

Report of the

**WORKSHOP ON TOOLBOX FOR APPLYING THE ECOSYSTEM
APPROACH TO FISHERIES**

Rome, 26-29 February 2008



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PREPARATION OF THIS DOCUMENT

This document reports on the Workshop on Toolbox for Applying the Ecosystem Approach to Fisheries (EAF) held in Rome, Italy, from 26 to 29 February 2008. This activity was organized within the framework of the project JCP/INT/920/JPN “Capacity building for an ecosystem approach: considering interactions, including with marine mammals” that envisages, as one of its outputs, the preparation of *Training materials and publications to support implementation of EAF*.

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Report of the Workshop on Toolbox for Applying the Ecosystem Approach to Fisheries. Rome, 26–29 February 2008.

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ABSTRACT

A Workshop on Toolbox for Applying the Ecosystem Approach to Fisheries (EAF) was held in Rome, Italy, from 26 to 29 February 2008, to systematically find out what tools are available for implementing the ecosystem approach to fisheries, assess their usefulness and applicability, particularly in less developed countries, identify what tools are needed but are not yet available, how they should be developed and the potential role of FAO and other partners in their development. The workshop was attended by twenty-six participants representing different disciplines and expertise. The last session of the workshop was devoted to a discussion of the appropriate framework for the toolbox and on possible next steps.

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OPENING OF THE MEETING AND ARRANGEMENTS FOR THE SESSION

1. The Workshop on a Toolbox for Applying the Ecosystem Approach to Fisheries (EAF) was held in Rome, Italy, from 26 to 29 February 2008.

2. The meeting was called to order by Dr Kevern Cochrane, Chief Fisheries Management and Conservation Service (FIMF) who, on behalf of the Assistant Director-General for Fisheries, Mr Nomura, welcomed the participants and thanked them for agreeing to share their knowledge and experience. He noted that participants covered various a broad range of expertise, geographical areas and fisheries types, and that the main focus was on the management of marine capture fisheries. The process of developing a toolbox for the EAF is not an academic exercise and FAO is looking for a very practical outcome when the process is completed. The toolbox is aimed at the many fishery managers and stakeholders who have to deal with conflicting objectives and are looking for solutions. Although this was an FAO workshop, FAO is not attempting to make territorial claims or gains. FAO is looking for assistance and advice to improve its service to member countries and the tools that will eventually be produced will give credit to those responsible for ideas and tools. Dr Cochrane further noted that FAO was of the opinion that, for ease of use and effectiveness, it was preferable to have, as a core, a relatively small toolbox with only the essential and most useful tools included. The agenda is shown in Appendix A, the list of participants in Appendix B.

3. Mr Poul Degnbol was elected Chairperson for the Workshop.

4. Dr Gabriella Bianchi made a presentation outlining the FAO interpretation of the ecosystem approach to fisheries (Appendix C). Rick Fletcher's presentation on the EAF implementation process in Australia and in some parts of the Pacific is included as Appendix D, and Serge Garcia's presentation on the links between the EAF and the framework for integrated assessment and advice for small-scale fisheries is included as Appendix E.

5. Points raised during the discussions around these presentations include the following:

- There is considerable confusion in the fisheries management world about EAF. EAF is not about understanding in detail the functioning of the ecosystem and it is not necessarily about increasing knowledge about the functioning of the ecosystem. EAF is a more comprehensive approach to fisheries management that envisages participatory approaches and consideration of a broader set of issues that include the broader impacts of fisheries on the ecosystem in addition to those on target species). Furthermore, social, economic and governance considerations that are important for sustainability are also taken into consideration. It is now recognized that EAF is the appropriate framework for fisheries management. It has been found in practice that the best way to dispel misunderstandings about the EAF is to actually go through the process of implementing the EAF using a risk based approach similar to that developed in Australia for the implementation of ecologically sustainable development (<http://www.fisheries-esd.com/c/pubs/index.cfm>). Because EAF has frequently been misinterpreted as requiring detailed knowledge about the functioning of the ecosystem, the phrase "*Ecosystem approach to fisheries*" is not necessarily optimal in terms of marketing, particularly because it does not explicitly state the importance of taking into account the other essential components of sustainability (social, economic and institutional) as indicated, for example, in the FAO Guidelines. The EAF is about improving decision-making and implementation in an ecosystem context and it does not require a detailed understanding of how the ecological, the social or the economic systems work, although, clearly, reducing uncertainties with increase knowledge helps to improve implementation. It recognizes that decisions have to be made with the information available, that it is not possible to wait to have a complete understanding of all the processes and that decisions have to deal with the tradeoffs between stakeholders as well as between the various components of sustainability.

