

Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security

# Monitoring and Evaluation System Operations Manual



**CORAL TRIANGLE  
INITIATIVE**

ON CORAL REEFS, FISHERIES AND FOOD SECURITY

A publication supporting the **Coral Triangle Initiative on  
Coral Reefs, Fisheries and Food Security (CTI-CFF)**

[www.coraltriangleinitiative.org](http://www.coraltriangleinitiative.org)

Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security

# Monitoring and Evaluation System Operations Manual

This publication was produced by the CTI-CFF Monitoring and Evaluation Working Group and printed with support from the United States Agency for International Development through the United States Coral Triangle Initiative Support Program



**USAID**  
FROM THE AMERICAN PEOPLE





This is a publication of the Coral Triangle Initiative on Corals, Fisheries and Food Security (CTI-CFF). This publication was prepared to support the implementation of the CTI-CFF Regional and National Plans of Action.

Funding for the preparation of this document was provided by the USAID -funded U.S. Coral Triangle Initiative Support Program. The program is implemented by the Coral Triangle Support Partnership (CTSP), the US CTI Support Program Integrator (PI), and the US National Oceanic and Atmospheric Administration (NOAA). CTSP is a consortium led by the World Wildlife Fund, The Nature Conservancy and Conservation International and the PI project is implemented by Tetra Tech, Inc.

The opinions expressed herein are those of the authors and do not necessarily reflect the views of USAID, NOAA, or the US Government. This publication may be reproduced and distributed for non-commercial purposes or quoted in other publications provided that the source is fully acknowledged. The recommended citation is listed below.

Citation: Coral Triangle Initiative on Corals, Fisheries and Food Security (CTI-CFF) 2013. Monitoring and Evaluation System Operations Manual. U.S. Coral Triangle Initiative Support Program and CTI-CFF Monitoring and Evaluation Working Group.

U.S. CTI Support Program Document Number 21-USCTI-13

For more information on the Coral Triangle Initiative, please contact:

Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security  
Interim-Regional Secretariat  
Ministry of Marine Affairs and Fisheries of the Republic of Indonesia  
Mina Bahari Building II, 17th Floor  
Jalan Medan Merdeka Timur No. 16  
Jakarta Pusat 10110, Indonesia  
[www.coraltriangleinitiative.org](http://www.coraltriangleinitiative.org)

More information on the Coral Triangle Initiative and support by USAID can be found at:  
[www.uscti.org](http://www.uscti.org) and [www.usctsp.org](http://www.usctsp.org)

Front cover photo: A local marine protected area staff conducts a reef transect in Nuakata, PNG  
© USAID CTSP/James Morgan  
Back cover photo: Marine life at the proposed Tun Mustapha Marine Park in Sabah, Malaysia  
© WWF Malaysia/Eric Madeja

# Table of Contents

Acronyms .....	2
Acknowledgements.....	3
Foreword.....	4
Message from the Interim Regional Secretariat.....	5
Executive Summary.....	6
Introduction .....	7
A. The CTI-CFF.....	7
B. The Regional Plan of Action .....	8
I. The M&E System.....	10
A. The M&E Framework .....	10
B. RPOA Goals, Targets and Indicators.....	11
C. Roadmaps.....	16
D. Baseline Measures .....	16
E. National and Regional Process – Data Pathway .....	16
II. Organization and Management at National and Regional Levels.....	20
A. Structure of M&E System lines of authority and coordination.....	20
B. The role of the Coral Triangle Regional Secretariat in the M&E System.....	22
C. The role of the NCC in the M&E System .....	22
D. The role of the TWG in the M&E System.....	22
E. The role of the CT Atlas ( <a href="http://ctatlas.reefbase.org">http://ctatlas.reefbase.org</a> ) in the M&E System .....	23
III. Communicating the M&E.....	24
A. M&E Working Group& CTI-CFF website .....	24
B. Regional State of the Coral Triangle Report .....	25
IV. Capacity Assessment and Needs.....	26
Summary and Next Steps.....	28
References .....	29
Annexes.....	29



# Acronyms

CCA	Climate Change Adaptation
CSO	Council of Senior Officials
CT	Coral Triangle
CT Atlas	Coral Triangle Atlas
CT6	CT Countries (Indonesia, Malaysia, Philippines, Papua New Guinea, Solomon Islands, and Timor-Leste)
CTI-CFF	Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security
CTMPAS	Coral Triangle Marine Protected Area System
CTSP	Coral Triangle Support Partnership
DA-BFAR	Bureau of Fisheries and Aquatic Resources of the Department of Agriculture
DEC	Department of Environment and Conservation (Papua New Guinea)
EAFM	Ecosystem Approach to Fisheries Management
M&E	Monitoring and Evaluation
MEWG	Monitoring and Evaluation Working Group
MPA	Marine Protected Area
MoMAF	Ministry of Marine Affairs and Fisheries (Indonesia)
MoF	Ministry of Finances (Indonesia)
MoE	Ministry of Environment (Indonesia)
myNODC	Malaysia National Oceanography Data Centre
NCC	National Coordination Committee
NFA	National Fisheries Authority (Papua New Guinea)
NPOA	National Plan of Action
PNG	Papua New Guinea
RFMO	Regional Fisheries Management Office
RPOA	Regional Plan of Action (CTI-CFF)
RSCTR	Regional State of the Coral Triangle Report
SCTR	State of the Coral Triangle Report
SOM	Senior Officials Meeting
SPC	Secretariat of Pacific Community
SPREP	South Pacific Regional Environment Programme
TNC	The Nature Conservancy
TWG	Technical Working Group
USCTI	United States Coral Triangle Initiative Support Program

# Acknowledgements

This Manual is the result of several regional workshops conducted by the CTI-CFF Monitoring and Evaluation Working Group (MEWG) to formulate the Monitoring and Evaluation System for the CTI-CFF. Representatives from each country have participated in the workshops and have assisted in reviewing this Manual. Participants of the Monitoring and Evaluation Working Group have worked hard to develop parts of this Manual, including the Interim CTI-CFF Interim Regional Secretariat, members of National Coordinating Committees and implementing partners. Segments of the introduction have been modified from the Coral Triangle Initiative website (<http://www.coraltriangleinitiative.org/>). Resource persons instrumental in compiling this document include: Alan White (TNC), Luz Baskinas (WWF Philippines), Catherine Courtney (Tetra Tech Inc.) and William Jatulan (USCTI). The document was written and compiled by Annick Cros (TNC).

# Foreword

Marine resources and the ecosystem services they provide are critically important in the world's most biodiverse marine area known as the Coral Triangle, but these resources and ecosystems are under serious threat (Reefs at Risk: Coral Triangle, WRI 2012). To protect the area and its vital resources, the six countries of the Coral Triangle (Indonesia, Malaysia, Papua New Guinea, the Philippines, Solomon Islands and Timor-Leste) established in 2007 the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF), which is pursuing the implementation of a “*Regional Plan of Action*” which was formally endorsed in 2009 by the six countries.

From the outset of the CTI-CFF, it was decided that measurable targets for the 5 goals needed to be set and measured so that progress towards the goals and higher level outcomes (coral reefs, fisheries and food security) could be quantified. Thus, the Monitoring and Evaluation Working Group (MEWG) was formed and Chaired by the Philippines with the mandate to formulate a set of indicators for each of the 5 goals together with the Technical Working Groups for each goal and equally to formulate a process for tracking these indicators using the best information available across the region.

This “*Monitoring and Evaluation Operations Manual*” is the result of several MEWG regional workshops and summarizes the core elements of the CTI-CFF M&E System. The M&E System has been endorsed by the Senior Officials Meeting and Council of Ministers in 2012 and is now ready for full application. This Manual prescribes a process for facilitating regional collaboration among the countries to track progress towards the CTI-CFF goals and higher level outcomes. A key component of the M&E System is an information base which consistently tracks change at the national and regional scale. This information base is housed in the Coral Triangle Atlas which is an integral part of the M&E System.

We are extremely proud of this accomplishment. We hope that it will serve as a cornerstone for measuring progress towards the regional CTI-CFF goals and outcomes. We thank all those who contributed to this process and look forward to working together in the wide application of the M&E System Operations Manual.

**Director Theresa Mundita S. Lim**

Department of Environment and Natural Resources  
PHILIPPINES  
Chair, CTI-CFF M&E Working Group



# Message from the Interim Regional Secretariat

The Coral Triangle countries with all of their local communities and governments, and a large variety of stakeholders face a common challenge. How are they to know if they are making progress towards the goals of Coral Triangle Initiative for Coral Reefs, Fisheries and Food Security (CTI-CFF) Regional Plan of Action? The goals include improved management of seascapes, adopting an ecosystem approach to fisheries management, sustaining or improving fisheries, protecting biodiversity, maintaining and improving marine protected areas, adapting to climate change, reducing threats to vulnerable species and improving livelihoods among others. To accomplish these goals requires major commitments and without a monitoring and evaluation system in place to track progress, it will not be possible to know if positive change is occurring in countries and across the Coral Triangle region as a result of the CTI-CFF Actions.

To address the need for a CTI-CFF Monitoring and Evaluation system, the CTI-CFF Monitoring and Evaluation (M&E) Working Group has developed and completed the “CTI-CFF Monitoring and Evaluation Operations Manual.” The development of this M&E Operations Manual represents four years of sustained effort on the part of the Coral Triangle country agency representatives working with key technical experts to formulate a set of measurable indicators for each of the five goals in the Regional Plan of Action. In addition, the M&E Operations Manual elaborates how each indicator can be tracked and how the accomplishment of the goal indicators will contribute to the higher level outcomes of the CTI-CFF which include improved coral reef conditions, fisheries and food security.

This M&E Operations Manual describes the “system” for measuring progress and change against baseline status of resources in the Coral Triangle countries. It is linked to a dynamic database, the Coral Triangle Atlas, and is an essential tool to help the CTI-CFF succeed. Without an operational M&E system, we at any level in the Coral Triangle region will not know if we are directing our actions appropriately and making a positive impact on the status of our coastal and marine resources.

Thus, the CTI-CFF Regional Secretariat encourages all parties operating in the Coral Triangle countries to adopt and use this M&E Operations Manual to assist with design and implementation of their projects. Equally, it is important that each National Coordinating Committee use this Manual to guide the development of the National Plan of Action M&E System.

We congratulate and thank all involved in developing the M&E Operations Manual. We give special thanks to the US CTI Support Program and partners for providing the technical assistance in its development. Let us adopt and use it to the fullest extent.

**Sudirman Saad**  
Chairman of the Interim CTI-CFF Regional Secretariat

# Executive Summary

The Monitoring and Evaluation System (M&E System) Operation Manual has been developed as a guide for the Regional Secretariat, the Technical Working Groups (TWGs), the National Coordinating Committees (NCCs) and the implementing partners of the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF). It is structured to provide a framework for the M&E System; define indicators for each of the five Regional Plan of Action (RPOA) goals as well as the three higher level outcomes; provide a comprehensive workflow to collect, analyze and report indicators against progress; and help the six countries and the technical working groups to manage the M&E System for adaptive management.

The M&E System is embedded in the five goals of the RPOA and will measure against baselines on the status quo for each goal the outputs and outcomes using indicators developed and endorsed by the TWGs and the Monitoring and Evaluation Working Groups. For some of these indicators, additional benchmarks have been developed as guidelines to track results on a shorter time scale. The Climate Change Adaptation TWG and the Marine Protected Area TWG both developed roadmaps to further help countries put in place the system necessary to track the regional indicators at the national level.

In keeping with the reporting structure of the Coral Triangle Initiative, each entity of the CTI-CFF plays a role in this monitoring system. The M&E System has mapped a national and regional data pathway that allows tracking information transfer and analysis from the field to the top decision makers. It also defines the role and accountability of each entity. The NCCs are pivotal to transferring data measured at the national level to the TWGs to be compiled and analyzed at the regional level. The Regional Secretariat has a central role, hosting and compiling regional data and reporting the results of the M&E System every year to the Senior Officials Meeting as well as every other year through the Regional State of the Coral Triangle Report. The Secretariat is supported by the Monitoring and Evaluation Working Group in each of these steps as well as the Coral Triangle Atlas which leads the information system and data management.

While 10% of funding for many programs is set aside for monitoring and evaluation, each of the CT6 has a different capacity to put into place the M&E system. A preliminary analysis of the estimated cost to track these indicators shows that countries with lower capacity will have a higher financial burden because they will need to create a new system. On the other hand, countries that are already tracking the selected indicators will need less support to make the M&E system fully functional. Implementers will need to organize funds to help those with less established structures to monitor indicators to be able to build a true regional picture of progress in the CTI-CFF and its RPOA goals. A key component of assisting to make the M&E System functional will be to install an M&E Coordinator and System Manager to work directly with the CT6, NCCs and regional CTI Secretariat.

# Introduction



Turtle-tagging in the Solomon Islands © USAID CTSP/James Morgan

## A. The CTI-CFF

The Coral Triangle Initiative on Coral Reefs, Fisheries, and Food Security is a multilateral partnership of six countries working together to sustain extraordinary marine and coastal resources by addressing crucial issues such as food security, climate change and marine biodiversity.

There is broad scientific consensus that the Coral Triangle represents a global epicenter of marine life abundance and diversity. Spanning only 1.6% of the planet's oceans, the Coral Triangle region comprises 76% of all known coral species, hosts 37% of all known coral reef fish species, 53% of the world's coral reefs, the greatest extent of mangrove forests in the world, and spawning and juvenile growth areas for tuna and other globally significant commercial fish species. These unparalleled marine and coastal living resources provide significant benefits to the approximately 363 million people who reside in the Coral

Triangle, as well as billions more outside the region. They are a source of food, income and natural coastal protection and it is critical to ensure the ongoing health of these ecosystems<sup>1</sup>.

Recognizing the need to safeguard the region's marine and coastal resources, Indonesian President Yudhoyono inspired other leaders in the region to launch the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security in 2007. The CTI-CFF is a multilateral partnership between the governments of Indonesia, Malaysia, Papua New Guinea, Philippines, Solomon Islands and Timor-Leste (the "CT6").

At the Leader's Summit in 2009, these governments agreed to adopt a CTI Regional Plan of Action to safeguard the region's marine and coastal biological resources. It focuses on strategies that support people-centric biodiversity conservation, sustainable development, poverty reduction and equitable benefit sharing.

### **B. The Regional Plan of Action**

The 10-year Regional Plan of Action is the backbone of the CTI-CFF. It captures the collective priorities and commitments of all six governments and reflects extensive inputs from many partners. It is intended to serve as a rallying point for collective and parallel actions at regional, national, and sub-national levels.

The RPOA presents five goals, each supported by a Technical Working Group (TWG)(CTI-CFF 2009):

- Goal 1 – Priority seascapes designated and effectively managed – Seascapes TWG
- Goal 2 – Ecosystem approach to management of fisheries (EAFM) and other marine resources fully applied – EAFM TWG
- Goal 3 – Marine protected areas (MPAs) established and effectively managed – MPA TWG
- Goal 4 – Climate change adaptation (CCA) measures achieved – CCA TWG
- Goal 5 –Threatened species status improved – Threatened Species TWG

As the commitments in the plan of action are implemented, tangible and measurable results are anticipated for each of the five goals as well as improvements in the health of marine and coastal ecosystems, in the status of fisheries and in the food security and wellbeing of the communities which depend on them.

In order to keep track of these results and the progress against the Regional Plan of Action, a Monitoring and Evaluation (M&E) system was developed. Structured around the five goals of the RPOA the M&E System provides the CT6 a series of common indicators to track their progress against and which in turn can be rolled up into regional indicators to inform the success of the CTI. This provides the opportunity to readjust actions and strategies to meet the defined targets and goals. The M&E System also provides a clear information pathway from measuring data in the field to a high level indicator of success. This system was developed by the CT6 through the TWG with the support of several implementing partners.

### **C. The Monitoring and Evaluation Working Group**

The Monitoring and Evaluation Working Group (MEWG) was endorsed by the CT6 during the CTI-CFF Senior Officials Meeting (SOM) 8 in November 2012. The primary function of the MEWG is to provide guidance to the CT6 to create a comprehensive M&E System. The MEWG gives technical inputs and recommendations to the Regional Secretariat and the National Coordinating Committees in achieving

---

<sup>1</sup><http://www.coraltriangleinitiative.org/>

the over-arching goals that have been set out in the RPOA. It coordinates and assists the five technical working groups centered on the five goals of the RPOA, as well as bringing in partners and experts to help these five TWGs develop and track measures for their goals.

The first task given by the SOM to the MEWG in 2008 was to develop the set of indicators to measure achievement of RPOA goals and targets. In 2009 the MEWG presented the initial set of proposed RPOA indicators to the SOM, and continued to develop the indicators through regional exchanges and workshops, bringing together the CTI-CFF countries, the interim Regional Secretariat and technical resource persons.

The creation of the Technical Working Groups in 2012 provided a structure to revise the indicators. The MEWG agreed to formally endorse the set of indicators proposed by the TWG. The MEWG prepared the roadmap towards developing the other components of the M&E system. Key sets of indicators for the higher outcome goals of the RPOA were developed through a regional exchange and workshop, as well key elements of the system to collect, measure, store, and report on the indicators. Sources, collaboration with existing programs and projects and methods of collecting and managing data on indicators were also identified.

The collection of data to measure the indicators requires collaboration with various organizations and national government agencies. To manage the data, the RPOA M&E system builds on the Coral Triangle Atlas (CT Atlas) information system, which has been developed to support the CTI-CFF. The CT Atlas has been able to provide data, especially maps for both national and regional work in the CTI-CFF.

The MEWG is also responsible for coordinating with the CTI Regional Secretariat (also referred to as “Secretariat”) to communicate progress through the preparation of the regional State of the Coral Triangle Report as well as other reports and material.



# I. The M&E System



Community rangers patrol a marine protected area in Bohol, Philippines © US CTI

## A. The M&E Framework

The M&E framework presents the short-term and long-term measurable targets and goals of the CTI-CFF. It describes direct causal relationships between the incremental results of key activities to the overall achievement of the RPOA goals.

It has four essential components:

- Activities – the activities carried out to achieve the targets of the 5 RPOA goals.
- Outputs – the immediate results achieved through the execution of the activities.
- Outcomes – the set of short-term or intermediate results achieved by through the execution of the activities.
- Impacts– the long-term effects, or end results achieved by the 5 RPOA goals.



