

## TECHNICAL BRIEF

# An Ecosystem Approach to Fisheries Management (EAFM) and the Coral Triangle Initiative



### What is the Coral Triangle Initiative?

The governments of Indonesia, Malaysia, Papua New Guinea, Philippines, Solomon Islands and Timor-Leste came together in 2007 to form the Coral Triangle Initiative (CTI) on coral reefs, fisheries and food security. CTI is a multi-government partnership that aims to safeguard the marine and coastal resources of the Coral Triangle—the world’s richest marine ecosystem.

Under the CTI, the Coral Triangle countries adopted a Regional Plan of Action with five goals: 1) strengthening management of seascapes; 2) application of ecosystem approach to fisheries management (EAFM); 3) developing and strengthening the management of marine protected areas; 4) implementing climate change adaptation measures; and 5) protecting threatened marine species.

### What is the ecosystem approach to fisheries management (EAFM)?

In 2003, the United Nations Food and Agriculture Organization (FAO) defined EAFM as “An approach to fisheries management and development that strives to balance diverse societal objectives, by taking into account the knowledge and uncertainties about biotic, abiotic, and human components of ecosystems and their interactions and applying an integrated approach to fisheries within ecologically meaningful boundaries.”

The principles and guidelines in the FAO Code of Conduct for Responsible Fisheries support EAFM and states that:

“The purpose of the ecosystem approach to fisheries is to plan, develop, and manage fisheries in a manner that addresses the multiple needs and desires of societies without jeopardizing the options for future generations to benefit from the full range of goods and services provided by marine ecosystems.”

The increased understanding of the interactions among different components of marine ecosystems such as fish, people, habitats, and climate has led to a growing recognition of the need to manage fisheries in the context of their supporting ecosystems.

EAFM looks beyond seeing a fishery as simply ‘fish in the sea and people in boats’. EAFM covers the broader marine environment including natural components such as coral reefs and mangroves, and human activities such as fishers, fishing communities, coastal development and tourism.

### Why is EAFM important for the CTI?

Target I of the second goal of the CTI Regional Plan of Action is to have “strong legislative, policy and regulatory frameworks in place for achieving an EAFM”. The Regional Plan of Action calls for “collaboration to develop a common regional framework for legislation and policy’ that would support EAFM and strengthen regional and national legislation, policies and regulations.”



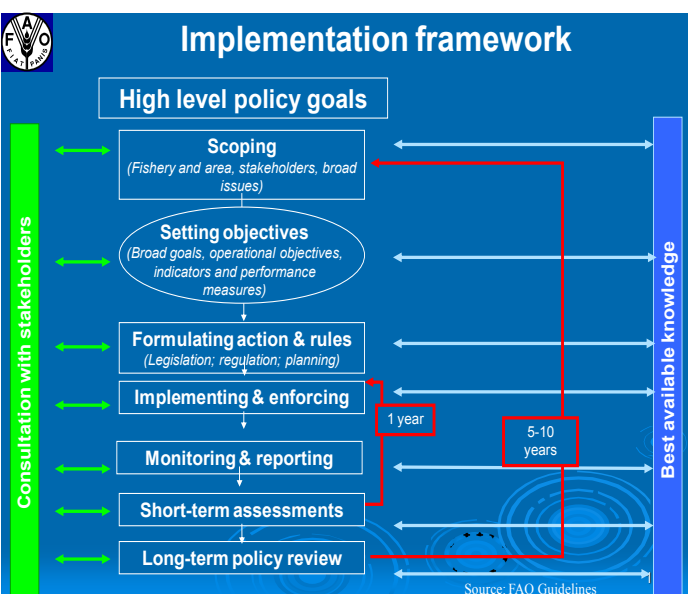
EAFM merges fisheries management, with its focus on providing food and livelihoods for humans, and ecosystem management, with its focus on protecting and conserving ecosystem structure and functions.

Some elements of EAFM are already being done through conventional fisheries management. However, EAFM builds further on these existing management approaches to address the range of issues beyond simple management of target species within a fishery. With EAFM, some assessments, decision-making and management are done differently to take a more integrated approach to fisheries management that includes managing the interactions between the fishery - fish and fishers - and the other essential components of marine ecosystems that are critical for sustaining the fishery such as conserving biological diversity and ecological resilience. EAFM helps to align fisheries management with natural and human systems.

### How does EAFM work?

The application of an EAFM will vary depending on each country's circumstances, laws, policies, administration, resources, uses and socioeconomics. While the implementation of EAFM is usually the responsibility of fishery agencies, its full implementation will require coordination and cooperation with other agencies responsible for managing other activities that impact on the marine ecosystem, such as the environment agency or marine park authority; and levels of government, such as local government and community organizations.