- Although the concept of the EAF is relatively straightforward, the practical implementation may require the involvement of a large number of groups, particularly if the implementation is across sectors. There is therefore a need to find improved ways of defining and sharing responsibilities. Participation is important and valuable, particularly in the context of planning, monitoring and control. This implies that the successful implementation of the EAF will be linked to governance, how complex it is, and the correct identification of the areas for which managers have responsibility. A large proportion of the risks to sustainability are related to governance and if the governance issues are not resolved, it is unlikely to be possible to mitigate the risks to the ecological, social and economic components of sustainability.
- The EAF has to be seen in the context of the existing management system. The most effective approach is for the current management system to evolve and adapt to become EAF compliant. This may be more difficult where fisheries management has a long history and is very structured leading to an inherent inflexibility and resistance to change. As indicated above, going through the process of implementing the EAF, using a risk based approach, is the best first step to take.
- The identification of measurable operational objectives is critical to the implementation of the EAF. The implementation process should include assessing the risk of not meeting those objectives and should indicate in a structured and risk based manner what information is needed.
- The Australian framework to implement the EAF is one way of conceptualizing the fishery in an ecosystem context. It is a tool to identify and clarify issues, identify areas where there are tensions, as well as agree on objectives and potential management responses. It allows the identification of the major risks of not achieving the objectives and the identification of measures to mitigate these risks. In less developed management systems, there may be a gap between prioritization and the development of appropriate management measures: the process will identify the issues, but insufficient human and financial capacity may hinder the implementation of solutions.
- Fishers are commonly open to the EAF concept as they generally have their own understanding of predator-prey relationships and recognize that climate and/or environment influence fluctuations in abundance and availability of the resources they exploit. Their experience of the EAF, however, has more often than not been negative and, for example, associated with priority being given to conservation issues such as when bycatch reduction devices are forced on them to protect charismatic or endangered species or when marine protected areas (MPAs) are introduced in their areas of operation without their involvement in the decision-making process.
- A toolbox would be useful to help fisheries managers whose countries have agreed to implement the EAF but lack the understanding or the capacity to implement it. A well designed toolbox would help them understand what the tools are and how to use them to be EAF compliant.
- Whatever toolbox is developed should be adaptive and open such that innovations and improvements are quickly inserted in the toolbox.
- Ecosystem models could provide a formal way to learn about the system in an adaptive management approach, but, at present, they are not designed to produce the tactical management advice used to manage fisheries on day by day basis.

- Implementation of EAF will require a rigorous use of existing fisheries management measures, including reductions of fishing effort, which would generally be consistent with conventional fisheries management but may vary in magnitude.
6. Points discussed on the general characteristics of the toolbox included:
- The group of potential users of an EAF toolbox is diverse which means that a range of tools should be included. The tools should be described in terms what they can be used for, what the prerequisites are as well as the costs involved.
 - The toolbox should be aimed at national or local fisheries management agencies, particularly those with low capacity. The toolbox could take the form of an expert system that leads you through the various tools available and help the user decide which one(s) should be used in the particular situation they are interested in. It could be a computerized system or take the form of, for example, a taxonomic key. There are several examples that demonstrate that applying some form of structured process to the implementation of the EAF leads to positive outcomes.
 - The intended users of the toolbox have to be identified ahead of time. Otherwise, the process could produce a nice set of tools that in fact may not be relevant to those actually involved in implementing fisheries management and who would be responsible for implementing the EAF. This suggests that fisheries managers should be involved in future meetings, or at least polled as to their needs.
 - The toolbox should help the user move through the various steps of implementing the EAF and choose which tools are appropriate for the characteristics of the system under consideration in a process similar to a tourist guidebook which helps to choose sights, accommodations, means of transportation, restaurants, etc.
 - The toolbox should recognize that implementation may not be a sequential process, and that entry in the toolbox should be possible through several entry points (policy, implementation, etc.).
 - The toolbox could include concrete measures such as guides to the use of appropriate and effective consultations and consensus building mechanisms, bycatch reduction devices, time and area closures, MPAs, etc., that fishers could directly apply.
 - Monitoring and Evaluation (M&E) is of critical importance in implementing the EAF. This has been recognized for a long time for the bioecological components of the ecosystem, but it is of equal importance for socio-economic indicators of sustainability. The approach will vary by country, but it need not be complicated or expensive. When budgets and time are limited, key informants can provide the necessary information on the number of fishers, the gear types used when, how and where etc. It is important to be able to measure if the EAF is improving sustainability from human perspective.
 - There are indications that the process leading to the development of an EAF management plan could be as, if not more important, than the specific tools used to develop the EAF management plan. The toolbox could be useful to get on a reasonable path more quickly and move more rapidly towards implementation once the paths have been identified.
 - The above suggests a change in philosophy from static, crisis-based fisheries management to a more adaptive learning management approach with pragmatic management tools aimed at improving sustainability in a risk management framework.