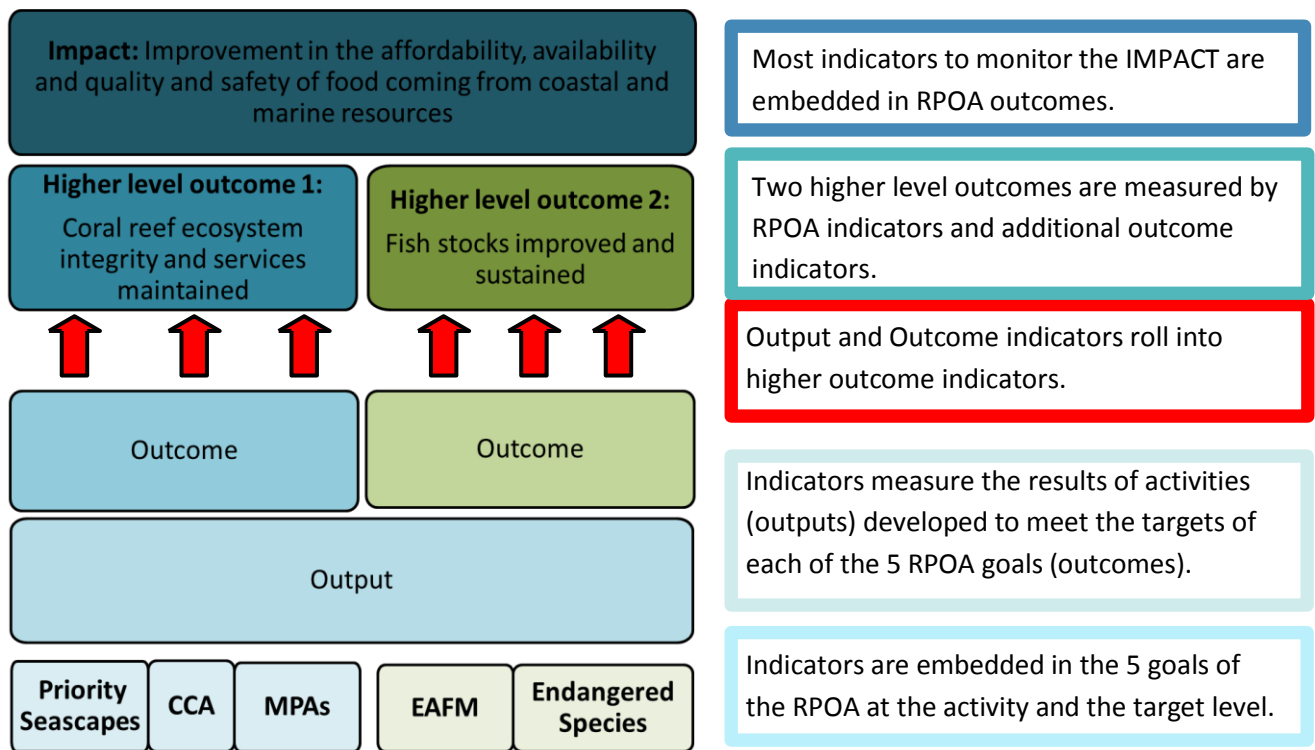


Figure 1. Monitoring and Evaluation process of the CTI-CFF.

Figure 1 describes the M&E framework. The RPOA is structured by goals which are divided into targets. Each target has a set of activities to achieve the desired outcome. The first level of indicators is embedded within activities of the targets. These measure the outputs of the activities and are compiled to provide a measure of the target’s outcome. .

A selection of these indicators is also used to measure the three higher level regional outcomes, including the “Impact”.

### B. RPOA Goals, Targets and Indicators

An indicator is a variable that measures one aspect of a program or project that is directly related to the program’s goals and targets. An indicator value should be easy to interpret and explain, timely, precise, valid and reliable.

It should be noted that not all the indicators for the RPOA goals have been finalized and endorsed at the time of writing this manual. This is the case for the three higher outcomes as well as the Seascape, the EAFM and the Threatened Species Goal. The indicators presented here are the ones developed as of July 1, 2013. More detailed descriptions of indicators with working comments can be found in Annex I.

#### 1) Higher level outcomes and impact

As the Regional Plan of Action is implemented, it is expected to see tangible and measurable improvements in the health of our marine and coastal ecosystems, in the status of our fisheries, and in the food security and well-being of the communities which depend on them (CTI-CFF, 2009). Several indicators have been developed by the MEWG to track these improvements as shown in Table I. These

indicators, however, have not all been finalized or endorsed by the six countries as some of them are too challenging or expensive to track.

Table 1. Higher level outcomes and impacts indicators of the CTI-CFF.

<b>Higher outcome 1: Coral reef ecosystem integrity and services stabilized / maintained</b>	
<b>Indicators</b>	Condition of coral reef Area of mangroves and seagrass Fish biomass Extent of coral reef and associated habitats in full protected areas
<b>Higher level outcome 2: Fish stocks improved and sustained</b>	
	Change in conservation status (international) of commercially important fish species (demersal and pelagic) Change in catch per unit effort (CPUE) by gear Change in species composition relative to trophic level Change in size distribution by fish species
<b>Higher level outcome 3 (Impact): Improvement in the affordability, availability, and quality and safety of food coming from coastal and marine resources</b>	
	Availability: food sufficiency of fishing household; food consumption of coastal communities Quality and safety: contribution of fish to protein requirement, health of fishing communities Affordability: income of fishers, price of fish

## 2) RPOA goals, targets and indicators

The RPOA goals and targets indicator were developed as a common effort between the TWG and the MEWG (Table 2). They reflect key stepping stones in the CTI process. Several criteria were used to select these indicators: they had to be specific, measurable, attainable, relevant, and time bound (SMART). They should be comparable across geographies and cultures.

The indicators in Table 2 have not all been endorsed by the TWGs. The indicators for the Seascapes, EAFM and Threatened Species goals may still need revisions.

Table 2. RPOA goals, targets and indicators.

<b>Goal 1: Priority seascapes designated and effectively managed</b>	
<b>Target 1: "Priority seascapes" designated with investment plans completed and sequenced</b>	
1.1.1	Number of priority seascapes designated with investment plans
<b>Target 2: Marine and coastal resources within all "Priority Seascapes" are being sustainably managed</b>	
1.2.1	Number of priority seascapes under continuous improved management
<b>Goal 2: Ecosystem approach to management of fisheries (EAFM) and other marine resources fully applied</b>	
<b>Target 2.1: Strong legislative, policy and regulatory frameworks in place for achieving an ecosystem approach to fisheries management (EAFM)</b>	
2.1.1	Number of policies and regulations promoting EAFM at regional and national levels with regulatory framework and budget allocated for their operationalization
2.1.2	Number of projects and programs implementing EAFM and components thereof
<b>Target 2.2: Improved income, livelihoods and food security in increasingly significant numbers of</b>	

---

***coastal communities across the region through a new sustainable coastal fisheries and poverty reduction initiative (COASTFISH)***

2.2.1 Average income (fishing and non-fishing) of coastal households by profession compared to baseline

2.2.2 Percent contribution of fish to protein requirements

***Target 2.3: Effective measures in place to help ensure exploitation of shared tuna stocks is sustainable, with tuna spawning areas and juvenile growth stages adequately protected***

2.3.1 Number of policies and agreements by CT6 countries for management of tuna

2.3.2 Change in conservation status of tuna

2.3.3 Number of countries adhering to markets or certification standards of tuna fisheries agreed upon by CT6 countries

***Target 2.4: A more effective management and more sustainable trade in live reef fish and reef-based ornamentals achieved***

2.4.1 Number of policies and agreements on live reef fish trade among CT6 to decrease level of destructive fishing practices linked to the trade

2.4.2 Number and area (km<sup>2</sup>) of locally managed areas for live reef fish trade

2.4.3 Number of countries adhering to markets/certification (live reef fish and ornamental fisheries) agreed by CT6

2.4.4 Change in conservation status of live reef fish species (to be decided by CTI as a body or by a forum designated by the CT6 according to IUCN-red list criteria assessment or other criteria to be determined by CTI)

---

**Goal 3: Marine protected areas (MPAs) established and effectively managed**

***Target 3.1. Region-wide Coral Triangle MPA System (CTMPAS) in place and fully functional***

3.1.1 CTMPAS Framework developed and adopted by CT6

3.1.2 Percent or area of total marine habitat in CT region in marine protected or managed areas

3.1.3 Percent of each major marine and coastal habitat type in strictly protected “no-take replenishment zones”

3.1.4 Percent or area (km<sup>2</sup>) of marine protected areas under “effective” management

3.1.5 Percent or area of marine protected/ managed areas included in CTMPAS

---

**Goal 4: Climate change adaptation (CCA) measures achieved**

***Target 4.1: Region-wide Early Action Plan for Climate Change Adaptation for the near-shore marine and coastal environment and small island ecosystems developed and implemented***

4.1.1 Number of regional agreements/frameworks/plans (e.g. REAP) developed

4.1.2 Number of national policies (including national CCA plans and frameworks) laws and regulations on climate change adaptation proposed and adopted.

4.1.3 Proportion of local governments that have integrated climate adaptation into local governance (plans and actions)

4.1.4 Area of Mangroves (hectares)

***Target 4.2: Networked national centers of excellence on climate change adaptation for marine and coastal environments are established and in full operation***

4.2.1 A national institution within CT6 designated and networked to address climate change adaptation coordinated with national government support

---

**Goal 5: Threatened species status improved**

***Target 5.1: Improved status of sharks, sea turtles, seabirds, marine mammals, corals, seagrass, mangroves and other identified threatened species***

5.1.1 Number of new policies or agreements adopted at the regional, national and local levels that are in compliance with the international agreements on threatened species

---

5.1.2 Area (km<sup>2</sup>) of protected marine habitat that contributes to conservation of threatened and endangered species protected

5.1.3 Number of threatened species with improved status (to be decided by CTI as a body or by a forum designated by the CT6 according to IUCN-red list criteria assessment or other criteria to be determined by CTI)

### 3) Additional benchmarks

In addition to selecting the indicators, the MPA TWG and the CCA TWG have developed tools to measure them. The MPA TWG has developed an MPA management effectiveness system, the CTMPAs (CTI-CFF, 2013), to measure the indicator 3.1.4 “% or area (km<sup>2</sup>) of marine protected areas under “effective” management”. In collaboration with the Coral Triangle Atlas, they have designed attributes for MPAs which will inform progress towards “management effectiveness” and nominate them into different categories (table 3). This data will be monitored by each country’s national body responsible for MPAs and transferred to the CT Atlas, which in turn will analyze the data and provide a score against the management effectiveness scale defined by the MPA TWG.

Table 3. Criteria for site nomination and inclusion of MPAs in the CTMPAS (CTI-CFF 2013).

<p style="text-align: center;"><b>**** Flagship Regional Sites</b></p> <p style="text-align: center;"><i>Sites that are of 1) exceptional regional importance in terms of ecology, socioeconomics and governance as determined by a regional review/evaluation; and, 2) meet the highest-level criteria for management effectiveness based on the rating system used by the nominating/endorsing country.</i></p>
<p>Flagship sites will be nominated by the six NCCs; 1-5 sites will be nominated by each country in the first nomination round. Priority development sites may be recognized as flagship sites once they become effectively managed.</p>
<p style="text-align: center;"><b>*** Priority Development Sites</b></p> <p style="text-align: center;"><i>Sites identified as having high regional importance in terms of ecology, socioeconomics and governance but still require further development and assistance to attain their full management potential. To be accepted under Category 3, a site must be formally recognized and endorsed by the country and must pass a regional review.</i></p>
<p>Priority development sites will be nominated by the country with the aim of fulfilling regional needs and to prioritize those sites that require more development. They may also fill gaps as identified in a regional or national gap analysis. Nominated sites might be existing category 2 sites, or new sites.</p>
<p style="text-align: center;"><b>** Effectively Managed Regional Sites</b></p> <p style="text-align: center;"><i>Sites recognized as contributing towards CTMPAS objectives at national and regional scales.</i></p>
<p>Effectively Managed Regional Sites will be nominated by the six NCCs and accepted subject to their fulfilling the criteria below:</p> <ul style="list-style-type: none"> <li>• Sites should form a network</li> <li>• Sites should target an identified regional priority area, habitat or species</li> <li>• Sites should achieve a threshold level of management effectiveness</li> <li>• Formal or legal basis for establishment</li> <li>• Management body established and functioning</li> <li>• Management and / or zoning plan approved and implemented</li> </ul>

- Resource and socioeconomic baseline assessment completed
- Biophysical and socioeconomic monitoring (designed to address objectives) conducted regularly, results analyzed
- Biophysical and socioeconomic monitoring (designed to address objectives) conducted regularly, results analyzed
- ✓ Information, Education, Communication, awareness programs
- ✓ Effective enforcement
- ✓ Community involvement and participation in management
- ✓ Multi-stakeholder involvement in management
- ✓ Increased livelihood opportunities
- ✓ Research and development
- ✓ Sites should adhere to at least two of the following ecological design criteria:
- ✓ Representation
- ✓ Replication
- ✓ Resilience
- ✓ Connectivity
- Critical areas protected

**\* Recognized CTMPAS Sites**

***Sites that contribute towards CTMPAS objectives at local scales.***

All MPAs and MPA networks listed in the CT Atlas are recognized as contributing to the CTMPAS. Sites must remain current in the CT Atlas for essential data parameters, but no additional nomination or reporting requirements for this level are required (<http://ctatlas.reefbase.org/>)

The CCA group has defined clear benchmarks (Table 4) to track their indicator 4.1.3 “Percentage of local governments that have integrated climate adaptation into local governance (plans and actions).” These benchmarks can be transformed into attributes to link to a spatial point to be managed and analyzed by the CT Atlas if required.

Table 4. Benchmarks for Climate Change Adaptation in the Coral Triangle (from REAP-CCA (CTI-CFF 2011)).

<b>Level 1 – Getting Started</b>	<b>Level 2 – Laying a Solid Foundation</b>	<b>Level 3 – Responding to Changing Conditions</b>
<i>Objective: Awareness of climate hazards and vulnerability with early adaptation actions initiated.</i>	<i>Objective: Climate adaptation measures integrated into plans and programs with regular funding allocated to sustain implementation of early adaptation actions with monitoring</i>	<i>Objective: Climate adaptation main-streamed into policies, plans, programs and decision making processes across all sectors with monitoring, measured results, and positive returns.</i>
<input type="checkbox"/> CCA team organized and trained to facilitate local early action planning <input type="checkbox"/> Community outreach on climate change issues and early actions conducted <input type="checkbox"/> Local climate vulnerability	<input type="checkbox"/> Local partnerships established to support adaptation <input type="checkbox"/> Stakeholder outreach on local early adaptation plans and adaptation measures conducted	<input type="checkbox"/> National, regional, and international partnerships established to support long term adaptation <input type="checkbox"/> CCA mainstreamed into policies, plans, and programs

Level 1 – Getting Started	Level 2 – Laying a Solid Foundation	Level 3 – Responding to Changing Conditions
<p>assessment (qualitative) conducted</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Indicators (social and natural) of climate impacts and adaptation actions identified and baseline assessment conducted</li> <li><input type="checkbox"/> Timeline for implementation of early adaptation actions developed</li> <li><input type="checkbox"/> At least 2 early adaptation actions planned and initiated</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Local climate vulnerability assessment updated and refined (quantitative)</li> <li><input type="checkbox"/> Early actions and timeline for implementation reviewed and updated</li> <li><input type="checkbox"/> Local early action measures incorporated into plans and programs</li> <li><input type="checkbox"/> At least 4 early adaptation actions implemented with measured success</li> <li><input type="checkbox"/> Monitoring of climate impacts and adaptation strategies conducted</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> At least 6 early adaptation actions implemented with measured success</li> <li><input type="checkbox"/> Monitoring of climate impacts and adaptation strategies conducted and to adapt and improve management</li> </ul>

### C. Roadmaps

Both the MPA and the CCA working groups have created a clear roadmap to help countries to track their indicators. These are plan of actions for each of the CT6 built around the indicators. Each country will have different actions to meet the targets and these are described in the roadmap, capturing the national variations of the M&E System. Additionally, the MPA roadmap (CTI-CFF 2013) provides plans on sustainable financing and other key elements to a work plan.

### D. Baseline Measures

In order to track progress, there needs to be a baseline measure against which to compare yearly measurements of indicators. The suggested year for baseline measurements is 2009 but this may be variable as long as it is recorded along with the baseline measure (Annex 2).

### E. National and Regional Process – Data Pathway

To understand the data pathway, the MEWG has worked with the TWG and the NCCs to describe the M&E system both at the national level and at the regional level (Fig 2) and are described in detail in Annex 4 and 5 respectively. The data pathway is a key tool to map who will be responsible, and even more importantly, who will be accountable for each step of the indicator: collect, measure, compile, analyze, store and report. It can also serve as a means of information for the entities that have been identified in the pathway to ensure their collaboration.



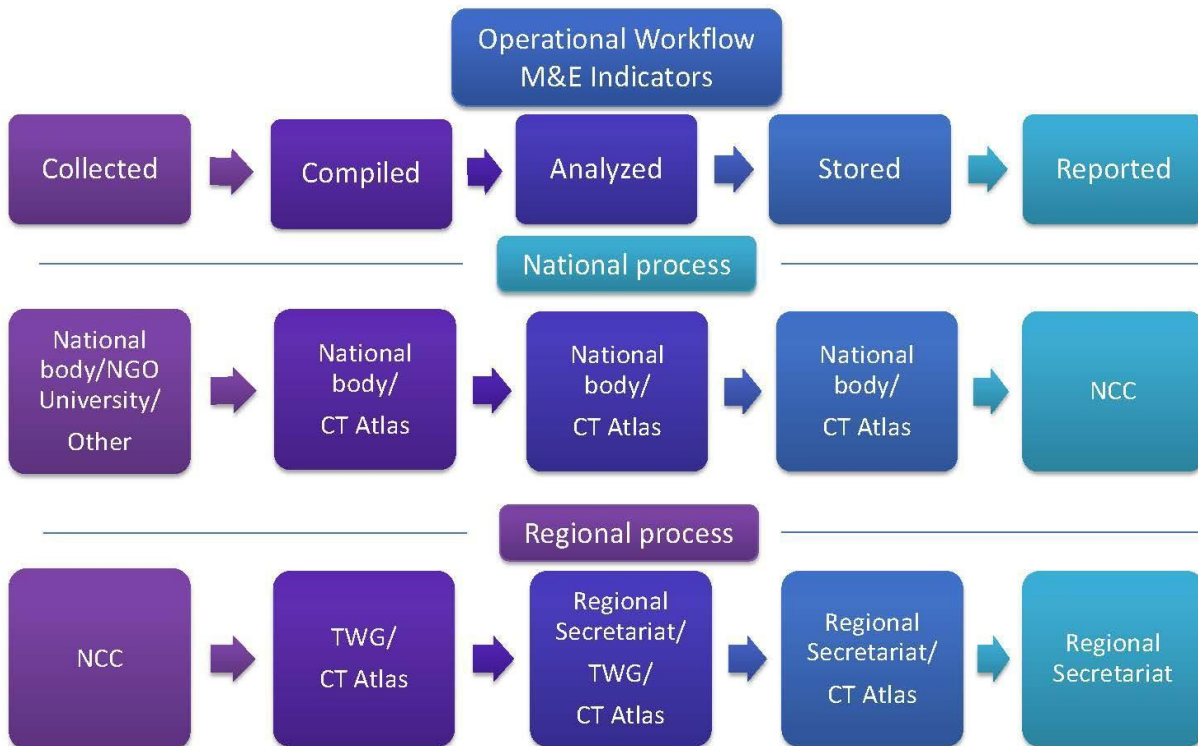


Figure 2. General M&E operational workflow, from field data to M&E reports to the higher management level.

