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## Moving towards an ecosystem approach to fisheries management in the Coral Triangle region



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### ABSTRACT

Applying an EAFM is considered the preferred option and best practice under the CTI-CFF for the long-term sustainability of fisheries and the ecosystem services provided to society (e.g., food security, livelihoods, economic security, coastal protection, human health and wellbeing). This paper presents progress of the six CTI countries toward implementation of an EAFM. The results of a country analysis of the existing institutional, policy and legal frameworks in terms of the ability of each country to align with EAFM principles is presented. Challenges to effective implementation of an EAFM in the Coral Triangle region are discussed and recommendations to overcome some of the key challenges are provided.

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### 1. Introduction

In 2007, the governments of Indonesia, Malaysia, Papua New Guinea, Philippines, Solomon Islands, and Timor-Leste came together to form the Coral Triangle Initiative on Coral Reefs, Fisheries, and Food Security (CTI-CFF), a multi-government partnership aiming to safeguard the region's marine and coastal resources and the services they provide to society [1]. Supporting the world's most biologically diverse marine region (Fig. 1), as well as some one in three of the region's 363 million people dependent upon coastal resources for food security, the Coral Triangle countries endeavored to form what may be the most ambitious regional ocean governance initiative to date. Under the CTI-CFF, the six Coral Triangle countries (CT6) adopted a Regional Plan of Action (RPOA) with five overarching goals: (1) strengthening management of seascapes; (2) applying an 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 [1].

Applying an EAFM is considered the preferred option and best practice under the CTI-CFF for the long-term sustainability of fisheries and the ecosystem services provided to society (e.g., food security, livelihoods, economic security, coastal protection, human health and wellbeing) [1,2]. Because an EAFM is relatively new in policy and practice, its preeminence in the CTI-CFF Regional Plan of Action—whose first target is to ensure “strong legislative, policy, and regulatory frameworks in place for achieving an EAFM”—represents an ambitious and challenging agenda for this vast and diverse region. Specifically, the CTI-CFF agreed to work collaboratively to “develop a common regional framework for legislation and policy that would support an EAFM and strengthen regional and national legislation, policies, and regulations.”

The purpose of this paper is to discuss progress of the six CTI countries toward implementation of an EAFM. The results of a country analysis of the existing institutional, policy and legal frameworks in terms of the ability of each country to align with EAFM principles is presented. Challenges to effective implementation of an EAFM in the Coral Triangle region are discussed and recommendations to overcome some of the key challenges are provided.

