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Policy Brief on Research Priorities and Forms of Advice for Effective Marine Environmental Management

Version One

Authors: Magnus Eckeskog and Niki Sporrong

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Project Title: Scientific Advice for Fisheries Management at Multiple Scales

Project acronym: SAFMAMS

Instrument: Specific Support Action

Thematic Priority: Science and Society

This policy brief is a result of SAFMAMS work package 6 with the objective to build a network of contacts that will take the lessons from the work on forms of scientific advice for fisheries management and apply them to broader questions of marine environmental management. The results will then be disseminated to other practitioners.

Work package 6 consists of two steps. It began with the identification of various programmes and organisations involved in different aspects – indeed any aspect that rely on the provision of good scientific advice – of marine environmental management around the North Sea, including the Baltic Sea. This included efforts such as integrated coastal zone management, protection of marine biodiversity, as well as reduction of pollution and other sources of damage to marine habitats. The actors identified included everything from government agencies at municipal or national level to inter-governmental organizations, environmental NGOs and other user groups. An internet-based catalogue over these actors and work programmes was set up in 2005, with descriptions of activities, institutional information and contact information.

During 10-11 December 2007, a workshop was held in Gothenburg, Sweden, with some of the actors identified during the first phase. The 29 participants (+ 7 of the SAFMAMS partners) included decision-makers, scientists, regional government, national institutes for fisheries and environment, fisheries sector interests and environmental NGOs. In comparison with the other workshops in the SSA, we needed a wider set of perspectives but also a small enough group to work effectively. Most of the participants came from the region of the North and Baltic seas, but representatives from the EU level and the Mediterranean were also present.

The participants were presented with the results of the studies of the most useful forms of scientific advice for fisheries management at local, regional and EU levels. They were asked to explore similarities and differences between fisheries management and their own areas on expertise, as well as what lessons may be learned from fisheries management. Finally, the most useful forms of scientific advice for wider marine environmental management and research priorities were discussed.

Key lessons learnt – similarities and differences

- In management of both fisheries and the wider marine environment, it is very important to have an open dialogue between stakeholders, managers and politicians.
- In all marine management, educating and informing stakeholders will facilitate mutual understanding and improve communication.
- Particularly in fisheries management, explaining and exploring the long-term benefits of scientific advice to stakeholders is vital.
- The data used as a basis for management decisions need to be accessible to all stakeholders and opportunities for discussing the way they are collected and interpreted should be provided.
- In all management: adapt the presentation of data and scientific advice to the individual groups in order to improve understanding and discussion.
- If possible, involve stakeholders in data collection. This improves understanding and insight, but also creates participation in the management process.

- In marine environmental management, the development of detailed maps is vital. There is a need to know exactly what we are managing, and how it is changing over time.
- The socio-economic data used in decision-making is often not presented in great detail, or not provided at all. This needs to change, particularly when managing sector interests such as fisheries.
- There is a need to break the current barriers between disciplines that do not reflect the nature of things: between management of marine and terrestrial fields, between marine management of fisheries and ecosystems, and between policy development and science.
- Regardless of the topic, scientists need to be unbiased and strive for objectivity when setting up research projects.
- Involvement of stakeholders should take place early in the scientific process – the earlier the better. It is better to invite stakeholders to a discussion about the objectives for a project and the process to investigate them, rather than presenting them after it has already been decided.

Science in local co-management

Part of the SAFMAMS project has focused on the role of scientific advice in co-management of fisheries and the marine environment at the local level, involving stakeholders from The Wash in north Norfolk, United Kingdom, the Koster-Väderöfjord in Bohuslän, Sweden, and Pärnu Bay in Estonia.

The three management areas share some important characteristics in terms of management: they all contain conservation areas that are part of the EU Natura 2000 network under the Habitats Directive, and the marine resources in the three areas are exploited in fisheries that are important for the local coastal communities. In addition, all three areas apply a system of local co-management of the resources and the environmental features. The co-management systems used in the three areas differ, however, in terms of the set-up, the level and depth of involvement, and in implementation. The resources available for the local management process also vary widely.

Stakeholders in the Wash have a long history of practicing fisheries co-management, which is formalised through the Eastern Sea Fisheries Joint Committee. In Sweden, six coastal fisheries areas were selected as pilot projects under the so called “co-management initiative”, which was running between 200x-2007. In Estonia, local co-management is still in its infancy, with the relatively recent independence from the Soviet Union. Estonia is a small country with relatively limited resources, and stakeholders still have the centralised management structure.