The M&E system starts at the national level where the data for the indicator is collected and measured by a national body or a partner such as an NGO or a university. The data is then compiled, analyzed and stored by either a national body or the Coral Triangle Atlas, particularly if the data is spatial. Usually, at this point, the data can provide a measure for the RPOA indicator at the national level.

The national measure for the indicator is reported to the TWG by the NCC. This is compiled and analyzed at a regional scale by the TWG or the CT Atlas. The regional measure for indicators is stored by the CT Atlas and/or the Regional Secretariat.

The MEWG helps the Regional Secretariat to prepare and communicate the M&E report to the SOM, implementing partners and the CTI community.

### 1) Data Collection Methods

At the national level, each country has a specific agency or partner it will work with to collect data depending on the type of information required (Annex 3). Table 5 presents a compilation of these agencies. These are the most likely to change as governments and partners evolve into different roles and functions. However since it is the first step towards the M&E process, it is important to identify well in advance who will be responsible for data collection.

Table 5. Entities responsible for collecting data for the RPOA indicators at the national level.

Country	Goals	Entities
Indonesia	EAFM	Ministry of Marine Affairs and Fisheries (MoMAF)
	MPA	Local Government, Implementation Partners, MoMAF, Ministry of Finance (MoF)
	CCA	Geospatial Information Agency, Ministry of Environment (MoE), MoMAF, NGO, National Agency for Climate Change
	Threatened Species	MoMAF, MoF, Indonesia Institute of Science (LIPI)
Malaysia	EAFM	Department of Fisheries, Malaysia National Oceanography Data Center (myNODC)
	MPA	Sabah Parks & Department of Marine Park Malaysia
	CCA	National Oceanography Directorate, National Hydraulic Research Institute of Malaysia, Ministry of Natural Resources and Environment
	Threatened Species	Department of Fisheries, Department of Wildlife
PNG	EAFM	National Fisheries Authority, National Statistical Office, Department of Health, Implementation Partners, Secretariat of Pacific Community (SPC), Forum Fisheries Agency, Western and Central Pacific Fisheries Commission
	MPA	Department of Environment and Conservation (DEC), Implementation Partners, CT Atlas
	CCA	Office of Climate Change and Development, Provincial Government
	Threatened Species	DEC, Implementation Partners, South Pacific Regional Environment Programme (SPREP)
Philippines	EAFM	Bureau of Fisheries and Aquatic Resources of the Department of Agriculture (DA-BFAR), National Statistic Office, Department of Health - Food and Nutrition Research Institute (DOH-FNRI), National Fisheries Research and Development Institute (NFRDI)
	MPA	DA-BFAR, Department of Environment and Natural Resources (DENR), MPA Support Network
	CCA	DA-BFAR, DENR, Climate Change Commission (CCC), Department of Interior and Local Government (DILG), National Disaster Risk Reduction and Management Council (NDRRMC), Private sector
	Threatened Species	DA-BFAR, DENR, NFRDI
Solomon Islands	EAFM	Ministry of Environment, Ministry of Fisheries, Ministry of Planning; National statistics office, Implementing partners, Ministry of Health, Secretariat of Pacific Community (SPC), Forum Fisheries Agency, Western and Central Pacific Fisheries Commission
	MPA	Implementing partners, MPA Site managers, SILMMA, Ministry of Fisheries, Ministry of Environment
	CCA	Ministry of Environment (Climate Change Division & Meteorology Services), CT Atlas, SPREP, SPC, Implementing Partners
	Threatened Species	Ministry of Environment, Ministry of Fisheries, Implementing partners, SPREP
Timor-Leste	EAFM	National Directorate of Fisheries and Aquaculture
	MPA	National Directorate of Fisheries and Aquaculture
	CCA	Ministry of Environment, CT Atlas
	Threatened Species	Ministry of Environment, Ministry of Fisheries, Implementing partners

At the regional level (Annex 4), it is the NCC's role to collect and compile the measures for all the indicators from the different national agencies and other partners.

### **2) Data compilation**

An indicator may be a combination of several types of information measured by different organizations which will need to be compiled and analyzed to provide the right information.

At the national level, the entities responsible for compiling and storing are, for the most part, the same as those in charge of data collection (Table 3 and Annex 4).

At the regional scale, this is the step where the NCCs hand over the national measure to their respective TWG, to the Coral Triangle Atlas or to the Regional Secretariat (or a combination of). The data is compiled to measure the indicators at the regional level.

### **3) Data Access**

At the national level, the data is stored in the same agencies that compile the data and analyze it (Table 1). Currently, this data is only available upon request and at the discretion of each national body but may be shared with the CT Atlas to increase accessibility. Spatial data relevant to measuring the indicator is shared with the CT Atlas and can be accessed publicly with restrictions.

At the regional level, the data is stored within the Regional Secretariat and/or the CT Atlas and is accessible by CT6 and the public.

### **4) Data Analysis**

At the national level, data analysis is performed by the national bodies who compile the data. Analysis is not always required.

At the regional level, analysis is performed by the TWG, the CT Atlas or the Regional Secretariat. The TWG and CT Atlas may carry out more technical analysis that requires specific expertise such as GIS and provide a more regional or higher level measure of indicators.

### **5) Data Reporting**

The Regional Secretariat is responsible for regularly reporting (at least once a year) the progress of the M&E system to the SOM, implementing partners and funders. The Secretariat receives support from the MEWG to compile and draft the reports or provide supporting material for the SOM.



## II. Organization and Management at National and Regional Levels



Community member monitors fisheries data in Palawan, Philippines © USAID CTSP/Tory Read

### **A. Structure of M&E System lines of authority and coordination**

To understand the M&E system it is essential to first understand the structure of the CTI-CFF. At the national level, each country has developed a National Plan of Action (NPOA) which reflects the goals of the RPOA. The implementation of these NPOAs is overseen by National Coordination Committees lodged in focal government agencies in each of the CT6 countries. The NCCs also serve as a focal point for the implementation of the CTI-CFF Regional Plan of Action and bring together several government agencies as well as non-government partners and institutions.

Each NCC is responsible for reporting progress in meeting the goals of their NPOA, as well as the country's contribution to the goals of the RPOA. In order to do this, the NCCs report directly to the senior officials but also coordinate their work with the five technical groups, the MEWG and the Regional Secretariat.

At the regional level, each of the five goals of the RPOA is championed by a Technical Working Group comprised of the NCC focal point, a representative of the Regional Secretariat, and other government representatives, as well as partners that can provide expert knowledge and support to the team.

The five TWGs as well as the MEWG report to the senior officials either as a TWG or through the Secretariat.

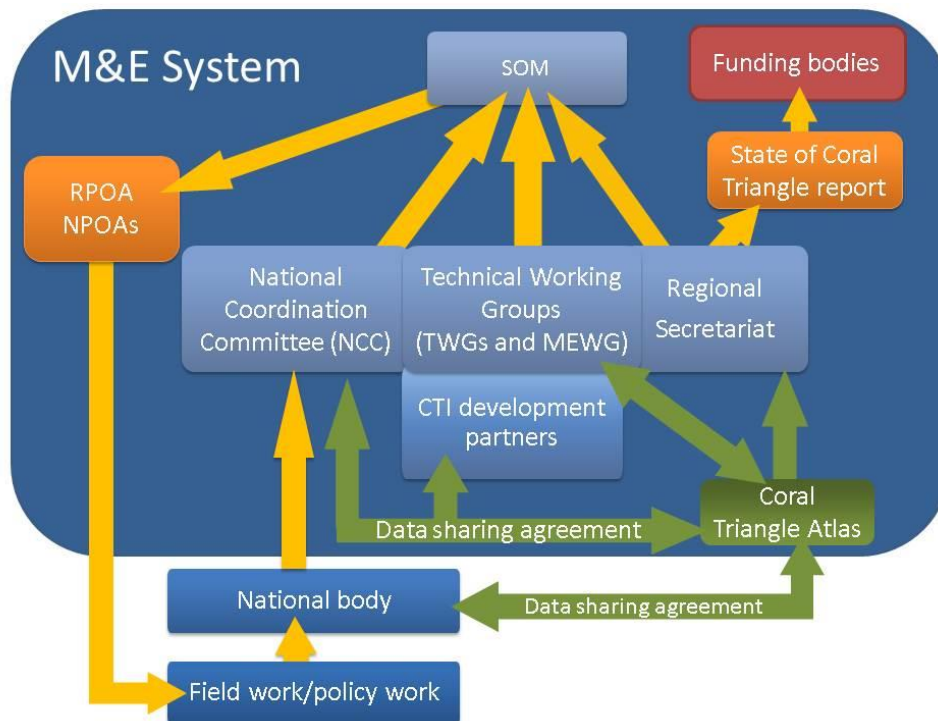


Figure 3. M&E System from data collection to reporting to the SOM.

Figure 3 illustrates the M&E System embedded in the CTI-CFF lines of authority and coordination.

The indicators are measured at the national level and then transferred to the TWG through the NCC. At the regional level, each TWG compiles the measure the indicators for their goal to obtain a regional figure which is then monitored. They can also be measured directly at the regional level, usually through a partner such as the CT Atlas.

A summary of the progress against the RPOA is communicated to the senior officials by either the MEWG or the Regional Secretariat. The MEWG, in partnership with the Regional Secretariat, is also responsible for producing the State of the Coral Triangle report to communicate progress to a wider public, including funding bodies.

The Monitoring and Evaluation System is part of an adaptive management strategy adopted by the CFF-CTI in which senior officials can make changes to the RPOA or NPOA to rectify actions to enhance strategy effectiveness during the Senior Official Meeting as recommended by the MEWG with representatives from the CT6.

### **B. The role of the Coral Triangle Regional Secretariat in the M&E System**

The Regional Secretariat plays a pivotal role in the CTI-CFF. It is present at all the regional levels to ensure the coordination of activities and communication between the different actors of the CTI. In the M&E System it manages the data at the regional scale, providing the role of data storage, coordination and communication.

The Regional Secretariat has been tasked to develop and maintain a system that will:

- Store M&E data
- Allow TWGs, NCCs and other partners to update directly indicators and other information
- Generate activity and output tracking against the RPOA
- Facilitate reporting and analysis
- Provide linkages between the CT6 and the CT Atlas

To do this the Regional Secretariat works closely with the NCCs, TWGs, the CT Atlas and implementing partners. The Secretariat is either officially part of these groups or present to participate and ensure coordination.

### **C. The role of the NCC in the M&E System**

The National Coordination Committees were formed to lead the in-country implementation of CTI-CFF Regional Plan of Action and National Plan of Action (NPOA). The NCCs are composed of representatives from multi-sectoral ministries, non-government organizations, development partners and academic experts.

One NCC representative is present in each TWG and during the M&E meeting. Their role is to inform of the strategies their countries are taking to reach the RPOA goals and make sure they align with the rest of the CT6 efforts. They are also accountable for providing the progress reports of the indicators to the TWG and MEWG and informing them of any issues, as well as communicating decisions made by the TWGs and MEWG back to their respective governments.

### **D. The role of the TWG in the M&E System**

The Technical Working Groups were formed to provide expertise, innovation and cutting edge tools to the CT6 to successfully meet the goals of the RPOA. Structured as one TWG per goal, there is a real opportunity to focus on the question at hand and to centralize the appropriate people to find the right strategies. The TWG is composed of multiple partners including NCC focal person, Regional Secretariat representative, implementing partners and experts.

Through Workshops and Meetings, the TWG have developed the RPOA indicators as well as roadmaps and plans to achieve the desired outcomes, working with the MEWG to set up the M&E System. They work closely with the NCCs to coordinate national and regional plans as well as the Regional Secretariat to inform them of changes and progress.



### **E. The role of the Coral Triangle Atlas in the M&E System**

Primarily focused on spatial data, the CT Atlas supports two critical functions of the CTI. The first is a need for regional planning to address the goals set by the six countries of the Coral Triangle. The second is to provide support to the Monitoring and Evaluation process, in response to a need for a regional vision of progress of the RPOA. The Coral Triangle Atlas team compiles, analyzes and supplements region-wide data for the CTI-CFF and the M&E System. It provides high quality data that can be used confidently, such as the MPA data which has been recognized as the most complete and up-to date MPA database for the Coral Triangle.

In November 2012, the CTI-CFF Council of Senior Officials (CSO) officially recognized the Atlas as integral to the implementation of the CTI-CFF M&E system. To successfully fill this role the CT Atlas has agreed to provide the following functions to the CTI-CFF:

- Store all spatial and non-spatial data relevant to tracking progress of the Regional Plan of Action and as stipulated by the CTI Monitoring and Evaluation Working Group operations manual.
- Report on and analyze data as required to report on the CTI indicators of progress.
- Provide maps and reports that satisfy the needs of the CTI-CFF and the CT countries.
- Provide input to the State of the Coral Triangle Report.

The CT Atlas provides an information service and an analytical tool to the CTI Technical Working Groups and to Regional Secretariat in a manner which meets the following criteria:

- All data housed in the CT Atlas is the property of the CT Countries and distributed according to sharing agreements;
- The CT Atlas operates in close coordination and response to the Regional Secretariat with support from Partners or other sources;
- The CT Atlas maintains a formal working agreement with the Regional Secretariat to perform the database functions deemed necessary by the TWGs and Regional Secretariat.

It should be noted that these functions are in addition to the role of the CT Atlas to serve as a central online GIS database for scientists, managers and decision makers to provide information on marine resources to improve management at a regional level.

The CT Atlas can be found at <http://ctatlas.reefbase.org>

### III. Communicating the M&E



Local rangers in Nuakata, Papua New Guinea © USAID CTSP/James Morgan

#### A. M&E Working Group & CTI-CFF website

The M&E working group is the first and most immediate source of information for the M&E framework and updates. Made up of representatives of each NCCs, a representative of the Regional Secretariat, representatives of each TWG, and key members of the implementing partners, the MEWG is structured to disseminate information quickly and efficiently through the CTI-CFF.

Additionally, the MEWG uses the communications tools developed by the CTI-CFF Communication Strategy.

These include the CTI-CFF website (<http://www.coraltriangleinitiative.org>) which centralizes all the information on the CTI including the latest news, upcoming events, resources by theme and country and serves as a gateway to other sites such as:

- CTI-CFF Learning Resource Network - Promotes knowledge exchange within the Coral Triangle Initiative
- CT Atlas - GIS database of fisheries, biodiversity and socioeconomic information
- CT Communications Platform - Multimedia campaign platform for Coral Triangle conservation activities

### **B. Regional State of the Coral Triangle Report**

The MEWG system recognizes that the preparation and release of the Regional State of the Coral Triangle Report (SCTR), which has been drawn from the national SCTR, is an important venue for CTI-CFF to report on the RPOA's achievements. The first regional SCTR is now in its final stages of completion and will be published within the year. SOM has accepted the recommendation of the MEWG that the next SCTR will be prepared in 2016. Other venues to inform the CTI-CFF stakeholders on the progress of the SCTR include statements in CTI-CFF summits, CTI websites at regional and national levels and international conferences, among others.

The SCTR is a living document that covers the status of critical ecosystems, species, resources, threats, and progress towards the CTI goals and targets. It is intended to be an evolving report that will support monitoring and evaluation instead of a one-time initiative.



## IV. Capacity Assessment and Needs



Community members measure a sea cucumber in Milne Bay, Papua New Guinea © USAID CTSP/James Morgan

The MEWG recommends that 10% of a project funding should be allocated to M&E. However, for the CT6, there are different levels of capacity and needs to be able to follow the M&E System. Table 6 reports the estimated cost associated with measuring each indicators for each RPOA goals per country. Estimated cost indicates the level of funding required: no additional funding (Low) some additional funding (Medium) much more additional funding (High).

Table 6. CT6 assessment of the cost to monitor each RPOA goal's indicators and the country's capacity.

	<b>Goal</b>	<b>Estimated cost</b>	<b>Capacity Score</b>
<b>Indonesia</b>	EAFM	Low	High
	MPA	Medium	Medium
	CCA	Low to Medium	Medium to High
	Threatened Species	Medium	Medium
<b>Malaysia</b>	EAFM	Low to Medium	Medium to High
	MPA	Low	High
	CCA	Low to High	Low to High
	Threatened Species	Low	High
<b>PNG</b>	EAFM	Low to Medium	Medium to High
	MPA	Low to Medium	Low to Medium
	CCA	Low	Low to High
	Threatened Species	Medium	Low to Medium
<b>Philippines</b>	EAFM	Low to High	Low to High
	MPA	Medium	Medium
	CCA	Low to High	Low to High
	Threatened Species	Low to High	Low to High
<b>Solomon Islands</b>	EAFM	Low to High	Low to High
	MPA	Low to High	Low to Medium
	CCA	Low to High	Low to Medium
	Threatened Species	Low to High	Low to Medium
<b>Timor-Leste</b>	EAFM	Low to Medium	Low to Medium
	MPA	Low	High
	CCA	Unrated	Unrated
	Threatened Species	Unrated	Unrated

The countries that are already routinely monitoring the indicators will have lower costs and higher capacity. This is the case for Indonesia and Malaysia which already keep track of some of the same metrics as the indicators for CTI-CFF. Other countries such Solomon Islands and Timor-Leste are still building capacity within their government and will need to increase their costs to be able to meet the requested monitoring.

