledge types and the incorporation of fishermen's knowledge into the policy system, qualitative interviews conducted in 2010 showed mixed results. ICES' position is quite straightforward, as on scientist phrased it:

"Our work is to look at the biological basis for commercial operations. We do not provide statements on the commercial value or on the economical options. Our work is strictly related to the biological basis. We look at the population dynamics from an ecological point of view and then we tell the managers and the fisheries, what the biological limits or opportunities of the stock are, based on the biology and the environmental conditions. We do not translate it into money. There are other groups who do that. So our view on a fish stock is that of a renewable resource, which is based on certain biological production mechanisms" (Sellke and Dreyer 2010).

While a consensus can be found that the decision-making process would benefit enormously from being complemented with local knowledge from fishermen, the technical implementation of these different epistemic cultures creates severe problems. ICES' understanding of their own task is technical risk assessment, with assessment rules set by policy-makers:

"… there will be an interesting situation, when we move from the Precautionary Approach to the Maximum Sustainable Yield (MSY) approach, which is a political decision. … Under the Precautionary Approach we recommend for a given biomass of a fish stock a certain amount of catch within the precautionary limits. With the new MSY criteria we will now for the same stock recommend a lower catch, in order to reach the MSY goals. As a result, a stock, which was fished sustainably last year, may be fished unsustainably this year if we apply the "traditional" precautionary approach criteria. How are people going to understand that?" (Sellke/Dreyer 2010).

It is the BSRAC's objective to include different forms of knowledge through the inclusion of different stakeholders, and thus to fulfil a task of evaluating scientific advice that is established on certain propositions. However, because of the mentioned oppositions in how to interpret ICES' scientific input due to individual stakeholder agendas, this task seems not to be fulfilled.

The incoherency of stakeholder positions in the BSRAC is likely to stem at least partly from the different ways of producing knowledge and different epistemic frames relating to communicating different measures, e.g. on the status of fish stocks. For example fishermen use catch rates per unit of fishing while scientists use actual stock size estimations to assess the amount of fish (Verweij et al. 2010). The local knowledge of fishermen is based on their daily experiences and expressed in a qualitative, narrative way while fisheries science is concerned with quantification and its implementation into existing numerical models by using a highly technical language.

The problems of the RACs to integrate these two (or possibly more) knowledge cultures for the sustainable development of fisheries may lie, at least partly, in the all-encompassing consequences of this enterprise within the existing political and institutional structures of EU fisheries management under the current CFP. As described above, a momentous project could have been envisaged with the 2002 CFP reform and the introduction of RACs: to devolve the top-down science-based policy structure of the CFP for a 'real participation' of stakeholders and a new, more inclusive and interactive bottom-up system of governance. However this reform has quickly been described as being "more rhetorical than real" (Gray and Hatchard 2003: 545). In their evaluation of the CFP reform, Gray and Hatchard depict the Commission to have "paid only lip-service" and conclude 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] top-down structure has not materially changed – indeed, on balance it has been reinforced" (ibid: 553). Also fishing organisations condemned the CFP reform for continuing a practice of "one-way pseudo-consultation" (*Fishing News International,* January 2003: 3). In the following, we use a concept of governance to analyse how these perceived failures to incorporate stakeholder knowledge within the revised CFP might relate also to where RACs are positioned in the overall EU fisheries governance process.

Incorporating stakeholders' knowledge through RACs: A mismatch of participation purpose and governance stage

How to integrate different forms of knowledge in building the knowledge base for management has been recognized as a basic challenge in several areas of natural resource governance heading for a more inclusive and participatory mode of governing (e.g. Raymond et al. 2010). In the case of the RACs, there are good reasons to cast doubt on the appropriateness of these participatory institutions as a mechanism to broaden the knowledge base of EU's fisheries policy. There is a mismatch of stated participatory purpose (including stakeholders' knowledge and experience) and the stage of governance at which the new advisory bodies have been formally located (evaluation of management proposals). This argumentation draws on a framework of governance, which was developed in the risk research field as an analytical tool for investigating the governance of risks to human health and the

environment and also as a practical device for improving the handling of such risks (IRGC 2005; Renn and Walker 2008).