Koster-Väderö Workshop

The workshop about management in the Koster-Väderö fjord took place at Tjärnö Marine Biological Laboratory in the northern part of the Swedish west coast. It largely focused on best practice in the relationship and interaction between fishermen, scientists and managers. A mix of stakeholders from the area was invited. In the end, professional and recreational fishermen, scientists, managers, nature conservation interests and local government representatives gathered to discuss the research priorities in local fisheries and marine environmental management. The following lessons were generated:

- Good communication is essential in the interaction between researchers, managers and fishermen.
- The participating fishermen expressed that they are less sceptical towards local scientists which they know and trust, than to scientific advice delivered from a centralised body such as ICES.
- Fishermen are not *a priory* opposed to rules but often have difficulties understanding the point of them because they are rarely properly explained. It would be preferable if local researchers and managers, who are more trusted by the local fishermen, could explain the background of rules to fishermen.
- A neutral, local institution facilitating interactions between different stakeholders is very useful.

- Good maps are important when scientists and fishermen communicate. Whenever possible, scientific advice should be presented visually, rather than in text, as it puts managers, researchers and fishermen on a much more equal footing.
- The local co-management initiative should be made permanent and function as a forum where ideas for research projects can be taken up and discussed by stakeholders.
- A systematic collection of basic data at the local level is needed.
- The data should be collected in a way which make them trustworthy and acceptable to all stakeholders. It is preferable if the basic data can be collected by scientists and fishermen in cooperation – and the fishermen compensated financially for their work.

The Wash Workshop

On 15 May 2007, fishermen, fish processors, representatives of environmental interests and managers from The Wash discussed scientific advice in local co-management at the Eastern Sea Fisheries Joint Committee (ESFJC) office in King's Lynn, Norfolk. The following lessons were learned:

- To ensure the credibility of findings, scientific studies should be conducted by independent experts, who have no vested interest in the fishery or nature conservation features.
- Fishermen have multiple roles to play in science. These include observing and reporting change, proposing research questions and assisting with research processes.
- Science needs to have a broad scope, taking in a range of influences on the marine environment, alongside fisheries.
- All parties need to be open to investigating new management options and scientific questions.
- It is important to find common ground and, whenever possible, identify mutually satisfactory solutions for fisheries and nature conservation.
- Where relevant, lessons can be learned from outside the local area, and external scientists can bring new knowledge and perspectives on existing problems.
- Open and continuous communication about science between all interests is very important.
- Regular meetings need to take place between fishermen, nature conservation interests and fisheries and marine site managers. These should discuss positive news, as well as problems. Inshore managers can act as mediators between different interest groups.
- A commitment to openness by all parties is helpful, and can reduce the possibility of surprises and the development of resentment or a blame culture. Regular communication also presents opportunities to share knowledge, to learn collectively and to improve the understanding of participants of each others' points of view. This can reduce conflict.
- Experience-based knowledge can be gathered for scientific purposes via this type of communicative network. Participants can also share their knowledge of bad practice in science and co-management.

