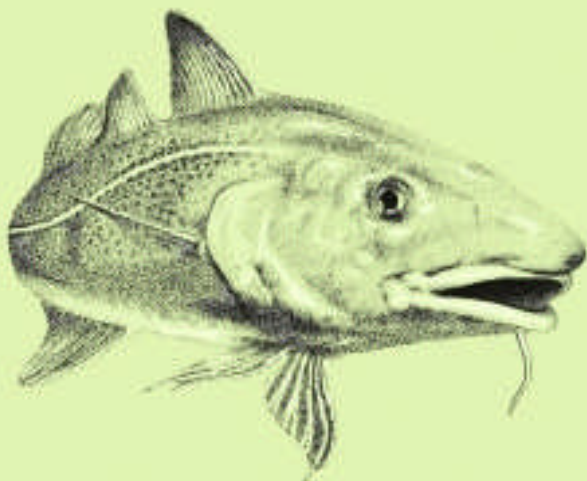


SAFMAMS

Review of Science & Stakeholder
Involvement in the Production of
Advice on Fisheries Management

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**SAFMAMS
Work Package 3**

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Summary

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1. Summary

This study examines the involvement of fishers and scientists in the process of fisheries management. The fisheries of the European Union are going through a period of change, with the introduction of reforms aimed at achieving better governance and more sustainable fisheries. Those reforms will only be successful if differences between fishers and those managing and advising on fisheries can be reconciled.

Fisheries management is an important task. Man can put the very existence of fish at risk and many fisheries have already been harmed by over-fishing. There is an inexorable trend towards over-exploitation of resources as a result of improvements in fishing technology. Sanctions are necessary to guard against excessive exploitation of fish stocks and social and legal arrangements have therefore developed to regulate fisheries.

Strong regulation of fisheries is now commonplace throughout the world. The modern era has seen the development of new systems of fisheries management based on the application of science. It is evident that expert advice, especially in the field of biology, is needed for the successful management of fisheries. However, there is increasing recognition that the development of successful and sustainable fisheries is not simply a biological or ecological problem. As the Brundtland Report points out, it is only by combining ecological, economic and social factors within an appropriate political or institutional structure that development can take place without exhausting natural resources. It is evident that successful management of fisheries requires the participation of fishers and fishing communities as well as scientists.

Diverse systems of ownership of fisheries have been put in place under different political systems. Some fisheries are privately owned, others are managed by local communities, but most are regulated by the state or by supra-national powers. Even when fisheries management is delegated to fishers or fishing communities, there are often several layers of management, with governments or international commissions playing a superior role. The development of fisheries policy, and the day to day management of fisheries, is generally carried out by fishery managers, employed as civil servants, aided by expert advisers. In many instances, management is top-down, with fishers playing only a minor role.

There are a number of difficulties in governments attempting to manage fisheries. Civil servants find it hard to understand the complexity of the fisheries and cannot always anticipate the effects of the measures they impose. There are problems in regulating activities taking place at sea, especially when enforcement is under the jurisdiction of several different states. Fish stock themselves fluctuate in numbers and behave unpredictably. The management of fisheries therefore requires a long term approach. Yet within a democratic political system, elected representatives may not be prepared to adopt strong management options if benefits accrue only in the distant future.

Advice on fisheries management has concentrated on estimating the quantities of fish that can be caught without reducing stocks to a point where they can no longer sustain themselves. Mathematical models of the fisheries determine safe limits for harvesting the sea, and explore how close actual exploitation is to the limits which have been set. These models have limitations. They are not easily understood or interpreted. They deal in the main with single stocks and do not take account of the complex relationships between different species within a changing environment.

They are data hungry, but often cannot be provided with the quality and quantity of data that they need. They require further extension and development which must be accompanied by significant improvements in information from the fisheries, much of which can only come from fishers themselves.

The Johannesburg accord has emphasised the need to maintain or restore fish stocks to levels that can produce the maximum sustainable yield. However, it is already evident that more appropriate targets are required, with alternative management strategies being evaluated with economic as well as biological models. Fisheries management is not only about conserving fish stocks. Management objectives include fairness in allocation of fishing opportunities; defining legitimate fishing methods, specifying appropriate fishing locations and seasons; promoting sound economic operation of fishing enterprises; avoiding conflict between fishers; ensuring stability of fish supplies; reducing the impact of fishing upon the environment; and enforcing fishing regulations. A wide range of advice is required, not just advice from biological scientists.

Despite the heavy involvement of scientists, economists and other technical experts in fishery management there have been many instances of fish stock declines and collapses. Close examination of failed systems of management have pointed to the difficulties which arise when scientific advice is provided by organisations which are embedded too deeply within the management structure. Similar failures in the application of scientific advice to political problems are evident in other areas. There are major issues over the way expert advice is obtained and presented.