Knowledge generation as a particular governance stage

The governance framework conceptualizes processes of knowledge generation, collection and interpretation as a particular stage in the overall risk governance process functionally separate from what is identified as the three other main governance stages entitled pre-assessment (preceding appraisal); evaluation and characterization (following appraisal); and finally management (Fig. 2). Each risk governance stage comprises a set of activities, which we have tried to apply and adapt to the particular requirements of natural resource governance encompassing fisheries governance.

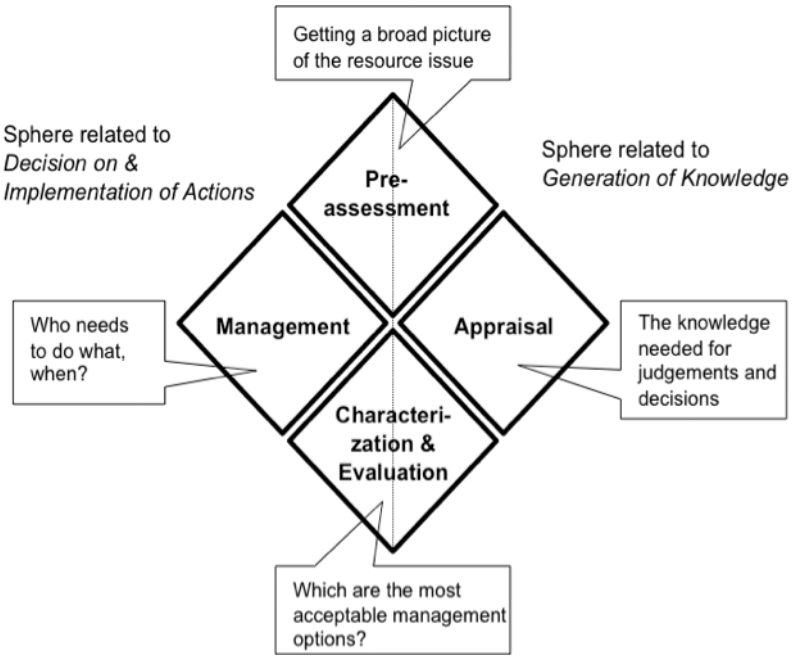

Figure 2: *A four-stage framework for the governance of natural resources. Source:* drawing on and modified after IRGC 2007: 6

Modified for that purpose, the four governance stages may be sketched as follows. At the stage of pre-assessment the conditions for the appraisal activities (pertaining to the generation of and analysis of knowledge) are determined. Core components of pre-assessment are framing (i.e. the definition of the problem in question) and a specification of the management objectives to be reached. In fisheries, framing may include the specification of whether a declining stock shall be understood (and then assessed) as an effect of overfishing or as a consequence of factors also other than fishing such as environment and hydrologic conditions or regulations in force that affect fishing. Related to framing, this stage comprises the determination of the scope of the appraisal. In fisheries this could imply the selection of a single species or a multiple species approach and the decision on whether to include environmental factors such as climate change effects on fish stocks in the assessment. It may further include the specification that the assessment of the stock status and of the most

relevant management options should include biological as well as ecological, social and economic aspects.

The second governance stage is devoted to the scientific *appraisal* of the resource problem. It is a distinctive feature of the risk governance framework referred to here that it envisages an assessment both of bio-physical and socio-economic implications of a risk event if pre-assessment concludes that knowledge on both are relevant for dealing with the risk problem. Applied to fisheries, this second governance stage usually would include an assessment of the current state and dynamics of a fish stock under consideration. In cases of strongly divergent views on the nature and magnitude of the stock problem, it should ideally also include a social scientific analysis of the issues that different stakeholders (e.g. fishing industry and conservation groups) or society as a whole may attribute to it. Informed by the results of these two types of assessment and in accordance with the specifications set in pre-assessment appraisal also investigates the implications of the most relevant management options (e.g. in regard to stock dynamics and short-term and long-term economic implications for the affected fishing industry).

