

# Human dimensions of the ecosystem approach to fisheries: an overview of context, concepts, tools and methods



**Cover photos:** *(from top left, clockwise)*

A woman collects salted fish at a fishing village, Pante Raja Barat, Pante Raja subdistrict in Pidie, Indonesia (FAO/A. Berry). Fishermen in India who lost their homes, boats and livelihoods in the 2004 tsunami try to catch fish with nets in front of boats destroyed during the tsunami (FAO/A. Vitale). A Cambodian fishing village (courtesy of A. Charles). Sunset on the coast of British Columbia, Canada (courtesy of A. Charles). A view of a marina in Mexico (courtesy of A. Charles).

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by

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## Preparation of this document

This overview of social, economic and institutional aspects of an ecosystem approach to fisheries (EAF) was initially prepared to facilitate the work of the FAO Expert Consultation on the Social, Economic and Institutional Considerations of Applying the Ecosystem Approach to Fisheries held in Rome, Italy, from 6 to 9 June 2006. The report was used as the primary background material and source of concepts and references for the supplemental EAF guidelines discussed at the meeting. Comments and additional inputs to the draft were received during the meeting from the Expert Consultation participants.

The Annex “Process-oriented methodologies and information management tools for use in EAF implementation” was prepared by Patrick McConney (University of the West Indies) with Merle Sowman (University of Cape Town), Cassandra De Young (FAO) and Anthony Charles (St. Mary’s University), based on the original Expert Consultation background document and other references. John M. Ward (National Oceanic and Atmospheric Administration – NOAA) provided the graphic “Interdependent influences of EAF management” during the Expert Consultation.

## Abstract

This document aims to provide a better understanding of the role of the economic, institutional and sociocultural components within the ecosystem approach to fisheries (EAF) process and to examine some potential methods and approaches that may facilitate the adoption of EAF management. It explores both the human context for the ecosystem approach to fisheries and the human dimensions involved in implementing the EAF. For the former, the report provides background material essential to understand prior to embarking on EAF initiatives, including an understanding of key concepts and issues, of the valuation of aquatic ecosystems socially, culturally and economically, and of the many policy, legal, institutional, social and economic considerations relevant to the EAF. With respect to facilitating EAF implementation, the report deals with a series of specific aspects: (1) determining the boundaries, scale and scope of the EAF; (2) assessing the various benefits and costs involved, seen from social, economic, ecological and management perspectives; (3) utilizing appropriate decision-making tools in EAF; (4) creating and/or adopting internal incentives and institutional arrangements to promote, facilitate and fund the adoption of EAF management; and (5) finding suitable external (non-fisheries) approaches for financing EAF implementation.

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## Preface

The original version of this document was prepared as a background document for use by participants in the FAO Expert Consultation on the Social, Economic and Institutional Considerations of Applying the Ecosystem Approach to Fisheries (EAF) held in Rome from 6 to 9 June 2006. That first document was also used as the primary background material and source of concepts and references for the supplemental EAF guidelines (FAO Technical Guidelines for Responsible Fisheries No. 4 Supplement 3 – The human dimensions of the ecosystem approach to fisheries<sup>1</sup>) discussed at the meeting. The objective of this document, as with the Expert Consultation itself, is to provide a better understanding of the role of the economic, institutional, and sociocultural components within the EAF process, and to examine some potential methods and approaches that may facilitate the adoption of EAF management.

These goals, in turn, reflect the state of the world in terms of EAF implementation, as described in the Prospectus for the Expert Consultation:

*The concept of an ecosystem approach to fisheries (EAF) is reaching a point of general acceptance by those involved in fisheries and their management. There is general agreement that fisheries management must incorporate the complicated and often not-well-understood links between human activities and the environment. However, although the EAF approach is now commonly discussed in international colloquia, and excellent guidelines have been produced, most discussion has revolved around biological and environmental components (or biotic and abiotic compartments) of EAF. As a primary goal of an ecosystem approach is “to balance diverse societal objectives”, social, economic and institutional information form an essential component of the information necessary for policy making. Such information is essential in order to evaluate the various benefits and costs related to any management decisions. Such benefits and costs include positive and negative externalities of ecosystem-based management as well as the benefits and costs directly incurred by individuals.*

In considering the interaction of social, economic and institutional factors with the EAF, four major “entry points” might be envisioned:

1. social, economic and institutional factors are often driving forces behind the need for EAF management;
2. the potential costs and benefits to individuals and society of applying the EAF will have social, economic and management components, as well as ecological ones;
3. social, economic and institutional instruments are all useful in the application of EAF, and in particular are relevant in creating incentives for EAF adoption; and
4. social, economic and institutional factors can all play roles in supporting or constraining the implementation of EAF management.

In other words, social, economic and institutional elements can be simultaneously drivers, constraints and/or supports for EAF implementation and, in addition, there can be social, economic and institutional outcomes of that implementation. All of these “entry points” need to be taken into account in EAF discussions.

This document therefore attempts to compile a selection of available fishery-specific, as well as non-fishery specific, literature (and methods) relating to how economic, social and institutional aspects: (1) drive EAF; (2) are valued and distributed among direct and non-direct users; (3) can be used as instruments in the application of EAF; and (4) are related to existing institutions. The document also explores possible means of financing the EAF, given that the costs and benefits related to EAF management have both private- and public-good aspects at local, regional, and global levels.

The document is divided into two main parts. The first part provides introductory and background material essential to understand prior to embarking on EAF initiatives.

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<sup>1</sup> In preparation.

This material includes: (1) concepts, issues and considerations relevant to the EAF; (2) discussion of how aquatic ecosystems are valued, socially, culturally and economically, as well as the various non-market and market valuation techniques for assessing that value; (3) policy, legal, institutional; and (4) social and economic aspects relevant to the EAF, and. The second part covers the key issues facilitating the implementing the EAF: (1) defining the boundaries, scale, and scope of the EAF at hand; (2) the various benefits and costs involved in EAF, from social, economic, ecological and management perspectives, and the decision-making tools that can assist EAF implementation; (3) internal incentives and institutional arrangements that can be created and/or utilized for promoting, facilitating and funding the adoption of EAF management; and (4) external (non-fisheries) approaches for financing EAF implementation. The material presented in the two main parts of the report is complemented by an annex that reviews methods commonly used to meet two specific operational needs in EAF implementation – smoothly-running policy and planning processes and effective information acquisition and utilization.

It should be noted that this report is designed to cover a wide range of topics accessible to those in all fishery areas and disciplines, rather than to reflect the detailed state-of-the-art research on any one topic. Despite its breadth, however, there are certainly relevant topics not covered here. For a comprehensive treatment of the subject, the reader is encouraged to read this report in conjunction with the above-mentioned Guidelines as well as the *FAO Technical Guidelines for Responsible Fisheries* No. 4 – Fisheries management (1997 – hereafter, the FM Guidelines) and No. 4 Supplement 2 – The ecosystem approach to fisheries (2003 – hereafter, the EAF Guidelines) and the *FAO Fisheries Technical Paper* No. 443 – The ecosystem approach to fisheries: issues, terminology, principles, institutional, foundations, implementation and outlook (FAO, 2003a).