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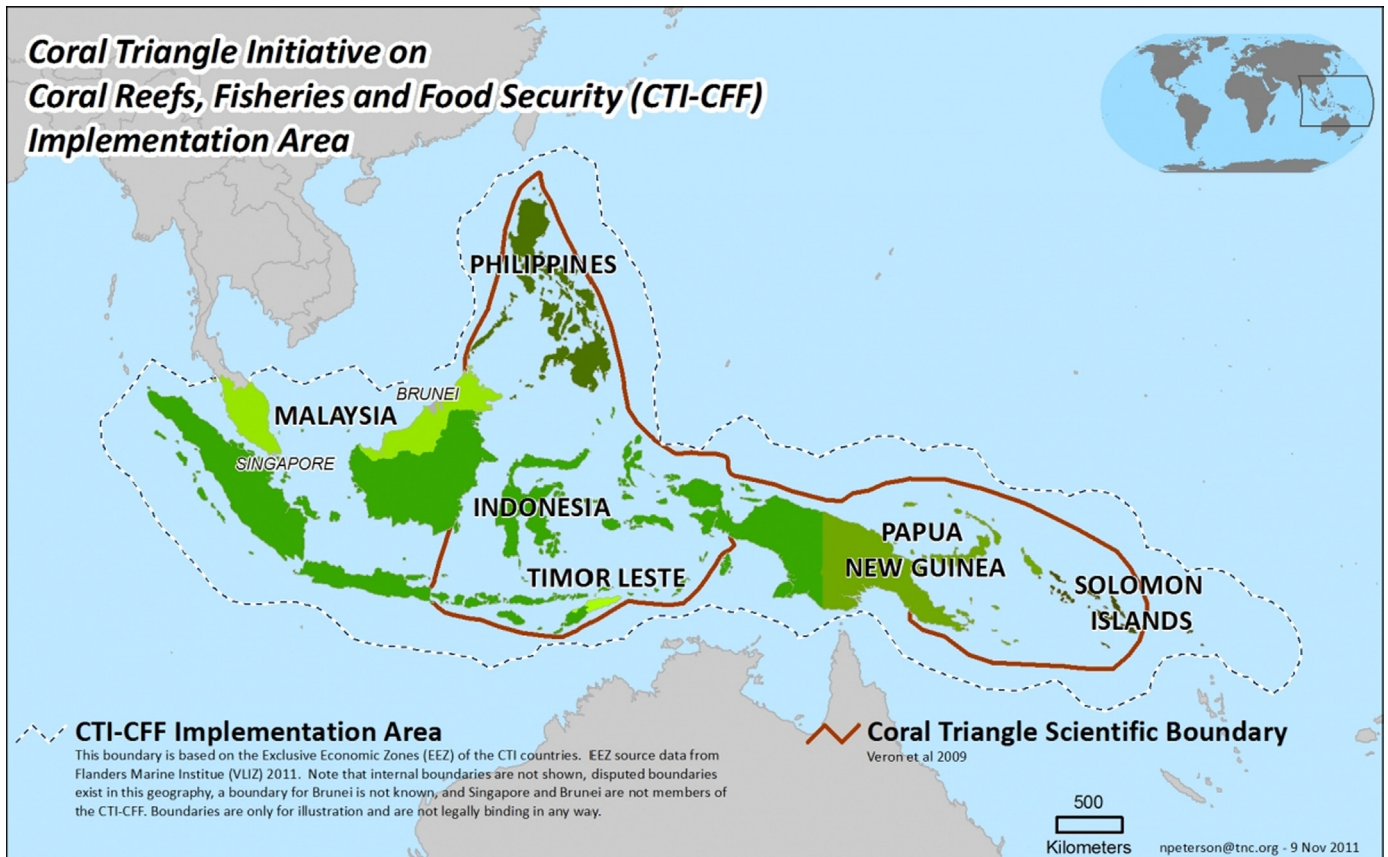


Fig. 1. Coral Triangle initiative implementation area.

## 2. An ecosystem approach to fisheries management

In 2003, the United Nations Food and Agriculture Organization (FAO) defined an Ecosystem Approach to Fisheries (EAF) 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” [3]. The principles and guidelines in the FAO Code of Conduct for Responsible Fisheries support an EAFM and states that [3]:

“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. An EAFM looks beyond seeing a fishery as simply “fish in the sea and people in boats”. An EAFM covers the broader marine environment including natural components, such as coral reefs, mangroves, and the environment, and human activities, such as fishers, fishing communities, coastal development and tourism. An EAFM focuses on sustainable management of fisheries and their provisioning of food and livelihoods for humans, as a sectoral component of the more holistic and ecosystem-based management (EBM), which includes management of all of the other

non-fisheries sectors as well, such as coastal development and land-use, shipping and transportation, etc. [3,4].

The conceptual objectives and principles of relevance for an EAFM, selected operational objectives and related measures and actions, and selected implementation issues are discussed in detail in FAO [5]. There are a number of interrelated guiding principles which underlie EAFM (Table 1).

Some principles of an EAFM are already being undertaken through conventional fisheries management. However, an EAFM builds further on these existing management approaches to address the range of issues beyond simple management of target species within a fishery. With an 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. An EAFM helps to align fisheries management with natural and human systems [2].

## 3. Methods

As part of the regional EAFM initiative of the U.S. Coral Triangle Initiative, in 2010 fisheries experts in each of the six CTI countries were contacted about conducting a country analysis of the existing institutional, policy and legal frameworks in terms of the ability of each country to align with EAFM principles. The purpose of the study was to determine if there was a need for policy and legal reform to support an EAFM implementation in each country. The study primarily focused on analysis of existing fisheries laws and policies, and related environmental and resource management

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