EAFM and CCA are the two goals that have been evaluated as requiring the most resources. In the case of EAFM, the indicators require monitoring of socioeconomic and health measures which can be more costly. In the case of CCA, the most expensive indicator is mangrove area since this requires costly technology such as satellite imagery and expertise to analyze it. Furthermore it is an indicator that most countries have not been monitoring.

Table 6 provides a preliminary understanding of where resources should be invested to enable the M&E System to be functional at a regional level to be able to provide a clear picture of the CTI-CFF progress without gaps.



# Summary and Next Steps



A newly-hatched sea turtle makes its way to the sea in Sabah, Malaysia © WWF-Malaysia

The Monitoring and Evaluation System has been successfully designed. However this is only the first step of the System as it now needs to be put in place by each of the six countries of the Coral Triangle and to be put in motion. To achieve this and ensure that the System is fully functional, we strongly recommend hiring an M&E coordinator that would be housed in the Regional Secretariat. The coordinator would work with the NCCs and national bodies to help them develop indicators for the NPOAs and ensure that they overlap with the RPOA indicators. They would also help them designate key individuals in each entities defined in the process flow that would be responsible for reporting the measures to the next level.

The best way to test a system is to use it. We suggest that the first complete M&E report should be due in 2014 to check where there may be gaps and provide guidance on where to focus funding and training.

In summary we recommend the immediate next steps:

- Seascapes and Threatened Species TWG need to review and endorse their indicators
- Baseline measures need to be provided for each indicator
- M&E Coordinator needs to be hired
- CT6 need to develop M&E Systems for their NPOA and embed the RPOA indicators
- CT6 need to put the M&E System in place by starting to track indicators and prepare for a first report in 2015-6.

## References

Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF). 2009. **Regional Plan of Action**. Available online at: <http://www.coraltriangleinitiative.org/library/cti-regional-plan-action>; accessed July 24, 2013.

Coral Triangle Initiative on Coral Reefs, Fisheries, and Food Security (CTI-CFF). (2011). **Region-wide early action plan for climate change adaptation for the nearshore marine and coastal environment and small island ecosystems (REAP-CCA)**. Adopted at the 7th CTI Senior Officials Meeting in Jakarta, Indonesia, October 2011. Prepared by the CTI-CFF CCA Technical Working Group with assistance from the U.S. CTI Support Program and the CTI Interim Regional Secretariat, Jakarta, Indonesia. Available online at: <http://www.coraltriangleinitiative.org/library/region-wide-early-action-plan-climate-change-adaptation-nearshore-marine-and-coastal-environ>; accessed August 14, 2013

Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF). 2013. **Coral Triangle Marine Protected Area System Framework and Action Plan**. CTI-CFF, United States Agency for International Development Coral Triangle Support Partnership and US National Oceanic and Atmospheric Administration, Cebu City, Philippines. 75 pp. Available online at: <http://www.coraltriangleinitiative.org/library/action-plan-coral-triangle-marine-protected-area-system-ctmpas-framework-and-action-plan>; accessed August 14, 2013

## Annexes

1. CTI-CFF indicators and description (as revised April 2013)
2. Baseline Measures
3. National data pathway (available in e-file form only, not in printed booklet)
4. Regional data pathway

**AI. CTI Indicators and Descriptions (as revised during the M&E Manual Development Workshop on 10-12 April 2013; text in red indicates indicator discussion/decisions still in process or not yet finalized by the TWG)**

HIGHER-LEVEL OUTCOME INDICATORS			
#	Indicator	Description	Discussion/Notes
A. Coral reef ecosystem integrity and services stabilized / maintained			
1	Condition of coral reef	<ul style="list-style-type: none"> <li>Change in percent live coral cover compared to baseline in CTMPAS sites</li> <li>Threat reduction based on Reefs at Risk</li> </ul>	
2	Extent of mangroves and Seagrass	<ul style="list-style-type: none"> <li>Area of mangroves (hectares) based on satellite</li> <li>Area of seagrass (hectares)</li> </ul>	National
3	Fish biomass	<ul style="list-style-type: none"> <li>Change in reef fish biomass per 500 sq. meters compared to baseline in CTMPAS sites (inside and outside no take zones)</li> </ul>	All reef fish species
4	Extent of coral reef and associated habitats in full protected areas	<ul style="list-style-type: none"> <li>Already covered in MPA indicator 3.1.3</li> </ul>	
B. Fish stocks improved and sustained (Give to concerned TWG, test indicators)			
1	Change in conservation status (international) of commercially important fish species (demersal and pelagic)	From 3 targets: 2 from EAFM (tuna and live reef fish species (not defined yet)) and 1 from Threatened species. IUCN + a body endorsed by the CTI (no specific example)	<p>These questions need to be presented to the TWG</p> <p>Threatened species: related to species status</p> <p>EAFM: related to stock assessment (overfished, etc..)</p> <p>Ask EAFM to list the priority species to track for the change in priority status (both Tuna and Live Reef Fish trade).</p> <p>Ask Threatened species TWG to list the ones to track.</p>
2	Change in catch per unit effort (CPUE) by gear	<p>Species need to be defined so that it can be reported regionally.</p> <p>Difference between commercial and artisanal fisheries. Definition of type of fishing.</p> <p>Very difficult to monitor small scale fisheries. Needs to be highlighted. – needs to be clear in the definition.</p> <p>Double check what is already reported within the country – use the same indicators (for eg what is reported to FAO). Can it be used at the CT Scale?</p> <p>Per capita and protein – from State of the Coral Triangle Report.</p>	<p>Solomon doesn't monitor yet – working towards monitoring this. Done for FAD sites.</p> <p>Timor-Leste yes – every year</p> <p>Malaysia – not for all species –only certain species –by projects – ongoing</p> <p>Indonesia – yes: specific commission to monitor stock</p> <p>Philippines – yes.</p> <p>Action: check if this is an indicator from FAO.</p>

HIGHER-LEVEL OUTCOME INDICATORS			
#	Indicator	Description	Discussion/Notes
3	Change in species composition relative to trophic level	<p>Not clear. What fisheries are we talking about? Is it coral reef fisheries?</p> <p>Specific example, simple protocol.</p> <p>Difficult because more than one agency—third party to do this – not government. Very expensive indicator.</p> <p>First there needs to be a baseline – knowledge of the foodweb.</p>	<p>Not all of the countries have the capacity to monitor this. Very site specific and difficult to monitor.</p> <p>Find academic partners to monitor this? Partnership?</p> <p>Indonesia thinks it's important but doesn't have a monitoring system in place yet.</p> <p>Proposed actions: Delete? Due to difficulty of measuring across all countries. TWG should ask partners if this is data that could be done by partners. Contact Sea Around Us project to assist to develop indicator.</p>
4	Change in size distribution by Fish species	<p>Specify that this indicator is for Tuna or both for tuna and demersal reef fish</p> <p>For Tuna: this may be possible through the RFMO &amp; Western Central Pacific Fisheries Commission– with some exceptions each time.</p>	<p>Not all species and not all time – not part of the regular monitoring.</p> <p>Action step for countries: what is measured and what can be used to look at changes of stock in time?</p> <p>Solomon: for artisanal fisheries: yes but by landing – not species.</p> <p>Action: check with TWG what “fish” species are targeted here. How relevant is this indicator to demonstrate fish stock status.</p>
5	Change in exploitation status for pelagic and other species	<p>Exploitation status: <math>E=F/Z</math> E: exploitation rate, F: Fishing mortality, Z: total mortality. Based on national stock assessment program of SOME countries</p> <p>Fish species need to be specified.</p>	<p>Indonesia: yes – for commercial species</p> <p>Monitoring to track this indicator not in place in all countries.</p> <p>Solomon: yes for Tuna PNG: to check – for which species.</p> <p>Action: TWG needs to find common species for all countries this can be carried out.</p> <p>Clarify time interval this requires.</p>

HIGHER-LEVEL OUTCOME INDICATORS			
#	Indicator	Description	Discussion/Notes
C. Improvement in the affordability, availability and quality and safety of food coming from coastal and marine – <b>Making use of national assessments</b>			
1	Availability: food sufficiency of fishing household; food consumption of coastal communities	Availability: Fish consumption per capita Availability: Fish production – capture fisheries only	
2	Quality and safety: contribution of fish to protein requirement, health of fishing communities	Protein intake (g) from fish per capita per year	<b>Suggestion: limit to one indicator</b>
3	Affordability: income of fishers, price	Income of fishers Price Index of Fish	

THEMATIC INDICATORS			
#	Indicator	Description	Discussion/Notes
<b>Goal 1: Priority Seascapes Designated and Effectively Managed</b>			
<b>Target 1.1 (Intermediate Result): “Priority Seascapes” designated, with investment plans complemented and sequenced by 2012</b>			
1.1.1	Number of priority seascapes designated with investment plans	A seascape is a large marine management area defined by ecological considerations. Designation means that the seascape is recognized by national and/or transboundary/international agreements. The target for this goal is to designate a set of priority seascapes across the Coral Triangle to serve as the geographic focus of major investments and action during 2010 to 2020. Comprehensive <i>Seascape Investment Plans</i> for each priority seascape are completed, along with an overall scheme for the sequencing of investments across the 10-year timeframe of the <i>CTI Plan of Action</i> . [2012].	<p><b>A clearer definition of Priority seascape are (CTI definition) and how they are different from a “seascape”</b></p> <p><b>No mention of plan of action – should be the basis for the investment plan.</b></p> <p><b>Clarify that investment plan: work and financial plan.</b></p> <p><b>Define “investment plan”. It needs to be a more inclusive action plan: investment plan + financial plan.</b></p> <p><b>SSME: Priority seascape for CCI. Own management bodies, tri national committee: come up with comprehensive action plan: 3 working group MPA, Fisheries and Threatened species.</b></p> <p><b>STILL NO CLEAR DEFINITION OF PRIORITY SEASCAPE</b></p>



THEMATIC INDICATORS			
#	Indicator	Description	Discussion/Notes
<b>Target 1.2 (Intermediate Result): Marine and coastal resources within all “Priority Seascapes” are being sustainably managed</b>			
1.2.1	Number of priority seascapes under continuous improved management	Improved management will be defined for each seascape by benchmarks for integrated coastal management that includes criteria for effectively managed -marine protected area management, fisheries management, climate change adaptation, protection of threatened species and enforcement. The existence of and support for management plans that cover all or part of the seascape is also a prerequisite to qualify for “improved management” of the seascape, which as referenced in the RPOA, will draw upon experience, best practices, and lessons learned to date on key elements of seascape programs, such as (but not limited to): (i) governance through appropriate institutions; (ii) marine protected area (MPA) networks; (iii) ecosystem-based management, including an ecosystem approach to fisheries management; (iv) integrated coastal management; (v) private sector engagement; (vi) enabling legal framework (conventions, laws, regulations, and policies); (vii) social and political support/commitment; (viii) sustainable financing; (ix) communications program; and (x) scientific research and monitoring.	<p>Indicator will be dependent on indicator of other themes: will be a rolled up of indicator of other targets.</p> <p>Too broad to monitor since indicator is not precise and measureable to report on.</p> <p>ICM- like framework to implement. Adoption in integrated Coastal management. Across countries? Seascapes: offshore/deepwater.</p> <p>Discussion on areas between EEZ.</p> <p>Based this description on RPOA itself. Need to come up with a tool to measure this like CTMPAs, to roll up all the components.</p>
1.2.3	Coordinating body for each “priority seascape” established to guide, monitor and track efforts in the seascape/s	A seascape is a large marine management area defined by ecological considerations. Designation means that the seascape is recognized by national and/or transboundary/international agreements. For each priority seascape, a corresponding body exists for the sole purpose of managing that seascape. These coordinating bodies may be comprised of representatives from government, private sector, academic, civil society and/or other organizations at local, national, and/or regional levels. <b>(Note:</b> This indicator is related to RPOA criteria for improved management ‘governance through appropriate institutions’. See description of Indicator 1.2.1.)	<p>If there is a refinement of the previous indicator. The coordinating body should be included in the management plan (previous indicator). Management body should have been developed with the management plan of the seascape. In the second goal: what has been done in the management plan? What management is in place and what has been improved?</p>

<b>THEMATIC INDICATORS</b>			
<b>#</b>	<b>Indicator</b>	<b>Description</b>	<b>Discussion/Notes</b>
<b>Goal 2: Ecosystem approach to management of fisheries and other marine resources is fully applied</b>			
<b>Target 2.1 (Intermediate Result): Strong legislative, policy and regulatory frameworks in place for achieving an ecosystem approach to fisheries management</b>			
<b>2.1.1</b>	Number of policies and regulations promoting EAFM at regional and national levels with regulatory framework and budget allocated for their operationalization	As a general agreement, EAFM is already assumed adopted by the CT6 countries as members of FAO. At the national and regional levels, a strong legislative, policy and regulatory framework must be in place for achieving EAFM as a key step towards addressing common concerns. The policies and legislation need to address the EAFM principles describe in the FAO Code of Conduct for Responsible Fisheries (CCRF). The policies do not have to be on a one-to-one correspondence with EAFM principles. A policy can address multiple principles and several policies/legislations may need to address a principle. Regulatory framework will cover enforcement and compliance of policies and legislations on EAFM and budget has to be allocated for their effective implementation.	
<b>2.1.3</b>	Number of projects and programs implementing EAFM and components thereof	Projects and programs applying EAFM principles.	
<b>Target 2.2 (Intermediate Result): Improved income, livelihoods and food security of people in coastal communities across the region through a new sustainable coastal fisheries and poverty reduction initiative ("COASTFISH")</b>			
<b>2.2.1</b>	Percent change in average income (fishing and non-fishing) of coastal households compared to baseline	Improving the status of human communities through the application of EAF as a management paradigm is the ultimate objective of Goal 2 of the CTI Regional Plan of Action. There is a need to set-up standard for "worthy" livelihoods linked with improved income. Significant improvement in incomes livelihoods and food security of people living in coastal communities is anticipated. Quantitative goals for each country will be set according to the level of effort anticipated in each country at the coastal and community level for fisheries management implementation.	
<b>2.2.4</b>	Percent contribution of fish to protein requirements		

THEMATIC INDICATORS			
#	Indicator	Description	Revisions
<b>Target 2.3 (Intermediate Result): Effective measures in place to help ensure exploitation of shared tuna stocks is sustainable, with tuna spawning areas and juvenile growth stages adequately protected</b>			
2.3.1	Number of policies and agreements among the CT6 countries for the management of tuna	To move towards EAFM of tuna, national and regional measures will need to be in place to help ensure that exploitation of shared stocks for all species of tuna is sustainable. This includes creating a forum among the CT6 nations to serve as venue to agree on regional measures for the management of tuna. The policies shall include implementing rules and NPOAs adopted by the CT6 to implement regional tuna fisheries policies and agreements, ratification of membership in RFMO, ratification of international laws (UNIA '95), and national legislations on management of tuna species. <b>(Note:</b> Include forum in draft CTI EAFM Regional Framework)	
2.3.2	Change in conservation status of tuna	Change in conservation status is an impact indicator which will reflect the overall status of tuna stocks of concern. The standards for the conservation status and the process for listing and delisting are to be decided by CTI as a body or by a forum designated by the CT6 according to IUCN-red list criteria assessment or other criteria to be determined by CTI.	Indicators on process to be able to establish a baseline and then a measure of IUCN status (process indicators)  What tuna species are on IUCN redlist? Change in conservation status should be decided by a proposed CTI body/forum, not necessarily based on the IUCN Red List
2.3.3	Number of countries adhering to markets/certification standards of tuna fisheries agreed upon by CT6 countries	To improve management and build a more sustainable trade in tuna, it will be necessary to decrease the level of destructive fishing practices linked to the tuna fisheries. An important action, external to the source countries, is that primary consumption countries agree to standards for the supply of fish. The main standard they need to adopt is the fish were caught using ecological sustainable methods and not destructive means. Such measures will help ensure long-term economic incentives to achieve this target.	Consider as additional indicators (1) membership in international or regional fisheries management bodies, and (2) adoption/ratification of international/regional tuna laws or agreements, e.g. Convention on Migratory Species
<b>Target 2.4 (Intermediate Result): A more effective management and more sustainable trade in live-reef fish and reef-based ornaments achieved</b>			
2.4.1	Number of policy/legislation adopted on live reef fish trade to decrease level of destructive fishing practices linked to the trade	To move towards a more effective management and more sustainable trade in live-reef fish and reef-based ornamentals, national and regional measures will need to be in place to help ensure that exploitation is sustainable. This includes creating a forum among the CT6 nations to serve as venue to agree on regional measures for the live reef fisheries management. It is first necessary to decrease the level of destructive fishing practices linked to the live reef fish trade (food and ornamentals). A key step in this process is to provide the legal basis for management through improved policies, laws, agreements and regulations primarily on certification. The policies shall include implementing rules and NPOAs adopted by the CT6 to implement live reef and reef-based ornamentals certification.	There seemed to be a general agreement that “number of policies” is <u>not</u> a good indicator that “effective management is in place”. Spirit of the indicator refers to comprehensive geographic, policy and jurisdictional scope.  Need to have the policies in place and then enforce them. Management effectiveness is not measured in number of regulations but enforcement  How to deal with demand markets?  An additional indicator may be needed to show that policies/legislations are being enforced effectively. The MEWG seeks inputs from the LRFT TWG on what is the best indicator to use.