After all important data have been gathered, these need to be interpreted, summarized and evaluated. Adapted to the purpose of natural resource governance the stage following appraisal includes a *characterization* and *evaluation* of the different management options that were included in the impact assessment (in fisheries, e.g. decommissioning of fishing vessels, closed areas, reduced days at sea, increased mesh sizes on fishing nets as possible responses to stock decline). Option characterization is geared towards conclusions on how the different management measures meet the objectives specified at the pre-assessment stage. Option evaluation consists of a balancing of pros and cons of the different management options in order to arrive at a judgment on what constitutes the most acceptable measure or combination of measures to deal with the resource problem. Finally, at the stage of *management*, decisions on management measures are taken (e.g. on choosing a particular stock recovery plan or long-term management plan). These are based on the judgment reached at the preceding stage and an assessment of the conditions of implementing the measures that are most appropriate according to this judgment

Only peripheral inclusion of stakeholders in the knowledge generation stage in current practice

One of the innovative components of the four-stage governance framework is to promote the idea of ‘inclusive governance’ in terms of a structured involvement of political, scientific, business and civil society actors into the governance process (IRGC 2005). In a further development of this idea, it has been argued that a meaningful involvement requires that participation purpose and governance stage are *matched* (Dreyer and Renn 2009; Dreyer et al. 2009). In pre-assessment, participation serves to contribute to the framing of the problem and drawing up the terms of reference for the assessment; in appraisal, it contributes through provision of systematic, experiential and practical knowledge to the collection and analysis of relevant knowledge and information; in evaluation, to a broadly informed yet basically value-based judgment on the most appropriate management measures; in management to the selection of appropriate measures in consideration of implementation conditions and to an effective implementation.

The stated purposes of the RACs do not clearly match with the stage of EU fisheries governance at which these stakeholder-led organisations are formally located. RACs are mandated to give advice on matters of fisheries management. The European Commission consults them on proposals for multi-annual recovery or management plans that relate specifically to fisheries in the area concerned. Hence, RACs are formally positioned at the stage of management option evaluation. However, as mentioned above, the Regulation also states that the RACs shall enable the CFP to benefit from the knowledge and experience of the various stakeholders who form the membership of the RACs. This purpose appears to be much more related to the governance stage of appraisal. In practice, however, the RACs are excluded from the formal processes of knowledge generation and production of advice for the selection of management measures. Their activities are mostly restricted to providing views on pre-defined management proposals informed by the results of a scientific advisory process in which they feed catch data and at specific points may take part as silent observers.[7] Certainly, giving advice on management proposals needs to be informed by knowledge, ideally by a mix of multidisciplinary scientific as well as other types of knowledge. In essence, however, this advice constitutes a value-based judgment on what can be regarded as an acceptable level of protection and precaution to be adopted in the selection of management measures. Ideally, this should take into account possible biological, economic, social and ecological implications, which need to be weighted in view of the various stakeholder interests and preferences. The RACs are not equipped with resources to carry out or commission scientific research and analysis about such implications. They are actually required to make any request for scientific advice through the European Commission. This basically means reliance on external knowledge providers (for the Baltic Sea this is mainly ICES) and these lack procedures to systematically incorporate stakeholder knowledge into science and advice processes.

In short, if the RACs were to enrich the CFP with their specific knowledge they would need to be able to feed it into the formal processes of knowledge generation and interpretation (i.e. the stage of appraisal) before the science advice has been incorporated into management proposals (cf. Rice 2005: 254).[8] In these terms, the ICES Working Group on Fishery Systems emphasized in 2007 that the scope and extent of scientific and advisory interactions between ICES and RACs need to be defined and that "RACs will need to be involved in some way at the national laboratory level (for discussion of data and sampling issues), at the ICES assessment working group level […], at the review level […], as observers at the ACFM level,[9] and, further, at levels outside ICES's remit, such as socio-economic and political levels" (ICES WGFS 2007: 8).

A recent publication of the US National Research Council on *Public Participation in Environmental Assessment and Decision Making* identifies clarity of purpose for all those involved in a participatory exercise as a basic principle of design of participatory processes (Dietz and Stern 2008). The value of a participatory exercise

[7] There are, however, also exceptions. For example, members of the Pelagic RAC and invited scientists developed jointly in a participatory modelling exercise a long-term management plan for Western horse mackerel. (Hegland/Wilson 2009).

[8] For example, the aim to engage in joint research proposals with scientists has been deliberately expressed by the North Sea RAC's internal evaluation (NSRAC 2009: 26).