Scientific knowledge goes through various stages towards an increasingly detailed and refined understanding of nature – it is an evolutionary process. What is currently seen to be true may subsequently be seen to be false. Nevertheless, scientists, like everyone else, work within a culture which may steer their work in particular directions. Scientists tend to show allegiance to particular paradigms. They need to be exposed to alternative views. Yet much of the scientific advice on fisheries management comes from institutions which are owned and funded by government fisheries managers. There may be pressure to maintain a particular position or to produce advice which supports a political agenda. There may be temptation for politicians and administrators to claim falsely that there is scientific support for their actions. Moreover, control may be exerted by political authorities on the release of data and the expression of views by government scientists.

Inquiries into the political application of scientific advice (including the UK Inquiry into BSE, and inquiries into the collapse of the northern cod fisheries) have shown that safeguards are necessary to ensure that scientific advice is objective and fit for purpose. The need for advice must be anticipated; expert advice must be drawn from a variety of diverse sources and not from a select group of specialists; specific measures must be taken to ensure the quality, integrity, and objectivity of advice; uncertainty and risk must be assessed, communicated and managed; there must be openness and transparency; and the impact and validity of the advice must subsequently be reviewed. Where public trust in science has failed it can only be restored by re-considering the way scientific advice is applied to complex modern day problems. There is a strong case for making scientists accountable to sceptical inquirers, who are free to question the foundation of their claims. The rationality of any scientific arguments presented in the field of public policy must be examined by members of the public as well as by experts.

It has been argued that the law derives its validity from the consent of the governed. There is a strong philosophical case for the involvement in government of all those

who are being governed. Where control is exercised by unelected officials and a democratic deficit exists, or where there has been a failure of management, there are practical advantages to be gained from more participative governance; a system of management where the state plays a less intrusive role and elements of decision-taking are devolved to stakeholders and other interests. The need for dialogue with interested parties is especially critical in dealing with risk to the environment and natural resources, where uncertainty is the norm. New ways of acquiring expert advice are required which draw upon knowledge from a wide range of sources. There are real advantages to be gained from public dialogue over issues which are complex. However, there is a lack of information on how to go about increasing public participation. It is an ill-defined concept and it is necessary to decide both the level of participation and the choice of participants.

In relation to fishing, the key stakeholders include those dependent upon fishing for a living; those whose lives may be affected by regulation of the fishery; those with political and environmental concerns about fishing; and those whose own activities may impact upon the fishery. On purely pragmatic grounds it is important to engage all those stakeholders who are essential to the successful regulation of the fishery. However, concern for social justice also has to be met. There is a need for clarity on whether stakeholders have been selected to provide special expertise or whether they represent particular interests. Participation in governance can also take a variety of forms.

Fisheries management systems are complex. One example is the Common Fisheries Policy (CFP), where a system of management has evolved which brings together member states whose interests are very different and whose expectations from the policy differ. The CFP is managed directly by the European Commission, a body of un-elected civil servants, although decisions are ultimately ratified by a Council of Ministers from Member States. The European Parliament does not exert significant control. Extraordinarily, the CFP is one of only five areas of exclusive competence for the Commission within a new draft treaty for the European Union.

Expert advice to aid management within the CFP comes mainly from biological scientists employed by governments. Scientists gather the data required, country by country, and then bring it together for analysis and the preparation of advice through a body established by international convention – the International Council for the Exploration of the Sea (ICES). Stock assessment, the process of estimating the condition of the fish stocks, and the subsequent presentation of advice on management, is treated as the exclusive preserve of scientists.

The European Commission has acknowledged in a Green Paper that there are major problems with the Common Fisheries Policy (CFP). Politically, stakeholders do not feel sufficiently involved in management and many believe that there is no level-playing field in terms of compliance and enforcement. The Green Paper concluded that the Commission must change the way that advice on the fish stocks and management of the fisheries is provided. There must be wider participation in the process of assembling expert advice. Participation by outside experts, stakeholders and the public should not be considered as unnecessary or inconvenient but rather as a way of extending and enriching governance.

As part of the reforms to the CFP a new institution has been established to promote stakeholder involvement in fisheries management - the Regional Advisory Council (RAC). RACs have been proposed for a number of regional seas and bring a wide range of interest groups together to provide management advice on fisheries. The first formal meeting of the North Sea Regional Advisory Council (NSRAC) took place

in November 2004. Since then, additional RACs have been established for Pelagic Fisheries; North Western Waters; the Baltic Sea; and South Western Waters.