<b>THEMATIC INDICATORS</b>			
<b>#</b>	<b>Indicator</b>	<b>Description</b>	<b>Discussion/Notes</b>
<b>2.4.2</b>	Number and area (sq km) of locally managed areas for live reef fish trade	To improve management and build a more sustainable trade in live reef fish and reef-based ornamentals, it will be necessary to decrease the level of destructive fishing practices linked to the live reef fish trade (food and ornamentals). The most essential part in the process to improve practices will be to implement field programs that engage fishing communities in the implementation of best practices in the local context. Such programs will help ensure that locally-destructive fishing practices are minimized.	The description may prescribe a standard unit of measure for this indicator.
<b>2.4.3</b>	Number of countries adhering to markets/certification (live reef fish and ornamental fisheries) agreed by CTI/CT6	To improve management and build a more sustainable trade in live reef fish and reef-based ornamentals, it will be necessary to decrease the level of destructive fishing practices linked to the live reef fish trade (food and ornamentals). An important action, external to the source countries, is that primary consumption countries agree to standards for the supply of fish, particularly, certification.	Replicate (adapt) this indicator in Target 2.3 (tuna)
<b>2.4.4</b>	Change in conservation status of live reef fish species (to be decided by CTI as a body or by a forum designated by the CT6 according to IUCN-red list criteria assessment or other criteria to be determined by CTI)	Change in conservation status is an impact indicator which will reflect the overall status of live reef fish and reef-based ornamentals of concern. The standards for the conservation status and the process for listing and delisting are to be decided by CTI as a body or by a forum designated by the CT6 according to IUCN-red list criteria assessment or other criteria to be determined by CTI.	What species are on IUCN redlist? Change in conservation status should be decided by a proposed CTI body/forum, not necessarily based on the IUCN Red List
<b>Goal 3: Marine Protected Areas (MPAs) Established and Effectively Managed</b>			
<b>Target 3.1 (Intermediate Result): Region-Wide Coral Triangle MPA System (CTMPAS) in place and fully functional by 2020.</b>			
<b>3.1.1</b>	CTMPAS Framework developed and adopted by CT6	A comprehensive, ecologically representative and well-managed region-wide <i>Coral Triangle MPA System (CTMPAS) Framework</i> is a prerequisite to implementation of the CTMPAS –composed of prioritized individual MPAs and networks of MPAs that are connected, resilient, and sustainably financed, and designed in ways that (i) generate significant income, livelihoods, and food security benefits for coastal communities; and (ii) conserve the region’s rich biological diversity. Stages in the development and adoption of the CTMPAS Framework include drafting, refining and adopting the CTMPAS Framework by CT6.	This indicator achieved with adoption of the CTMPAS Framework and Action Plan in 2012
<b>3.1.2</b>	Percent/area of total marine habitat area in CT region in marine protected or managed areas	Marine habitats are designated as marine protected or management areas with legal or traditional protection status to ensure that the long-term integrity of the marine habitats is maintained. Marine protected/managed areas help to minimize threats of all kinds from degrading the areas under management and to maintain sustainable supplies of fisheries and other ecosystem services intact.	

THEMATIC INDICATORS			
#	Indicator	Description	Discussion/Notes
3.1.3	Percent/area of each major marine and coastal habitat type in strictly protected “no-take replenishment zones”	Marine and coastal habitat types include coral reefs, sea grass beds, mangroves and open-water. Strictly no take replenishment zones have legal designation within a marine protected area wherein no extractive activities of any kind are allowed to ensure that marine protected/ managed areas contribute substantially to fisheries production. An essential component of the CTMPAS—composed of prioritized individual MPAs and networks of MPAs that are connected and resilient—is where no extraction is allowed and will provide a “core” conservation and fisheries management tool within the CTMPAS.	
3.1.4	Percent/Area (in hectares) of marine protected areas under “effective” management	Effective management is measured by an accepted protocol for MPA management effectiveness as established/developed by each country and applicable at a regional scale (under development). The comprehensive, ecologically representative and well-managed region-wide <i>Coral Triangle MPA System (CTMPAS)</i> —composed of prioritized individual MPAs and networks of MPAs that are connected, resilient, and sustainably financed—will emphasize the contribute to socio-economic benefits of human communities residing in the areas of effective MPAs through improve fish production, enhanced opportunities for tourism and others direct and indirect benefits of healthy coral reef and associated system.	<p>Focus on indicator for “effectively managed MPA”. What will be the output of “effective managed MPA” directly linked to community’s welfare criteria?</p> <p>Note value of indicator for contribution to socio economic benefits through “effectively managed MPAs”</p> <p>Under the CTMPAS, there is a need to categorize what is effective MPA management leading to qualifiers for inclusion. Criteria based on the submissions – otherwise the bar might be set too high/low.</p> <p>The description may prescribe a standard unit of measure for this indicator.</p>
3.1.5	Percent/Area of marine protected/ managed areas included in CTMPAS	The CTMPAS Framework will stipulate the criteria for inclusion of MPAs into the CTMPAS and what constitutes a regional contribution. This indicator will measure the area and/or proportion of all MPAs in the CT that qualify to be included within the CTMPAS Framework as adopted by the CT6.	
<b>Goal 4: Climate Change Adaptation Measures Achieved</b>			
<b>Target 4.1 (Intermediate Result): Region-wide early action plan for climate adaptation for the near-shore marine and coastal environment developed and implemented</b>			
4.1.1	Number of regional agreements/frameworks/ plans (e.g. region-wide early action plan (REAP) developed	Climate change will dramatically affect coastal communities and ecosystems in the Coral Triangle. Understanding the extent of these changes and their impacts and identifying early adaptation actions is essential to protecting communities and marine and coastal resources. The CTI Region-wide Early Action Plan for Climate Change Adaptation (CTI REAP-CCA) sets forth urgent and immediate actions that need to be taken across the Coral Triangle to build coastal community and ecological resilience to climate change.	



THEMATIC INDICATORS			
#	Indicator	Description	Discussion/Notes
4.1.2	Number of national policies (including national CCA plans and frameworks), laws and regulations on climate change adaptation proposed and adopted	Climate change adaptation measures will need to be locally relevant. Generally, adaptation will be measured through the incorporation of locally appropriate actions as derived from policies, laws, agreements or regulations within local government development and resource management plans as well as technical and financial support from national institutions designated to support adaptation to climate change.	
4.1.3	Percentage of local governments that have integrated climate adaptation into local governance (plans and actions)	Climate change adaptation measures will need to be specified as relevant for locations. Generally, adaptation will be measured through the incorporation of locally appropriate actions within local government development and resource management plans and within MPA management. The plans should consider variation in resilience to climate change and be supported by required budget for implementation.	How can we track this?
4.1.4	Area of mangrove (REAP I&2)	The changing conditions due to climate change impacts increase the vulnerability of ecological and social systems in the Coral Triangle. Coastal communities are dependent on healthy coastal and marine ecosystems. This co-dependency means that their vulnerabilities are also connected. Mangroves are experiencing changes in ecosystem structure, function, and services due to overexploitation from domestic use (firewood) and livelihoods (logging, boat building), exacerbated by increased temperature, sea level risk, and inundation events. The loss of mangroves corresponds to increased ecological vulnerabilities (e.g. losses in fish spawning and nursery grounds) and social vulnerabilities (e.g. food security and livelihoods, safety and infrastructure damage due to storm surge).	
<b>Target 4.2 (Intermediate Result): Networked national centers of excellence on climate change adaptation for marine and coastal environments are established and in full operation</b>			
4.2.1	CCA Registry established with institutions and organizations that are working and networking in support of CTI.	Climate change adaptation measures will need to be specified as relevant for locations. Generally, adaptation will be measured through the incorporation of locally appropriate actions within local government development and resource management plans, and MPAS, as well as technical and financial support derived from national institutions designated to support adaptation to climate change. Institutions must be networked (through moderated communication, sharing expertise via training, etc.) in order to maximize their effectiveness.	

THEMATIC INDICATORS			
#	Indicator	Description	Discussion/Notes
<b>Goal 5: Threatened Species Status Improving</b>			
<b>Target 5.1 (Intermediate Result): Improved status of sharks, sea turtles, marine mammals and other identified threatened species.</b>			
5.1.1	Number of new policies or agreements adopted at the regional and national levels that are in compliance with the international agreements on threatened species	Policies, laws, and agreements need to be standardized in relation to the conservation status of the species within each country. Each country must conduct an assessment to determine the status. The agreements, policies, laws or regulations are three-tiered – regional, national and local. The CTI regional agreements and policies should conform to the international agreements on threatened where CT6 countries are signatory to. In addition, the CT6 nations will create a forum to serve as venue to agree on regional measures for the management of threatened species. Subsequently, the national policies, laws, and regulations of CT6 on threatened species should implement the abovementioned agreements and where necessary, local laws or regulations within CT6 need to be adopted to address certain gaps. All these agreements, policies, laws and regulations should also lay out the regulatory framework for enforcement at the regional, national and local levels.	There seemed to be general agreement among participants that “number of policies” is not a good indicator for effective management
5.1.2	Area (in hectares) of protected marine habitat that contributes to conservation of for threatened and endangered species protected	Area of protected marine habitat that contributes to conservation contains critical habitat, defined by each species as breeding, nesting, nursery, and foraging areas in each country and areas of transnational importance. Protected critical habitat is defined by local and national legislation and transboundary agreements between two or more countries and is enforced. These areas should factor into the establishment of marine protected area networks. (This is a subset of Goal 3 indicator 3.1.1) Note: MPAs where its objectives includes among other protection or conservation of threatened species should be covered by this indicator.	Focus on certain protected area especially managed to protect certain species  Since some MPAs already cover protection of species , would this be 'double counting?' No - what needs to be communicated is whether an issue has been addressed or not.  The description may prescribe a standard unit of measure for this indicator.
5.1.3	Number of threatened species with improved status (to be decided by CTI as a body or by a forum designated by the CT6 according to IUCN-red list criteria assessment or other criteria to be determined by CTI)	The status of the species is improving from endangered to threatened or less. The standards for the conservation status and the process for listing and delisting are to be decided by CTI as a body or by a forum designated by the CT6 according to IUCN-red list criteria assessment or other criteria to be determined by CTI for threatened species unique, peculiar or significant to the region.	Consider existence of specific programs aimed for specific species  Will need a baseline data on the actual population/stocks for measuring progress of such regulation or projects.  CTI should develop its own list of threatened species that need to be protected and that's unique, peculiar or significant to the region. Focus on sea turtles and marine mammals; priority species to increase over time  Ask ICRI/Kent Carpenter to help identify species  Need to address IUU fishing

## A2: Baselines for Goal 3 and Goal 4

Indicators	Date for Baseline.	Baseline						
		Indonesia	Malaysia	Philippines	Solomon Islands	Papua New Guinea	Timor-Leste	TOTAL
<b>Goal 3 – Marine protected areas (MPAs) established and effectively managed</b>								
<b>Target 3.1. Region-wide Coral Triangle MPA System (CTMPAS) in place and fully functional</b>								
3.1.1 CTMPAS Framework developed and adopted by CT6	2012	1	1	1	1	1	1	1
3.1.2 Percent or area of total marine habitat in CT region in marine protected or managed areas	2012	2.9% of EEZ 31.2% reefs	3.5% EEZ 38.9% reef	0.2% EEZ 4.9% reefs	1.1% EEZ 3.9% reefs	0.1% EEZ 4.0% reef	3.4% EE 29.5% reefs	1.6% 17.8%
3.1.3 Percent or area of each major marine and coastal habitat type in strictly protected “no-take replenishment zones”	2012	?*	?	?	?	?	?	2%
3.1.4 Percent or area (km <sup>2</sup> ) of marine protected areas under “effective” management	2012	?*	?	?	?	?	?	1%
3.1.5 Percent or area of marine protected/ managed areas included in CTMPAS	2012	0	0	0	0	0	0	0
<b>Goal 4 – Climate change adaptation (CCA) measures achieved</b>								
<b>Target 4.1: Region-wide Early Action Plan for Climate Change Adaptation for the near-shore marine and coastal environment and small island ecosystems developed and implemented</b>								
4.1.1 Number of regional agreements / frameworks / plans (e.g. REAP) developed	2009	0	0	0	0	0	0	0
4.1.2 Number of national policies (including national CCA plans and frameworks) laws and regulations on climate change adaptation proposed	2009	0	0	1	0	0	0	0

and adopted.								
4.1.3 Proportion of local governments that have integrated climate adaptation into local governance (plans and actions)	2009	0	0	0	0	0	0	0
4.1.4 Area of Mangroves (hectares)**	2002	2,895,000	937,200	46,300	473,300	257,400	1,000	4,610,200
<b>Target 4.2: Networked national centers of excellence on climate change adaptation for marine and coastal environments are established and in full operation</b>								
4.2.1 A national institution within CT6 designated and networked to address climate change adaptation coordinated with national government support	2009	0	0	0	0	0	0	0

\*\* “?” The baseline can’t be calculated per country – some of the data is missing: zoning data for no -take and “effective management” assessment.

\* Source: Giri, C., E. Ochieng, L. Tieszen, Z. Zhu, A. Singh, T. Loveland, J. Masek and N. Duke. 2011. Status and distribution of mangrove forests of the world using earth observation satellite data. *Global Ecology and Biogeography* 20(1): 154-159.

### A3 Country Level M&E Process Tables

INDONESIA										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional? Format?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
2.1.1 Number of policies and regulations promoting EAFM at regional and national levels with regulatory framework and budget allocated for their operationalization										
Num Pol and Reg EFM	Min of MoMAF	MoMAF			MoMAF	List of report	NCC	Annually	1\$	High
2.1.2 Number of projects and programs implementing EAFM and components thereof										
Num Project and Prog	MoMAF	MoMAF			MoMAF	list of report	NCC	Annually	1\$	High
2.2.1 Percent change in average income (fishing and non-fishing) of coastal households by profession compared to baseline										
Fisher exchange index - measure of welfare status	Bureau of Statistics (BS)	Bureau of Statistics	Statistical Analyses	Bureau of Stats	Bureau of Stats	Summary of fisher welfare status/index	NCC		1\$	High
2.2.3 Percent contribution of fish to protein requirements										
fish consumption per capita	BS, MoMAF (Puslit Sosek Perikanan)	BS and MoMAF	Statistical Analyses	BS and MoMAF	BS and MoMAF	Report of fish consumption per capita	NCC	Annually	1\$	High
2.3.1 Number of policies and agreements by among CT6 countries for management of tuna										
Number of policy related to TUNA	MoMAF	MoMAF		MoMAF	MoMAF	List of report	NCC	Depend on the need of CTI	1\$	High
2.3.2 Change in conservation status of tuna										
CPUE Tuna	MoMAF (SDI)	MoMAF	Statistical Analyses	MoMAF	MOMAF	Summary of status of Tuna	NCC		2\$	High



INDONESIA										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional? Format?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
2.4.1 Number of policies and agreements on live reef fish trade among CT6 to decrease level of destructive fishing practices linked to the trade										
Number of policy related to LRFFT	MoMAF (P2HP)	MoMAF (P2HP)		MoMAF (P2HP)	MoMAF (P2HP)	Summary of the policy	NCC	Depend on the need	1\$	High
2.4.2 Number and area (km <sup>2</sup> ) of locally managed areas for live reef fish trade										
N.A										
2.4.3 Number of countries adhering to markets/certification (live reef fish and ornamental fisheries) agreed by CT6										
Number of trade agreements on sustainable LRFF with countries/market	MoMAF (P2HP)	MoMAF (P2HP)		MoMAF (P2HP)	MoMAF (P2HP)	Summary of the policy/docu,emt	NCC	Annually	1\$	High
2.4.4 Change in conservation status of live reef fish species (to be decided by CTI as a body or by a forum designated by the CT6 according to IUCN-red list criteria assessment or other criteria determined by CTI)										
N.A										
3.1.2. Percent/Area of total marine habitat area in CT region in marine protected or managed areas										
MPA (in hectares)	Local government, NGOs, MoMAF, MoF	MoMaF, MoF	Spatial, statistical analysis	MoMaF, MoF	MoMaF, MoF	MPA Attributes	NCC	Annually	1\$	High
3.1.3. Percent/area of each major marine and coastal habitat type in strictly protected "no-take replenishment zones"										

INDONESIA										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional? Format?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
Zones within the MPA	Local government, MoMAF, MoF	Local government, MoMAF, MoF	Spatial, statistical analysis	Local government, MoMAF, MoF	Local government, MoMAF, MoF	MPA Attributes	NCC	Annually	2\$	Medium
3.1.4. Percent/Area (in hectare) of marine protected areas under "effective" management										
MPAs (in hectares) effectively managed (level 2 in national ME system)	Local government, MoMAF, MoF	Local government, MoMAF, MoF	Spatial, statistical analysis	Local government, MoMAF, MoF	Local government, MoMAF, MoF	MPA Attributes	NCC	Annually	2\$	Medium
3.1.5. Percent/Area of marine protected/ managed areas included in CTMPAS										
MPAs (in hectares) with potential regional significance	Local government, MoMAF, MoF	Local government, MoMAF, MoF	Spatial, statistical analysis	Local government, MoMAF, MoF	Local government, MoMAF, MoF	As required by CTMPAS	NCC	Annually	2\$	Medium
4.1.1 Number of regional agreements/frameworks/plans (e.g. region-wide early action plan (REAP) developed										
4.1.2 Number of national policies (including national CCA plans and frameworks), laws and regulations on climate change adaptation proposed and adopted										
Policies pertaining to CCA	Geospatial Information Agency, MOE	Geospatial Information Agency, MOE	N.A.	N.A.	Geospatial Information Agency, MOE	Summary of the policy	NCC	depends	1\$	High
4.1.3. Percentage of local governments that have integrated climate adaptation into local governance (plans and actions)										
Number of local governments implementing CCA programs	MOE, MoMAF	MOE, MoMAF	Spatial, statistical	MOE, MoMAF	MOE, MoMAF	Summary of the number of local governments	NCC	annually	2\$	Medium

INDONESIA										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional? Format?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
4.1.4 Area of mangrove (REAP 1&2)										
Area of Mangrove	MOE, MoMAF, NGO	MOE, MoMAF, NGO	Spatial, statistical	MOE, MoMAF, NGO	MOE, MoMAF, NGO	Summary of the area of mangroves	NCC	annually	1\$	High
4.2.1 CCA Registry established with institutions and organizations that are working and networking in support of CTI										
List of agencies/organization involved in CCA programs	National Council for Climate Change	National Council for Climate Change	Tabulation	National Council for Climate Change	National Council for Climate Change	the summary of number of agencies involved in CCA	NCC	annually	1\$	High
5.1.1 Number of new policies or agreements adopted at the regional and national levels that are in compliance with the international agreements on threatened species										
N.A										
5.1.2 Area (in hectares) of protected marine habitat that contributes to conservation of threatened and endangered species protected										
Area of MPA designated for threatened and endangered species	MoMAF, MoF	MoMAF, MoF, LIPI	Spatial, statistical	MoMAF, MoF, LIPI	MoMAF, MoF	summary of the area of MPA designated for threatened and endangered species	NCC	annually	2\$	Medium
5.1.3 Number of threatened species with improved status (to be decided by CTI as a body or by a forum designated by the CT6 according to IUCN-red list criteria assessment or other criteria to be determined by CTI)										