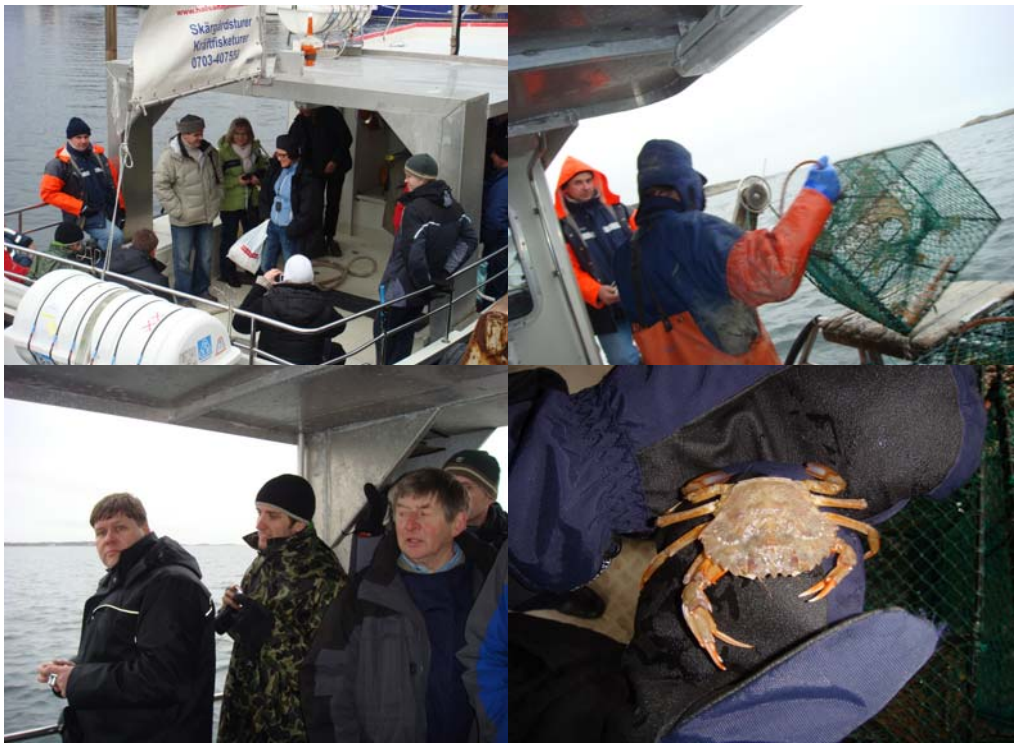
Pärnu Bay Workshop

The Pärnu Bay workshop was held at Pärnu College, University of Tartu, on 27 March 2007. The meeting gathered stakeholders from professional and recreational fishing, nature conservation interests, fisheries authorities, local county government as well as scientists, generating the following lessons:

- Misunderstandings and poor communication are often caused by differences in the language used by various stakeholder groups.
- There is a lack of communication between scientists and the fishing industry.
- In order to facilitate better understanding and basic approval of the management advice, scientific outreach to the wider public needs to improve, and scientific information serving as a back-up for the advice needs also to be converted into a form which is understandable to ordinary people.
- In the development of the resource management system, an integrated approach involving all relevant scientific disciplines (i.e., natural, economic and social sciences) is needed.
- It is important to involve socio-economic sciences and use more socio-economic data in the basis for management decisions.
- There is currently a lack of experience and competence to integrate and merge knowledge from different science disciplines.
- A rigid finance system is needed to fund the necessary infrastructure of science.
- A framework for systematic collection of basic data needs to be set up.
- Existing fisheries biology data need to be better catalogued.
- Further education of Estonian fisheries administrators, managers and specialists is needed.

Workshop on Local Fisheries and Marine Environmental Management – exchanging experiences and sharing best practices

At the meeting of the SAFMAMS project, stakeholders from the three local study areas were able to meet to share their experiences and discuss issues such as data collection, management structures, as well as the set up of fisheries and environmental protection. The workshop was added as a bonus feature to the project, as the participants at the local workshops had expressed an interest to exchange experiences with other co management areas. The workshop included presentations from the three areas and discussions, as well as opportunities to participate in the local fishery and visit research facilities. The meeting took part at Tjärnö Marine Biological research Laboratory in Strömstad on 7-8 March 2008.



Useful forms of scientific advice for wider Marine Environmental Management

During the Gothenburg workshop, participants identified a number of key features and considerations as particularly important when producing and communicating scientific advice for the wider marine environmental management. As it is clearly shown in the previous section on lessons learnt from the more extensive scientific work on advice for fisheries management, many of the principles are universal. The following aspects were upheld as particularly important:

- Ensure good communication between the relevant stakeholders, scientists and managers.
- Ensure that goals and objectives of research projects and scientific advice are clearly communicated to the relevant stakeholders.
- Point out the long-term benefits of scientific advice for stakeholders.
- Build trust by involving different stakeholders in research projects and management processes at an early stage.
- Try to involve stakeholders already when defining goals and objectives of research projects.
- If possible, scientific studies should be conducted by independent experts.
- Involve stakeholders in data collection.
- Regular meetings need to take place between scientists, fishermen, nature conservation interests and marine site managers. These should discuss positive news, as well as problems.
- Communicate scientific advice in a way that is adapted to fit the intended recipients but does not oversimplify or exclude information.
- Make all data used in management decisions readily available to all stakeholders, not just biological data but also socio-economic data.

SAFMAMS draws on insights from existing research projects and management processes on the most useful forms of scientific advice for fisheries and wider marine environmental management, and communicate those insights to scientists and decision makers. The resulting products outline the various forms that such advice can take and a description of the circumstances under which these various forms are the most useful and cost effective. This is an important contribution to developing practical mechanisms to improve the ways that scientific advice is communicated to decision-makers as well as stakeholders, and to strengthening the use of science to support policy in the European Union.

The project involves three basic steps

- First, we collate information relevant to the forms that scientific advice can and should take from research projects focused on fisheries management.
- Second, we interact with seven sets of stakeholders involved in fisheries management decision-making at various geographical scales to help us sharpen the practical lessons gathered from the research results.
- Third, we carry these lessons from fisheries to the broader marine environmental management community and beyond, to people with a general interest in the relationship between science and policy, through specific networking and dissemination activities.

Lessons will be applicable in a broad sense across Europe in Atlantic, Mediterranean and freshwater fisheries, as well as other areas where science and policy converge.