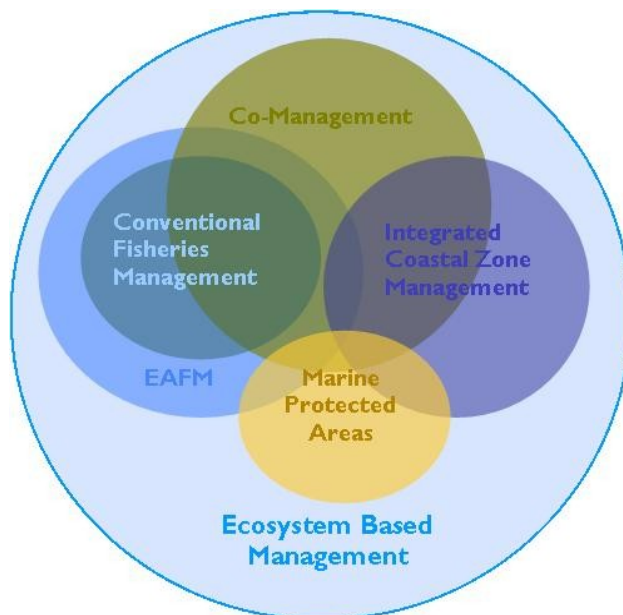
The practical implementation of the EAFM typically includes a systematic process of data collection, planning, implementation, monitoring and review. At the heart of the EAFM process is an integrated management plan. EAFM includes stakeholder involvement throughout the management process, management that is adaptive, and objectives that are broad in scope. FAO guidelines provide a framework for practical implementation of EAFM.



### How does EAFM differ from other marine management approaches?

EAFM complements and includes many existing approaches to fisheries and marine and coastal resources management such as co-management, integrated coastal zone management (ICM), marine protected areas (MPAs), and ecosystem-based management (EBM), to name a few.

A distinction can be made between these approaches. Multi-sectoral approaches, such as EBM and ICM, deal with goals for management that include all sectors such as fisheries, mining, shipping, and tourism. Sectoral approaches, such as EAFM, focus on managing a given sector, such as fisheries, in a way that is consistent with a wider ecosystem well-being focus. In line with the principles of EAFM, designated management areas such as MPAs address multiple objectives, covering both fisheries management and conservation objectives.



### What definition of EAFM should we use in the CTI?

Since the six Coral Triangle countries have all agreed to the FAO Code of Conduct for Responsible Fisheries, it provides an internationally recognized definition of EAFM. Each country may adapt all or parts of this definition to its particular fisheries management needs, policies and laws.

### What is the legal basis for EAFM in the CTI?

EAFM is a widely accepted concept and various international instruments support its application. At the international level, the principles of EAFM are reflected mainly in voluntary instruments such as the UN Conference on Environment and Development, the Convention on Biological Diversity, the FAO Code of Conduct for Responsible Fisheries, and the 2002 Plan of Implementation of the World Summit on Sustainable Development. These instruments have been adopted by national parties in the CT6 countries.



## Where is EAFM being used in the Coral Triangle region?

EAFM is not a common part of national fisheries legislation of the Coral Triangle countries, although most countries have a legislative framework that can be used to support EAFM. In some cases, EAFM may require that existing laws and policies, and the practices of other sectors that interact with fisheries, need to be reconsidered and adjustments made where necessary. EAFM is, therefore, likely to require more complex sets of rules or regulations that recognize the impacts of fisheries on other sectors and the impact of those sectors on fisheries.

Many aspects and components of EAFM have already been practiced in the region at various scales and stages, as illustrated in the following examples.



The Coral Triangle encompasses six million square kilometers of ocean and coastal waters surrounding Indonesia, Malaysia, Philippines, Papua New Guinea, Solomon Islands and Timor-Leste.

Experience in the **Philippines** shows that EAFM can be scaled-up from existing site or localized management to broader ecosystems to operate over multiple political jurisdictions. "Clusters" of multiple local government units can cooperate and manage fisheries at ecosystem (bay, gulf) scales. In 2008, the Bureau of Fisheries and Aquatic Resources issued Fisheries Office Order no. 217, Adoption and Implementation of the Integrated Fisheries Management Unit (IFMU) Scheme. The IFMUs can be a cluster of municipalities, coordinated at the provincial level and with technical and information support by the BFAR regional office.



Through the Fisheries Improved for Sustainable Harvest (FISH) project in the **Philippines**, fisheries management initiatives were raised to an ecosystem scale by studying the dynamics of marine ecosystems within a defined boundary; developing indices of the ecosystem's health, and setting management targets. It also put in place immediate fisheries management interventions for species that are key to the food web (and are an important economic commodity); and put a governance system in place that is responsive to an ecosystem approach to fisheries management.



The Locally-managed Marine Area (LMMA) Network in the Coral Triangle region supports coastal and marine resource management activities in **Papua New Guinea, Solomon Islands, Indonesia and the Philippines**. An LMMA is an area of near-shore waters and coastal resources that is largely or wholly managed at a local level by the coastal communities, land-owning groups, partner organizations, and/or collaborative government representatives who reside or are based in the immediate area. The Network provides a forum for community organizations and research institutions to share experiences and information and review approaches to Community-based Adaptive Management.