INDONESIA										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional? Format?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
Inventory of threatened species	MoMAF, LIPI	MoMAF, LIPI	Statistical	MoMAF, LIPI	MoMAF, LIPI	Summary of the status of the threatened species	NCC	annually	2\$	Medium

MALAYSIA										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional? Format?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
2.1.1 Number of policies and regulations promoting EAFM at regional and national levels with regulatory framework and budget allocated for their operationalization										
Number and list of policies	Department of Fisheries	Department of Fisheries	Output and outcome againsts baseline	Department of Fisheries	Department of Fisheries & myNODC	Number and list of policies (pdf./Ms Excel / Document)	NCC	Annual	\$	High
2.1.2 Number of projects and programs implementing EAFM and components thereof										
Number and list of projects	Department of Fisheries	Department of Fisheries	Output and outcome againsts baseline	Department of Fisheries	Department of Fisheries & myNODC	number and list of projects (pdf./Ms Excel / Document)	NCC	Annual	\$	High
2.2.1 Percent change in average income (fishing and non-fishing) of coastal households by profession compared to baseline										
% of average income	Department of Fisheries	Department of Fisheries	Socio-economic data	Department of Fisheries	Department of Fisheries & myNODC	Socio-economic Report (Numerical summary)	NCC	Biannual	\$\$	Medium
2.2.3 Percent contribution of fish to protein requirements										

MALAYSIA										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
						Format?				
% of contribution	Department of Fisheries	Department of Fisheries	Socio-economic data	Department of Fisheries	Department of Fisheries & myNODC	Socio-economic Report (Numerical summary)	NCC	Biannual	\$\$	Medium
2.3.1 Number of policies and agreements by among CT6 countries for management of tuna										
Number and list of policies Number of agreement	Department of Fisheries	Department of Fisheries	NA	NA	Department of Fisheries & myNODC	Updates on the agreements	NCC	Annual	\$	High
2.3.2 Change in conservation status of tuna										
NA										
2.4.1 Number of policies and agreements on live reef fish trade among CT6 to decrease level of destructive fishing practices linked to the trade										
Number and list of policies Number of agreement	Department of Fisheries	Department of Fisheries	NA	NA	Department of Fisheries & myNODC	Updates on the agreements	NCC	Annual	\$	High
2.4.2 Number and area (km <sup>2</sup> ) of locally managed areas for live reef fish trade										
Number and areas in MPA	Sabah Parks & Department of Marine Park Malaysia	Sabah Parks & Department of Marine Park Malaysia	Output and outcome against baseline	Sabah Parks & Department of Marine Park Malaysia	Sabah Parks & Department of Marine Park Malaysia	Number and list of policies (pdf./Ms Excel / Document)	NCC	Biannual	\$	High
2.4.3 Number of countries adhering to markets/certification (live reef fish and ornamental fisheries) agreed by CT6										
NA										
2.4.4 Change in conservation status of live reef fish species (to be decided by CTI as a body or by a forum designated by the CT6 according to IUCN-red list criteria assessment or other criteria										



MALAYSIA										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
determined by CTI)										
NA										
3.1.2. Percent/Area of total marine habitat area in CT region in marine protected or managed areas										
MPA Attributes of CT Atlas	Sabah Parks & Department of Marine Park Malaysia	Sabah Parks & Department of Marine Park Malaysia	Percentage of total marine habitat area against baseline in MPAs	Sabah Parks & Department of Marine Park Malaysia	Sabah Parks & Department of Marine Park Malaysia	GIS and reports	NCC	Biannual	\$	High
3.1.3. Percent/area of each major marine and coastal habitat type in strictly protected "no-take replenishment zones"										
MPA Attributes of CT Atlas	Sabah Parks & Department of Marine Park Malaysia	Sabah Parks & Department of Marine Park Malaysia	Percentage of total marine habitat in no take MPAs against baseline	Sabah Parks & Department of Marine Park Malaysia	Sabah Parks & Department of Marine Park Malaysia	GIS and reports	NCC	Biannual	\$	High
3.1.4. Percent/Area (in hectare) of marine protected areas under "effective" management										
MPA Attributes of CT Atlas	Sabah Parks & Department of Marine Park Malaysia	Sabah Parks & Department of Marine Park Malaysia	Percentage of total marine habitat under effective management of MPAs against baseline	Sabah Parks & Department of Marine Park Malaysia	Sabah Parks & Department of Marine Park Malaysia	GIS and reports	NCC	Biannual	\$	High
3.1.5. Percent/Area of marine protected/ managed areas included in CTMPAS										
MPA Attributes of CT Atlas	Sabah Parks & Department of Marine Park Malaysia	Sabah Parks & Department of Marine Park Malaysia	NA (at the regional level)	Sabah Parks & Department of Marine Park Malaysia	Sabah Parks & Department of Marine Park Malaysia	GIS and reports	NCC	Biannual	\$	High
4.1.1 Number of regional agreements/frameworks/plans (e.g. region-wide early action plan (REAP) developed										

MALAYSIA										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
Number and list of agreements/frameworks/plans	National Oceanography Directorate / National Hydraulic Research Institute of Malaysia / Ministry of Natural Resources and Environment	National Oceanography Directorate / National Hydraulic Research Institute of Malaysia / Ministry of Natural Resources and Environment	NA	National Oceanography Directorate / National Hydraulic Research Institute of Malaysia / Ministry of Natural Resources and Environment	National Oceanography Directorate / National Hydraulic Research Institute of Malaysia / Ministry of Natural Resources and Environment	Reports/Table/pdf	NCC	Annual	\$	High
4.1.2 Number of national policies (including national CCA plans and frameworks), laws and regulations on climate change adaptation proposed and adopted										
Number and list of policies/laws/regulation	National Oceanography Directorate / National Hydraulic Research Institute of Malaysia / Ministry of Natural Resources and Environment	National Oceanography Directorate / National Hydraulic Research Institute of Malaysia / Ministry of Natural Resources and Environment	NA	National Oceanography Directorate / National Hydraulic Research Institute of Malaysia / Ministry of Natural Resources and Environment	National Oceanography Directorate / National Hydraulic Research Institute of Malaysia / Ministry of Natural Resources and Environment	Reports/Table/pdf	NCC	Annual	\$	High
4.1.3. Percentage of local governments that have integrated climate adaptation into local governance (plans and actions)										

MALAYSIA										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
						Format?				
% of local government's involved in CCA	National Oceanography Directorate / National Hydraulic Research Institute of Malaysia / Ministry of Natural Resources and Environment	National Oceanography Directorate / National Hydraulic Research Institute of Malaysia / Ministry of Natural Resources and Environment	Percentage of local governments against baseline	National Oceanography Directorate / National Hydraulic Research Institute of Malaysia / Ministry of Natural Resources and Environment	National Oceanography Directorate / National Hydraulic Research Institute of Malaysia / Ministry of Natural Resources and Environment	Numerical / Table	NCC	Biannual	\$\$\$	Low
4.1.4 Area of mangrove (REAP 1&2)										
Area (hectars) of living mangroves forest	Department of Forestry	Department of Forestry	Area against baseline	Department of Forestry	Department of Forestry	Numerical / Table	NCC	Biannual	\$	High
4.2.1 CCA Registry established with institutions and organizations that are working and networking in support of CTI										
List of institution and organization contributing towards CCA within the country	National Oceanography Directorate / National Hydraulic Research Institute of Malaysia / Ministry of Natural Resources and Environment	National Oceanography Directorate / National Hydraulic Research Institute of Malaysia / Ministry of Natural Resources and Environment	NA	National Oceanography Directorate / National Hydraulic Research Institute of Malaysia / Ministry of Natural Resources and Environment	National Oceanography Directorate / National Hydraulic Research Institute of Malaysia / Ministry of Natural Resources and Environment	Numerical / Table	NCC	Annual	\$	High
5.1.1 Number of new policies or agreements adopted at the regional and national levels that are in compliance with the international agreements on threatened species										
Number and list of policies/agreement	Department of Fisheries / Department of Wildlife	Department of Fisheries / Department of Wildlife	NA	Department of Fisheries / Department of Wildlife	Department of Fisheries / Department of Wildlife	List / Table	NCC	Annual	\$	High
5.1.2 Area (in hectares) of protected marine habitat that contributes to										

MALAYSIA										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
						Format?				
conservation of threatened and endangered species protected										
MPA Attributes for CT Atlas	Department of Fisheries / Department of Wildlife	Department of Fisheries / Department of Wildlife	NA (at the regional level)	Department of Fisheries / Department of Wildlife	Department of Fisheries / Department of Wildlife	GIS and reports	NCC	Biannual	\$	High
5.1.3 Number of threatened species with improved status (to be decided by CTI as a body or by a forum designated by the CT6 according to IUCN-red list criteria assessment or other criteria to be determined by CTI)										
Number and list of threatened species	Department of Fisheries / Department of Wildlife	Department of Fisheries / Department of Wildlife	Status at national level	Department of Fisheries / Department of Wildlife	Department of Fisheries / Department of Wildlife	List / Table	NCC	Biannual	\$	High

PNG										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional?	Who reports to Regional level?	Reporting Cycle?	Cost?	Capacity score?
EAFM										
2.1.1 Number of policies and regulations promoting EAFM at regional and national levels with regulatory framework and budget allocated for their operationalization										
Number of policies, management plans and legislations	National Govt (NFA)	National Govt (NFA)	None	National Govt (NFA)	National Govt (NFA)	1Number of policies, management plans and legislations  2Copies of documents	NCC (NFA)	Annually?	\$	Medium-High
2.1.2 Number of projects and programs implementing EAFM and components thereof										

PNG										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional? Format?	Who reports to Regional level?	Reporting Cycle?	Cost?	Capacity score?
Number of projects and programs implementing EAFM and components	1 National Govt (NFA)  2 Implementing partners? (NGOs, CBOs)	National Govt (NFA)	None	National Govt (NFA)	1 National Govt (NFA)  2 Implementing partners? (NGOs, CBOs)	Number of projects and programs implementing EAFM and components	NCC (NFA)	Annually?	\$	Medium-High
2.2.1 Percent change in average income (fishing and non-fishing) of coastal households by profession compared to baseline										
Percent change in average income	National Govt (NSO, NFA)	National Govt (NSO, NFA)	Systemised/standardised data	National Govt (NSO, NFA)	National Govt (NSO, NFA)	Percent change in average income	NCC (NFA)	5-10 years (periodic surveys) and NFA Socio-economic surveys?	\$	Medium-High
2.2.3 Percent contribution of fish to protein requirements										
Percent contribution of fish to protein requirements	1 National Govt (DOH)  2 Development partners	National Govt (DOH)	?	National Govt (DOH)	National Govt (DOH)	Nutrition statistics	NCC (NFA)	5-10 years (periodic surveys) and NFA Socio-economic surveys?	\$	Medium?
2.3.1 Number of policies and agreements by among CT6 countries for management of tuna										
Number of policies and agreements by among CT6 countries for management of tuna	National Govt (NFA)	National Govt (NFA)	None	National Govt (NFA)	National Govt (NFA)	1 Number of policies and agreements by among CT6 countries for management of tuna  2 Copies of documents	NCC (NFA)	Annually?	\$	High
2.3.2 Change in conservation status of tuna										
Change in conservation status of tuna	National Govt (NFA)?	National Govt (NFA)?	None	National Govt (NFA)?	National Govt (NFA)	1 Change in conservation status of tuna  2 Reports, maps etc	NCC (NFA)	Annually?	\$	High



PNG										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional? Format?	Who reports to Regional level?	Reporting Cycle?	Cost?	Capacity score?
2.4.1 Number of policies and agreements on live reef fish trade among CT6 to decrease level of destructive fishing practices linked to the trade										
Number of policies and agreements on live reef fish trade among CT6 to decrease level of destructive fishing practices linked to the trade	National Govt (NFA)	National Govt (NFA)	None	National Govt (NFA)	National Govt (NFA)	1Number of policies and agreements  2Copies of documents	NCC (NFA)	Annually?	\$\$?	Medium-High
2.4.2 Number and area (km <sup>2</sup> ) of locally managed areas for live reef fish trade										
Number and area (km <sup>2</sup> ) of locally managed areas for live reef fish trade	1Implementing partners (NGOs, CBOs)  2National Govt (NFA)	National Govt (NFA)	None	National Govt (NFA)	National Govt (NFA)	Number and area (km <sup>2</sup> ) of locally managed areas for live reef fish trade	NCC (NFA)	Annually?	\$\$	Medium-High
2.4.3 Number of countries adhering to markets/certification (live reef fish and ornamental fisheries) agreed by CT6										
Number of countries adhering to markets/certification (live reef fish and ornamental fisheries) agreed by CT6	National Govt (NFA)	National Govt (NFA)	?	1National Govt (NFA)  2Regional Secretariat?	National Govt (NFA)	Number of countries adhering to markets/certification (live reef fish and ornamental fisheries) agreed by CT6	NCC (NFA)	? (depends on regional arrangements?)	\$	Medium-High
2.4.4 Change in conservation status of live reef fish species (to be decided by CTI as a body or by a forum designated by the CT6 according to IUCN-red list criteria assessment or other criteria determined by CTI)										

PNG										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional? Format?	Who reports to Regional level?	Reporting Cycle?	Cost?	Capacity score?
Change in conservation status of live reef fish species (to be decided by CTI as a body or by a forum designated by the CT6 according to IUCN-red list criteria assessment)	??? Depends on CTI Secretariat and IUCN/National Govt (NFA)	National Govt (NFA)	1 National Govt (NFA)  2 IUCN?	National Govt (NFA)	National Govt (NFA)	Change in conservation status of live reef fish species (to be decided by CTI as a body or by a forum designated by the CT6 according to IUCN-red list criteria assessment)	NCC (NFA)	Annually? (depends on IUCN and funding)	\$\$?	Medium?
MPA										
3.1.2. Percent/Area of total marine habitat area in CT region in marine protected or managed areas										
New and degazetted MPAs and LMMAs (boundaries)	1 Implementing partners (NGOs and CBOs etc)  2 National Govt (DEC)	1 Implementing partners  2 National Govt (DEC)  3 CTAtlas	GIS	National Govt (DEC)?	1 CTAtlas  2 National Govt (DEC) and  3 Implementing Partners?	1 Total area (Ha) of MPAs and LMMAs  2 Report, tables and maps?	NCC (MPATWG)	Annually?	\$\$	Low-Medium
3.1.3. Percent/area of each major marine and coastal habitat type in strictly protected "no-take replenishment zones"										
New no-take zones in MPAs and LMMAs (areas, boundaries)	1 Implementing partners (NGOs and CBOs etc)  2 National Govt (DEC)	1 LMMA Advisory Committee  2 Implementing partners  3 National Govt (DEC)  4 CTAtlas	GIS	National Govt (DEC) and Implementing partners?	1 CTAtlas  2 National Govt (DEC) and  3 Implementing Partners?	1 Total area (Ha) of no-take zones  2 Report, tables and maps?	NCC (MPATWG)	Annually?	\$	Low-Medium
3.1.4. Percent/Area (in hectare) of marine protected areas under "effective" management										

PNG										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional? Format?	Who reports to Regional level?	Reporting Cycle?	Cost?	Capacity score?
Number and names of MPAs and LMMAs under EM and/or qualify for Category 2+	1 Impelemting partners (NGOs and CBOs etc)  2 National Govt (DEC)	1 LMMA Advisory Committee  2 Implemnting partners  3 National Govt (DEC)  4 CTAtlas	GIS	National Govt (DEC) and Implementing partners?	1 CTAtlas  2 National Govt (DEC) and  3 Implementing Partners?	1 Total area (Ha) of MPA and LMMAs under effective management  2 Report, tables and maps?	NCC (MPATW G)	Annually?	\$\$	Low-Medoum
3.1.5. Percent/Area of marine protected/ managed areas included in CTMPAS										
Number and names of MPAS and LMMAs qualified for Category 1	1 Impelemting partners (NGOs and CBOs etc)  2 National Govt (DEC)	1 LMMA Advisory Committee  2 Implemnting partners  3 National Govt (DEC)  4 CTAtlas	GIS	National Govt (DEC) and Implementing partners?	1 CTAtlas  2 National Govt (DEC) and  3 Implementing Partners?	1 Total area (Ha) of MPAs and LMMAs  2 Report, tables and maps?	NCC (MPATW G)	Annually?	\$\$	Medium
CCA										
4.1.1 Number of regional agreements/frameworks/plans (e.g. region-wide early action plan (REAP) developed										
Number of regional agreements/ frameworks/ plans	National Govt (OCCD)	National Govt (OCCD)	None	National Govt (OCCD)	National Govt (OCCD)	1 Number of regional agreements/ frameworks/ plans  2 Copies of documents	NCC (OCCD/ CCATW G)	Annually?	\$	Medium
4.1.2 Number of national policies (including national CCA plans and frameworks), laws and regulations on climate change adaptation proposed and adopted										
Number of policies, laws and regulations proposed and adopted	National Govt (OCCD)	National Govt (OCCD)	None	National Govt (OCCD)	National Govt (OCCD)	1 Number of national policies, laws and regulations  2 Copies of documents	NCC (OCCD/ CCATW G)	Annually?	\$	Medium-High
4.1.3. Percentage of local governments that have integrated										