[9] ACFM: **A**dvisory **C**ommittee on **F**ishery **M**anagement of ICES.

may be assessed very differently by the participants when these have divergent (or even conflicting) views or priorities about the purposes of this process. Divergent views will also hamper the building of a collaborative output-oriented working relationship among the participants. To what extent frustrated expectations in regard to involvement in official advice production fuel disputes in the BS RAC is an empirical question, which would deserve further investigation. In any rate, the ambivalence about the purpose of the RACs as a new participatory mechanism provides legitimate grounds on which RAC members can base their criticism or non-acceptance of the knowledge base by which the management proposals for discussion are officially informed; it has been generated without profiting from their specific knowledge contributions. The continuous contestation of science advice in the BS RAC seems to distract the advisory body to concentrate on what appears as its main task given its formal positioning in the fisheries governance process: a balanced value-based judgement on the proposed management measures.

The CFP under reform: A new role for RACs on the way towards an ecosystem-based fisheries management?

Currently, the role of the RACs is under review in the context of a new reform process for the CFP to be concluded in 2012. Any revision of the RACs' mandate should include a clarification of how the stakeholders' knowledge and experience shall be incorporated at the appropriate stage, i.e. systematically linked to the process of producing expert advice. The current exclusion of stakeholders from active involvement in the science processes and the exclusion of scientists from membership in the RAC produce, as Hawkins convincingly argues (2007: 106), a problem of integration: advice from scientists and advice from stakeholders are obtained from "parallel and separate channels" (ibid.). There is lack of opportunities for scientists and stakeholders to enter into mutual exchange in the process of producing knowledge and advice.[10] Inclusion of stakeholder knowledge in the science processes is not simply to improve matching of practice with legal provisions. There is substantial reason for stakeholder inclusion at the 'appraisal' stage. Recent publications have highlighted that the intended move towards an ecosystem-based approach to fisheries management (EBAFM) multiplies knowledge needs and requires that a diversity of knowledge is connected and brought into compatible formats (Gray 2005; Varjopuro et al. 2008). Fishers in particular, have been identified as important knowledge holders because their experience-based, context-specific knowledge includes ecological knowledge, e.g. about the impact of a predator on a fish stock (cf. Stead et al. 2006). Environmental groups on the other hand have well-credentialed experts who may enrich the processes of gathering and synthesising information by bringing "different interpretational ideas", different hypotheses or different assumptions to the same data and analyses used in the experts' meetings (Rice 2005). As the interconnectedness between fisheries and the environment is still imperfectly understood, the CFP will be faced with an even greater uncertainty challenge when ecosystem considerations are taken seriously (Rice 2005). The intractable uncertainty problematic in fisheries enhances the importance of

[10] However, there are attempts to change this situation. In many countries in Europe, for example, scientists collect data by joining fishermen on their trips (practiced e.g. by the *Institute of Baltic Sea Fishery* in Rostock/Germany or at the *Institute of Marine Research*, Lysekil/Sweden).

incorporating other forms of knowledge into the traditional scientific model (Astorkiza et al. 2006).

Practitioners in fisheries governance have expressed great reservations in regard to stakeholder inclusion in science advisory processes. The main reason given is that this would "politicize the science process" and "exert pressure on individual scientists to abandon best science practices in order to avoid angering the industry members who will be following their every word" (Rice 2005). If the RACs were to be formally positioned both at the 'appraisal' and at the 'evaluation' stage of fisheries governance there needs to be clarity in the following respect: It is not the stakeholders' task in the knowledge generation and analysis process to deal with normative questions pertaining to the acceptability of either the current situation of the resource under consideration or of any management measure for improving the current situation. These normative issues are part of the evaluation and management governance phases when management measures need to be evaluated and selected. They are based on value judgments about what is 'desirable' rather than what is 'true'. At the stage of appraisal stakeholders would be invited to contribute their specific knowledge to help represent and explain the state and dynamics of the resource under consideration as close to reality as possible. This clarity of purpose of stakeholder participation does not fully eliminate the risk of an undue politicization of the knowledge generation and analyzing process; it would, however, reduce it.

Given the lack of clarity about what should be defined as an issue with an EBAFM and the need both for factual and value judgments to undertake such definitions it is advisable to have stakeholders also contribute to deliberations around identifying such issues. In the context of the presented governance framework: stakeholders should already take part in 'framing', i.e. at the stage of pre-assessment preceding the knowledge generation stage. However, fishery governance experts have expressed serious doubts over whether the current CFP top-down system focused on the setting of Total Allowable Catches (TACs) provides the space for such multi-actor reflection and deliberation (Wilson 2009).

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