The Wakatobi National Park in **Indonesia** has diverse coral habitats which are threatened by overfishing and destructive fishing practices. To address these issues, the park's management plan and zoning system was redesigned to protect coral reef resources by building a network of MPAs designed to preserve the area's important biodiversity. This is also supporting the livelihoods of local people by replenishing fish stocks and providing new employment opportunities through ecotourism. A key project strategy is collaborative management, with a focus on involving communities in management decision-making.



## More information on EAFM

### Organizations:

- United States Coral Triangle Initiative (USCTI)  
[www.uscti.org](http://www.uscti.org)
- Secretariat of the Pacific Community (SPC), Noumea, New Caledonia [www.spc.int](http://www.spc.int)
- Asia Pacific Fisheries Commission (APFIC), UN FAO, Bangkok, Thailand [www.apfic.org](http://www.apfic.org)
- Southeast Asian Fisheries Development Center (SEAFDEC), Bangkok, Thailand [www.seafdec.org](http://www.seafdec.org)
- Partnerships in Environmental Management for the Seas of East Asia (PEMSEA), Quezon City, Philippines  
[www.pemsea.org](http://www.pemsea.org)
- United Nations Food and Agriculture Organization (FAO), Rome, Italy [www.fao.org/fishery/en](http://www.fao.org/fishery/en)
- UNFAO Regional Office for Asia and the Pacific, Bangkok, Thailand <http://www.fao.org/world/regional/rap/en/>

### Key Documents on EAFM

APFIC. 2009. APFIC/FAO Regional consultative workshop "Practical implementation of the ecosystem approach to fisheries and aquaculture", 18–22 May 2009, Colombo, Sri Lanka. FAO Regional Office for Asia and the Pacific, Bangkok, Thailand. RAP Publication 2009/10. <ftp://ftp.fao.org/docrep/fao/012/i0944e/i0944e00.pdf>

FAO. 2003. FAO Technical Guidelines for Responsible Fisheries – Fisheries management 2: The ecosystem approach to fisheries. Rome. <http://www.fao.org/DOCREP/005/Y4470E/y4470e00.htm>

FAO. 2005. Putting into practice the ecosystem approach to fisheries. Rome. <http://www.fao.org/docrep/009/a0191e/a0191e00.HTM>

Secretariat of the Pacific Community. 2010. A community-based ecosystem approach to fisheries management: guidelines for Pacific Islands countries. Noumea, New Caledonia [https://www.spc.int/coastfish/doc/coastfish\\_docs/technical\\_rep/Anon\\_10\\_EAFguidelines.pdf](https://www.spc.int/coastfish/doc/coastfish_docs/technical_rep/Anon_10_EAFguidelines.pdf)

Staples, D. & Funge-Smith, S. 2009. Ecosystem approach to fisheries and aquaculture: Implementing the FAO Code of Conduct for Responsible Fisheries. FAO Regional Office for Asia and the Pacific, Bangkok, Thailand. RAP Publication 2009/11. <ftp://ftp.fao.org/docrep/fao/012/i0964e/i0964e00.pdf>

T. Ward, D. Tarte, E. Hegerl and K. Short. 2002. Ecosystem-Based Management of Marine Fisheries: Policy proposals and operational guidance for ecosystem-based management of marine capture fisheries. WWF Australia and WWF International. Gland, Switzerland [http://assets.panda.org/downloads/WWF\\_EBMFisheries\\_FullDoc.pdf](http://assets.panda.org/downloads/WWF_EBMFisheries_FullDoc.pdf)

EBM Tools Network: [www.ebmtools.org](http://www.ebmtools.org)

## What is the US CTI Support Program?

The U.S. Agency for International Development is supporting the Coral Triangle Initiative through the five-year US CTI Support Program (US CTI). The US CTI assists governments and stakeholders in implementing the CTI Regional Plan of Action; supports development of the CTI Secretariat and national coordinating committees; provides access to U.S. science and research capabilities; and shares best practices among the six Coral Triangle countries. The US CTI includes the National Oceanic and Atmospheric Administration (NOAA); an institutional contractor providing program coordination and regional-level support (the Program Integrator-PI); the Coral Triangle Support Partnership (CTSP), an NGO consortium composed of the World Wildlife Fund, The Nature Conservancy and Conservation International; and the US State Department. The program also works with other donors including the Government of Australia and the Asian Development Bank.

### How is the US CTI Support Program improving the implementation of EAFM in the Coral Triangle?

The US Government, through the US CTI Support Program, is supporting the CT6 to apply EAFM at the regional, national and site-level scale across the Coral Triangle. The US CTI Support Program applies an integrated approach across the major CTI thematic areas to achieve catalytic results, focusing activities at specific priority geographic sites and linking them across the region through shared learning networks and regional exchanges to advance regional policies and strengthen capacity throughout the Coral Triangle region.

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