- The toolbox should provide educational material. Considerable material exists, but it is not always easily accessible. Learning networks, or communities of learning, would be one way of making existing material more easily accessible to a larger number of users. Such learning networks operate under clear rules and participants have to make commitments (e.g. to attend meetings).

7. The workshop broke into three subgroups according to a logical grouping of the perceived main steps of the development of an EAF management plan: i) Scoping and objective setting, ii) Development of the management plan and iii) Implementation of the management plan. The results of the deliberations of the subgroups, taking into account comments made in plenary, are included in Tables 1 to 7 and, in fact represents steps that should be followed in developing any management plan, whether it is done in an EAF context or not. Providing a detailed schedule for the implementation of the management plan proved difficult to Group 3 and it was subsequently combined with Group 2. This suggests that future workshops should involve experienced fisheries managers who are seen as one of the principle users of the EAF toolbox. Points discussed after the presentations by sub-groups included:

- The agency responsible for fisheries management will not necessarily initiate the implementation of EAF. The toolbox could therefore also be targeted at other groups who could generate the impetus for change.
- It is important to show that the implementation of EAF does not rely solely on hard natural sciences and that it can be implemented with existing knowledge about the natural system as long as an appropriate structured and adaptive process is followed to acquire the knowledge necessary to address the issues identified as high risk.
- An important element of the toolbox could take the form of a library of carefully selected case studies which could help accelerate the implementation process where information is very limited.
- Abstract descriptions of the tools would be of little use. The context in which each tool could be used and what cost should be included in the description of the tool. Criteria to take into account include: cost, participatory, value, scale, jurisdiction (single nation or multinational), etc.
- If poor governance, or lack of good governance, is one of the main impediments to improve sustainability of fisheries, the toolbox should also include capacity building and tools to improve governance.
- As a complement to the development of the toolbox, FAO could engage partners to develop a constituency for the toolbox who would use it to implement the EAF through small experiments. This would provide a mechanism to test and improve the toolbox, but as importantly, a process through which stakeholders would implement the EAF.

8. The last session of the workshop was devoted to a discussion of the appropriate framework for the toolbox and on possible next steps.

- A workshop with fisheries managers and stakeholders could be an efficient mean to identify both the framework and the content of the toolbox.
- FAO could plant the seed to start the development of a community of knowledge for good practices in fisheries management and implementation of the EAF. The community of knowledge could be Web-based, but it should also be available through other means where access to the Web remains difficult. Wikipedia provides an example of such community of knowledge and FishBase uses a similar approach to choose the best common names of fishes. The toolbox has to be adaptable, able to grow and be integrative. There is also a need to start linking the various initiatives that are under way by governments, Non-governmental

Organizations (NGOs), foundations and funds etc. In this context, an eventual FAO EAF toolbox should be first made available as a draft toolbox and remain so for the rest of its life because it will need to be regularly updated and changed.

- FAO could also encourage the creation of groups of mentors who could train their fellow fishers in the best practices for sustainable fisheries. This could be particularly useful in cases where ecosystem impacts of fishing need to be mitigated in the near future.

9. One of the main outcomes of the workshop was agreeing on the main structure of the toolbox. Participants agreed that the fisheries management planning and implementation cycle could be used as the framework for structuring the toolbox, with each step of the cycle leading to specific tools useful to that specific step. These steps, with relevant activities and relative tools are summarized in Tables 1 to 7. This will be an excellent basis for FAO to continue the work with developing the toolbox. Table 8 presents a list of available manuals, guides and frameworks that cover all/most of the steps of EAF in a comprehensive manner.

10. The workshop was closed at 12h30 on 29 February 2008.