One of the important functions of the RACs is to provide sound, evidence-based advice on the management of fisheries. Integrating the views of scientists and stakeholders is critical to their functioning. However, they are new bodies, requiring novel ways of operating. Much experience in integrating the advice from scientists and stakeholders has already been gained in the United States of America and Canada, where participation of stakeholders in fisheries management has existed for much longer.

The USA has several tiers of fisheries management, with state bodies, inter-state organisations, tribal bodies and federal agencies all playing a role. Strenuous attempts have been made to involve stakeholders at all these levels. A key feature at the Federal level is the appointment of stakeholders to Regional Fishery Management Councils, to which management of the fisheries is delegated. A number of initiatives have been taken to bring scientists and stakeholders together to improve the quality of stock assessments and gather wider relevant information to address fishery management issues. One of them, South East Data Assessment and Review (SEDAR) especially seeks constituent and stakeholder participation in development of the fish stock assessments, transparency in the assessment process, and rigorous and independent scientific review of completed stock assessments. It operates through three stages. First; a data workshop where data-sets are compiled, documented, analyzed and reviewed; second, an assessment workshop where quantitative population analyses are developed and refined; and finally a review workshop where a panel of independent experts scrutinises the data and assessments and then makes appropriate recommendations. SEDAR provides a very successful model for integrating science and stakeholder inputs into fisheries management.

In Canada, the collapse of ground-fish fisheries in the early 1990s prompted major changes to the system for managing fisheries. The establishment of a new participative body, the Fisheries Resource Conservation Council, a body incorporating parties from outside government, was intended to provide the Minister of Fisheries and Oceans with independent advice, taking some of the responsibility for recommending conservation measures away from civil servants. In its initial form, Council members made public recommendations to the Minister on management measures for the Atlantic fishery. The Council has now been assigned a more modest role in which it focuses on long-term conservation strategies. The task of providing immediate advice on fisheries management has been returned to the Department of Fisheries and Oceans (DFO), which obtains advice on management through a new Regional Advisory Process (RAP). The process has evolved very quickly, but has diverged to address different interests and problems within individual regions. The essential purpose of RAP is to provide peer reviewed information on the status of the fisheries and fish resources, involving industry, other stakeholders, and outside scientific experts in the review. The process is subject to very prescriptive guidelines but in practice is very diverse, depending on the region and the issue to be discussed. The three main elements are issue identification, assessment of the issue (the main RAP review), and the production of a status report on any issue for the Minister. As with the American system, scientists, stakeholders and managers discuss positions before data assembly is complete and analysis begins. Stakeholders are present and can participate in the formulation of advice. The process is subject to strict national guidelines which place emphasis on the full exchange of data, transparency and peer review.

The Regional Advisory Councils are now the main bodies for promoting stakeholder participation within the Common Fisheries Policy. They are intended to provide sound evidence-based advice to the Commission and member states on fisheries issues. However, the budgets for the RACs are small, reduce year on year, and do not include provision for obtaining expert advice. In practice, very few scientists attend the RACs unless they are specifically asked to do so by the Member States who employ them. There is therefore a risk that the advice from these advisers may not be independent. In addition, the main source of expert advice within the CFP continues to come from organisations which do not include stakeholders as participants. On the one hand there is advice from the RACs. On the other hand there is advice from the experts. The two lines run in parallel.

Previous experience with partnerships between stakeholders and scientists (most notably the North Sea Commission Fisheries Partnership) has shown clear benefits. Informal consultation meetings between the Partnership and a stock assessment working group resulted in improvements in the knowledge of scientists and in the data available for analysis. The interactions also provided the transparency required by stakeholders. The RACs themselves have called for regular dialogue with independent experts. They have sought assistance with questions on the fish stock assessments – including assurances that the assessments take account of all the available information. They have emphasised the need for reality checking on proposals coming from the RAC and they have asked for expert advice on the social, economic & environmental consequences of management proposals.

Steps have been taken to improve the transparency of the scientific advice by allowing representatives of the RACs to attend the meetings at which scientific advice is formulated. This opening up of the process for preparing management advice has altered the relationship between stakeholders and scientific advisers. There is now recognition from both scientists and stakeholders that there is a need for better information from the fishing fleet if there are to be improvements in the management of the fisheries. However, it is not appropriate for stakeholders simply to provide that information and play no further part in the process. Stakeholders and scientists must join together to validate the assumptions being made about fisheries as well as improving the data being used. Stakeholders can bring a healthy dose of reality-checking into the process of providing advice on the fisheries.

One of the stumbling blocks in the way of further engagement between scientists and stakeholders is the dominant role played by ICES within the CFP. The considerable progress in integrating stakeholders into fisheries management in the USA and Canada has not been constrained by the same dependence upon an external, international source of scientific advice, with its own complex structure. The current system for obtaining scientific advice under the CFP may have to change if further progress is to be made.