PNG										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional? Format?	Who reports to Regional level?	Reporting Cycle?	Cost?	Capacity score?
climate adaptation into local governance (plans and actions)										
Number of LG integrating CCA into local governance plans	1 Provincial/Local Govts  2 Implementing partners	1 Provincial/Local Govts  2 Implementing partners	None	National Govt (OCCD)	1 Provincial Govts  2 National Govt (OCCD)	1 Number of LG integrating CCA into local governance plans  2 Copies of documents	NCC (OCCD/CCATWG)	Annually?	\$	Low-Medium
4.1.4 Area of mangrove (REAP 1&2)										
Satellite imagery and terrestrial <i>truthing</i> ?	1 Implementing partners  2 National Govt (OCCD)	1 Implementing partners  2 National Govt (OCCD)	GIS	1 Implementing partners  2 National Govt (OCCD)	1 CTAtlas  2 National Govt (OCCD/DEC) and  3 Implementing Partners?	1 Total mangrove cover (Ha)  2 Copies of documents	NCC (OCCD/CCATWG)	?	\$	Medium
4.2.1 CCA Registry established with institutions and organizations that are working and networking in support of CTI										
Number of organisations, institutions etc registered	National Govt (OCCD)	National Govt (OCCD)	None	National Govt (OCCD)	1 National Govt (OCCD)	Number of organisations, institutions etc registered	NCC (OCCD/CCATWG)	Annually?	\$	Medium-High
THREATENED SPECIES										
5.1.1 Number of new policies or agreements adopted at the regional and national levels that are in compliance with the international agreements on threatened species										
Number of new policies or agreements adopted at the regional and national levels	1 Implementing partners (NGOs and CBOs etc)  2 National Govt (DEC)	1 Implementing partners (NGOs and CBOs etc)  2 National Govt (DEC)	None	National Govt (DEC)	1 National Govt (DEC)  2 Provincial Govts	1 Number of new policies or agreements adopted at the regional and national levels  2 Copies of documents	NCC (DEC)	Annually?	\$\$	Low-Medium

PNG										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional? Format?	Who reports to Regional level?	Reporting Cycle?	Cost?	Capacity score?
5.1.2 Area (in hectares) of protected marine habitat that contributes to conservation of threatened and endangered species protected										
Presence of endangered spp in MPAs (dugongs)	1 Implemting partners (NGOs and CBOs etc)  2 National Govt (DEC)	1 Implemting partners (NGOs and CBOs etc)  2 National Govt (DEC)	GIS	National Govt (DEC)	1 National Govt (DEC)  2 Provincial/LG Govts  3 Implementing partners  4 CT Atlas	1 Total area (Ha) of protected marine habitats contributing to threatened spp conservation  2 Reports, maps etc	NCC (DEC)	?	\$\$	Low-Medium
5.1.3 Number of threatened species with improved status (to be decided by CTI as a body or by a forum designated by the CT6 according to IUCN-red list criteria assessment or other criteria to be determined by CTI)										
Number of threatened spp with improved status	1 Implemting partners (NGOs and CBOs etc)  2 National Govt (DEC)	1 Implemting partners (NGOs and CBOs etc)  2 National Govt (DEC)	None?	National Govt (DEC)	1 National Govt (DEC)  2 Provincial/LG Govts  3 Implementing partners  4 CT Atlas	1 Number of improved threatened spp with improved status  2 Reports, maps etc	NCC (DEC)	Annually?	\$\$	Low-Medium

PHILIPPINES										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional? Format?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
2.1.1 Number of policies and regulations promoting EAFM at regional and national levels <b>With</b> regulatory framework and budget allocated for their operationalization										



PHILIPPINES										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional? Format?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
List and copies of policies and regulations	DA-BFAR	DA-BFAR	Aggregation by type of fisheries, demersal or pelagic, by type of gear	internal to DA-BFAR	DA-BFAR (copies in the website)	list and copies of policies (e-copy)	BFAR	Every two years (new policies announced as and when it is adopted)	\$	High
2.1.2 Number of projects and programs implementing EAFM and components thereof										
Brief info on projects / programs and EAFM elements in the programs	DA-BFAR	DA-BFAR , NFRDI, DOST-PCAAARD	Consolidation of EAFM elements/ principles demonstrated in projects; EAFM targets/ ouputs	internal to DA-BFAR	DA-BFAR, NCCC CTI Mapping Tool	Number, brief summary/ map of (EAFM) projects	BFAR	Every two years (new policies announced as and when it is adopted)	\$\$	Medium
2.2.1 Percent change in average income (fishing and non-fishing) of coastal households by profession compared to baseline										
Annual income of coastal households	National Statistics Office	National Statistics Officer	Aggregated by fishing and non-fishing household; Average annual per capita income, aqua and marine capture	NSO	NSO	Average annual household income	NEDA	Every five years	\$\$\$	Low
2.2.3 Percent contribution of fish to protein requirements										
Fish consumption, protein intake	DOH- FNRI	DOH-FNRI	per fish consumption, coastal and non-household, per cent to total protein intake	DOH-FNRI	DOH-FNRI	per capita fish consumption, aqua or marine capture	DOH-FNRI	Every five years	\$\$\$	Medium
2.3.1 Number of policies and agreements by among CT6 countries for management of tuna										
List and copies of policies and agreements	DA-BFAR	DA-BFAR	types of provisions - gears,	DA-BFAR	DA-BFAR	Number/ list of policies	DA-BFAR	Every two years (new policies announced as and when it is adopted)	\$	High

PHILIPPINES										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional? Format?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
2.3.2 Change in conservation status of tuna										
conservation status of tuna	DA-BFAR	DA-BFAR	by species	DA-BFAR	DA-BFAR	conservation status by species	DA-BFAR	Every five years	\$\$\$	Medium
2.4.1 Number of policies and agreements on live reef fish trade among CT6 to decrease level of destructive fishing practices linked to the trade										
list and copies of policies and agreements	DENR, DA-BFAR, NFRDI	DA-BFAR	by threat reduction threats, acceptable harvest size	DA-BFAR	DA-BFAR	number/ list of policies	DA-BFAR	Every two years (new policies announced as and when it is adopted)	\$\$	High
2.4.2 Number and area (km <sup>2</sup> ) of locally managed areas for live reef fish trade										
LRFT managed area attributes	DA-BFAR	DA-BFAR	number and area, by species, by LGU	DA-BFAR	DA-BFAR	total number, area and map of LRF managed areas	DA-BFAR	Every two years	\$\$\$	Medium
2.4.3 Number of countries adhering to markets/certification (live reef fish and ornamental fisheries) agreed by CT6										
status of certification process/ applications in country	DA-BFAR	DA-BFAR	progress on the process/ application/	DA-BFAR	DA-BFAR	status report on process/ application	DA-BFAR	Every two years	\$	High
2.4.4 Change in conservation status of live reef fish species (to be decided by CTI as a body or by a forum designated by the CT6 according to IUCN-red list criteria assessment or other criteria determined by CTI)										
conservation status of LRF species	DA-BFAR	DA-BFAR	by species	DA-BFAR	DA-BFAR	conservation status by species	DA-BFAR	Every five years	\$\$\$	Low

PHILIPPINES										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional? Format?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
3.1.2. Percent/Area of total marine habitat area in CT region in marine protected or managed areas										
MPA attributes	DA-BFAR, DENR, MSN	DA-BFAR, DENR	total area, percent, habitat represented, NIPAS or locally managed and private	DA-BFAR, DENR	DA-BFAR, DENR	area, percent, habitat representation	DA-BFAR, DENR	Every two years	\$\$	Medium
3.1.3. Percent/area of each major marine and coastal habitat type in strictly protected "no-take replenishment zones"										
MPA attributes	DA-BFAR, DENR, MSN	DA-BFAR, DENR	total area, percent, habitat represented, NIPAS or locally managed and private , (all in no-take replenishment zone)	DA-BFAR, DENR	DA-BFAR, DENR	area, percent, habitat representation	DA-BFAR, DENR	Every two years	\$\$	Medium
3.1.4. Percent/Area (in hectare) of marine protected areas under "effective" management										
MPA attributes, ME scores	DA-BFAR, DENR, MSN	DA-BFAR, DENR	total area, percent, habitat represented, NIPAS or locally managed and private , (all in no-take replenishment zone)	DA-BFAR, DENR	DA-BFAR, DENR	area, percent, habitat representation	DA-BFAR, DENR	Every two years	\$\$	Medium
3.1.5. Percent/Area of marine protected/ managed areas included in CTMPAS										
MPA attributes, ME scores for MPAs covered by CTMPAS	DA-BFAR, DENR, MSN	DA-BFAR, DENR	total area, percent, habitat represented, NIPAS or locally managed and private , (all in no-take replenishment zone)	DA-BFAR, DENR	DA-BFAR, DENR	area, percent, habitat representation	DA-BFAR, DENR	Every two years	\$\$	Medium

PHILIPPINES										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional? Format?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
4.1.1 Number of regional agreements/frameworks/plans (e.g. region-wide early action plan (REAP) developed										
list/ copies of regional agreements/frameworks	DENR	DENR	by type of call to action	DENR	DENR	list and copies of policies (e-copy)	DENR	Every two years	\$	High
4.1.2 Number of national policies (including national CCA plans and frameworks), laws and regulations on climate change adaptation proposed and adopted										
list/ copies of national agreements/frameworks	DENR, CCC	DENR, CCC	by type of call to action	DENR, CCC	DENR, CCC	list and copies of policies (e-copy)	DENR, CCC	Every two years	\$	High
4.1.3. Percentage of local governments that have integrated climate adaptation into local governance (plans and actions)										
list/ copies of local governments plans integrating CCA	DILG, NDRRMC, CCC	DILG, NDRRMC, CCC	by CCA actions/ measures, status of implementation	DILG, NDRRMC, CCC	DILG, NDRRMC, CCC	list of LGUs with local plans integrating CCA measures	DILG, NDRRMC, CCC	Every three years	\$\$\$	Medium
4.1.4 Area of mangrove (REAP I&2)										
map, size, description, species mix, mangrove attributes	DENR - FMB, DA_BFAR, various private sector led projects	DENR-FMB, DA-BFAR	by species, by sector who carried out the mangrove refo action, survival rate, protected or not protected,	DENR-FMB, DA-BFAR	DENR-FMB, DA-BFAR	area, map	DENR-FMB, DA-BFAR	Every three years	\$\$\$	Medium
4.2.1 CCA Registry established with institutions and organizations that are working and networking in support of CTI										
list of CCA-supporting institutions and organizations	DENR, CCC,	DENR, CCC,	by sector , by type of expertise/ assistance, by geographic focus of operations,	DENR, CCC	DENR, CCC	registry	DENR CCC	Every four years	\$\$\$	Low

PHILIPPINES										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional? Format?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
5.1.1 Number of new policies or agreements adopted at the regional and national levels that are in compliance with the international agreements on threatened species										
list/ copies of polices	DENR, DA-BFAR, NFRDI	DENR, DA-BFAR, NFRDI	by species, by status	DENR, DA-BFAR, NFRDI	DENR, DA-BFAR, NFRDI	list and copy of policies	DENR, DA-BFAR, NFRDI	Every two years	\$	High
5.1.2 Area (in hectares) of protected marine habitat that contributes to conservation of threatened and endangered species protected										
MPA attributes, number and list of MPAs	DENR, DA-BFAR, NFRDI	DENR, DA-BFAR, NFRDI	by habitat type, by species, status of management	DENR, DA-BFAR, NFRDI	DENR, DA-BFAR, NFRDI	list/ map/ area of MPAs	DENR, DA-BFAR, NFRDI	Every two years	\$\$\$	Medium
5.1.3 Number of threatened species with improved status (to be decided by CTI as a body or by a forum designated by the CT6 according to IUCN-red list criteria assessment or other criteria to be determined by CTI)										
list and status of species	DENR, DA-BFAR, NFRDI	DENR, DA-BFAR, NFRDI	by status by species,	DENR, DA-BFAR, NFRDI	DENR, DA-BFAR, NFRDI	list and status of species	DENR, DA-BFAR, NFRDI	Every two years	\$\$\$	Low

SOLOMON ISLANDS										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
						Format?				
2.1.1 Number of policies and regulations promoting EAFM at regional and national levels with regulatory framework and budget allocated for their operationalization										



SOLOMON ISLANDS										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
						Format?				
Number of policies and regulations	Ministry of Environment; Ministry of Fisheries, Provincial Government	Ministry of Environment; Ministry of Fisheries, Ministry of Planning	Compilation in database with copies of each document	Ministry of Environment; Ministry of Fisheries, Ministry of Planning; Partners	Ministry of Environment; Ministry of Fisheries, Ministry of Planning	Number of policies	NCC	Annual	\$	Medium
2.1.2 Number of projects and programs implementing EAFM and components thereof										
Number of projects and programs (title, sites, scope, duration, budget, and implementing agencies)	Ministry of Environment; Ministry of Fisheries, Provincial Government	Ministry of Environment; Ministry of Fisheries, Ministry of Planning	Compilation in database with copies of each document	Ministry of Environment; Ministry of Fisheries, Ministry of Planning; Partners	Ministry of Environment; Ministry of Fisheries, Ministry of Planning	Number of projects and programs	NCC	Annual	\$	Medium
2.2.1 Percent change in average income (fishing and non-fishing) of coastal households by profession compared to baseline										
Household income (disaggregated by profession)	Ministry of Finance (National Statistics Office); partners working at site level	Ministry of Finance (National Statistics Office), Partners analyse results at site level	Statistics	Ministry of Finance and partners	Ministry of Finance	Average income for coastal households at national, provincial levels	NCC	Annual	\$	Medium
2.2.3 Percent contribution of fish to protein requirements										
Fish consumption by ward and province (check units)	Ministry of Fisheries, Ministry of Finance (National Statistics Office); Ministry of Agriculture and Health? SPC	Ministry of Fisheries, Ministry of Finance (National Statistics Office); Ministry of Agriculture and Health? SPC	Percentage of fish consumed compared to other food products	Ministry of Fisheries, Ministry of Finance (National Statistics Office); Ministry of Agriculture and Health? SPC	Ministry of Fisheries, Ministry of Finance (National Statistics Office); Ministry of Agriculture and Health? SPC	fish consumptions (need to find out units)	NCC	last assessment in 1999	\$\$\$	Low

SOLOMON ISLANDS										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
						Format?				
2.3.1 Number of policies and agreements by among CT6 countries for management of tuna										
Number of policies and agreements	Ministry of Fisheries	Ministry of Fisheries, Ministry of Foreign Affairs, Forum Fisheries Agency (regional agency), Parties to Nauru Agreement (PNA), Western and Central Pacific Fisheries Commission	Compilation in database with copies of each document	Ministry of Fisheries, FFA	Ministry of Fisheries, FFA	Number of policies and agreements	NCC (Ministry of Fisheries)	Annual	\$	High
2.3.2 Change in conservation status of tuna										
Stock assessment?? Total Annual Catch/species/vessel (domestic and foreign), Market for tuna and tuna products	SPC, FFA, Ministry of Fisheries	SPC, FFA, Ministry of Fisheries, WCPFC	Statistics	SPC, FFA, WCPFC	SPC, FFA, WCPFC	Statistics	NCC (Ministry of Fisheries)	Annual	\$	High
2.4.1 Number of policies and agreements on live reef fish trade among CT6 to decrease level of destructive fishing practices linked to the trade										
Number of policies and agreements	Ministry of Fisheries, Ministry of Environment	Ministry of Fisheries, Ministry of Environment	Compilation in database with copies of each document	Ministry of Fisheries, Ministry of Environment	Ministry of Fisheries, Ministry of Environment	Number of policies and agreements	NCC (Ministry of Fisheries, Ministry of Environment)	Annual	\$	High
2.4.2 Number and area (km <sup>2</sup> ) of locally managed areas for live reef fish trade										
Not collecting this										

SOLOMON ISLANDS										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
						Format?				
2.4.3 Number of countries adhering to markets/certification (live reef fish and ornamental fisheries) agreed by CT6										
Number of ornamental fish exported by species (CITES) [Ban in place for live reef trade, no certification for ornamental]	Ministry of Fisheries, Ministry of Environment	Ministry of Fisheries, Ministry of Environment	Compilation in database, trends, statistics	Ministry of Fisheries, Ministry of Environment	Ministry of Fisheries, Ministry of Environment	Number of fish exported by species	NCC (Ministry of Fisheries, Ministry of Environment)	Annual	\$\$	Medium
2.4.4 Change in conservation status of live reef fish species (to be decided by CTI as a body or by a forum designated by the CT6 according to IUCN-red list criteria assessment or other criteria determined by CTI)										
Stock assessment	NGO partners, Ministry of Fisheries, SPC, University	NGO partners, Ministry of Fisheries, SPC, University	Population statistics	NGO partners, Ministry of Fisheries, SPC, University	NGO partners, Ministry of Fisheries, SPC, University	Population statistics	NCC	Periodic	\$\$\$	Low
3.1.2. Percent/Area of total marine habitat area in CT region in marine protected or managed areas										
Number and area of MPAs (estimated)	NGO partners, MPA managers	Ministry of Environment, Ministry of Fisheries, SILMMA, CT Atlas	Compiled into database; CT Atlas	CT Atlas, SILMMA-MFMR	SILMMA-MFMR, CT Atlas	MPA attributes	NCC through MPA focal point	Annual	\$	Medium
3.1.3. Percent/area of each major marine and coastal habitat type in strictly protected "no-take replenishment zones"										
Number and area of MPAs (estimated)	NGO partners, MPA managers	Ministry of Environment, Ministry of Fisheries, SILMMA, CT Atlas	Compiled into database; CT Atlas	CT Atlas, SILMMA-MFMR	SILMMA-MFMR, CT Atlas	MPA attributes	NCC through MPA focal point	Annual	\$	Medium

SOLOMON ISLANDS										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
						Format?				
3.1.4. Percent/Area (in hectare) of marine protected areas under "effective" management										
Number and area of MPAs (estimated)	NGO partners, MPA managers; SILMMA	Ministry of Environment, Ministry of Fisheries, SILMMA, CT Atlas	Compiled into database; CT Atlas	CT Atlas, SILMMA-MFMR	SILMMA-MFMR, CT Atlas	MPA attributes	NCC through MPA focal point	Annual	\$\$\$	Low
3.1.5. Percent/Area of marine protected/ managed areas included in CTMPAS										
Number and area of MPAs (estimated)	NGO partners, MPA managers, SILMMA	Ministry of Environment, Ministry of Fisheries, SILMMA, CT Atlas	Compiled into database; CT Atlas	CT Atlas, SILMMA-MFMR	SILMMA-MFMR, CT Atlas	MPA attributes	NCC through MPA focal point	Annual	\$	Medium
4.1.1 Number of regional agreements/frameworks/plans (e.g. region-wide early action plan (REAP) developed										
4.1.2 Number of national policies (including national CCA plans and frameworks), laws and regulations on climate change adaptation proposed and adopted										
Number of policies	Ministry of Environment	Ministry of Environment	Compilation in database with copies of each document	Ministry of Environment	Ministry of Environment	Number of policies	NCC	Annual	\$	Medium
4.1.3. Percentage of local governments that have integrated climate adaptation into local governance (plans and actions)										
Number of provincial governments having climate change policies, programs, and projects	Ministry of Environment	Ministry of Environment	Percentage compared to total number of provincial governments (10)	Ministry of Environment	Ministry of Environment	Percentage	NCC	Annual	\$\$	Medium
4.1.4 Area of mangrove (REAP 1&2)										

SOLOMON ISLANDS										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
						Format?				
Area of mangrove in hectares	CT Atlas from satellite imagery	CT Atlas	GIS analysis and mapping, groundtruthing	Ministry of Environment	CT Atlas	Area	NCC	3 years	\$\$\$	Medium
4.2.1 CCA Registry established with institutions and organizations that are working and networking in support of CTI										
Names of institutions and organizations supporting CCA	Ministry of Environment	Ministry of Environment	Compilation in database	Ministry of Environment	Ministry of Environment	List of names	NCC	Annual	\$	High
5.1.1 Number of new policies or agreements adopted at the regional and national levels that are in compliance with the international agreements on threatened species										
Number of policies and agreements	Ministry of Environment	Ministry of Environment	Compilation in database with copies of each document	Ministry of Environment	Ministry of Environment; SPREP	Number of policies	NCC	Annual	\$	Medium
5.1.2 Area (in hectares) of protected marine habitat that contributes to conservation of threatened and endangered species protected										
Number of MPAs and species protected	NGO partners	NGO partners	Compilation in database, estimated area of habitat protected for T&E species, trends in T&E population, movement, habitat use	NGO partners	NGO partners	Hectares, number of MPA sites and species protected	NCC	Annual	\$\$	Low
5.1.3 Number of threatened species with improved status (to be decided by CTI as a body or by a forum designated by the CT6 according to IUCN-red list criteria assessment or other criteria to be determined by CTI)										

SOLOMON ISLANDS										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
						Format?				
Population studies for dugongs (and assessment of seagrass habitat), turtles, bumphead parrotfish	NGO partners, Ministry of Fisheries, Ministry of Environment	NGO partners, SPREP, Universities, Convention on Migratory Species (dugong)	Population parameters, trends	NGO partners, SPREP, Universities, Convention on Migratory Species (dugong)	NGO partners, SPREP, Universities, Convention on Migratory Species (dugong)	Population trends	NCC	Annual	\$\$\$	Low

TIMOR-L:ESTE										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
						Format?				
2.1.1 Number of policies and regulations promoting EAFM at regional and national levels with regulatory framework and budget allocated for their operationalization										
# policies & regulation	National directory of Fisheries and Aquaculture	National directory of Fisheries and Aquaculture	N/A	N/A	National directory of Fisheries and Aquaculture	# policies & regulation	NCC	year	\$	Medium - need to hire responsible
2.1.2 Number of projects and programs implementing EAFM and components thereof										
# projects & programs	National directory of Fisheries and Aquaculture	National directory of Fisheries and Aquaculture	N/A	N/A	National directory of Fisheries and Aquaculture	# projects & programs	NCC	year	\$	Medium - need to hire responsible
2.2.1 Percent change in average income (fishing and non-fishing) of coastal households by profession compared to baseline										
Income	National directory of Fisheries and Aquaculture	National directory of Fisheries and Aquaculture	Statistics % change	National directory of Fisheries and Aquaculture	National directory of Fisheries and Aquaculture	Percent change in average income	NCC	year	\$\$\$	Low



TIMOR-L:ESTE										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional? Format?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
2.2.3 Percent contribution of fish to protein requirements										
Fish consumption per capita per year	National directory of Fisheries and Aquaculture	National directory of Fisheries and Aquaculture	?	National directory of Fisheries and Aquaculture	National directory of Fisheries and Aquaculture	Fish consumption per capita per year???	NCC	year	\$\$\$	Low
2.3.1 Number of policies and agreements among CT6 countries for management of tuna										
# of policies										
2.3.2 Change in conservation status of tuna										
2.4.1 Number of policies and agreements on live reef fish trade among CT6 to decrease level of destructive fishing practices linked to the trade										
2.4.2 Number and area (km <sup>2</sup> ) of locally managed areas for live reef fish trade										
2.4.3 Number of countries adhering to markets/certification (live reef fish and ornamental fisheries) agreed by CT6										
2.4.4 Change in conservation status of live reef fish species (to be decided by CTI as a body or by a forum designated by the CT6 according to IUCN-red list criteria assessment or other criteria determined by CTI)										
3.1.2. Percent/Area of total marine habitat area in CT region in marine protected or managed areas										

TIMOR-L:ESTE										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional? Format?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
MPA boundary	NDFA	NDFA (GIS department)/ CT Atlas	GIS analysis of area	NDFA	NDFA/ CT Atlas	MPA boundary/ Area	NCC	year	\$	High
3.1.3. Percent/area of each major marine and coastal habitat type in strictly protected "no-take replenishment zones"										
No take boundaries	NDFA	NDFA/ CT Atlas	GIS analysis of area	NDFA	NDFA/ CT Atlas	Area	NCC	year	\$	High
3.1.4. Percent/Area (in hectare) of marine protected areas under "effective" management										
# of MPA under effective management	NDFA	NDFA/ CT Atlas	GIS analysis of area	NDFA	NDFA/ CT Atlas	Area	NCC	year	\$	High
3.1.5. Percent/Area of marine protected/ managed areas included in CTMPAS										
# MPA	NDFA	NDFA/ CT Atlas	GIS analysis of area	NDFA	NDFA/ CT Atlas	Area	NCC	year	\$	High
4.1.1 Number of regional agreements/frameworks/plans (e.g. region-wide early action plan (REAP) developed										
4.1.2 Number of national policies (including national CCA plans and frameworks), laws and regulations on climate change adaptation proposed and adopted										
# policies	Directory National Environment	Directory National Environment	N/A	N/A	Directory National Environment	# policies	NCC	year	\$	High
4.1.3. Percentage of local governments that have integrated climate adaptation into local governance (plans and actions)										
# local government	Directory National Environment	Directory National Environment	N/A	N/A	Directory National Environment	# local government	NCC	year	\$	High
4.1.4 Area of mangrove (REAP 1&2)										

TIMOR-L:ESTE										
What is measured?	Who measures?	Who compiles and analyses?	What type of analysis is required?	Who QC's data and analysis?	Where is the data stored?	What is reported to regional? Format?	Who reports?	Reporting Cycle?	Cost?	Capacity score?
areal area of mangrove +terrestrial	Ministry of agriculture and Fisheries - Directory of Forestry - GIS	Ministry of agriculture and Fisheries - Directory of Forestry - GIS	GIS	Ministry of agriculture and Fisheries - Directory of Forestry - GIS	Ministry of agriculture and Fisheries - Directory of Forestry - GIS/ CT Atlas	Area of Mangrove/year	NCC	year	\$	High
4.2.1 CCA Registry established with institutions and organizations that are working and networking in support of CTI										
yes/no	Directory National Environment	Directory National Environment	N/A	N/A	Directory National Environment	yes/no	NCC	year	\$	High
5.1.1 Number of new policies or agreements adopted at the regional and national levels that are in compliance with the international agreements on threatened species										
# agreements	NDFA	NDFA	N/A	N/A	NDFA	# agreements + copy of agreements	NCC	year	\$	High
5.1.2 Area (in hectares) of protected marine habitat that contributes to conservation of threatened and endangered species protected										
5.1.3 Number of threatened species with improved status (to be decided by CTI as a body or by a forum designated by the CT6 according to IUCN-red list criteria assessment or other criteria to be determined by CTI)										

## A4 Regional M&E Process Tables

What is reported?	Who reports?	Who compiles?	Where is data stored?	Who has access to data?	What is reported?	Who reports	Added analyses? Time series?	Freq	Cost	Baseline	Notes	Capacity
<b>2.1.1 Number of policies and regulations promoting EAFM at regional and national levels with regulatory framework and budget allocated for their operationalization</b>												
# policies & regulation @ national level & list of reports	NCC	Regional Secretariat + TWG	Regional Secretariat	Regional Secretariat + NCC+TWG + implementing partners	Summary of all the policies and regulations@ national and Regional and result of gap analysis for policies	Summarize National and count and information from TWG to report for the regional policies. Added gap analysis to inform where there still needs to be policies at the national and regional level.	Gap analysis done by the TWG	Yearly	\$	SCTR 2013	Q: does this require a processing of the list to match with the Regional framework	
<b>2.1.2 Number of projects and programs implementing EAFM and components thereof</b>												
# projects & programs & list	NCC	Regional Secretariat + TWG	Regional Secretariat	Regional Secretariat + NCC+TWG + implementing partners	# projects & programs & list + areas of complementation	Analysis of areas of complementation of projects at regional level.	TWG	Yearly	\$	?		
<b>2.2.1 Percent change in average income (fishing and non-fishing) of coastal households by profession compared to</b>												
Not a consensus on what to report to regional	NCC	Regional Secretariat + TWG	Regional Secretariat	Regional Secretariat + NCC+TWG + implementing partners IF the data is aligned to global - could contribute to global databases	*** Disaggregated table per country	Need to check how the data is aggregated from a national to regional indicator in existing publications/methodologies. Does it make sense to aggregate?	????????	Yearly	\$\$\$?	No	Check by countries what is already being done and if there can be an existing common methodology or if there is a preferred methodology that can be applied over all countries (diffusion of method)	
<b>2.2.3 Percent contribution of fish to protein requirements</b>												
Fish consumption per capita	NCC	Regional Secretariat + TWG	Regional Secretariat	Regional Secretariat + NCC+TWG + implementing partners	*** Disaggregated table per country	Need to check how the data is aggregated from a national to regional indicator in existing publications/methodologies. Does it make sense to aggregate??????	????????	Yearly	\$\$\$?	No	Talk to experts for food security!!!!	

What is reported?	Who reports?	Who compiles?	Where is data stored?	Who has access to data?	What is reported?	Who reports	Added analyses? Time series?	Freq	Cost	Baseline	Notes	Capacity
<b>2.3.1 Number of policies and agreements among CT6 countries for management of tuna</b>												
# policies & agreements and list @ national level	NCC	Regional Secretariat + TWG	Regional Secretariat	Regional Secretariat + NCC+TWG + implementing partners	Addition of national and regional policy & list. Proposed: analysis of the policies against the WCPFC	Proposed: analysis of the policies against the WCPFC	?????? Independent body - 3rd party.	Yearly	SSS?	No		
<b>2.3.2 Change in conservation status of tuna (INDICATOR NEEDS TO BE REVISED. WHAT IS NEEDED FROM NATIONAL TO ASSESS CHANGE OF STATUS AT REGIONAL. NEED A LIST OF BACKGROUND DATA)</b>												
<b>2.4.1 Number of policies and agreements on live reef fish trade among CT6 to decrease level of destructive fishing</b>												
# of policies & agreements + list	NCC	Regional Secretariat + TWG	Regional Secretariat	Regional Secretariat + NCC+TWG + implementing partners	If checklist of policy proposals for LRFT exists - comparison against checklist.	No checklist of policy proposals for LRFT to compare the list of related policies. Part of the TWG responsibility to develop it.	TWG would be responsible of analysis.	Yearly	\$\$	No		
<b>2.4.2 Number and area (km2) of locally managed areas for live reef fish trade</b>												
Only applicable for 3 countries. Area of MAPs for LRFT & delineation (zone)	NCC	Regional Secretariat + TWG + CT Atlas	CT Atlas + Regional secretariat	Regional Secretariat + NCC+TWG + implementing partners + public	Total area of MPA managed for LRFT	GIS	CT Atlas	Yearly	\$\$	No		
<b>2.4.3 Number of countries adhering to markets/certification (live reef fish and ornamental fisheries) agreed by CT6</b>												
Only applicable for 3 countries. (maybe Timor L'Este)	NCC	Regional Secretariat + TWG	Regional Secretariat	Regional Secretariat + NCC+TWG + implementing partners	Number of countries	NO	N/A	Yearly	\$	No		
<b>2.4.4 Change in conservation status of live reef fish species (to be decided by CTI-CFF as a body or by a forum designated by the CT6 according to IUCN-red list criteria assessment or other criteria determined by CTI-CFF. (INDICATOR NEEDS TO BE REVISED. WHAT IS NEEDED FROM NATIONAL TO ASSESS CHANGE OF STATUS AT REGIONAL)</b>												

What is reported?	Who reports ?	Who compiles?	Where is data stored?	Who has access to data?	What is reported?	Who reports	Added analyses? Time series?	Freq	Cost	Baseline	Notes	Capacity
<b>3.1.1. CTMPAS developed</b>												
Adoption of framework by SOM	MPA TWG	MPA TWG	CTI-CFF Regional Secretariat, CT Atlas/database	Public	Resolution and copy of document		none	once	a lot	0		high
<b>3.1.2. Percent/Area of total marine habitat area in CT region in marine protected or managed areas</b>												
MPA attributes	NCC	MPA TWG, CTI-CFF MPA Coordinator, CT Atlas	CT Atlas	Public	Area in MPAs and MPAs as a percent of total marine habitat in EEZ		Yes, trends,	2 years	CTI-CFF MPA Coordinator and CT Atlas cost	Reference CTMPAS table in RSCTR, 2012		CT Atlas
<b>3.1.3. Percent/area of each major marine and coastal habitat type in strictly protected "no-take replenishment zones"</b>												
MPA attributes that include zoning information	NCC	MPA TWG, CTI-CFF MPA Coordinator, CT Atlas	CT Atlas	Public	Area in MPAs and MPAs as a percent of total marine habitat in EEZ		Yes, trends,	2 years	CTI-CFF MPA Coordinator and CT Atlas cost	Reference CTMPAS table in RSCTR, 2012		CT Atlas
<b>3.1.4. Percent/Area (in hectare) of marine protected areas under "effective" management</b>												
Percent/area at all levels	NCC	MPA TWG, CTI-CFF MPA Coordinator, CT Atlas	CT Atlas	Public	Percent/area at Level 2		Trends in area, change in level	2 years	CTI-CFF MPA Coordinator and CT Atlas cost	No baseline using CTMPAS tool		CT Atlas, full time CTI-CFF CCA Coordinator
<b>3.1.5. Percent/Area of marine protected/ managed areas included in CTMPAS</b>												
MPA attributes	NCC	MPA TWG, CTI-CFF MPA Coordinator, CT Atlas	CT Atlas	Public	Percent/Area in MPAs in CTMPAS		Yes, trends,	2 years	CTI-CFF MPA Coordinator and CT Atlas cost	0		CT Atlas, full time CTI-CFF CCA Coordinator
<b>4.1.1 Number of regional agreements/frameworks/plans (e.g. region-wide early action plan (REAP) developed and adopted by two or more CT countries</b>												
List and copies of regional agreements, frameworks developed and adopted	CCA Focal Points	CTI-CFF CCA Coordinator	CT Atlas	Public	Number of regional agreements		none	Annual	CTI-CFF CCA Coordinator, CT Atlas cost	0 - 2009		CT Atlas, full time CTI-CFF CCA Coordinator



What is reported?	Who reports?	Who compiles?	Where is data stored?	Who has access to data?	What is reported?	Who reports	Added analyses? Time series?	Freq	Cost	Baseline	Notes	Capacity
<b>4.1.2 Number of national policies (including national CCA plans and frameworks), laws and regulations on climate</b>												
List and copies of national policies	NCC	CTI-CFF CCA Coordinator	CT Atlas	Public	List and copies		Trends, regional compilation of activities prioritized by each country	Annual	CTI-CFF CCA Coordinator, CT Atlas cost	0 at 2009		CT Atlas, full time CTI-CFF CCA Coordinator
<b>4.1.3. Percentage of local governments that have integrated climate adaptation into local governance (plans and actions)</b>												
CCA Benchmark Checklist	CCA Focal Points	CTI-CFF CCA Coordinator	CT Atlas	Public	Percent of local governments achieving benchmarks disaggregated by level		Trends	2 years	CTI-CFF CCA Coordinator, CT Atlas cost	0 at 2009		CT Atlas, full time CTI-CFF CCA Coordinator
<b>4.1.4 Area of mangrove (REAP 1&amp;2)</b>												
Area of mangrove (hectares)	NCC	CTI-CFF CCA Coordinator	CT Atlas	Public	area of mangroves		trend	5 years	remote sensing	Data in CT Atlas		CT Atlas, full time CTI-CFF CCA Coordinator, remote sensing in each country
<b>4.2.1 Number of active members (institutions and organizations) in the CCA Registry</b>												
List and mini-profile of institutions and organizations and city where organizations are located supporting CCA in the region	NCC	CTI-CFF CCA Coordinator	CT Atlas	Public	Number of active members		none	Annual	CTI-CFF CCA Coordinator, CT Atlas cost	0		CT Atlas, full time CTI-CFF CCA Coordinator

<i>What is reported?</i>	<i>Who reports?</i>	<i>Who compiles?</i>	<i>Where is data stored?</i>	<i>Who has access to data?</i>	<i>What is reported?</i>	<i>Who reports</i>	<i>Added analyses? Time series?</i>	<i>Freq</i>	<i>Cost</i>	<i>Baseline</i>	<i>Notes</i>	<i>Capacity</i>
<b>5.1.1 Number of new policies or agreements adopted at the regional and national levels that are in compliance with the international agreements on threatened species</b>												
# policies & agreement + list	NCC	Regional Secretariat + TWG	Regional Secretariat	Regional Secretariat + NCC+TWG + implementing partners	# and List of policies	List against species - the list species needs to be agreed on by TWG.	TWG	Yearly	\$	Yes		
<b>5.1.2 Area (in hectares) of protected marine habitat that contributes to conservation of threatened and endangered species protected</b>												
# and name of MPA with threatened species. Needs additional definition.	NCC	Regional Secretariat & CT Atlas+TWG???WHAT is the role of TWG?	Regional Secretariat + CT Atlas	Regional Secretariat + NCC+TWG + implementing partners	Area + species	GIS	CT Atlas	Yearly	\$\$	No		
<b>5.1.3 Number of threatened species with improved status (to be decided by CTI-CFF as a body or by a forum designated by the CT6 according to IUCN-red list criteria assessment or other criteria to be determined by CTI-CFF. (At which level (national, regional or global) are status of species being determined? What information/criteria do the Nations need to report against - for a regional indicator/ for the forum.)</b>												



## CORAL TRIANGLE INITIATIVE

ON CORAL REEFS, FISHERIES AND FOOD SECURITY

A publication supporting the **Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF)**

[www.coraltriangleinitiative.org](http://www.coraltriangleinitiative.org)